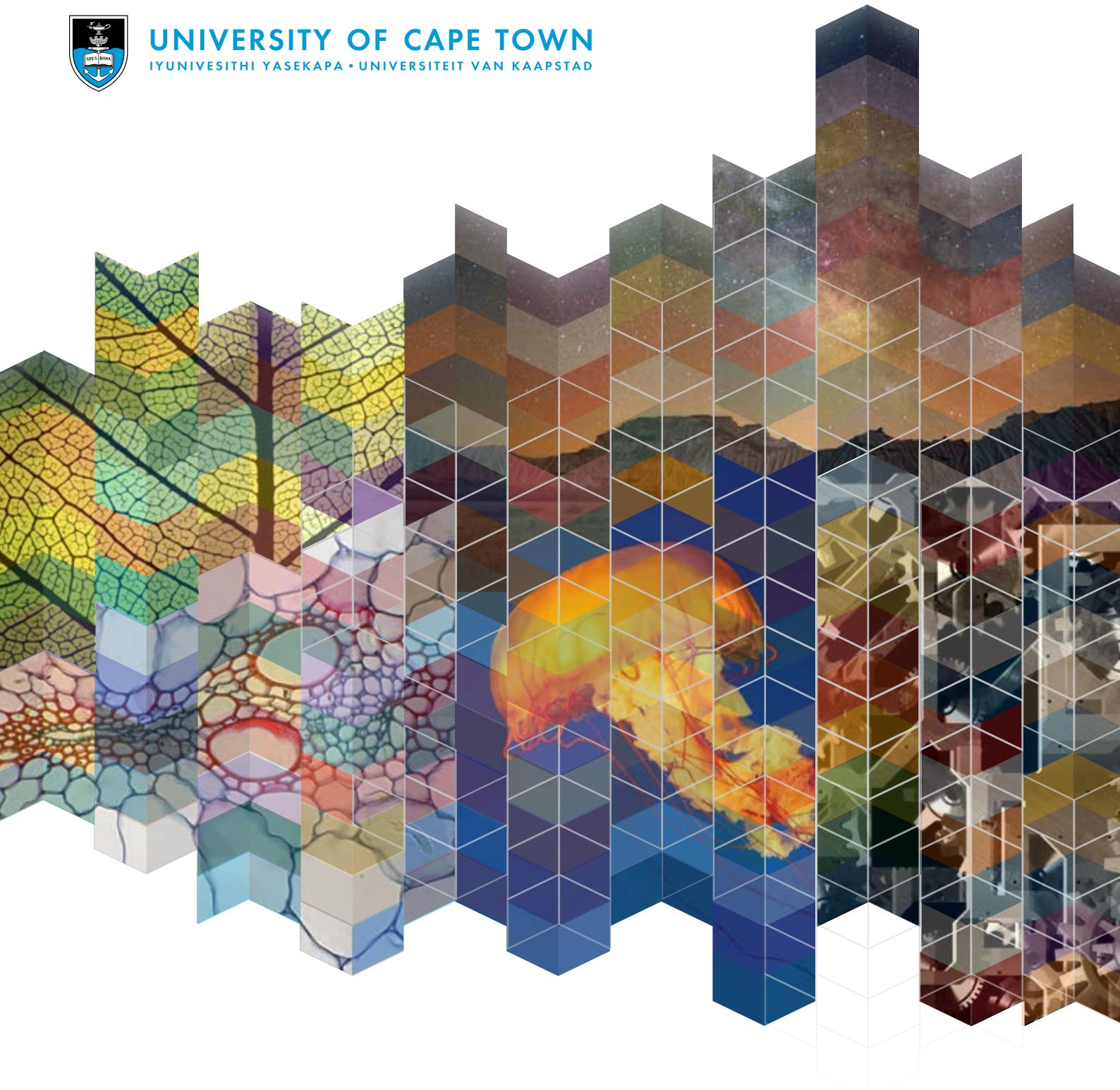




UNIVERSITY OF CAPE TOWN  
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD



# RESEARCH REPORT

2013-14



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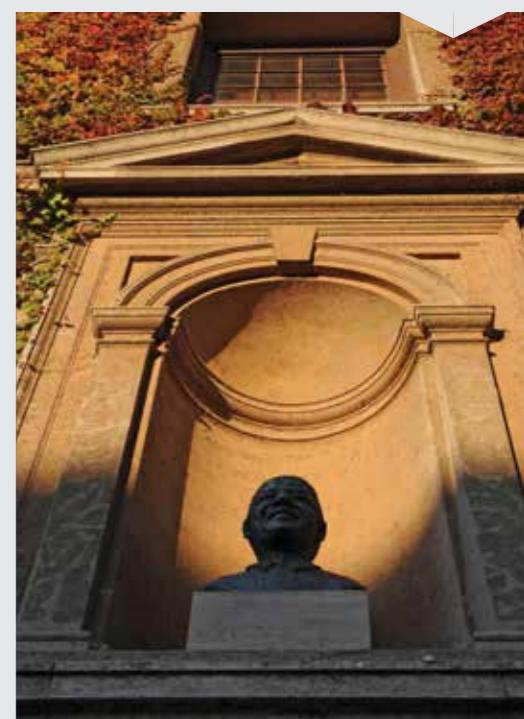
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# MESSAGE FROM THE VICE-CHANCELLOR DR MAX PRICE



UNIVERSITIES IN AFRICA  
MUST STAND TOGETHER. IN  
PARTICULAR, WE NEED TO  
DEVELOP THE CAPABILITY ON  
OUR CONTINENT TO TAKE ON  
THE RESEARCH NEEDED TO  
SOLVE AFRICA'S PROBLEMS.

**1<sup>ST</sup> IN AFRICA**  
TIMES HIGHER EDUCATION  
QUACQUARELLI SYMONDS  
SHANGHAI JIAO TONG ACADEMIC

**2013 WORLD  
UNIVERSITY RANKINGS**  
**TOP 130**  
TIMES HIGHER EDUCATION  
**TOP 150**  
QUACQUARELLI SYMONDS  
**TOP 300**  
SHANGHAI JIAO TONG ACADEMIC

Five years ago we set ourselves a goal to achieve greater impact and greater engagement for our research. This Research Report is testament to the many ways in which our researchers are making breakthroughs in solving global – and specifically African – problems, from health to climate, while we remain engaged with issues relevant to our communities. We are operating at the frontiers of knowledge, developing mathematical algorithms and codes that will launch rockets into space (see p36) and bearding Stephen Hawking in his den (see p66).

The globalisation of academic research is an irreversible trend. A recent report by the US National Science Foundation, *Science and Engineering Indicators 2014*, shows that a quarter of the science papers published in 2012 had international co-authors – a figure that rises to more than half in the United Kingdom. In this global maelstrom, the voice of the global South in general, and Africa in particular, is almost lost. It is crucial that Africa takes its place in this global economy so that its voice is heard.

To achieve this, universities in Africa must stand together. In particular, we need to develop the capability on our continent to take on the research needed to solve Africa's problems: this requires that we train new generations of scholars, providing them with desirable career paths and creating and maintaining the infrastructure to cope with the demands of research in the 21<sup>st</sup> century.

The University of Cape Town is already working to achieve this in numerous ways. For instance, the Carnegie Project:



Growing the Next Generation of Academics for Africa is an extensive programme at four universities in Africa that provides support and funding for postgraduate students and postdoctoral fellows (see p24). Many of our large research grants have an inbuilt requirement to develop capacity in Africa through the funding granted to the University of Cape Town (see p144).

These grants also help us to provide important infrastructure and technological capabilities to take on cutting-edge research. This is particularly true of the increasing need to extract information from data-intensive research, which is becoming essential in fields as diverse as astronomy and genomics (see p52). The University of Cape Town is determined to be at the forefront of developing and funding this capacity: if we don't, we will not be able to play in the big league.

The importance of increasing capacity for research in Africa cannot be overstated. Africa faces problems that are global (such as climate change) but also local (the highest rates of HIV and TB in the world). Where they are global, we need to be able to give that research local and regional context. For instance, urbanisation is a global trend, but the way it manifests in Africa

is entirely different from that in the Global North and even in other parts of the developing world (see p98). Where our problems are particular to Africa, we need to put them on the global research agenda while simultaneously developing strategies to solve them ourselves. Sickle cell anemia is the number one monogenic disease in Africa, for instance, yet it does not receive a great deal of academic attention in the Global North. The University of Cape Town's research project in sickle cell anemia therefore has a large component dedicated to providing training in genomics to researchers from all over Africa.

This must be the template for much of our research. Where we have expertise and equipment, we must share it. It is to this end that the University of Cape Town is currently working with other institutions to build a network of research universities across Africa: leading institutions with strength in research and postgraduate training who will share skills and resources, co-ordinate research and training and work together to develop research priorities.

If it is to take control of its own future, Africa must generate its own knowledge and, in doing so, contribute to global knowledge.

## BOODSKAP VAN DIE VISEKANSIELER

Vyf jaar gelede het ons dit ons ten doel gestel om met ons navorsing 'n groter impak te maak en groter betrokkenheid te bereik. Hierdie Navorsingsverslag getuig van die verskeidenheid wyses waarop ons navorsers daarin slaag om globale – en spesifiek Afrika-verwante – probleme, van gesondheid tot die klimaat, op te los. Dit terwyl ons betrokke bly by die soort kwessies wat relevant is tot ons gemeenskap. Ons werk om navorsingsgrense te verskuif en ontwikkel wiskundige algoritmes en sagteware om vuurpyle te lanseer (sien bl.36) en Stephen Hawking openlik uit te daag (sien bl.66).

Die globalisasië van akademiese navorsing is 'n onomkeerbare tendens. 'n Onlangse verslag deur die Amerikaanse National Science Foundation getiteld "Science and Engineering Indicators 2014" toon dat 'n kwart van die wetenskaplike referate wat in 2012 gepubliseer is, internasionale medeskrywers gehad het – in die Verenigde Koninkryk styg dié syfer tot meer as die helfte. In hierdie globale maelstrom raak die stem van die globale Suide in die algemeen, en Afrika in besonder, amper verlore. Dit is noodsaaklik dat Afrika sy plek in die globale ekonomiese inneem sodat sy stem gehoor kan word.

### DAAR KAN NIE GENOEG KLEM GELÊ WORD OP DIE NOODSAAKLIKHEID OM NAVORSINGSKAPASITEIT IN AFRIKA TE UIT TE BOU NIE.



Om dit reg te kry, moet universiteite in Afrika saamstaan. In besonder moet ons die vermoë ontwikkel om op ons kontinent die soort navorsing te onderneem wat nodig is om Afrika se probleme op te los. Dit vereis dat ons 'n nuwe generasie akademici oplei, aan hulle aanloklike loopbaanmoontlikhede bied en die infrastruktuur skep en onderhou om aan die navorsingsbehoeftes van die 21ste eeu te voldoen.

Die Universiteit van Kaapstad is reeds op uiteenlopende maniere besig om hierdie doelstellings te bereik. Een voorbeeld hiervan is die Carnegie-projek: Growing the Next Generation of Academics for Africa is 'n uitgebreide program aan vier universiteite in Afrika wat ondersteuning en

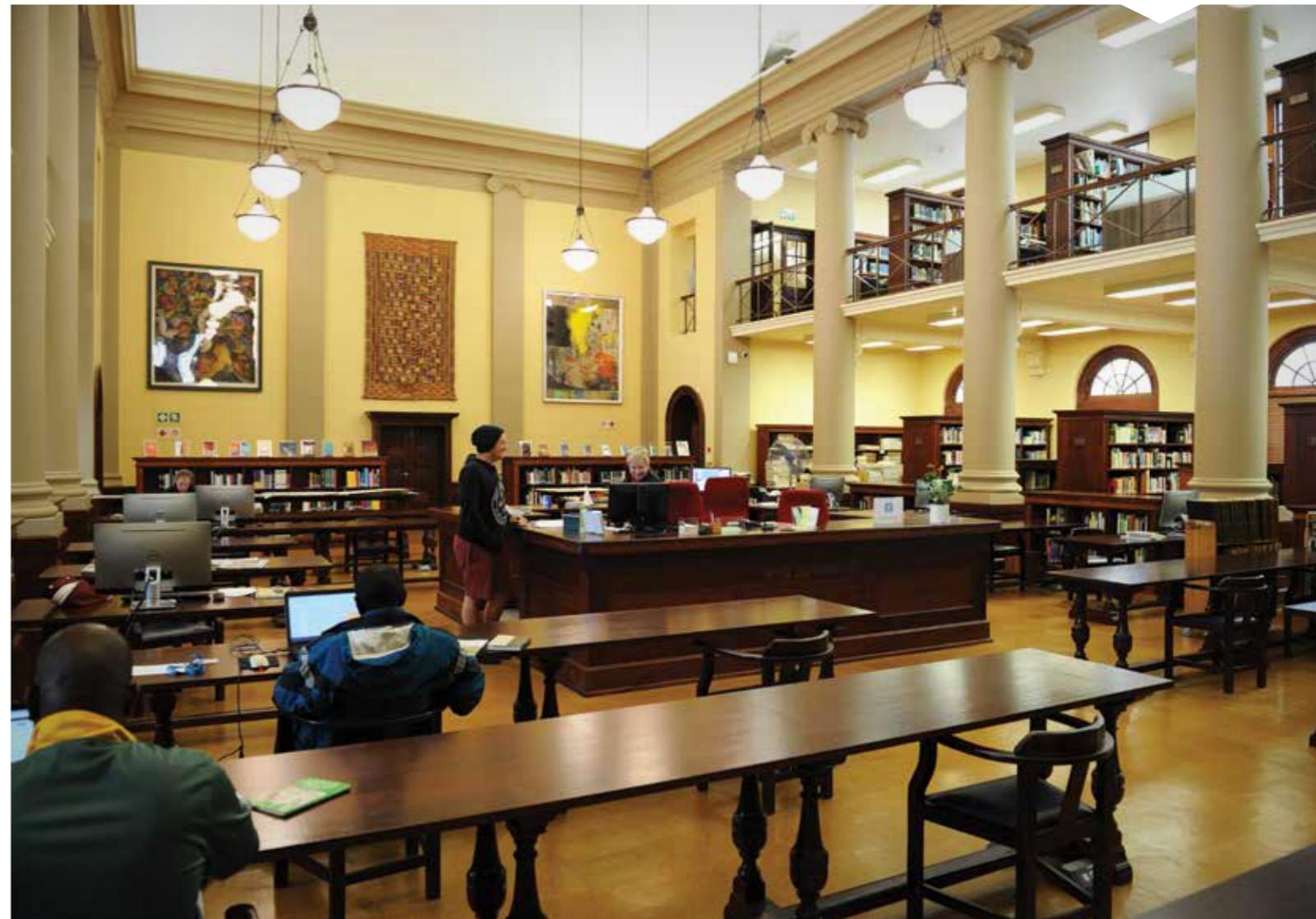
befondsing aan nagraadse studente en nadoktorale studiegenote verskaf (sien bl.24). Verskeie van ons groot navorsingstoekennings het 'n ingeboude vereiste dat kapasiteit in Afrika ontwikkel moet word deur die befondsing wat aan die Universiteit van Kaapstad gegee word (sien bl.44).

Hierdie toekennings help ons ook om belangrike infrastruktuur en tegnologiese vermoëns te ontwikkel sodat grensverskuiwende navorsing kan plaasvind. Dit is veral waar ten opsigte van die groeiende behoefté om inligting uit data intensiewe navorsing te ontrek in velde so uiteenlopend soos die astronomie en genomika (sien bl.52). Die Universiteit van Kaapstad is vasbeslote om aan die voorpunt te bly om hierdie kapasiteit uit te bou en te befonds: As ons dit nie doen nie, sal ons nie met die groot name kan saampraat nie.

Daar kan nie genoeg klem gelê word op die noodsaaklikheid om navorsingskapasiteit in Afrika te uit te bou nie. Afrika word deur uitdagings van globale aard (soos klimaatsverandering), maar ook deur plaaslike probleme (die hoogste voorkoms van MIV en TB in die wêreld) in die gesig gestaar. Waar dit oor globale uitdagings gaan, moet ons in staat wees om plaaslike en streeksgebonden konteks aan navorsing te gee. Verstedeliking is byvoorbeeld 'n globale tendens, maar die manier waarop dit in Afrika voorkom, verskil heeltemal van hoe dit in die globale Noorde en selfs in ander dele van die ontwikkelende wêreld manifesteer (sien bl.98). Waar ons probleme spesifiek op Afrika betrekking het, moet ons dit op die globale navorsingsagenda plaas en terselfdertyd strategieë ontwikkel om dit self op te los. Hoewel sekelselbloedarmoede byvoorbeeld die grootste monogeniese siekte in Afrika is, kry dit min akademiese aandag in die globale Noorde. 'n Groot komponent van die Universiteit van Kaapstad se navorsingsprojek oor sekelsel-anemie is dus om opleiding in genomika aan navorsers van regoor Afrika te verskaf.

Ons moet hierdie patroon volg met baie van ons navorsing. Waar ons die vakkennis en toerusting het, moet ons dit deel. Dit is om hierdie rede dat die Universiteit van Kaapstad tans saam met ander instellings werk om 'n netwerk van navorsingsuniversiteite regoor Afrika op te bou: vername instellings wat sterk staan ten opsigte van navorsing en nagraadse opleiding, wat hul vaardighede en bronne sal deel, navorsing en opleiding sal koördineer en saam sal werk om navorsingsprioriteite te ontwikkel.

Indien ons in Afrika beheer wil neem van ons eie toekoms, moet ons self kennis genereer and sodoende bydra tot die globale kennispoel.



### UMYALEZO OSUKA KUSEKELA- NGQONYELA

Injongo yophando lwethu, njengoko sayibekayo kwiminyaka emihlanu edlulileyo, kukuba oko sikwenzayo kube nefuthe negalelo elibonakalayo kuluntu lwethu nakwismo senginqi esikuyo. Le Ngxelo yoPhando ibubungqina obubonisa iindlela ezininzi abaphandi bethu abanempumelelo ngayo ekusombuleni iingxaki zehlabathi – ngokukodwa ezase-Afrika – ukusukela kwimiba engezempi lo ukuva kutsho kwengemozulu, nangona ke kwangalo eli lixa sisahleli sigqalisele kwimiba ephathelele kuluntu lwethu. Umsebenzi wethu ubonisa olona lwazi luphambili nolusemgangathweni – sivelisa iikhovudi eziya kundulula inqwelo-moya iyise emajukujukwini (khangela iphepha 36), size sigagane noStephen Hawking endaweni yakhe (khangela iphepha 66).

Impembelelo yehlabathi jikelele kuphando olwenziva kumaziko emfundu ephakamileyo yinto engenakujikwa. Ingxelo yakutsha nje nekhutshwe yiNational Science Foundation yaseMelika, ethi Science and Engineering Indicators 2014, ibonisa ukuba amaphepha angophando ngezenzululwazi nathe apapashwa ngo-2012 ikota yawo anababhali abambiseneyo abasuka kwezinye iindawo ehlabathini jikelele – eli nani linyuka liye kutsho ngaphaya kwsiqingatha eNgilane. Kwesi siphithiphithi senzeka ehlabathini, ilizwi lamazwe ami kwsiqingatha esiseMazantsi ehlabathi ngokubanzi, ngokukodwa i-Afrika, liphantse lingavakali. Kubalulekile ukuba i-Afrika ithatve indawo yayo kuqoqosho Iwehlabathi ukwenzela ukuba ilizwi layo livakale.

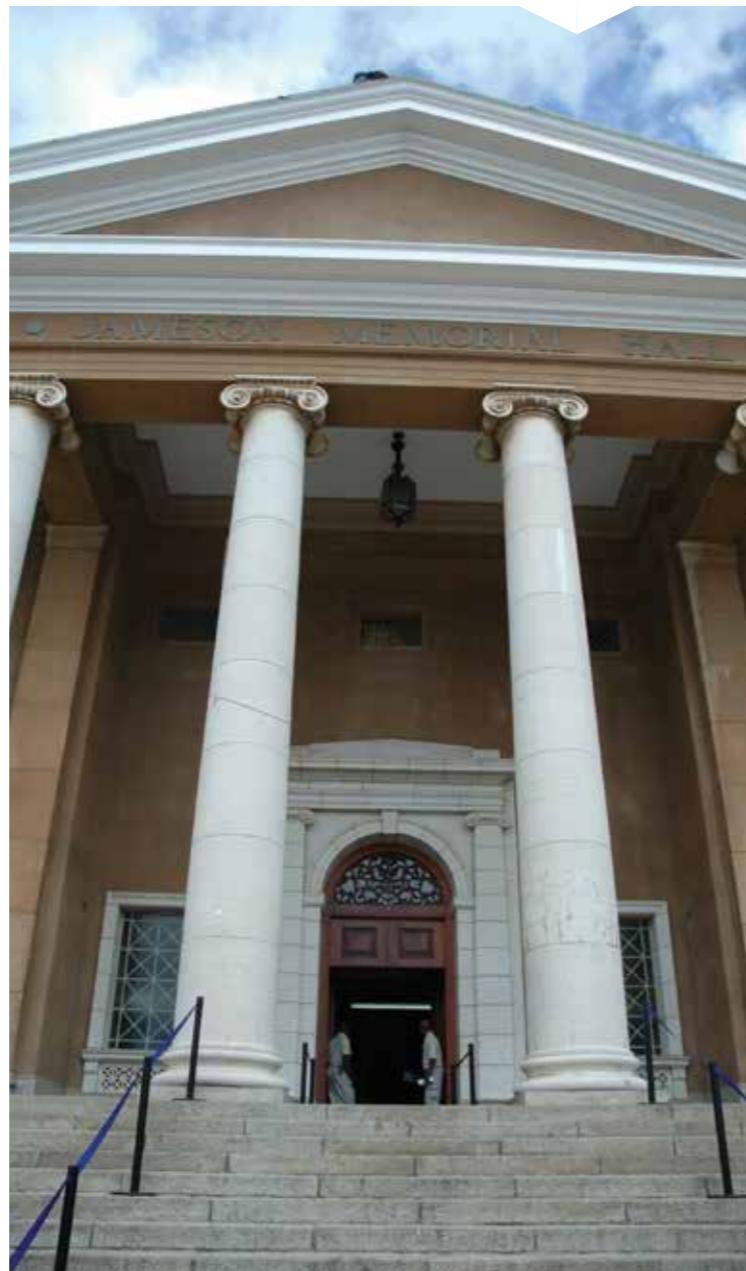
Kufuneka, ukuze oku kube nako ukuphumezeka, iiyunesithi zonke e-Afrika zime kunye. Okubaluleke nangakumbi kukuba siphuhlise kwilizwekazi lethu isakhono sokwenza uphando oludingekayo

ekusombululen iingxaki zase-Afrika: oku kufuna ukuba siqeqeshe isizukulwana esitsha seenkubabuchopho, sisikhombise indlela malunga neendlela esingazithabatha kuphando olufunekayo, ze kudalwe futhi kulondolozwe izinto ezifunekayo ukumelana nezidingo zophando kule minyaka yenkulungwane yama-21.

IYunesithi yaseKapa sele iqalile ukusebenza, ngeendlela ngeendlela, ukuphumeza oku. Umzekelo, iCarnege Project: Growing the Next Generation of Academics for Africa yinkubo ebansi ekwiuyunesithi ezine nenjongo yayo ikukbonelela ngenkxaso nemali kubafundi abasele benaso isidanga sokuqala, nabo benza uphando emva kwesidanga sobugqirha (khangela iphepha 24). Iminikelo eminiyi esiyifumanayo ichaza, kwiimfuneko zayo ezimiselwego, ukuba kufuneka kuhuliswe isakhono se-Afrika ngenkxaso-mali enikezelwe kwiYunesithi yaseKapa (khangela iphepha 144).

Le minikelo ikwasinceda ekuboneleleni ngezinto zokwenza umsebenzi nobuchwepheshe obufunekayo ukwenza uphando olukwinqanaba eliphezulu. Oku kuyinene nangakumbi xa ubani enokuhangela isidingo esikhoyo ekutsaleni iinkcukacha kuphando oluqulethe ulwazi oluninzi, nto leyo iya iba yebalulekileyo kwizifundo ezifana ne-astronomy negenomics (khangela iphepha 52). IYunisthi yaseKapa izimisele ukuba phambili ekupuhliseni nasekufakeni imali kwesi saksono: ukuba asenzi njalo asiyi kuba nako ukuba nendima nokusebenzia nabantu abaphambili kulo mba.

Ukabaluleka kokunusa isakhono sophando e-Afrika asikokubabaza nje into engekhoyo. I-Afrika ijongene neengxaki ezikwazezelabathi (njengotshintsho kwimozulu) nezizezasekhaya (awona manqanaba aphezulu eHIV neTB ehlabathini jikelele). Apho ezi ngxaki izezelabathi, kufanele ukuba uphando olo silwenze lufaneleke kwimeko yethu yasekhaya neyengingqi. Umzekelo, ufudukelo lwabantu ezdolophini yinto eyehla ehlabathini jikelele, kodwa indlela oku okwenzeka ngayo e-Afrika yahluke mpela kunaleyo yenzeka ngayo kumazwe aseMantla ehlabathi, nangokunjalo kulawo mazwe ehlabathi asakhulayo (khangela iphepha 98). Apho iingxaki zibonakala ngakumbi e-Afrika, kufuneka zibe phambili kuluhlu lophando lwehlabathi kodwa ke kufuneka, ngaxeshanye, sivelise amaqhinga wokuzisombula ngokwethu ezi ngxaki. Umzekelo, isickle cell anemia, sesona sigulo siphambili siyimonogenic disease e-Afrika kodwa asifumanu ngqwalasela ingako kuphando olwenziwa kumazwe aseMantla ehlabathi. Iprojekti yeYunesithi yaseKapa yophando ngesickle cell anemia ngoko ingxenyi yayo eninzi ijonge ekuniken uqequeshe negeconomics kubaphandi abavela e-Afrika jikelele.



Oku kufanele ukuba kuthathwe njengesikhokelo kuninzi lophando lwethu. Apho sinobuchule nobuchwepheshe, kufuneka sabelane ngabo. Yile njongo ejonge ukuyiphumeza iYunesithi yaseKapa ekusebenzisaneni namanye amaziko ekudaleni uthungelwano lwabaphandi kwiiyunesithi e-Afrika jikelele: ukuhokela amaziko anamandla kuphando noqequesho kwizidanga ezingentla, maziko lawo aya kuthi abelane nezakhono nobuchwepheshe, ukuququzelela uphando noqequesho nokusebenziana ukovelisa izinto eziphambili kuphando.

I-Afrika kufanele ukuba ivelise ulwazi olulolwayo, ukuba ilindeleke ukuba ilawule ikamva layo, ze ithi ngokwenza njalo ibe ifaka igalelo kulwazi lwehlabathi jikelele.

## THE WORLDWIDE UNIVERSITIES NETWORK A GLOBAL RESPONSE TO GLOBAL CHALLENGES

As part of its strategy to internationalise its research, the University of Cape Town has been a member of the Worldwide Universities Network (WUN) – a partnership of 17 research-intensive universities – since 2009.

In 2014, the WUN came closer to home than usual because UCT hosted the annual conference and general meeting in March – the first WUN conference to take place in Africa – and UCT's Vice-Chancellor, Dr Max Price, took over as WUN chair.

The WUN is committed to addressing the world's most urgent challenges collaboratively. As a comprehensive global research organisation, the WUN shares many of the same objectives as UCT. Since 2009, the WUN has focused on four thematic challenges: responding to climate change; understanding cultures; global higher education and research; and public health and non-communicable diseases.

Through the Research Development Fund (RDF), the WUN reinvests a significant proportion of member subscription fees into seeding sustainable, international research collaboration. For example, Dr Ellen Hurst, who works in language development at UCT, is involved in an RDF-funded project that

addresses how language skills facilitate success for skilled migrants in their professional host communities.

When Dr Price took over as chair of the WUN, he observed that the network plays a crucial role in the development of leadership, because university leaders are able to "draw on the wisdom of [their] peers". WUN members also ensured that their students were prepared for an increasingly globalised world, he argued, by facilitating student mobility and generating large research grants that could sustain cross-continental, cross-institutional research projects.

### MOBILISING GRANTS

The WUN mobility grants have contributed towards the formation of highly fruitful collaborations. For example, Dr Mercy Brown-Luthango of UCT's African Centre for Cities was supported to visit the University of Sheffield to plan a programme of work on the relationship between violence and the upgrading of informal settlements.

Mobility grants can also contribute to career development. For instance, Dr Lester Davids, a molecular cell biologist in the Department of Human Biology, became a Fulbright Fellow in 2014. He attributes this achievement directly to his work with Professor Nina Jablonski at Pennsylvania State University, a collaboration that was enabled by the WUN mobility grant he received in 2011.

### INFLAMMATORY DISEASES

WUN collaborations can give rise to powerful and focused new networks. In-FLAME – the International Inflammation Network – is one such initiative that includes Associate Professor Michael Levin from the Department of Paediatrics and Child Health. Noncommunicable diseases pose the greatest current threat to global health, and inflammation is a common element among almost all of them. In-FLAME aims to understand the risk factors and devise strategies to prevent them. Close collaboration can give rise to more effective research: in the long term, in-FLAME plans to streamline research protocols so that all researchers collect the same information, at the same time, using the same methods. This will produce large, standardised data sets that are much more powerful than a number of differentiated collections of data.

### WUN VITAL STATISTICS

17 MEMBERS IN 10 COUNTRIES ON 5 CONTINENTS



98 INTERDISCIPLINARY  
RESEARCH GROUPS

2000+  
RESEARCHERS

# THE CHANGING FUNDING LANDSCAPE

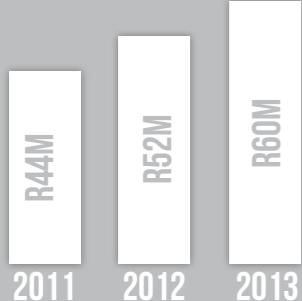
## PROFESSOR DANIE VISSER

### DEPUTY VICE-CHANCELLOR



WE NEED TO THINK HARD ABOUT HOW TO MEET THESE CHALLENGES – HOW TO GARNER THE RESOURCES NECESSARY TO SUSTAIN AND ADVANCE OUR GLOBAL POSITION AS A UNIVERSITY.

**NEW GRANTS**  
FROM THE NATIONAL  
RESEARCH FOUNDATION  
**R193M**  
POSTDOCTORAL  
FUNDING



A glance through this report demonstrates the extraordinary research that takes place within the walls of the University of Cape Town. Our researchers are expanding knowledge in all directions, offering insight into global problems and innovation in strategies to solve them; contributing to public policy, the arts, our communities and the natural world. In many areas of research, we lead the world and attract some of the very best local and international researchers.

Such research, however, comes at a price, and it is an increasing headache for units to fund it within already tightened university budgets and competing priorities.

Government funding continues to be an important component in our research resources, mainly through the Department of Science and Technology (DST), the Department of Higher Education and Training (DHET) and the National Research Foundation (NRF). However, this source of funding has not kept up with demand, as both the numbers (of students and researchers) and the cost of cutting-edge research have grown. Per-capita funding of researchers has declined significantly in real terms in the last 10 years, and this is unlikely to change in the current and predicted economic landscape.

As a result, the University of Cape Town has had to turn increasingly to external sources of funding, and we expect that the need for external funds will only rise in the coming years. We have already had considerable success here: for instance, our research income in 2013 was just under R1 billion, and the value of new research contracts signed in 2013 raised almost a further R1 billion. Our ability to attract funding from foreign governments and donors is already a major factor in our survival as a top-ranked university, and we punch way above our weight.

This gives us real optimism for the future. However, significant challenges remain. Not only is the amount of funding we receive from the state dwindling, but also our competitors have access to a level of funding that we can only dream about – and not just in the developed world. For instance, the recent revelation that the University of Cape Town has been ranked in the top 10 universities within the BRICS nations (Brazil, Russia, India, China and South Africa) in the 2014 QS University Rankings and third in the latest *Times Higher Education* Ranking of Universities in the Developing World is pleasing, but also shows the competition we are up against. China has increased its research and development funding by an average of 18% a year since 2008, and it has 71 universities in the top 200. India has none in the top 10 but intends to set up 14 world-class universities under the government's "brain gain" policy.

We need to think hard about how to meet these challenges – how to garner the resources necessary to sustain and advance our global position as a university.

#### INTERDISCIPLINARITY

To some degree, this simply requires an escalation of what we are already doing. A key pillar in our research strategy is interdisciplinarity. Over the past 20 years, there has been increasing recognition of the importance of research for the generation of new knowledge at the interfaces of disciplines in order to address complex societal issues, such as climate change, health and urban planning. The most rapidly expanding areas of published research are in interdisciplinary clusters, and international funders increasingly focus their funding on interdisciplinary research projects.

It is therefore not surprising that many leading international universities have invested in interdisciplinary research. The University of Cape Town has responded to this for years with a number of strategies. The Six Signature Themes were formed to foster research that would stimulate cross-faculty collaboration and challenge the "business as usual" approach to research.

#### FUNDING FACTS

- ▀ Almost 45% of our research contract funding came from foreign non-profit organisations in 2013.
- ▀ The Bill & Melinda Gates Foundation was the most significant contributor to this, funding research contracts worth more than R170 million in 2013, an enormous leap up from just over R40 million the year before.
- ▀ The University of Cape Town attracted more than US\$9 million in direct grants from the National Institutes of Health in the USA in 2013: more than any other university outside America.
- ▀ Professor Kelly Chibale has attracted grants worth more than R200 million since 1997; in 2013 alone, he attracted R53 million. Around half of this funding is for the important work he does as founder and director of the Drug Discovery and Development Centre.
- ▀ The amount raised by the Faculty of Science from non-governmental sources increased by 50% in 2013 from the previous year to almost R70 million.
- ▀ The African Climate and Development Initiative is leading a project on Adaptation at Scale in Semi-arid Regions funded by Canada's International Development Research Centre and the United Kingdom's Department for International Development to the tune of CAD \$13.5 million over five years.
- ▀ The TY Danjuma Fund for Law and Policy Development in Africa endowed the Centre for Comparative Law in Africa with US \$5 million to support research, capacity building and research dissemination.
- ▀ The United Kingdom's Wellcome Trust entered into research contracts to the value of just below R87 million (compared to R24.5 million the previous year), while research contracts with the Economic and Social Research Centre were worth almost R5 million.

# PUBLICATION COUNT



## CONFERENCE PROCEEDINGS

309      364      314

2011      2012      2013

## CHAPTERS IN BOOKS

174      248      258

2011      2012      2013

Similarly, the institution-wide strategic initiatives led by the Vice-Chancellor were instituted with the explicit mandate of undertaking interdisciplinary research and the graphic of the African Climate and Development Initiative (see right), illustrates how successful this has been.

Transdisciplinary research takes this even further with opportunities for engagement with the community in our city, region and continent, bringing in perspectives from outside the academy and ensuring that our research is relevant and has the maximum possible impact where it matters most.

However, the significant institutional barriers to interdisciplinary and transdisciplinary research, such as faculty and departmental structures and budgets, continue to work against us and remind us that we must intensify our efforts. The university has set up a task team to analyse both barriers and enablers to interdisciplinary research and to come up with suggested strategies to encourage and enhance it. It will require significant levels of funding and institutional changes; however, we should be repaid with innovative research that addresses societal problems more effectively and that will, in turn, attract more international funding.

## INTERNATIONALISATION

We also need an enhanced approach to the internationalisation of our research, with a simultaneous emphasis on global partnerships for postgraduate training and collaborative research. One of the great challenges and a key focus for the university is growing the next generation of researchers. Our move towards a research-intensive

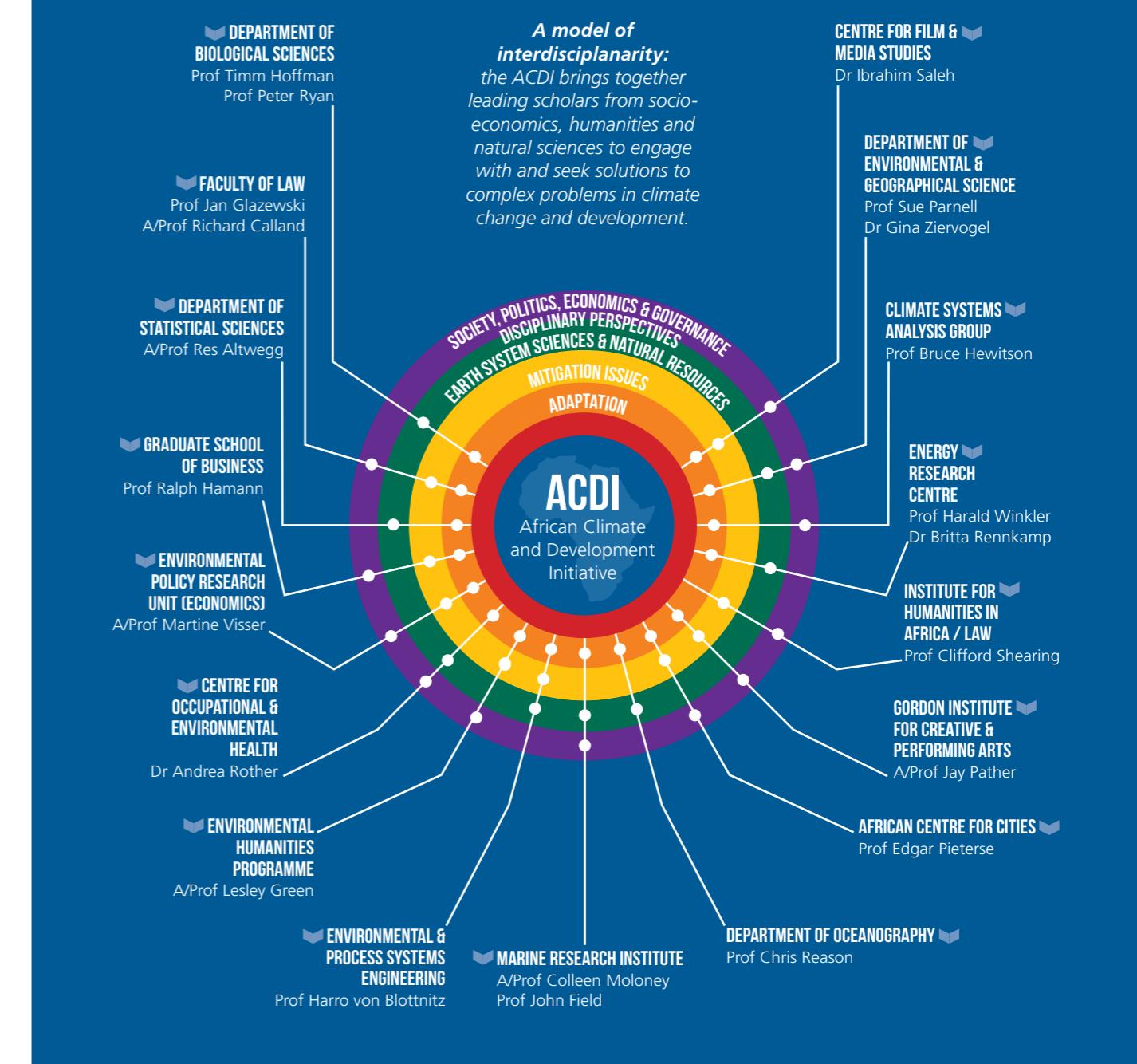
university requires an increase in postgraduates, which in turn requires an increase in supervisory capacity. This works against the national trend in which the government gives more money to undergraduates and the amount we receive for each postgraduate student declines in real terms.

## AS THE LEADING RESEARCH UNIVERSITY IN AFRICA, THE UNIVERSITY OF CAPE TOWN ALREADY PROVIDES A PORTAL INTO AFRICA FOR UNIVERSITIES ABROAD.



We therefore cannot approach this challenge with ad hoc responses to opportunities that come our way. Instead, we must put in place concrete strategies that will leverage funding and increase capacity.

One such strategy that began to take shape in 2013/14 is to position the University of Cape Town as a preferred partner with the Global North and the Global South. As the leading research university in Africa, the University of Cape Town already provides a portal into Africa for universities abroad. This is partly because we have strong management and administrative practices; it is also because we act as a principal site of engagement on issues that are unique to our continent but have global impact. Examples



include areas where our geographical advantage or socio-economic realities provide live laboratories for research on sustainable environments, linguistics and patterns of disease, among many others.

This has led to a rich tapestry of collaborations that we intend to augment with three-way global partnerships for PhD training and supervision: between the University of Cape Town, the Global North and the Global South (particularly the rest of Africa). We propose to put in place mobility funds and PhD packages, and will focus our initial efforts where there are existing and productive research collaborations. This should increase the number of PhD students we can supervise, supplement current PhD training practice, and

produce exceptionally well-trained researchers whose work is globally competitive.

## CHANGING THE WORLD

We are unashamedly ambitious for our researchers and the work they produce. Research can and does transform the world and the University of Cape Town is determined to be among those leading the charge. To produce this innovative research, we have to be innovative in the ways we fund it. Against this backdrop of increasing financial pressure, I am especially grateful to our donors and sponsors who contribute so generously to research at UCT, without whom we would be unable to realise our ambitions in the global research arena.

# SUPPORTING RESEARCH EXCELLENCE



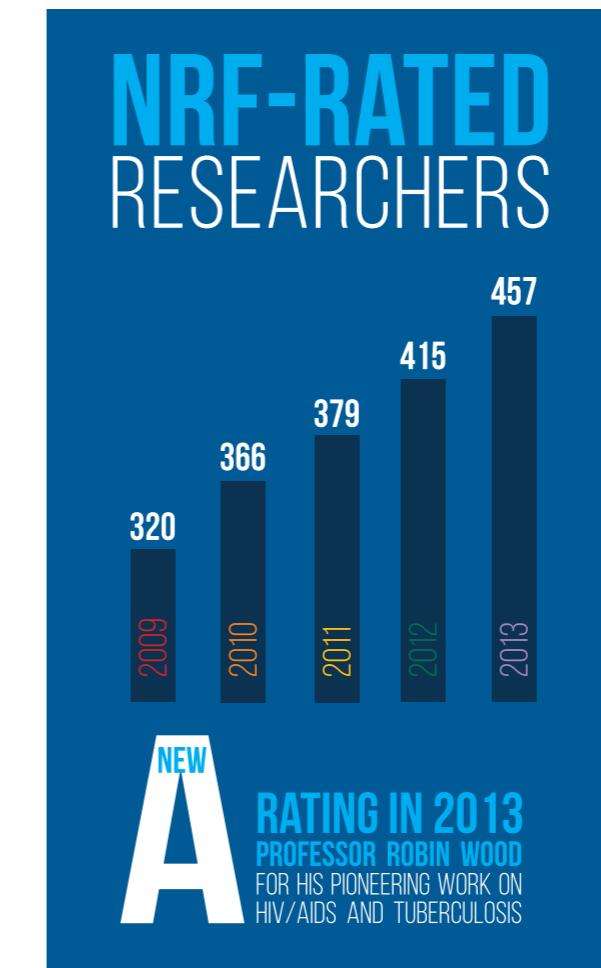
**With an increased focus at the University of Cape Town on the internationalisation of research and interdisciplinarity, the support we offer researchers has become more complex and, at the same time, also more important. Traditionally, institutional support for research has been understood to function best as an invisible hand. However, visibility has become essential in order to connect researchers with resources and with each other, to achieve transparency in research administration, and to promote the dissemination and impact of research findings and outcomes. UCT's commitment to these activities has prompted a range of new engagements between the Research Office and other professional and administrative departments to develop and promote a seamless service to researchers.**

Another key focus of research support is the university's aims for the transformation of academic cohorts and the development of a next generation of scholars and researchers. In alignment with these aims, the Research Office provides a range of support to researchers at different stages in their careers. The Emerging Researcher Programme, the Programme for the Enhancement of Research Capacity and the Supervision Training Programme contribute significantly to this goal, which includes providing comprehensive support to postgraduate students and postdoctoral research fellows. A number of externally funded programmes

also play a crucial role in growing the next generation of researchers, including the Mellon Visiting and Retired Scholars Mentorship Project, which draws to an end in 2014. Over the last seven years, 39 mentors have supervised 229 mentees, and we are very grateful to the Mellon Foundation for funding this project.

In addition to the ongoing financial support received from the Carnegie Corporation for the Growing the Next Generation of Academics programme, UCT was recently awarded US\$23 million by the MasterCard Foundation to develop both undergraduate and postgraduate students from South Africa and other countries in Africa, particularly those from economically disadvantaged backgrounds. Both these programmes demonstrate UCT's and the funders' commitment to strengthen higher education on the continent and to ensure that UCT attracts a culturally and internationally diverse community of scholars.

The University Research Committee (URC) plays an important role in the strategic distribution of internal research funds, which are allocated to researchers through a competitive, proposal-driven process in ways that advance UCT's research strategy. The strategy aims to advance the next generation of academics, boost internationalisation and increase visibility and research excellence. Enhanced research quality, transformation, impact and engagement are all cross-cutting strategic imperatives. Internal research funding helps individual



researchers and faculties to plan their research activities and manage the production of their research outputs. The Senate ethics committees are also vital to enabling and supporting research at UCT. These committees, serviced by the Research Office, provide policy-level oversight and guidance to all UCT faculties across the full range of topics in the responsible conduct of research and also receive appeals from faculty-level ethics committees. In addition, the Research Office provides researchers with tools such as Research Professional Africa, an online system that enables access to external funding sources through searchable databases and global compilations of research funding programmes, as well as science and technology news and innovation policy documents.

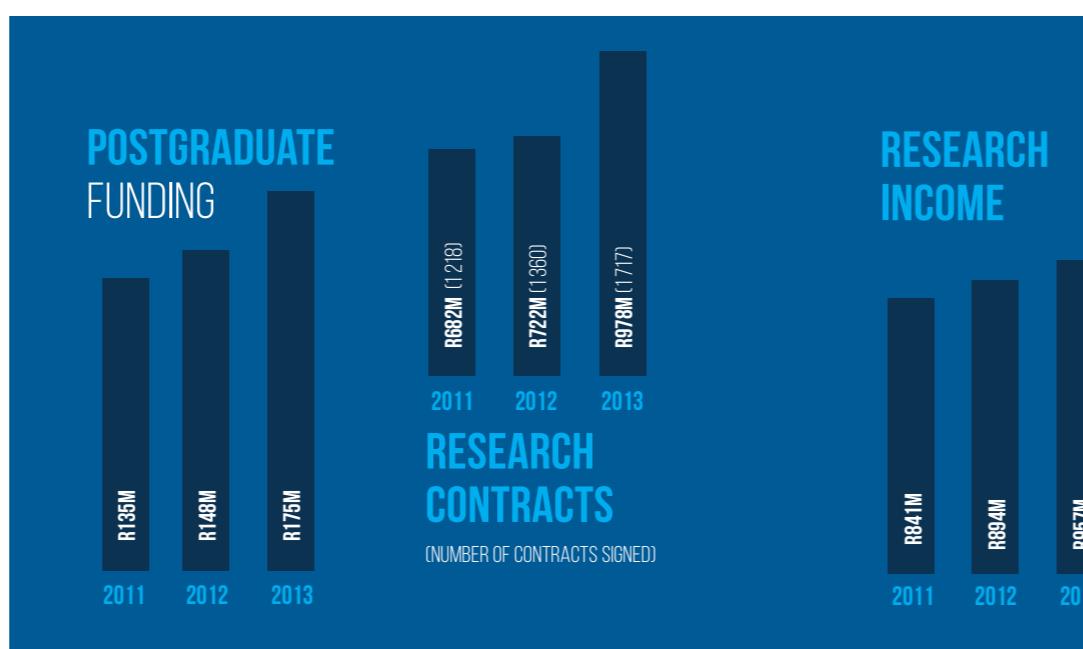
Research support in South Africa also entails participation in the rating processes of the National Research Foundation (NRF). The NRF evaluates researchers based on their recent research track record. UCT supports this unique measure of research quality and impact through a rigorous internal review process that draws on the best possible expertise in preparing submissions. This support includes providing bibliometric assistance to applicants, including web-based tips for academics to identify their own H indices and citation counts. We are proud of the high number of our researchers who have achieved an NRF rating: this figure currently stands at 457, the highest number in the country.

UCT recognises the importance and value of focusing its efforts and resources in order to keep raising the bar for the quality and impact of its research. A range of structures help to achieve this goal, including six Signature Themes for research and two national models for focusing expertise and resources: the DST/NRF Centres of Excellence and the South African Research Chairs Initiative (SARChI).

In response to an increase in demand for eResearch support, UCT has taken on the challenge of providing researchers with the information and communication technologies they need to conduct their work and, in 2013, began establishing an eResearch Centre (further described on p61). The eResearch Centre is one strategy to help researchers deal with the huge flow of data in all fields of research. These data sets are making it increasingly important for researchers to be able to store their data digitally, to analyse the data (sometimes through visualisation to enable it to be understood more fully) by making use of high-end computing and to collaborate virtually with research partners across the world.

Underpinning all these efforts is the work of the newly established Office of Research Integrity (ORI), which aims to promote the responsible conduct of research at the university and to ensure that university research policy documents and ethics guidelines are up to date and compliant, as well as accessible to users. Based in the Research Office, the ORI has conducted a review of ethics policies at UCT, laying the groundwork for a comprehensive conflict-of-interest policy that will cover the participation of UCT scholars in, among other initiatives, research projects that involve multiple sites in different jurisdictions. The ORI supports both UCT research and internationalisation, particularly initiatives that rely on research consortia, steering committees for scholarly resources and data-sharing agreements; it has also identified opportunities for input on relevant policy developments (see right).

The Research Office strives to make research administration as effective and efficient as possible, ensuring that the best service and support is provided at every level and through a variety of mechanisms. In doing so, it works increasingly closely with other key strategic partners at UCT, such as Research Contracts and Intellectual Property Services (RCIPS), the International Academic Programmes Office (IAPO), Information and Communication Technology Services (ICTS), UCT Libraries, and the Finance Department. The office is grateful to its partners and stakeholders who share its vision and passion for providing streamlined support to researchers. Importantly, it recognises and thanks the funders and donors who have contributed this past year to supporting the UCT research enterprise.



## MAKING INTEGRITY INTEGRAL TO RESEARCH

The multi-sited, collaborative nature of contemporary academic research, combined with the expanded compliance requirements of funding agencies and research sponsors, has resulted in heightened concerns about research integrity for individual researchers and the university. Recognising these trends, UCT has adopted a comprehensive approach to research integrity as integral to scholarly success.

The Office of Research Integrity (ORI) was established in 2013 to provide integrated management of UCT's research ethics programmes and related matters of research administration, promoting best practices and the responsible conduct of research. Among its duties, the office is responsible for providing support, practical resources, education and training to various stakeholders – student and faculty researchers, ethics committee members and chairs, and administrative colleagues whose work presents an interface with research. The faculty-level committees and their chairpersons provide a front-line service that evaluates faculty-specific protocols and that can be sensitive to the conventions of specific academic disciplines for matters such as authorship disputes.

An important project for the ORI has been contributing to the enhancement of policies for the responsible conduct of research. The revised, university-wide conflicts of

interest policy was adopted in late 2013. It relates to both financial and other conflicts that have a potential impact on research and teaching responsibilities. The ORI has also contributed to the drafting and review of a revised policy on academic misconduct and a standard operating procedure for research access to students, staff and individually identifiable data about students and staff.

The ORI's remit extends beyond the internal concerns of the university. In late 2013, it led a comment on behalf of UCT regarding the draft National Institutes of Health (NIH) policy on the sharing of genomic data in the USA. With the generous contributions of colleagues in the faculties, this was the first time, to the knowledge of the group of authors, that UCT had commented on a pending matter of US federal policy with implications for UCT research. UCT emphasised, among other points and with an African perspective, that global resources are made "global" not solely by the points of origin that their contents represent, but also by broad and equitable access and dissemination policies supporting researchers in sites all around the world.

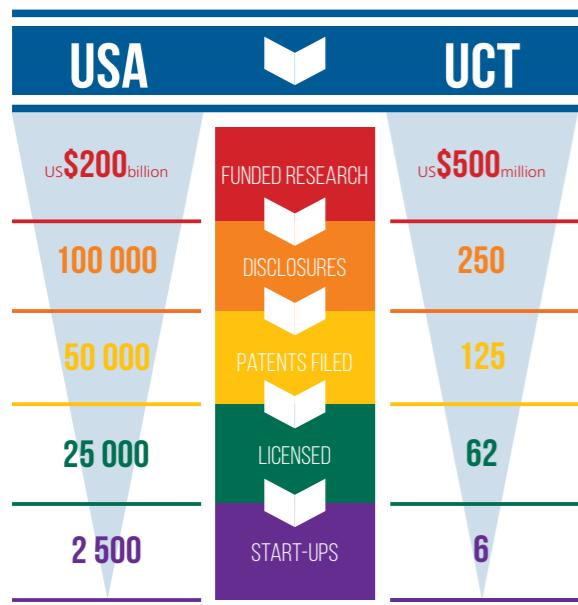
The ORI's other activities have included the preparation of template guidance for the ethics portions of NRF research proposals, participation in the evaluation and resolution of various authorship disagreements, and consultation on matters that were pending with faculty-specific research ethics committees. UCT has identified training topics for 2014 and has already led an initial seminar about the responsible conduct of research at the university – many more are to follow.



# THE INNOVATION JOURNEY AT UCT



**The journey from early-stage business idea or new technology to commercial viability is difficult and market realities have proven that no innovation, no matter how profound its potential, is a guaranteed success. Over the past 15 years, the Research Contracts & Intellectual Property Services (RCIPS) Office has put in place several measures and interventions designed to ensure that ideas and inventions coming out of UCT have the best possible chance to make this journey successfully.**



Berneman's "funnel effect" shows that UCT's performance is in line with international norms.

The office measures and accounts for disclosures, patents, spin-outs and income, because they are measurable and comparable to available benchmarks that give an indication as to whether the investment in innovation is worthwhile.

The 2008 Association of University Technology Managers (AUTM) figures suggest that, in the USA, there is, on average, one disclosure for every US\$2.9 million invested in research. Berneman (quoted in *Australian Research Council*, 2002, p43) has, on the basis of 10 years' experience in the USA, developed "cascading tiers of performance" called the funnel effect. If UCT's statistics from 2007 to 2013 are benchmarked with research income of US\$602 million, its performance turns out to be in line with the AUTM/Berneman norms.

However, innovation and technology transfer are about more than just counting the numbers. Rather, they are about the university and the impact on and benefit to society.

This is reflected in UCT's draft Innovation Policy, which describes the objectives as:

- To make it easier and more affordable to engage with the university – both for the community and for business;
- To facilitate the use and commercialisation of research for the public good;
- To promote economic growth and community development;
- To forge closer ties with industry and the community;

- To recruit, retain and reward staff and students;
- To deliver graduates that are socially engaged, critically thinking entrepreneurs;
- To generate a third stream of income for the university.

Two recent initiatives, the Solution Space/Workshop 17 at the Graduate School of Business and the School for Design Thinking, are evidence that we are already working towards these objectives. Workshop 17 is an innovation hub modelled on the world-renowned Massachusetts Institute of Technology (MIT) Media Lab in Cambridge, Massachusetts, in the USA (see right).

The establishment of a School for Design Thinking is currently in a conceptualisation phase. The design thinking concept is based on the conviction that true innovation can only take place when strong interdisciplinary groups decide to create a common culture and then research the interface of differing opinions and perspectives.

A further initiative in 2013 was the establishment of a local branch of the international Café Scientifique concept. The aim of Café Scientifique is to encourage more informal discussions around science, engineering and innovation and encourage broader interaction with society, as well as to tell the real stories that affect the UCT community, such as new vaccines, better diagnostics and new medical devices.

Considerable work needs to be done to position intellectual property before it can actually leave the university's front door and attract larger-scale funding or be commercialised. A major gap in this area has been filled by the introduction of the Technology Innovation Agency's seed-fund initiative that makes funding of up to R500 000 available per project, in preparation for larger-scale commercialisation support. UCT's first call drew 21 applications, of which nine were supported.

Another major injection was a commitment of close to R10 million over four years from the National Intellectual Property Management Office. This support not only makes possible the appointment of new staff, but also allows UCT to conduct techno-economic modelling on specific patent portfolios and strategic reviews of research groups. Techno-economic modelling assesses the economic viability of a process at full commercial scale and considers the impact of varying production levels or key conversion parameters to test sensitivities to particular stages of the overall process. This can focus further research and development efforts on critical components. The modelling looks at manufacturing plant equipment

## NOT BUSINESS AS USUAL



The Graduate School of Business (GSB) has created a new space at the heart of its Waterfront campus that seeks to break the mould of a traditional business education, in order for more holistic and creative responses to African challenges to emerge.

Dubbed the Solution Space, the area is meant to serve as a link between students, social inventors, entrepreneurs, foundations, government and industry players, allowing collaboration to generate new and creative ways to solve issues facing the continent.

GSB director Professor Walter Baets says that the space is a manifestation of the business school of the future. "Business schools need to shift to meet the needs of an unpredictable and unequal world. This means we need to move away from just training MBAs and towards getting involved in creating new business solutions for the world. We need to be more hands-on by turning out real solutions to real problems. And because complex challenges demand collaboration and partnership, the space will be a nexus between industry, government, academia and civil society."

The multi-million-rand initiative, which is a prelude to Workshop 17 (a joint initiative of the V&A Waterfront and the GSB), received funding from the Vice-Chancellor's Strategic Fund and the Bertha Centre for Social Innovation and Entrepreneurship. The SAB Foundation has also partnered with the GSB with a funding commitment of R1 million as seed capital for promising social entrepreneurs.

costs as well the cost of raw materials. Often a process performs very well from a technical/academic perspective, but manufacturing via that route would be too expensive.

UCT has seen increasing activity around spin-out company formation and a number of ventures are being incubated. It is also becoming clear that these

## UCT STUDENT TEAM WINS TOP INNOVATION PRIZE

A student team from UCT won a top prize at the Global Social Venture Competition (GSVC), which is held annually at the University of California, Berkeley, in the USA.

The UCT team was named one of the top five initiatives worldwide for their project, *Khusela* – a low-cost fire-detection device for informal housing – and took the GSVC People's Choice Award in the global round, competing against hundreds of entries and winning out against 18 finalists in the last round.

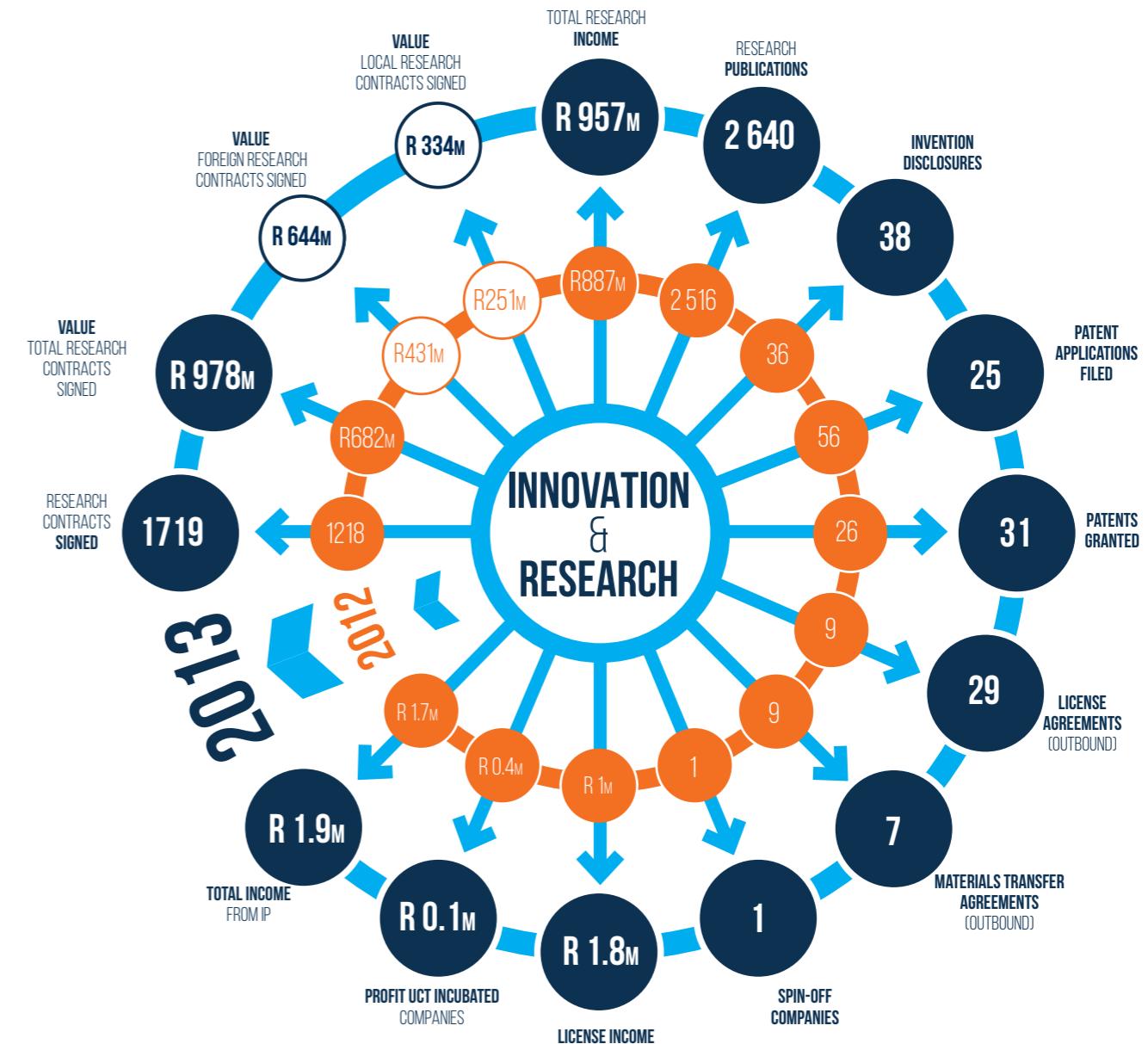
The GSVC is the world's pre-eminent social business plan competition, providing aspiring entrepreneurs with mentoring, exposure and prize money to transform their business ideas into positive real-world impact.

*Khusela*, which means "protect" in Xhosa, is a low-cost fire-detection device and integrated alert service designed for shack-dwellers worldwide. In South Africa, there are an average of 10 shack fires a day, with someone dying in a shack fire every other day, according to Abahlali baseMjondolo, a South African shack-dwellers' movement.

"Our proactive early-warning system networks individuals within communities and with the authorities to mitigate the loss of life and property caused by shack fires – a global human tragedy," says Francois Petousis, co-founder of *Khusela*, who is currently undertaking a master's degree in inclusive innovation at the UCT Graduate School of Business (GSB). "There are one billion shack/slum-dwellers across the globe, and that is set to soar to 1.4 billion by 2020."

*Khusela* is based on the engineering honours thesis of Petousis. The team further consists of Samuel Ginsberg, David Gluckman, Emily Vining, Max Basler and Paul Mesarik.

companies provide other valuable ingredients: they act as "commercialisation" vehicles that channel ongoing research outputs. They also provide feedback on new needs that inform research strategy and direction. Most importantly, they provide jobs for specialised, highly trained graduates in South Africa, growing the country's technical capabilities and preventing the loss of these assets to opportunities overseas.



## UCT SPIN-OFF PREPARES TO LAUNCH NOVEL DIAGNOSTIC TOOL

A UCT spin-off company is in the final stages of launching a first-of-its-kind, rapid extra-pulmonary TB (EPTB) diagnostic tool to tackle the TB crisis in Africa.

IRISATM-TB (InterGam Rapid Immuno Suspension Assay) is the first commercial product to emerge from Antrum Biotech, a company that grew out of the research led by UCT's Professor Keertan Dheda. The groundbreaking tool will enable health workers to detect EPTB by measuring human interferon gamma (a type of protein that plays a role in immunity) in biological body fluids. The test provides a rapid and accurate result within two hours, enabling swift response and treatment of the disease. TB is responsible for an estimated 1.4 million deaths worldwide each year and is the most common

cause of death in South Africa. While EPTB accounts for just 15% of TB cases, this estimate increases to 50% in high-HIV-prevalence settings.

UCT converted its licence agreement with Antrum Biotech, which was formed in 2008, to an equity stake in late 2013, thereby assigning the IP to the company and paving the way for a significant investment from the Industrial Development Corporation (IDC). The company is now co-owned by UCT and the IDC.

The next step is to enter further larger-scale clinical trial testing in 2014. The Medical Research Council-funded trial will have Professor Bongani Mayosi, head of the Department of Medicine, as its principal investigator.

# GROWING THE NEXT GENERATION OF RESEARCHERS



**Growing the next generation of academics has been part of the Research Office's mission since its inception. Obtaining a doctorate is a challenge in itself that requires considerable support; for those embarking on an academic career trajectory after that, some research and publication experience on their own do not guarantee success. Not only do academics need to be supported to establish themselves (from being "emerging" to "established" researchers), they also do better if they are supported in the various ventures that contribute to making a research-intensive university, including writing books, successfully applying for research grants and publishing in international journals.**

## THE FIRST STEPS

As a research-intensive university, UCT has committed itself to growing its postgraduate student body. With

attractive scholarship packages, a targeted recruitment campaign in certain sectors, a postgraduate prospectus, and an increase in the number of international partnerships and joint PhD programmes, UCT has had an increase of 16% in its 2014 postgraduate applications.

UCT's aim to increase and strengthen the profile of its postgraduate students and postdoctoral fellows entails a necessary expansion of its research enterprise. This reciprocal link manifests itself in a number of ways.

Postgraduate training necessarily involves research training under the supervision of an experienced researcher. Especially at doctoral level, supervisors take on students who are working in the supervisor's area of expertise and who are part of the research team that further develops particular fields of study. Moreover, supervisors encourage doctoral students and postdoctoral fellows to engage with key contributors in the local and international research community.

## YOUNG INNOVATORS SLAM THE OPPOSITION



John Woodland, a PhD student in the Department of Chemistry, took second place in South Africa's first Science Slam competition in January 2014, wowing the audience with his enthusiasm, lack of jargon, good diagrams and effective animations.

Woodland spoke about his research into the development of a fluorescent probe to detect free haem, an iron-containing compound that forms the non-protein part of haemoglobin (red blood cells) and some other biological molecules. Free haem can be a very toxic molecule and has been implicated in a number of pathological conditions, such as malaria.

Science Slams – inspired by Poetry Slams, in which poets compete against each other by reciting their poetry – were developed in Germany in 2006 and have since gained popularity around the world.

Productive researchers in most of UCT's flagship programmes apply for research grants that include scholarships for postgraduate students and fellowships for postdoctoral fellows to help carry out the research. These postgraduates and postdoctoral fellows are immediately part of a research team, a project with a structure, deadlines, collegial networks and funding.

Research projects typically produce research publications. The postgraduate and postdoctoral fellows' contribution to the project is acknowledged in co-authorship, which strengthens their own academic profile while increasing the university's publication output.

Technology and the ease of global connections have internationalised research at UCT. As a research-

Woodland was one of six German and South African postgraduate and postdoctoral presenters, who each had 10 minutes to take science out of the lab and promote its everyday applications.

Acknowledgment at the Science Slam was not the only feather in Woodland's cap in 2013. After attaining success during the South African leg, he was chosen to present his research (this time in only three minutes) at the Falling Walls Lab in Berlin. There he won third place in the Young Innovator of the Year competition. A reward for this achievement was an opportunity to present the same talk at the Falling Walls Conference, billed as the "international conference on future breakthroughs in science and society".

"I am passionate about science and about this country. It is imperative that we get people interested in, and inspired, by science in South Africa. We live in a scientific age. Everyone ought to be familiar with basic scientific ideas and, more importantly, ought to think critically about the world and the information they are fed," maintains Woodland.

## MAKING WAVES

Michelle Knights, a PhD student in Cosmology and Astrophysics, was the winner of South Africa's first ever FameLab competition and represented South Africa at the FameLab International semi-finals, where she talked about the use of pulsars to demonstrate gravitational waves, which was postulated by Einstein, and is one of the areas that will be studied by the Square Kilometre Array (SKA) project currently under development in South Africa.

intensive university, it has research teams with robust international partnerships and exchanges of researchers and postgraduate students with the goal of expanding, enriching and embedding research so that it can maximise actual advancement and social improvement.

To support UCT's growing postgraduate and postdoctoral communities, the Office for Postgraduate Studies and the Postgraduate Funding Office participate in overseeing specific programmes for postgraduate students and postdoctoral fellows.

Two of these partnerships are the Carnegie Corporation's Growing the Next Generation of Academics in Africa (see page 24) and the MasterCard Foundation's Developing First-Generation African Professionals.

## CARNEGIE SCHOLARS: THE NEXT GENERATION

A fourth generation of Carnegie scholars was welcomed to UCT in 2014 as part of the Next Generation of Academics in Africa Project. Funded by the Carnegie Corporation, which recognised the importance of preparing young potential academics for university careers, this extensive programme runs at four major universities in Africa: UCT, the University of the Witwatersrand, Makerere University (Uganda) and the University of Ghana. It targets postgraduate students and postdoctoral research fellows from Africa who are keen to pursue careers in academia. The programme aims both to strengthen higher education in Africa and to train a more demographically diverse community of academics for the continent.

Drawing on the partners involved in the Carnegie project, the four universities will increase collaboration through supportive supervision relationships, by encouraging fellows to build networks with their counterparts in the other partner universities, and in supporting Carnegie graduates – academically

and professionally – when they return to their home institutions. Over the length of the project, almost 100 new academics will be produced for the continent. To date, it has graduated 21 PhDs, and seven postdoctoral fellows have completed their tenures. At the time of writing, three Carnegie scholars had secured academic positions and a further one was about to take up his academic appointment.

Today's academics face a range of challenges due to the increasing complexity of the world and the research environment. The competition is not just faced by individuals, but by universities, countries and entire continents, argues Professor Danie Visser, Deputy Vice-Chancellor with responsibility for research. "You can't be competitive as a country or a continent if you don't have strong universities that drive research."

At UCT, participants are selected from three fields where lucrative career options in the private and public sectors mean that an academic career is often not the first choice (clinicians, engineers and economists) and where the research is particularly pertinent to Africa.

"We are trying to foster a community of people so that we can get that sense that we are doing



Some of the 2014 generation of Carnegie scholars (l-r) Back row: Faridah Chebet Chemisto, Kabani Matongo, Adérijo Monjane, Aleyo Chabeda and Brian Kullin. Third row: Philemon Arito, David Fadiran, Yusuf Agabi, Sulemana Mahawiya, Imuentinyan Alvinhenyo, David Ikumi, Roslyn Ray and Adeola Oyenubi. Second row: John Okedi, Rodrick Katete, Fredrick Nindo, Munya Musvosvi, Trust Mpofu, Hazvinei Tsitsi Tamuka Moyo, Krupa Naran and Zanele Ditse. Front row: Threza Mtenga, Mamello Nchake, Chijioke Nwosu, Elizabeth Lwanga Nanziri, Mhbuba Shifa and Nina Wasuna.

something significant for our continent," says Professor Visser. A quick scan of Africa-specific research being undertaken by current Carnegie scholars demonstrates the importance of this work. Projects range from the economics of tobacco control in Zambia to property rights in Nigeria; from climate change vulnerability in Tanzania to the relationship between health and the labour market in South Africa; and include multiple research projects on malaria, TB and HIV/AIDS.

### FILLING IN THE KNOWLEDGE GAPS

Carnegie fellow Tolu Oni, a senior research medical officer affiliated to the Clinical Infectious Disease Research Initiative (CIDRI) in the Faculty of Health Sciences, is determined to make a contribution through her research to improving the health of urban populations in Africa – especially for the poor.

According to Oni, rapid urbanisation in Africa has been accompanied by changes in cultural, social and lifestyle behaviour resulting in reduced physical activity and other unhealthy dietary and behavioural patterns, which has led to a rise in the incidence of non-communicable diseases (NCDs) like diabetes and heart disease. At the same time, there is an increasing overlap between these chronic conditions and infectious diseases, such as TB and HIV/AIDS, which is creating a perfect storm for public health that requires further investigation.

Poor people living in urban settings, fuelled by a high prevalence of obesity, are disproportionately affected, she says.

"A scarcity of good-quality data on how these diseases overlap and interact and their interaction with external or environmental factors is a significant barrier to designing appropriate prevention and control strategies," says Oni. "Many of these factors are beyond the healthcare remit, necessitating involvement of all relevant disciplines to ensure informed, healthier public policies."

This is where she hopes her research will make a contribution. With qualifications in medicine, public health and epidemiology, Oni began her medical training at the University College London Medical School and went on to complete postgraduate studies in internal medicine together with HIV medicine in the UK and Australia. In 2007, she moved to Cape Town to work in HIV/TB research, completing her doctorate in the Clinical Epidemiology of HIV-associated TB at Imperial College London.



Dr Tolu Oni.

It was during her research in Cape Town that she became interested in the rise of NCDs and their interaction with chronic infectious diseases. She is currently investigating the association between TB and diabetes, as well as the epidemiology of NCD risk factors in HIV-infected persons.

### UNDERSTANDING THE ROOT OF ECONOMIC PROBLEMS

With a dream of studying economics, Ethiopian-born Mhbuba Shifa's passion arose from a deep-rooted curiosity to understand the reasons behind the economic problems at home.

Her academic career started with a business science degree in statistics at Addis Ababa University, Ethiopia. This progressed into a full bursary for her master's in economic science at UCT. Shifa became a Carnegie scholarship recipient in 2011 and she was awarded a further scholarship for the following two years to study for a PhD in economics.

Shifa feels privileged and touched to be a Carnegie scholar; it has also had practical advantages: "Receiving support from the Carnegie Corporation has developed my career as an independent researcher, providing me with more protected research time."

The Carnegie Corporation's support allows Shifa the access and capacity to delve into her research interests in Ethiopia, which include rural livelihoods, land and labour markets, agricultural productivity, poverty and inequality.

## MCF: DEVELOPING FIRST-GENERATION AFRICAN PROFESSIONALS

In 2013, UCT was awarded a C\$23 million grant by the MasterCard Foundation (MCF), Canada. The project aims to provide educational and professional development opportunities to undergraduate and postgraduate students from South Africa and other countries in Africa. The recruitment of international students who come from economically disadvantaged backgrounds in Africa makes the MCF Scholars Programme both different and challenging. The MCF Scholars Programme allows UCT to seek out, recruit, mentor and educate this pool of talent and support grant recipients into post-degree employment, entrepreneurship or higher study. Since funding programmes for African-nationality graduates and undergraduates are not frequently available, this project helps to close a critical gap in terms of access and increases postgraduate enrolments. The MCF Scholars Programme at UCT helps promising young people make the transition from beneficiaries to benefactors, preparing them with the necessary values, knowledge, skills and leadership to fuel economic and social progress across Africa.

## ACADEMIC AND PROFESSIONAL SKILLS DEVELOPMENT OPPORTUNITIES

Many top international institutions are seeking formal partnerships with UCT. As part of these global partnerships, the university promotes co-badged qualifications and joint postgraduate programmes that entail student and staff exchanges, in addition to co-supervision of research projects.

It is no longer enough for master's and PhD graduates to be experts in their fields; they are also expected to have a portfolio of professional skills that can be transferred to the workplace. In order to strengthen these initiatives in the postgraduate sector, opportunities for academic and professional skills development have expanded. Drawing on findings from employers about required graduate attributes and on supervisors' and students' needs, a range of seminars, workshops, retreats and massive open online courses (MOOCs) are on offer to postgraduates and postdoctoral research fellows. It is anticipated that more than 2 000 postgraduates will attend these sessions in 2014.

Given the high attrition rates of online courses, the MOOCs are supplemented with weekly on-campus face-to-face group meetings, led by postgraduate students or postdoctoral fellows who are employed as



facilitators. This helps promote student retention and completion rates, while facilitators at the same time gain professional experience in tutoring. After completing the MOOC, facilitators are issued with a UCT certificate of recognition as part of their professional development and for inclusion in their curriculum vitae.

## EARLY CAREER SUPPORT

Structured, institution-wide support for early career academics at UCT goes back to the beginning of 2003 with the establishment of the Emerging Researcher Programme (ERP). In the intervening decade, the extent and nature of the support has grown, with a simultaneous refinement of initiatives.

## INDIVIDUAL AND GROUP SUPPORT

For many early career academics, the blend of ongoing individualised mentoring and a structured seminar and workshop programme has been invaluable for their development as researchers. This constitutes the backbone of UCT's support to early career researchers.

## POSTDOCTORAL AND POSTGRADUATE STARS

Each year UCT welcomes increasing numbers of postgraduate students and postdoctoral fellows, who play a vital role in supporting existing research and driving new research across the university.

### DR VERENA BITZER



Dr Verena Bitzer joined the Graduate School of Business during 2013 as a postdoctoral fellow looking into the role of cross-sector partnerships and co-innovation in solving complex social and environmental challenges. With a PhD from Utrecht University in the Netherlands on cross-sector partnerships and global value chains, Bitzer has done extensive work in innovation in African food chains at Wageningen University.

In the face of pressing socio-ecological problems, a lack of physical resources and an increasingly complex and competitive market, the world's economies have become more knowledge-intensive – value is created by the application of knowledge rather than by investment in hard assets. And the key to unlocking the economic and social value of knowledge is through innovation. "We need to see innovation as an investment, not an expense; as a process that focuses on providing a tangible benefit," says Dr Bitzer.

But Dr Bitzer says that for innovation to be successful, we need to realise that it is a collective activity, generally involving many different people and organisations. "The potential of partnerships for innovation is obvious

– innovation emerges when combining different sources of knowledge and experience. I'm interested in how collaborative processes create the interfaces necessary for generating innovative solutions to complex societal problems and what conditions are ideal for such processes to flourish."

### DR LIZ LEWIS



After many years as a business executive, Dr Liz Lewis decided to switch track. An interest in legal studies was beckoning and led to her obtaining an LLB from UNISA in 2008. Soon afterwards she returned to her alma mater (Lewis has a BA and an HDE from UCT) and embarked on a master's degree in the Department of Public Law, which was upgraded to a PhD in 2013.

Her area of expertise is international law: specifically, the interaction between international, national and subnational law. Dr Lewis chose this field because she is interested in both international law and subnational systems such as customary law. She feels strongly that these regimes should not be disconnected, and her present research is therefore aimed at developing judicial and legislative models that will allow customary and international law to enrich each other in a harmonious and beneficial manner. For example, the customary macro-cosmic world view, founded, amongst other things, on respect for the environment, could be explored to enhance the international environmental discourse, says Dr Lewis.

Dr Lewis currently has a postdoctoral fellowship grant from the University Research Committee and says that if she did not have this funding she would not be able to continue with her research. "I intend to make the most of this wonderful opportunity. The fellowship has given me extra motivation to bring new depth to my research," she says.



In response to changes in the national and global research environment in 2013, the ERP honed its focus on developing grant-writing skills, with corresponding assistance to researchers in accessing information on funding opportunities for internal grants and those available through the National Research Foundation and the Research Professional Africa funding platform, for example. During 2013, 90 early-career researchers participated in grant-writing seminars and workshops and a similar number is anticipated for 2014.

A distinctive feature of the support offered is a capacity building exercise in which researchers are invited to submit draft proposals for review and discussion, refining them in line with funder requirements before final submission.

A significant part of early career support at UCT is the development of writing and publishing skills. In line with this, 13 departmental writers' workshops were held during 2013, with a total of 162 people attending. Participants, coming to workshops with draft articles, chapters or PhD proposals, have the opportunity to present their work and obtain feedback on the first day, thereafter working to implement recommendations and complete articles.

Senior academics are available for consultation for the duration of the three-day workshops, and participants are tracked all the way to publication.

Along with one-on-one interaction with researchers and a seminar and workshop programme to develop research skills, graduate supervision training continues to be a core element of early career support. Biannual workshops are held in both the science and social science/humanities streams. A feature of many of the supervision workshops is that the groups comprise both supervisors (of master's and PhDs) and students (PhDs), creating an interesting and fruitful dynamic between student and supervisor perspectives.

## INTERDISCIPLINARY EXCHANGE

A number of serendipitous opportunities have emerged from these structured support initiatives. Significant among them is the disciplinary mix among participants in many events, facilitating cross-disciplinary conversation both in formal sessions and in less formal spaces, such as over meals. The effect of this is twofold. First, from early on in their careers, researchers are exposed to other disciplinary perspectives – an opportunity that is rare in traditional discipline-based institutions. Second, a number of cross-disciplinary collaborations have been initiated as researchers discover areas of common interest with potential for joint projects and publications.

Throughout 2013, the programme facilitators developed a honed appreciation of the value of such encounters and have encouraged these interactions, particularly since the current global thrust towards interdisciplinary collaborations is an increasing imperative for funders.

## UPCOMING PUBLICATION

In 2007, Professor John de Gruchy and Dr Lyn Holness published *The Emerging Researcher*, a book reflecting on the birth and early years of the ERP. This volume, which focused on the content of the ERP's seminar and workshop programme, was widely distributed and used – at UCT itself, within South Africa, and beyond national borders. At least two factors indicated the need for a second book: the expansion and refinement of the programme during the years since the first publication, and far-reaching changes in the local and global research environment, creating unprecedented challenges for researchers, particularly those in the Global South and notably in Africa. In response to this situation, Dr Holness has produced a second book, addressing new challenges and accommodating the broadened scope of research development strategies offered at UCT.

Addressed to both emerging researchers and their mentors, the new book is due for publication early in 2015.



## RESEARCHER RISING

Dr Alison September is a pioneer in a pioneering field. A senior research officer in the UCT/Medical Research Council (MRC) Research Unit for Exercise Science and Sports Medicine (ESSM) in the Department of Human Biology, Dr September is at the forefront of genetic studies geared towards identifying the hereditary risk factors underlying soft tissue injuries such as Achilles tendon injuries and anterior cruciate ligament ruptures.

"We are hoping that, by combining all the genetic analysis of the structural components and of the cell signalling regulation, we will be able to get to a model where we can identify the most important biological role players in injury susceptibility," she explains. This has implications for sports professionals in that, if it turns out they are, by virtue of their genes, at increased risk of a soft tissue injury, they can adapt their training accordingly – to strengthen and not put unnecessary strain on tendons or ligaments.

While currently working with elite athletes, Dr September says the research findings could also be extended to benefit other patients with soft tissue injuries and also to address occupational injuries, such as carpal tunnel syndrome. "I think it's the tip of the iceberg," she says.



"We haven't yet looked at the potential effect on other clinical patients, but there are soft tissues throughout your body, so if this risk factor is high, it could have an effect on other clinical phenotypes, such as recovery of a patient from surgery."

Dr September is now also turning her attention to the topical issue of concussion risks. "We are trying to see, are there genetic elements that contribute to your risk of sustaining a concussion, but more importantly, are there genetic elements which influence your recovery? We want to identify a biomarker which could be used, together with clinical parameters, to diagnose a concussion incident. People don't always present with clinical symptoms, and they don't necessarily correlate with the severity of the concussion. So if we can come up with a blood biomarker that confirms that a patient has concussion it would assist with treatment and recovery."

With a PhD in classical human molecular genetics from UCT, Dr September joined the ESSM in 2005 as a postdoctoral research fellow, drawn to the unit by the pioneering work of Professor Malcolm Collins, head of the Department of Human Biology. "I met him, I collaborated with him, and I thought: 'This is a dynamic person, I want to be part of that team,'" she says.

She has also benefitted from the Emerging Researcher Programme (ERP), saying it has given her the inspiration to "become bold in my thinking. Just from their excitement about your project and CV you get excited about yourself. You start getting confidence in yourself, which gives you momentum and you want to go with it."

On a practical level, the ERP has enabled her to publish several papers as a lead author, thereby upping her outputs and helping her to secure her C2 NRF-rating in early 2014.

## MID-CAREER SUPPORT

The Programme for the Enhancement of Research Capacity (PERC) supports mid-career and established researchers and aims to enhance their capacities and help them to step up to receive world recognition in their respective research fields. The programme uses seminars, workshops, grants and one-on-one consultative interactions to boost the research productivity and confidence of staff.

### THE USE OF URBAN YOUTH LANGUAGE IN THE MEDIA AND IN HIP-HOP MUSIC CAME UNDER THE SPOTLIGHT.



PERC operates as a portal through which academics can engage the services that are offered by the Research Office in supporting mid-career researchers. It also proactively catalyses research, converting some of the university's strategic research goals into practical projects, particularly in the areas of interdisciplinary work and African collaboration. One example of this is Associate Professor Ed February's work (see page 34).

Promoting networking is a key element of PERC. For instance, Professor Hanri Mostert (Department of Private Law) received a PERC grant to assist with hosting, in co-operation with the Groningen Centre for Law and Governance, a colloquium on "Rethinking the Public Interest in Expropriation Law". A number of countries were represented at the colloquium, including South Africa, the Netherlands, the USA, Canada, the UK, Israel, Poland, Italy, Germany, Australia and Ireland. Professor Mostert, together with Dr Ada Odor (Centre for Comparative

Law in Africa), is working on a project to compile five-country studies of mineral law, drawing together colleagues from Botswana, Ghana, Namibia, South Africa and Zambia.

Dr Ellen Hurst (Humanities Education Development Unit) received a PERC research grant to host a workshop on "Urban Youth Language in Africa". Delegates presented a wide variety of topics, ranging from languages in the slums of Addis Ababa and taxi ranks in Bulawayo to comedies, music and plays in Kampala. The use of urban youth language in the media and in hip-hop music came under the spotlight, alongside the language of university students in Côte D'Ivoire, Algeria and Nigeria. The workshop was also attended by scholars from the Netherlands, the UK and the USA. They included Professor Maarten Mous from Leiden, an expert on several East African languages, Associate Professor Peter Githinji from Ohio, who works on Sheng from Kenya, and Associate Professor H Samy Alim from Stanford, who is interested in hip-hop practices.

Associate Professor Tom Franz (Biomechanical Sciences Cardiovascular Research Unit, Chris Barnard Division of Cardiothoracic Surgery) served as a PERC fellow in 2013 and 2014. In this position he forged links between the faculties of Engineering & the Built Environment, Health Sciences and Science, as he contributed to the development of interdisciplinary research at UCT. One of his projects resulted in a workshop on cell mechanics and mechanobiology. The event was jointly funded by the British High Commission in Pretoria, the Technology Innovation Agency and UCT. The speaker consortium hosted speakers from a number of institutions and countries, including the UK, Germany and Spain. The event enhanced international collaborations and enabled South Africa and the UK to access high-value multilateral funding for interdisciplinary research and innovation to advance understanding, prevention and treatment of chronic diseases. It also provided the opportunity for many junior staff and postgraduate students to engage with cutting-edge international scholarship.



## SUPPORTING RESEARCH



**Dr Marlet Sienraert**  
Executive Director,  
Research.



**Dr Nelleke Bak**  
Director,  
Postgraduate Studies.



**Mr Piet Barnard**  
Director, Research  
Contracts & Intellectual  
Property Services.



**Ms Linda Vranas**  
Director,  
Postgraduate Centre  
and Funding Office.

## KNOWLEDGE FOR AFRICA

**The Africa Knowledge Project provides grants that are aimed at promoting African collaboration, interdisciplinary collaborative research and the production of Africa-centred knowledge. The Andrew W Mellon Foundation is funding the 2014 grants through the Research Office's Programme for the Enhancement of Research Capacity (PERC), with the condition that the principal investigator must be based in the humanities faculty. The expectation, however, is that research teams will be interdisciplinary. Professor Susan Levine, one of the recipients of the 2014 grants, fits the bill perfectly with her research project on the use of skin-lightening creams in South Africa.**

### DYING TO BE WHITE

Research shows that as many as one in three women in South Africa routinely use skin-lightening creams – this despite the risk of cancer and other types of skin disease associated with their use.



Understanding what drives women to make this choice is at the heart of a new interdisciplinary study led by Dr Susan Levine, senior lecturer in the School of African and Gender Studies, Anthropology and Linguistics.

The project will see medical doctors, social scientists and scholars from the humanities working together to draw critical attention to the visible and invisible harms associated with the use of skin-lightening creams.

Over the last few years, there has been a flood of cheap, affordable over-the-counter products for lightening the skin. According to Levine, the majority of these contain a mixture of compounds including mercury, corticosteroids and hydroquinone (HQ) to enhance the bleaching effect. Despite legislation that bans the use of HQ in concentrations of more than 2% in the USA, creams in Africa are being found containing up to 15%.

High concentrations of HQ accumulate over time and can lead to severe, irreparable damage to skin through a condition called exogenous ochronosis (EO). There were 756 reported cases of EO in Africa recorded in 2007, of which 2.6% were found in Senegal, 15% in Nigeria and a staggering 82.4% in South Africa. Little wonder then that Levine and her associates are so eager to wage war on these products and their use. "We believe that our interdisciplinary approach will allow us to alter perceptions regarding the use and abuse of skin lighteners, as well as to highlight the persistence of racial aesthetics of beauty," she says.

The project aims firstly to assess scientifically a number of the currently cheaper, illegal available formulations and the effect they have on human skin cells, and secondly to create a database of skin-lightener products. The database will also highlight global trends in cosmetic marketing of HQ-based creams and use this information to design a questionnaire for future anthropological studies. A third goal of the study is to conduct ethnographic research on the complex motivations around why and how women are investing in skin-lightening creams.

The research will contribute to UCT's drive to constitute medical humanities for Africa as a field of study and will build on the momentum of a successful seminar series in the medical humanities in 2013 hosted by GIPA (Greater Involvement of People Living with HIV/AIDS). "This research brings together the foundation of true interdisciplinary research that brings into focus the parallel needs for qualitative and quantitative research methods for solving the pressing health needs in South Africa," says Levine.



The site of the Kingdom of Mapungubwe, a pre-colonial state in Southern Africa, which is now a World Heritage Site.

## AN OUTSPOKEN ADVOCATE OF AFRICAN RESEARCH

Among the *Mail & Guardian's* 2013 list of 200 Young South Africans was Dr Shadreck Chirikure, a senior lecturer in the Department of Archaeology and 2014 Research Associate of the Programme for the Enhancement of Research Capacity (PERC).

Singled out for his contribution to changing the way Africans think about their own continent, Dr Chirikure seeks to debunk the myth that there was no science and technology in Africa before colonialism. The most important challenge in this research is that some of the dominant frameworks were constructed using non-African experiences and were incorporated locally without much modification. This calls for new perspectives informed by the African experience or local knowledge. "Most knowledge is acquired in a Western way but, before then, what were Africans doing?" he asks. "How much do we know about the mining that was being done, about the spears that made Shaka Zulu so successful?"

With a doctorate in archaeology, Dr Chirikure focuses primarily on pre-colonial technology in indigenous mining and metalworking in Africa. "I combine archaeological, anthropological and

historical approaches with standard metallurgical and mineralogical techniques to investigate pre-colonial metal extractive technologies and the associated socio-cultural processes," he says.

And it appears to be an approach that is working. He has turned up many revelatory findings in his research career, including the fact that not only were Southern Africans prospecting and mining to extract metals to use locally long before the colonial era, but they were also exporting the knowledge to China and to countries on the Indian Ocean.

Currently, Dr Chirikure is investigating the contributions of metallurgy to early state formation and inter-continental contact in Southern Africa. Using the Shona concept of rotational succession, where power moves between "houses" or brothers upon the death of the incumbent king or chief, he and his collaborators have argued that there were many centres, rather than one major capital, in the region. With a PERC Africa Knowledge grant, he has initiated a project at the archaeological site of Mapela in Zimbabwe, long believed to be a subsidiary within the grand state of Mapungubwe. The last archaeologist to work at Mapela was Peter Garlake in 1966. New excavations are indicating that Mapela was much bigger than previously thought. It has yielded thousands of glass beads, which suggests that it was a thriving trade centre. This work is a collaborative project with researchers from the UK, Botswana and Zimbabwe.

Dr Chirikure has also just been awarded a National Research Foundation (NRF) Blue Skies grant to study Great Zimbabwe, Mapungubwe and other related places to explore new models for, and evaluate the contribution of metals to, nascent urbanism in the region. In this work he will draw on the expertise of Professor Sue Parnell (African Centre for Cities) on African urban systems, while professors John Compton (Geological Sciences) and Mike Meadows (Environmental and Geographical Science) will offer guidance on the contributions of climate change to state formation.

Dr Chirikure came to UCT as a postdoctoral fellow in 2007. He was enrolled into the Emerging Researcher Programme (ERP) early in his academic career, working with the co-ordinator for the science, engineering and technology stream at the time, Dr Dianne Bond. For Dr Bond, three things stand out as she recalls her

**THE MOST IMPORTANT CHALLENGE IN THIS RESEARCH IS THAT SOME OF THE DOMINANT FRAMEWORKS WERE CONSTRUCTED USING NON-AFRICAN EXPERIENCES AND WERE INCORPORATED LOCALLY WITHOUT MUCH MODIFICATION.**



Dr Shadreck Chirikure.



encounters with Dr Chirikure: her immediate sense that here was someone who was clearly going places, the fact that he availed himself of the opportunities provided by the ERP for new staff members, and his constant gratitude for the tools, notably in the form of research-related information, that smoothed his path in developing a robust research profile. ERP senior co-ordinator Dr Lyn Holness reflects: "It was with a great sense of pride that those of us working in the ERP were able to welcome Shadreck as the 2014 PERC Associate. Shadreck, you see, has done all the things we dream of for emerging researchers!"

Aside from being recognised in the *Mail & Guardian* list, Dr Chirikure has been awarded a Mandela Mellon Fellowship, enabling him to spend time at Harvard University, and was invited by Cambridge University Press to write a book on his research. He also sits on the editorial boards of three journals, is a founding member of the South African Young Academy of Science and received a prestigious P-rating from the NRF in 2012.

Apparently, Dr Chirikure was once so shy he was afraid to look his lecturers in the eye. Now he is an outspoken campaigner for African research. In his capacity as PERC Associate, he supports PERC's work to develop the research careers of mid-career academic staff at UCT, specifically encouraging the development of research initiatives that reflect the university's location in Africa and in a more broadly developing context. In May 2013, he convened a round-table discussion on "Afropolitan Research Opportunities and Constraints: Creating knowledge for transforming and empowering Africa."

"Africa is promising in that there are so many avenues that can be explored, thereby transforming the continent into a competitive global knowledge producer," he says.

## FEBRUARY IN THE CEDERBERG

One of South Africa's most iconic climbers has directed his passions at researching the Cederberg's iconic trees. Edmund February, associate professor in the Department of Biological Sciences at the University of Cape Town, has turned his attentions to the endangered cedar tree, the only tree species growing among fynbos and endemic to the Cederberg mountains.

Associate Professor February grew up in Cape Town. Classified as coloured, he was denied access to many facilities in the city, but not to the mountains or the public parks, and from an early age, he spent hours exploring Table Mountain. One thing led to another, from the hikes on Table Mountain he soon progressed



to a more vertical world. While some of his friends were being pulled towards joining the gangs that have become a powerful social feature of the Cape Flats, he and his brother were developing their rock-climbing ability.

It wasn't long before his abilities on the rock face became evident and he embarked on a semi-professional life as a climber. He was invited to participate in first ascents of vertical rock spires in many parts of Africa, from Namibia through Cameroon and Mali to Kenya. He has also climbed extensively in North America, Africa and Europe and worked on two climbing films for the BBC: one in the Cederberg and the other in Scotland.

Parallel to Associate Professor February's passion for climbing, he began to develop an interest in plants. Spending much of his time outdoors in the Western Cape, which is renowned for its unique and diverse

### ONE OF SOUTH AFRICA'S MOST ICONIC CLIMBERS HAS DIRECTED HIS PASSIONS AT RESEARCHING THE CEDERBERG'S ICONIC TREES.



Left: Associate Professor Ed February climbing Mount Arapiles. Above: the Clanwilliam cedar.  
Below: the Mulanje cedar.



fynbos flora, he became interested in the ecological diversity confronting him. Among his favourite local climbing spots are the Cederberg mountains, located in a provincial reserve just 200 km north of Cape Town. From the very first trips to the Cederberg some 40 years ago, Associate Professor February was fascinated by the iconic Cederberg-namesake, the Clanwilliam cedar (*Widdringtonia cedarbergensis*). The Cederberg Wilderness area was declared a provincial reserve in 1972 with the express purpose of protecting the trees.

Despite this protection, these trees are listed as an endangered species, threatened with extinction if the causal factors for its decline continue to operate. Another *Widdringtonia* species, the Mulanje cedar (*Widdringtonia whytei*), which is the national tree of Malawi, is also threatened with extinction in the wild. Like the Clanwilliam cedar, the Mulanje cedar is endemic to a small mountain range, Mount Mulanje, about 150 km from Blantyre. The Mulanje cedar is much bigger than its South African cousin and the biggest danger it faces is from woodcutters.

In 2012, Associate Professor February was awarded a PERC grant for a comparative study of the South African and Malawian cedars, teaming up with colleagues from South Africa and Malawi, from within academia and outside it.

The project has two aims. The first is to establish the viability of current sapling initiatives by examining the health of seed stocks and their ability to regenerate: it is estimated that fewer than one in 1 000 seedlings will mature into a seed-producing tree.

The second feature is to explore the relationship between the trees and surrounding human populations. In both South Africa and Malawi, the tree is an important economic asset. In the Cederberg, it has been used to attract tourists, who provide labour and entrepreneurial opportunities to local communities. In Malawi, its wood is central to local economies because it is resistant to weather, rot and termite damage, and is therefore favoured for construction. While the tree faces different challenges in the two countries, it is important to attend to both the botanical and social dimensions of its place in Africa's mountains.

Associate Professor February wants to ensure that the next generation of climbers will be able to appreciate the beauty of the African cedars and he hopes that his project will bring hope to local communities, while at the same time safe-guarding these beautiful trees.

## A VOICE AGAINST VIOLENCE



The handsign of the 28s prison gang. Image: Don Pinnock.

**South Africa is one of the most violent African countries not currently in a state of war. In 2013, it was ranked 121 out of 162 countries on the Global Peace Index, having slipped 27 places since 2008.**

The Safety and Violence Initiative (SaVI) at UCT continues to draw attention to the need to address these high levels of crime and violence. Established in 2011 as one of four key institution-wide strategic research initiatives to address critical social challenges, SaVI is mobilising research, both inside UCT and beyond, into the causes of violent crime and its possible solutions.

SaVI has a very active calendar and hosts regular events to facilitate debate and discussion on these issues. In February 2013, it also contributed to the organisation of a successful and memorable march on campus precipitated by the murders of Anene Booysen and Reeva Steenkamp, where staff and students rallied to protest against the unacceptably high levels of violence against women.

### VIOLENCE AGAINST WOMEN AND CHILDREN

While no sector of the South African population remains unaffected by violence, children and women have experienced disproportionately high levels of violence, both as observers and victims, compared to those in other countries with available data.



Guy Lamb.

In December 2013, the United Nations Children's Fund (UNICEF) contracted SaVI to co-ordinate a research project on violence against women and children in South Africa. Based at UCT, this programme is run in partnership with the Children's Institute and draws on expertise from researchers in the Department of Sociology, Department of Psychology, Division of Nursing and Midwifery, and the Gender, Health and Justice Research Unit, as well as the Human Sciences Research Council (HSRC). The findings of the project will generate evidence-based analysis, modelling and recommendations on issues related to violence against women and children in South Africa, including its reduction and prevention.

In related work, SaVI has also commissioned Associate Professor Sinegugu Duma of the Division of Nursing

and Midwifery, with supervisory support from Professor Naeema Abrahams of the Medical Research Council (MRC), to undertake a survey of attitudes towards sexual violence in its own backyard – in UCT residences. Focus-group research with the incoming (2014) house committees of UCT residences has been undertaken and the research project will be completed in 2014.

### YOUNG, HIGH AND DANGEROUS

While children are often on the receiving end of violence in South Africa, the rise of youth gangs in Cape Town means that they are now frequently also perpetrators of violence.

The Western Cape Government's Integrated Provincial Violence Prevention Policy Framework (2013) prioritises the reduction of youth violence and describes gangsterism as something that is "endemic in the province and increasingly affects young people at school-going level". Despite this, research on gangs and gang violence is underdeveloped in South Africa.

In May 2014, SaVI published its first volume of essays on safety and violence, focusing on youth gangs and violence in Khayelitsha, entitled *Young, High and Dangerous: Youth gangs and violence in Khayelitsha*. This is among the first formal research projects into the emerging phenomenon of gangs in this area, one of the fastest-growing townships in South Africa, with a mixture of formal and informal housing and high levels of poverty and unemployment.

The SaVI study suggested that gangsterism is indeed pervasive in Khayelitsha, where loosely structured gangs of adolescents now regularly and openly engage in mass armed combat with each other. It disrupts schooling and undermines community cohesion, and its containment is beyond the techniques of conventional policing. The research will feed into the dialogue around developing a suitable response to this crisis at policy level.

### SUBSTANCE ABUSE AND VIOLENCE

SaVI research is also making a notable contribution to the policy debate on the issue of substance abuse and violence through a series of research projects on the relationship between violence and substance abuse in Cape Town in 2013. One of the projects, led by the Department of Surgery, investigated substance abuse in injured patients presenting to the Groote Schuur Hospital Trauma Centre over a two-month period. Another project, directed by the Department of Psychiatry and Mental Health, tested an intervention

for substance users attending trauma clinics in the Western Cape.

In early 2013, SaVI and the Centre for Social Science Research (CSSR) hosted a workshop to interrogate the link between alcohol and violence in South Africa: it included medical researchers, who know about violence because injured patients arrive at clinics (and bodies arrive at mortuaries); social scientists, who often encounter drinking while studying violence, or vice versa; and practitioners, who are trying to effect successful interventions to reduce violence through addressing drinking. The workshop was the first step in a process to harness research for a better understanding of the link between alcohol and violence.

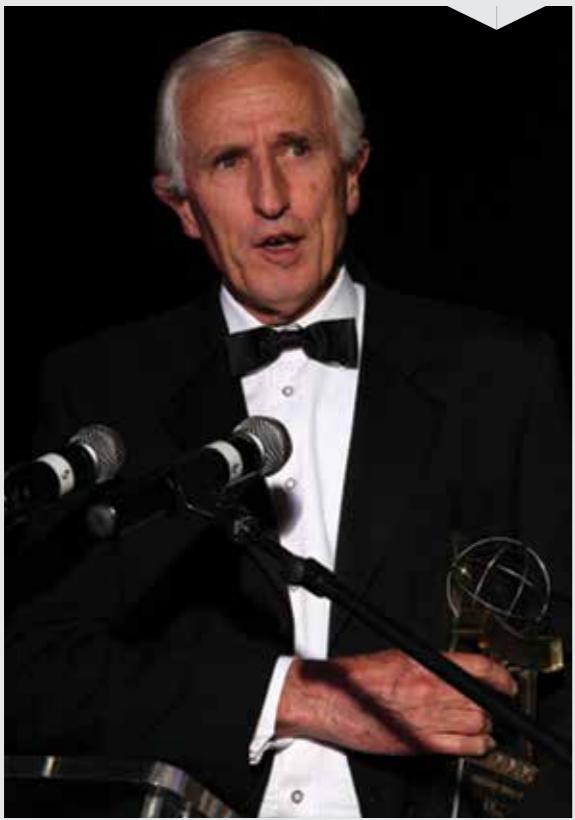
### INFLUENCING THE FUTURE

"SaVI has a clear social-responsiveness objective, constructively engaging with both government and civil-society organisations, and adopts an interdisciplinary approach with a view to undertaking transdisciplinary work on violence reduction and safety promotion," says Guy Lamb, who was appointed as director of SaVI in late 2012.

"UCT academics and students can contribute to filling the knowledge gaps on violence, and try to provide some answers to the complex questions about this phenomenon. This knowledge has the potential to shift policy and legislation when required. Also, where there is interest or are requests from civil society organisations and communities affected by violence, such knowledge can be used to shape and implement violence prevention strategies and programmes. Universities are the training grounds for many future leaders in government, the private sector and non-governmental organisations. A comprehensive programme on understanding and responding to violence can influence strategic thinking in the future."

SaVI is one of the key institution-wide initiatives introduced by the Vice-Chancellor to address critical social problems, part of UCT's strategic goal to expand and enhance the university's contribution to South Africa's development challenges. These are intended to be interdisciplinary, drawing on and integrating skills and knowledge across the university, so that they can attempt to answer the complexity of each of these challenges. The African Climate and Development Initiative (ACDI) and the Poverty and Inequality Initiative (PPI) are covered elsewhere in this report (see particularly p74 and p86).

## FROM ASTHMA TO AERONAUTICS: THE 2013/14 NSTF-BHP BILLITON AWARDS



Professor Eric Bateman.

**Three academics from the University of Cape Town were honoured at the 16<sup>th</sup> Annual National Science and Technology Forum (NSTF)-BHP Billiton Awards for their contributions to the fields of science, engineering, technology and innovation in South Africa. Eight other UCT academics were among the 56 finalists for the prestigious awards.**

Emeritus Professor Eric Bateman, director and founder of the UCT Lung Institute, Department of Medicine, received the accolade for an individual who has made an excellent contribution to science, engineering and technology over a lifetime. Professor Keertan Dheda, Head of the Division of Pulmonology, Department of Medicine, was recognised for his exceptional contribution to the fields of science, engineering and technology through research and its outputs over the last five to 10 years. The third award went to Professor Arnaud Malan at the Department of Mechanical Engineering for his outstanding contribution to science,

engineering and technology through research leading to innovation in a corporate organisation or institution.

Professor Danie Visser, Deputy Vice-Chancellor for Research, says these awards demonstrate that UCT's research is in good shape. "On the one hand, Professor Bateman's award celebrates a scientist who has spent a lifetime promoting lung health and who is still at it at 66 as an A-rated scientist and director of the UCT Lung Institute. On the other hand, Professor Dheda's award recognises the vanguard of the next generation, by acknowledging his influential work in understanding the transmission and control of TB. The award to Professor Malan, as leader of the team that developed the Elemental software, also celebrates a brilliant young researcher and underlines the importance of innovation."

### ELEMENTAL IS SET TO PROPEL SOUTH AFRICA INTO THE HIGH-TECH WORLD OF INTERNATIONAL SPACE TECHNOLOGY.



The NSTF-BHP Billiton Awards are a flagship project of the NSTF, which is the largest and most prominent multi-stakeholder non-profit forum for science, engineering and technology in South Africa. The awards are endorsed by the Department of Science and Technology and recognise both pure and applied research, as well as research development that leads to product and process innovation.

### A LIFELONG COMMITMENT TO TACKLING LUNG DISEASE

Emeritus Professor Bateman is still spoken about as "the man who changed the way we treat asthma" after leading one of the biggest studies into asthma treatment of its time, and publishing a paper that changed international guidelines and goals around treatment. As chair of the Science Committee of the Global Initiative

for Asthma (GINA), he was convener and lead author of a major revision of the GINA asthma report in 2006 and has been instrumental in establishing asthma as a global health priority. He established the UCT Lung Institute in 2000 and was a founding executive member of the World Health Organisation (WHO) Global Alliance against Chronic Respiratory Diseases.

At the same time, he has worked on improving methods of delivering primary care in low- and middle-income countries where asthma, as the most common chronic disease in children, places a huge burden on the poor. He has also played a significant role in developing methods for helping health workers in primary care facilities to deliver quality care for common chronic and infectious diseases. "The public health clinician is more than just a good doctor," says Professor Bateman. "He or she is someone who accepts the responsibility for taking their skills into the community."

### TARGETING DRUG-RESISTANT TB

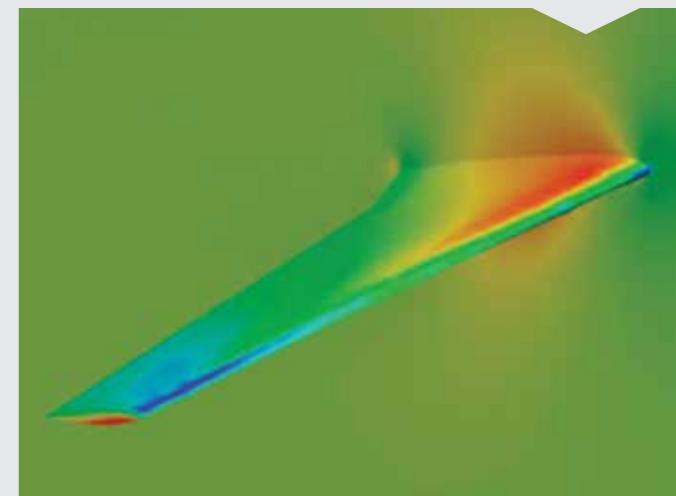
Professor Dheda is known for his seminal contributions to understanding the pathogenesis, diagnosis, management and control of drug-resistant TB in South Africa and is a recipient of a plethora of awards, including the South African Medical Research Council Gold Award in 2013 and the prestigious Harry Oppenheimer Fellowship Award in 2014.

His innovation is evident in much of his work: he recently led a team that published their findings in *The Lancet*, showing that placing new rapid TB diagnostic technology (Gene Xpert) in a clinic was feasible when testing is performed by a nurse. This approach has led to rapid diagnosis of drug-resistant TB, with more patients being placed on treatment.

It is in tackling these untreatable strains of drug-resistant TB (DR-TB) that Professor Dheda's persistence is most needed. Where previously DR-TB developed mainly in patients who had failed to complete their antibiotic treatment, 80% of it is now spread directly from person to person. In South Africa, patients with DR-TB have poor outcomes in 50 to 75% of cases, and despite comprising less than 3% of the total TB burden, consume almost half of the annual total TB management budget. Identifying the patients most likely to spread DR-TB means that infection control could be targeted more effectively. "Only 10 to 20% of patients with DR-TB are responsible for the majority of transmission," says Dheda. "These individuals are ideal candidates for targeted infection control interventions to render them rapidly non-infectious."

### REACHING NEW HEIGHTS

Professor Arnaud Malan in the Department of Mechanical Engineering first conceived the idea behind Elemental, a next-generation computational fluid dynamics (CFD) software tool, 15 years ago when he was still a wet-behind-the-ears engineering student. Today, this innovative and sophisticated analysis technique that uses mathematical models and equations, enabling scientists to study the dynamics of fluid flow through a 3D computer model, is generating significant income from annual licensing fees, and has already resulted in a successful UCT spin-out company: Elemental Numerics (Pty) Ltd.



Elemental plane wing simulation.

The software has diverse applications, from aircraft design to heart valves and industrial fans, and has attracted research contracts worth over R8 million from Europe. This includes a R2.5-million agreement between the Faculty of Engineering & the Built Environment and top European space technology company, Airbus Defence and Space, for groundbreaking use in the modelling and design of space applications such as rockets and satellites. It is set to propel South Africa into the high-tech world of international space technology and has profound implications for the country's economy, business and science.

The global commercial CFD software market, currently generating more than R5.6 billion annually, is one of the fastest-growing fields in engineering today and Elemental has allowed South Africa to play in this league. According to Professor Malan: "The best commercial software in the world has been found to be limited. That is why they're looking to us."



# PRESERVING OUR AFRICAN HERITAGE

UCT scholars are dedicated to preserving – and unearthing – untold stories of African heritage, particularly from marginalised or suppressed communities. Through the often politically charged channels of archiving and curating, a tradition of scholarly excellence and a contribution to the healing of South Africa's often fragmented history continues.

# PRESERVING AFRICA'S PAST TO BUILD A CONTINENT'S FUTURE



**As the trend of globalisation continues, scholars the world over are raising all-important questions of identity, independence and power dynamics. Within this movement, the African continent is reconstructing its identity and position in the world, and it is important that this process takes place within a discourse of empowerment and cohesion.**

Global economic forces continue to have an impact on the African continent, which causes some scholars to raise concerns that this is a threat to African identity, referring to globalisation as a form of neo-colonialism that forces Africans to become nameless actors on the world stage. Other scholars are more optimistic, moving beyond Afro-pessimism to position Africa on the world stage as a unique power, finally harnessing its resources for its own empowerment. Either way, one thing is clear: during this time of rapid development, it is essential that Africans are empowered to shape their own identity and tell their own stories.

The idea that narrative shapes identity is not new. Without narrative, it is difficult to understand human temporality and historicity at all. It is therefore critical that, in the formation of narratives across the African continent, the heritage of its people is, first, preserved and not destroyed, and second, preserved in its own context, rather than reframed through a Western gaze.

For South Africa, there is also a further need for narrative, and that is its healing function. As the country's democracy matures and it recovers from its splintered past, narrative can play a powerful part in the healing of trauma. Giving voice to the various histories of the country and continent is therefore a critical part of this process of respect, growth and healing. It is to this end that UCT researchers have dedicated their time and resources to preserving African heritage, specifically preserving it as closely and respectfully as possible to its original context.

## EMBRACING THE POLITICAL

In 2013, an attack on the Ahmed Baba Centre library in Timbuktu, Mali, highlighted the politically charged nature of preserving – or destroying – heritage pieces. Dr Shamil Jeppie, team leader of the Timbouctou Manuscripts Project, described the attack as "crude"

## MIXING IT UP

It's something that many South Africans might be familiar with, but Emeritus Professor Kay McCormick has shed new light on the finer points of language-mixing in oral and written communication.

Professor McCormick was the keynote speaker at the second instalment of the Spring Seminar Series held in 2013, which was hosted by The Institute for Humanities in Africa (HUMA) and celebrated 30 years since linguistics (now part of AXL, the School of African and Gender Studies, Anthropology and Linguistics) was established.

Language mixing is essentially the use of two or more languages in a single communiqué, from a single sentence to an extended stanza. "Is it conscious? Sometimes, yes. Sometimes it is absolutely not conscious," Professor McCormick said. "Does it occur only in spoken languages? No."

Professor McCormick played recordings of conversations she held with pre-school children in Chapel Street, District Six, in the 1980s (in the part that was not destroyed by forced removals), pointing out how the youngsters wove English and Afrikaans together seamlessly. Such language switching that occurs

and pointed out the need to develop "consciousness and awareness" of how to care for this kind of ancient artefact on the African continent.

The documents destroyed at the time included Qur'ans that possibly dated back as far as the 14<sup>th</sup> century, and other valuable manuscripts that were being digitised at the time by UCT scholars to form a multi-volume catalogue. "The rebels were very destructive of a tradition of learning that goes back centuries," Dr Jeppie said, pointing out the need for these texts to be kept in a "living environment" to protect them from neglect which, he added, could be nearly as destructive as actively destroying them. Highlighted in this example is the idea that the preservation of these manuscripts is necessarily a political act – one continuing UCT's tradition of activism and the importance of the work done by UCT and other scholars in protecting the manuscripts. As pointed out by Jeppie at the time, the research was not nearly as badly affected as it might have been, given that the new library archive had already been completed in 2009 and the move was in progress at the time of the attack. And apart from this good timing, scholars rallied together to protect the learning that was at stake.



Emeritus Professor Kay McCormick.

naturally, in spoken and written communication, shows that both the language and the speakers are flexible and fluid, and that the speakers are able to mentally reconcile both, said Professor McCormick.

Language as a marker of social identity was also key to informing when and who spoke, and in which way. From the switch between pre-meeting chatter and speaking to a peer, to addressing a figure of perceived authority, she explained that the more formal the setting, the less likely people were to speak in a mixed vernacular. "Power and status are also really important," she said, adding that South Africa's national anthem is a prime example of language switching in the new South Africa.

As has long been the case in Timbuktu, researchers and librarians ultimately become the custodians of knowledge at times of political threat. According to the *Global Post*'s report on these unlikely heroes of the rebel invasion: "Each time foreign invaders threaten Timbuktu – whether a Moroccan army in the 16<sup>th</sup> century, European explorers in the 18<sup>th</sup>, French colonialists in the 19<sup>th</sup> or Al Qaeda militants in the 21<sup>st</sup> – the manuscripts disappear beneath mud floors, into cupboards, boxes, sacks and secret rooms, into caves in the desert or upriver to the safety of Mopti or Bamako, Mali's capital."

Dr Jeppie explained: "The custodians of the libraries worked quietly throughout the rebel occupation of Timbuktu to ensure the safety of their materials. A limited number of items [were] damaged or stolen, the infrastructure neglected and furnishings in the Ahmad Baba Institute library looted but ... there was no malicious destruction."

Dr Jeppie is the Director of the Institute of Humanities in Africa (HUMA), and brought the Timbouctou Manuscripts Project to that institute from the Department of History, where it had flourished for many years.

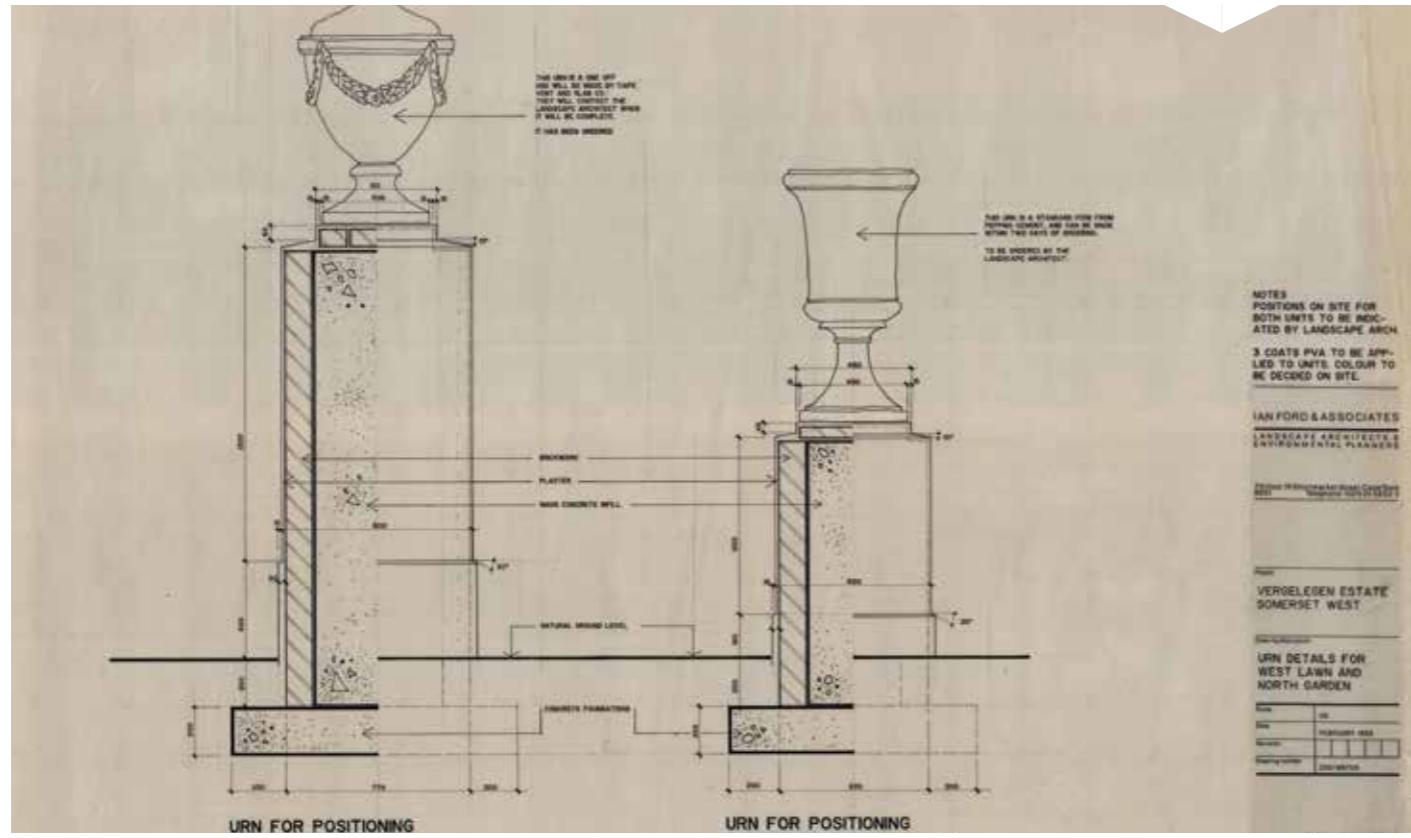


Diagram detail of an urn in the north garden of Vergelegen Estate from the Ian Ford Archive in the School of Architecture. After graduating with a B Arch from UCT, Ian Ford studied landscape architecture at Edinburgh University. His design work includes several highly significant South African heritage sites including Groot Constantia, Steenberg and Vergelegen.

Timbuktu was a great centre of learning and was famous in West Africa and far beyond, from the 13<sup>th</sup> to the 20<sup>th</sup> centuries. Local scholars and their students recorded their scholarship in a number of diverse areas in handwritten texts. Unesco declared Timbuktu a World Heritage Site in 1990. A selection of legal texts (initially 100 manuscripts of varying size) was digitised at the Mamma Haidara Library in Timbuktu in January 2004. Another 60 manuscripts from the Ahmed Baba collection were subsequently also digitised for research by the project. Some of these digitised texts have since been translated into English and studied further, serving as a basis for research, including doctoral and master's thesis work. The scope of the project continues to broaden to include writing cultures from other parts of Africa, namely collections from Mozambique and Madagascar (in Arabic and Malagasy), as well as Zanzibar (Arabic and Swahili) and Somalia. There is also a great deal of Coptic Christian writing from Ethiopia in Amharic, and there are texts written in Arabic and Amharic in archives in Addis Ababa.

HUMA, meanwhile, continues to foster critical research and seeks to bring the fruits of that research into the public arena for debate, to make it accessible

to the public. The humanities are vital to the creative and critical energies of societies in the throes of profound change. HUMA fosters interdisciplinary study through the humanities as a whole, stimulating debate and fostering growth in the broader community outside UCT.

### THE STRUGGLE AGAINST FORGETTING

Milan Kundera writes in *The Book of Laughter and Forgetting*, "The struggle of man against power is the struggle of memory against forgetting."

He adds, "The future is only an indifferent void that nobody cares about, but the past is filled with life, and its countenance is irritating, repellent, wounding, to the point that we destroy or repaint it. We want to be the masters of the future only for the power to change the past. We fight for access to the labs where we can retouch photos and rewrite biographies and history."

When it comes to the histories of traditionally marginalised people, the process that UCT is busy with is therefore one of empowerment, and it is a critical one – especially in the case of people whose languages and cultures are dying out or whose stories have never been



Repeat photograph of landscapes (Botany Department, Plant Conservation Unit), an emerging discipline within the global change research community to document the extent and rate of change in the vegetation of southern Africa. The images are now part of the growing UCT digital archive.

told. Here, the preservation of the memory of the past in the voices of the people themselves – and ensuring that the narratives are not overwritten by the scholars and academics, and are instead preserved respectfully and intact – becomes vital.

One such project is ongoing at the Centre for Curating the Archive (CCA). It began life as LLAREC (the Lucy Lloyd Archive, Resource and Exhibition Centre) in the late 1990s as a space in which material – original and reproduced, created and found – was collected from a variety of archives, museums, collections, storerooms, offices and junk heaps and used creatively in exhibitions curated by artist-staff at the Michaelis School of Fine Art. It is now an interdisciplinary space with links to various UCT departments and projects, such as Professor Carolyn Hamilton's Archive and Public Culture initiative. The CCA is also concerned with the expanded archive relating to the study and representation of the San, particularly the |xam, from the early 19<sup>th</sup> century. This focus has sought to expose the rich intellectual lives of the San, most often represented as a people without history and as a part of "nature", by reaching into the pre-colonial archive

through the Bleek and Lloyd collection of |xam and |kun texts, as well as other sources of storytelling, and through an examination of rock art. In the past, several significant publications have emerged from this focus, not least the publication of the 14 000 pages of 19<sup>th</sup>-century interviews with |xam prisoners in *Claim to the Country* (Skotnes, 2007) and the George Stow collection in *Unconquerable Spirit* (Skotnes, 2008).

Significant ongoing research projects include extensive studies relating to archaeological material, as well as the continuing digitisation and study of documents relating to the expanded Bleek and Lloyd archive, and the |xam dictionary, plus documents relating to the *Special Mission* of Louis Anthing. Anthing, in the 1860s, recorded interviews with San (|xam) survivors of massacres perpetrated by farmers on the colonial borders of the Cape Colony, and is therefore a vital source of this marginalised historical narrative.

### THE CHALLENGE OF CURATORSHIP AND ARCHIVING REMAINS TO EMPOWER THE STORYTELLERS TO NARRATE, AS FAR AS POSSIBLE, THEIR OWN HISTORIES AND CONTEXTS.



A further important project includes fieldwork and interviews with descendants in the Northern Cape who, though the |xam language is extinct, still retain a lively and previously unrecorded oral tradition that bears many similarities to stories told in the 1860s and 1870s.

"There is a huge archival repository that resides, so to speak, in the landscape and communities of the Northern Cape, where the death of the language of the |xam was thought to have resulted in the death of oral traditions," says Pippa Skotnes, professor of fine art and director of the Centre for Curating the Archive. "Not only do these appear to be alive – while not in |xam, but in Afrikaans – but there are also significant sites in the landscape where people lived and died that could well be identified and exposed along with their associated histories. A postdoctoral fellow at the CCA began work in this area, and we hope soon to identify a new postdoc to continue this work."



Above: An image of the Alfred Basin, Cape Town harbour, from the Cape Argus image archive, an extensive archive of about 850,000 images, now housed at UCT, which spans a period from about 1940 to 2000. The archive is housed and managed by UCT Special Collections. Below left: a 1922 illustration of Drosanthemum speciosum by Mary Page in the Bolus Herbarium, and right: a rattle and gourd resonator on an nkoka, a musical bow from Mozambique from the Kirby Collection of Musical Instruments: South African College of Music.

In terms of constructing a narrative, the challenge of curatorship and archiving remains to empower the storytellers to narrate, as far as possible, their own histories and contexts. Professor Skotnes explains, "There is a huge repository of archival material in the form of documents, photographs and object collections in our museums, library and archives, but also in university collections – loosely gathered in departments, offices and laboratories."

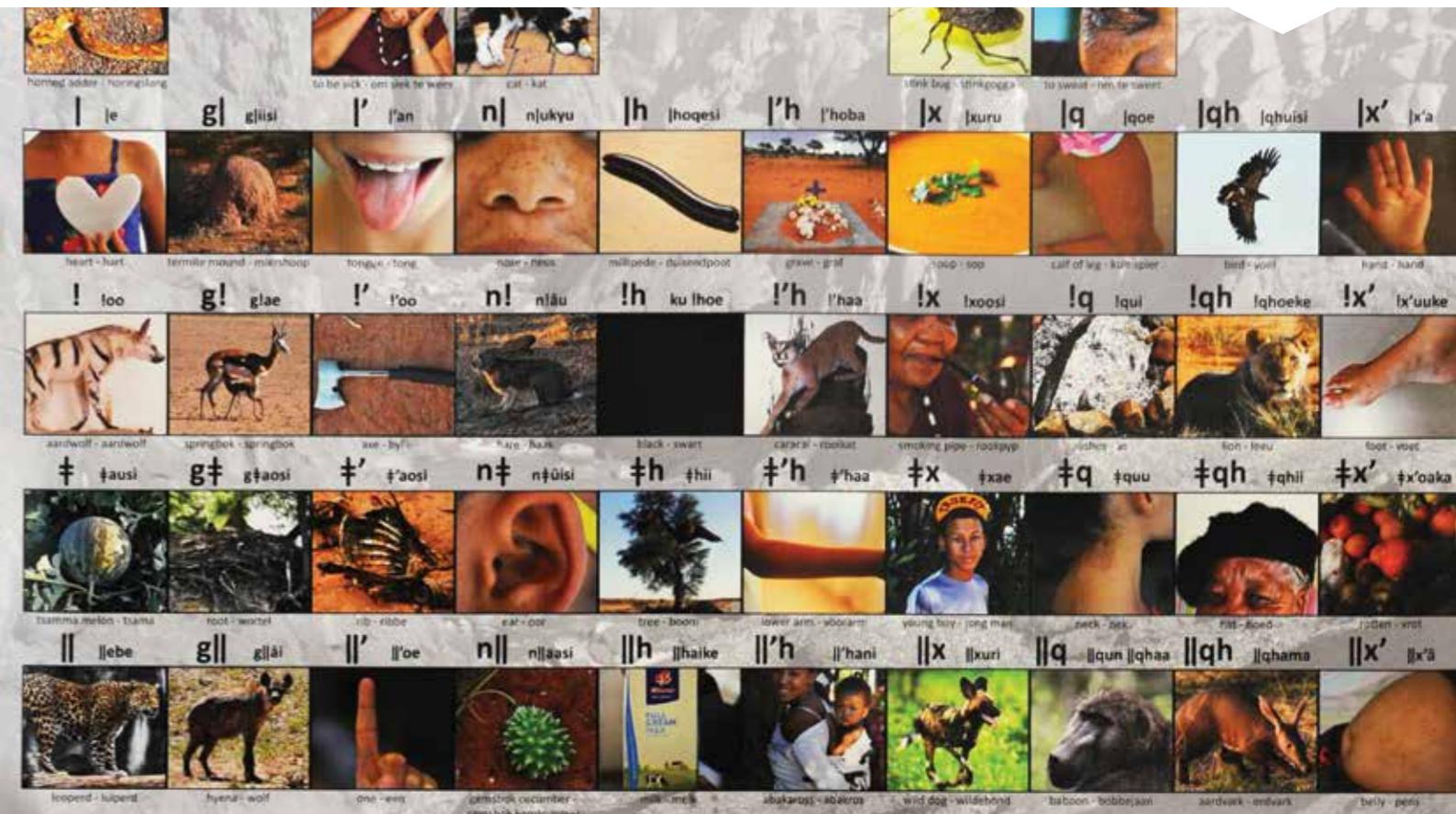
Much of this material can be stored digitally, and the Humanitec initiative, a successful partnership between the Faculty of Humanities and UCT Libraries that is funded by the Vice-Chancellor's strategic fund for five years (2011 to 2015), is bringing into being an institution-wide digital repository for this purpose. Working in collaboration with Information and Communication Technology Services (ICTS), the initiative is intended to unify the multiplicity of digital activity around the university by providing a scaleable location where material can be stored and managed.

"Such material has the potential to say much about our mutual and separate histories, but it needs recognition, conservation and publication in two forms: one the normal scholarly publication, but also curatorship – the process by which objects and documents are brought together, to shed light



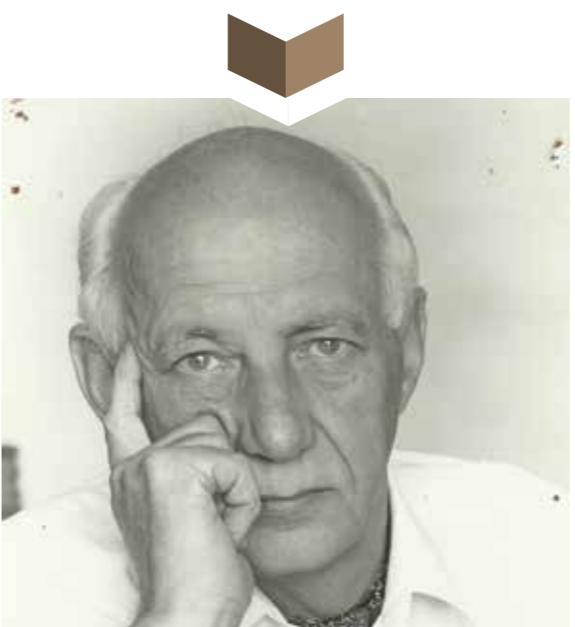
on associated events and practices. The objects themselves are of interest, as are the evidentiary traces of the past."

The CCA has recently received a substantial grant from the Mellon Foundation, which will be used to develop a programme in curatorship in partnership with Iziko Museums, and is intended to encourage students to think of new ways to expose archival heritage. "There is much to be done in the areas of conservation, but also the reimagining of how we expose the things that survive from our past," says Professor Skotnes.



Above: Nǁng language poster. Below: an archive photo of Ernst Westphal, professor of African languages at UCT from 1962 to 1984.

## RESEARCH ON AFRICAN LANGUAGES HAS BEEN DOMINATED BY FOREIGN MISSIONARY LINGUISTS AND NON-AFRICAN SCHOLARS WHO DESCRIBED AND STANDARDISED AFRICAN LANGUAGES.



## CELEBRATING DIVERSITY

The work of the Centre for African Language Diversity (CALDi) is closely related to the work of the CCA. Its director, Dr Matthias Brenzinger, drives a custom-decorated car marked like an emergency vehicle designed to save languages in danger of dying. It's an appropriate message, as thousands of languages are endangered and more than 100 African languages are on the verge of extinction.

Launched in November 2012, CALDi encourages and supports primary research into African languages. Its main aim is to foster the study and documentation of African languages and therefore to promote and actively support sustainable linguistic diversity on the African continent.

In addition to heading up CALDi, Dr Brenzinger also holds the AW Mellon Research Chair in African Language Diversity, is head of linguistics in AXL, and curator of the African Language Archive (TALA). He is passionate about the positive role language plays in the preservation of heritage and the understanding of history.

The study of African languages is an academic discipline that was developed and established in Europe. Dr Brenzinger says that, until today, research on African languages has been dominated by foreign missionary linguists and non-African scholars who came to the continent and analysed, described and standardised its languages. "CALDi's mission is to transform the study of African languages into African linguistics, ie the study of African languages by African scholars on the African continent. For that reason, the training of African linguists is of utmost importance," he says.

CALDi trains graduate students and young scholars from various parts of the African continent. This capacity building is urgently needed, especially in South Africa. According to Dr Brenzinger, "The language policy of the new South Africa is among the best in the world with regard to the recognition of language diversity," he says. The country has 11 official languages, a unique and truly democratic choice by the post-apartheid government when you consider that in Africa 100 languages are spoken by just over one million people. "But the implementation of this language policy is not really happening, because of the lack of local expertise. That's why it is so important to have African linguists trained on the continent," says Dr Brenzinger.



Ouma Geelmeid, one of the last five speakers of N|ng, with her great grandchild Cleyve and granddaughter Claudia in Dr Matthias Brenzinger's custom-decorated car marked like an emergency vehicle designed to save languages.

CALDi members are from a wide range of countries: England, Germany, Malawi, Cameroon, Botswana, Ghana and Kenya, and the group hopes to inspire students in linguistics courses at UCT to study African linguistics. There is still the idea that English is a "better" language, and often little respect for and appreciation of African languages is given, even among native speakers, says Dr Brenzinger.

English is the world's most widely used language, with 1.8 billion users worldwide according to Wikipedia, but language diversity is crucial to building a healthy society. "If you lose your language you cannot talk to God or

IT'S AN APPROPRIATE MESSAGE, AS THOUSANDS OF LANGUAGES ARE ENDANGERED AND MORE THAN 100 AFRICAN LANGUAGES ARE ON THE VERGE OF EXTINCTION.



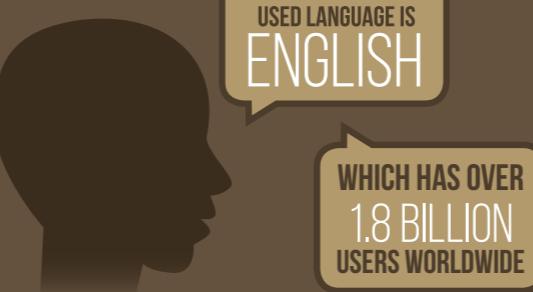
# VANISHING LANGUAGES



ONE THIRD OF THE WORLD'S LANGUAGES ARE SPOKEN IN AFRICA  
AN ESTIMATED 3 000 LANGUAGES

0.1% OF POPULATION SPEAK 100 LANGUAGES

100+ AFRICAN LANGUAGES ARE ON THE VERGE OF EXTINCTION



your ancestors," he says, quoting a Mohawk elder he met at a conference of the First Nation Educational Council in Canada some years ago. Among the First Nation People of Canada, there is a correlation between nations that have lost their languages and higher rates of suicides. "In a global world, grounding in local cultures becomes increasingly important, especially for marginalised communities. Language plays a significant role in that," says Dr Brenzinger.

However, despite the urgency, he believes that linguists can't save languages. "The individual speakers decide which languages they teach to their children. And since peers are crucial for language acquisition, language communities, or at least networks of speakers, need to be maintained in order to allow languages to remain a vital medium of communication. Linguists, however, do have important roles to play in community language maintenance efforts, ie in developing practical orthographies for oral languages, in supporting the production of teaching and learning materials, and in documenting and archiving language data," he says.

To this end, CALDi is working on numerous projects focusing on language documentation. In November 2013, it hosted an international conference, celebrating the pioneer linguist Ernst Westphal, professor of African languages at UCT from 1962 to 1984. A Humanitec grant enabled the digitising and archiving of Westphal's audio tapes. Between the 1960s and 1980s, he recorded speakers of African languages, several of which are no longer spoken today, such as ||Xegwi and Kwadi, both non-Bantu click languages that were spoken in South Africa and Southern Angola respectively. Other languages captured are still spoken, such as Ts'ixa, with roughly 170 speakers in Mababe, a small village in the east of the Okavango Delta in Botswana. In 1964, Westphal interviewed the chief of Mababe, and returning this material to these speakers was highly appreciated – especially by his children. Preserving and returning such archived material is one of the objectives of CALDi. There are corresponding texts, too, which make the entire collection an invaluable resource for scholars of linguistics.

A further educational project, managed by CALDi postdoctoral fellow Dr Sheena Shah, is that of the last N|ng speakers – the CALDi N|ng Language Project. N|ng – with its N|uu and ||Au varieties – is the last closely related language to |Xam. |Xam features prominently in the motto of the coat of arms of post-apartheid South Africa, but became extinct about 100 years ago. N|ng is spoken by only five remaining elderly speakers. ||Au, an eastern variety of N|ng, is spoken by Hannie Koerant and Fytjie Sanna Rooi in Olifantshoek. The western N|ng variety, N|uu, is better known and is spoken by

three sisters named Hanna Koper, Griet Seekoei and Katrina Esau. None of them use N|jng on a daily basis any more, communicating rather in Afrikaans, which is their mother tongue.

Katrina Esau, better known as Ouma Geelmeid, has been the most proactive of the remaining speakers in preserving the language. For the past nine years, she and her granddaughter, Claudia du Plessis, have been teaching N|uu to more than 30 children in the community. On 27 April 2014, she received the Order of the Baobab in Silver for these language maintenance efforts.

Since 2012, members of CALDi have supported these community teaching efforts. Together with the speakers, they developed a practical N|ng orthography, which was launched at a community workshop in March 2014. Illustrated alphabet charts and other N|ng language posters with translations in English, Afrikaans and #Khomani Nama are now being used in the community's language maintenance activities.

Such efforts are vital, says Dr Brenzinger, because oral traditions conveyed and preserved in African languages are often the only key to understanding the past. "Languages spoken today allow for reconstructing migrations and other historical events. If we lose these languages, we lose an important source for understanding our history."

Given that one-third of the world's languages are spoken in Africa, language on the continent is of outstanding importance, especially as there are so few written records. "Language diversity is not a threat – it is a resource."

#### INTERROGATING THE ARCHIVE

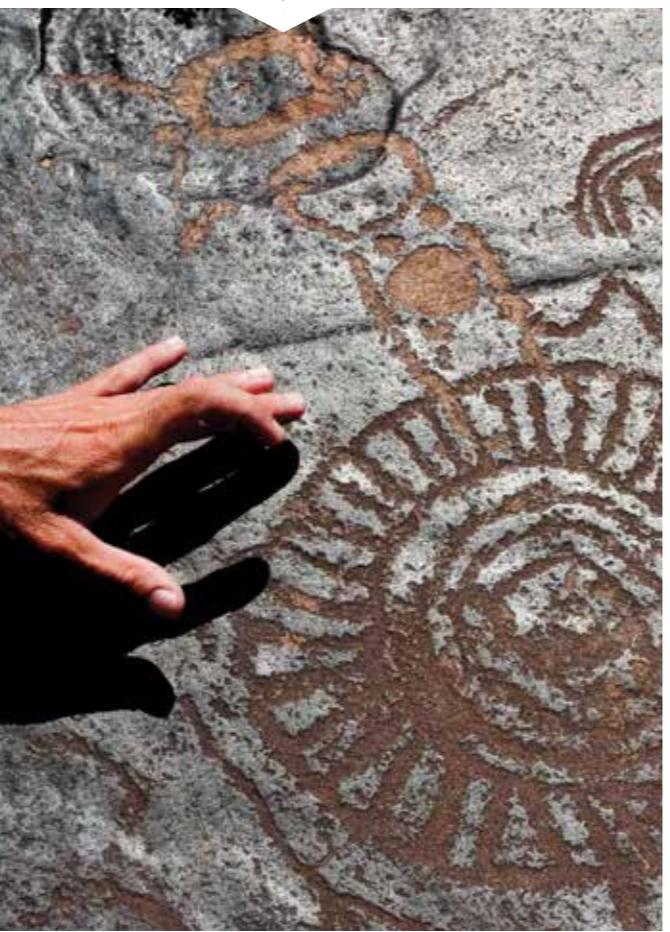
As Professor Njabulo S Ndebele, former Vice-Chancellor of UCT and Andrew W Mellon Research Fellow with the Archive and Public Culture (APC), puts it, "There can be no transformation of the curriculum, or indeed of knowledge itself, without an interrogation of archive."

The Archive and Public Culture Research Initiative at UCT was established to grapple with critical questions about history, memory, identity and the public sphere in South Africa. Funded by the National Research Foundation (NRF) and based in AXL, this five-year interdisciplinary research project brings together leading established and emerging scholars and researchers to explore the workings of the archive in contemporary culture. American historian, Joyce Appleby points out: "Scientists think that the disciplined practices of the laboratory – seeing through the microscope and telescope – bring

them closer to reality, but they are simply privileging the discourse that they speak, the technologies of their own self-fashioning ... no reality can possibly transcend the discourse in which it is expressed." It stands to reason, then, that an interdisciplinary approach is one with the greatest respect for knowledge or, at least, the greatest potential for exchange.

As part of this initiative, researchers engage with theoretical notions of archive and public culture, while also paying attention to the record. The project unites scholars from various disciplines – medicine, science, law and others – enhancing debate and transdisciplinary

THERE CAN BE NO  
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Above: Anglo-Zulu war memorial at Rorke's Drift.  
Left: Rock art in Nelspoort, South Africa.

discourse. Emerging researchers and students are exposed to established scholars and vice versa, for maximum exposure to new ideas. There is intensive postgraduate engagement, mentoring and support.

The research initiative promotes a number of pedagogical innovations designed to build research capacity and to foster critical, independent enquiry. These include schooling students in relevant theory by encouraging a breadth of familiarity and depth of systematic engagement through careful reading of selected works, developing analytical skills, honing methodologies and driving processes of writing up and publishing research. Current projects undertaken by the initiative include regular research labs, which take place weekly and are open to all APC associates and guests, as appropriate. Says Professor Carolyn Hamilton, who holds the DST/NRF SARChI Chair in Archive and Public Culture: "The research labs offer a slot for a single piece of work in progress to receive ... research development attention. Among other things, we are keen to use this as a supervision modelling occasion."

The initiative also hosts special events focused on work that is relevant to its field of enquiry, as well as bi-annual workshops that serve as a point of intellectual exchange between associates. "At each workshop, participants present their current work and engage in constructive debate. The workshops allow participants to become familiar with each other's work as it develops over time and facilitate the production of papers and books for publication," says Professor Hamilton.

Late in 2014, there will be the publication of the sixth volume of the *James Stuart Archive*, bringing to completion the first, and largest, phase of this publication project. During this time, the APC will also celebrate the scholarly achievements of one of its most senior associates, Professor John Britten Wright, in whose honour a conference will be held in 2015 and whose research base continues to be the Rock Art Research Institute at the University of the Witwatersrand, as he works on long-standing research projects in the pre-colonial history of the KwaZulu-Natal region.

#### TELLING OUR OWN STORY

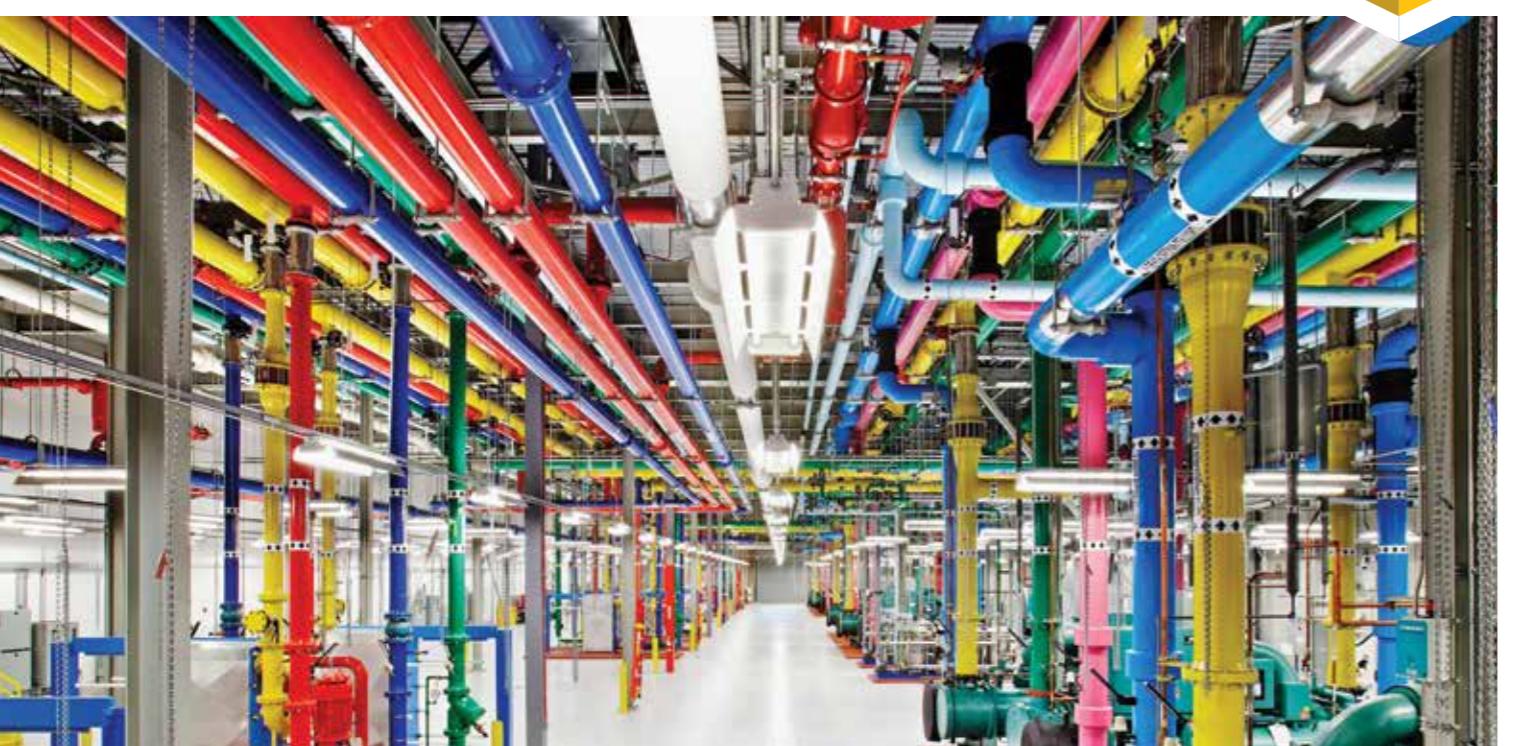
UCT remains a world-class destination for scholars and students alike, as it continues its proud tradition of carving out its history on the African continent – both as an academic institution and for the communities it serves. As South Africa continues to strive towards building its identity in a post-apartheid era, becoming empowered to tell its own story and take its place on the African continent, the scholars and students of UCT continue to work towards slowly, carefully, respectfully preserving each surviving part of that narrative.



# BIG DATA REVOLUTION

Big data, referring to large and complex data sets that are difficult to process using traditional computational hardware and software, is a popular term that has gained ground in the last decade. Researchers in many fields are now engaging in interdisciplinary collaborations across continents where the volume, velocity and variety of data exceed their capacity to extract information from it. UCT is taking the lead in creating the framework to allow African researchers to get to grips with big data and turn it into actionable knowledge.

# THE BIG PICTURE OF BIG DATA



Above: A central cooling plant in Google's data centre in Georgia, USA. Previous page: Professor Paul Bonnington in the Monash CAVE2™, which is used to visualise big data. (CAVE2 is a trademark of the University of Illinois Board of Trustees). Image: Paul Jones, Coretext.

**The modern world is experiencing a data deluge: "The data flow is so fast that the total accumulation of the past two years – a zetabyte – dwarfs the prior record of human civilisation," reports Harvard Magazine in March 2014.**

Popularly known as big data, this surge of information is set to become as important to business and society as the Internet, providing people with everything from bad-weather warnings to plotting a route home. No-one is immune – least of all researchers, who now work with large data sets that cut across the disciplines, including astronomy, biology, engineering, maths, computer science, archival science, humanities, economics and finance.

In 2001, Gartner, Inc, the world's leading information and technology research and advisory company, defined big data as "high-volume, -velocity and -variety information assets that require cost-effective, innovative forms of information processing for enhanced insight and decision-making." What this means, in a nutshell, is that the more data there is available, the bigger potential there is for more accurate analyses. And, with

more accurate information available, decisions can be made with increasing confidence, while better decision-making leads to greater efficiencies, cost reductions and reduced risks across societies. But this will only happen if the capacity exists to interpret the data correctly. Getting from data to knowledge is not a simple equation and the need to support data-intensive research at universities in such a way to manage this is acute. As Professor Russ Taylor, newly awarded joint UCT/University of the Western Cape (UWC) Square Kilometre Array (SKA) Research Chair and big data champion, says, "Global research leadership requires that we have the capacity to extract information from big data."

Increasingly, researchers in several fields are battling to move data sets between collaborator sites, test various sets of parameters to optimise analysis of large data sets, and facilitate access to big-data sets by international research communities. In the last 12 months, UCT researchers have more than doubled their use of central high-performance computer (HPC) facilities for data-intensive research. Demand for research storage is growing substantially each year, and specialist support and analysts are in constant demand.

# UNDERSTANDING BIG DATA



## VOLUME

HOW TO MOVE LARGE DATA SETS AND HOW TO USE ANALYTICS TO CREATE VALUE FROM DATA.



## VELOCITY

DATA IS STREAMING IN AT UNPRECEDENTED SPEED AND MUST BE DEALT WITH IN A TIMELY MANNER.



## VARIETY

DATA COMES IN MANY FORMATS.



## VARIABILITY

DATA FLOWS CAN BE HIGHLY INCONSISTENT, WITH PERIODIC PEAKS AND DAILY, SEASONAL AND EVENT-TRIGGERED PEAK DATA LOADS.



## COMPLEXITY

IT IS STILL AN UNDERTAKING TO LINK, MATCH, CLEANSE AND TRANSFORM DATA ACROSS SYSTEMS.



## VERACITY

IT IS HARD TO KNOW WHICH INFORMATION IS ACCURATE AND WHICH IS OUT OF DATE. POOR DATA QUALITY COSTS THE US ECONOMY \$3.1 TRILLION EACH YEAR.



**THE FUTURE  
4.4 MILLION  
DATA SCIENTISTS  
WILL BE NEEDED BY 2015  
ONLY 1.5 MILLION  
AT PRESENT**

"Without the right support, UCT researchers risk diverting time and resources into the development and maintenance of potentially sub-standard or inefficient solutions or just generally taking much more time to do meaningful analysis," says Professor Danie Visser, Deputy Vice-Chancellor with responsibility for research at UCT. "There is increased potential for valuable data or intellectual property to be lost, stolen or corrupted and for significant interruptions to research activity. A centralised effort is needed to provide a mechanism for researchers to learn from one another and develop institutional best practice."

**GLOBAL RESEARCH LEADERSHIP REQUIRES THAT WE HAVE THE CAPACITY TO EXTRACT INFORMATION FROM BIG DATA.**



It is partly for this reason that UCT has taken the lead in establishing an eResearch Centre (see p61). In line with moves at other leading international research institutions, the centre will provide integrated support across the university research lifecycle and will work in close collaboration with researchers facilitating the delivery of high-impact, locally relevant and internationally competitive research. One of its important roles will be in managing large data sets.

UCT has also been working with other South African institutions to see what support platforms they have in place and where there are opportunities for collaboration. The first eResearch Africa conference, hosted by the Association of South African University Directors of Information Technology (ASAUDIT), was held in October 2013, based on the Australasia eResearch conference model. A delegate was heard to remark, "This is the first time I have ever seen parallel academic and technical tracks at a conference." Exactly what the conference organisers were hoping for.

The purpose of the conference was to bring together practitioners and researchers for a week to share ideas and exemplars on new information-centric research capabilities. eResearch is focused on how information and communications technologies help researchers to collect, manage, share, process, analyse, store, find and re-use information. The success of the event has led to a 2014 conference scheduled for November at UCT that should, judging by the speed of progress, be even bigger and better than the 2013 conference.

## BIOINFORMATICS – A BRAVE NEW WORLD

One of the fields at the forefront of big data research at UCT is bioinformatics (the science of collecting, analysing and interpreting complex biological data), and one of the leading researchers in the field is Nicola Mulder, associate professor of bioinformatics and head of the Computational Biology Group at the Institute of Infectious Disease and Molecular Medicine (IDM). Associate Professor Mulder is managing one of the largest grants at UCT, awarded by the US-based National Institutes of Health (NIH) – a US\$13-million grant over five years that is part of the Human Heredity and Health in Africa (H3Africa) initiative, funded by the NIH and the Wellcome Trust. Its purpose is to set up a bioinformatics network to support H3Africa-funded research projects, which aim to identify the genetic bases for illnesses such as diabetes, rheumatic heart disease, cardiometabolic diseases, tuberculosis pharmacogenetics, kidney disease and strokes.

**IN ORDER TO ANSWER  
GENETICS QUESTIONS,  
IT IS BECOMING MORE  
IMPORTANT TO GENERATE  
BIG-DATA SETS.**



Part of the H3Africa initiative involves the creation of biorepositories (places to keep samples). This bioinformatics infrastructure includes a staging area for all data and tools for analysis, and building capacity through training programmes, specialised courses and data-management workshops.

Associate Professor Mulder says: "H3Africa researchers will generate big-data sets – 500 terabytes at a minimum – and our network, H3ABioNet, has 34 partners: 32 universities and research institutions in 15 African countries, along with two in the United States needed to build the infrastructure necessary to manage the data. At UCT we have a team of four technical posts and have set up a bioinformatics helpdesk for researchers to request support."

The project allows Associate Professor Mulder's team to develop tools, set up pipelines and provide advice about running an analysis, as well as to enable collaborations across research nodes. It also makes provision for internships, which allow H3Africa partners to sit and analyse their data with members of the network.

"Some impacts of the project include the establishment of a bioinformatics centre at a university in Egypt, giving them space and facilities, as well as one in Tanzania. There are plans to build a bioinformatics centre from scratch in Ghana and we have already started training programmes there. In addition, through the network connections, one of our US partners wrote a successful grant proposal with a Niger partner to do some collaborative work. When we were able to demonstrate what H3Africa is doing for bioinformatics in South Africa, as part of their ongoing commitment, the Department of Science and Technology provided money for local bioinformatics courses."

A huge advantage of this – and one of the stated aims of the project – is that it enables African scientists to retain ownership of their data. "Training African scientists in bioinformatics means we can make sure that data stays on the continent, is analysed on the continent and published in Africa. What has been happening up to now is that researchers have been unable to handle the level and volume of research data, so they would source a collaborator outside Africa and that collaborator would get the material published," says Associate Professor Mulder.

Bioinformatics research has lower costs than wet-lab research (where chemicals, drugs or other material or biological matter are tested and analysed, requiring water, direct ventilation and specialised piped utilities). Laboratories, and the need for consumables, can be largely replaced by a computer and an internet connection. This also makes bioinformatics particularly feasible in the African context, where it is easier to come by computers and connectivity than funding for sophisticated infrastructure. The challenge of greater internet connectivity is important and to some extent is already being addressed by groups working to build internet infrastructure, like UbuntuNet. Stand-alone devices are also in the offing, like the eBiokit, a Mac-based device that has everything a bioinformatician might need, including databases and tools for training and analysis.

Associate Professor Mulder says, "It is challenging to do biomedical research today without bioinformatics because so many researchers are generating big data. It is less common now to work on one gene at a time. The new trend is to work on thousands of genes at one time, so you have to have bioinformatics to manage the data. In order to answer genetics questions, it is becoming more important to generate big-data sets."

According to Associate Professor Mulder, the biggest challenge in big data for the biomedical field is the development of next-generation sequencing (NGS)



technologies that enable massively parallel sequencing. It is much cheaper than traditional sequencing but it generates millions of short reads, which demand new analysis and storage challenges. With the falling cost of NGS, researchers have the option, for instance, of whole-genome sequencing rather than targeted sequencing. This means one can move towards hypothesis-generating rather than hypothesis-testing science, which has the potential to lead to novel discoveries. New algorithms are being developed to manage this data and for archiving, which makes this sort of research more feasible.

## THE FUNDAMENTAL NATURE OF THINGS

Another discipline where big data is playing an increasingly important role is physics. Dr Andrew Hamilton, a lecturer in the Department of Physics at UCT and researcher in high-energy particle physics at the European Organisation for Nuclear Research (CERN), is engaged in one of the world's most exciting projects – the Large Hadron Collider (LHC). The 27-kilometre LHC is the world's largest particle accelerator, and it is one of the most important tools available to high-energy physicists in their goal of investigating the fundamental particles that make up the universe. The UCT-CERN Research Centre is part of two of the experiments running at the LHC: the ATLAS experiment, which explores the fundamental particles

of the standard model of particle physics, and ALICE, which is aimed at understanding the quark-gluon plasma. The nature of its work means that the LHC has been grappling with the problem of big data sets for 20 years. Many of the particles it investigates (like the famous Higgs boson) need to be created by colliding protons at speeds approaching the speed of light. Because the particles are very rare, tens of millions of collision events are produced per second, which need to be captured and read by a detector. If researchers were to read out every single event, they would need around 40 terabytes per second, which is way beyond the confines of current technology; using high speed filtering, called triggers, researchers can get this down to hundreds of megabytes per second.

While this may already sound like a tall order, it is only part of the big data challenge faced by the LHC. In order to define expectations (so that they know what they expect to see), the entire detector is digitally simulated in excruciatingly fine detail, and a computer algorithm is written to simulate the billions of events that might produce a rare particle like the Higgs boson. All of this data then needs to be stored.

Factor into this the collaborations involved (just one of the LHC's seven experiments has 1 000 members belonging to 116 institutions, based in 33 countries), and the scale of the challenge is evident.



The construction of MeerKAT antenna. Image courtesy of SKA South Africa.

The LHC has created a solution to this very big data problem – the Worldwide LHC Computing Grid (WLCG), a form of cloud computing that stores and processes information. It currently has 150 centres in 40 countries and operates through a tiered structure that varies in the funding model, the storage space and the number of cores required.

Creating the infrastructure required to play in this big data league sounds expensive; however, money is not the only challenge for UCT, according to Dr Hamilton. "We need the people trained in high-performance computing to operate and administer these facilities," he says. This is where the WLCG comes in. "It is one of the largest research computing networks in the world."

"If UCT wants to be a leader in big data research, we need to demonstrate that we can operate a big data centre on the global scale. The WLCG gives us the opportunity to contribute to one of the largest research computing networks on the planet and learn from their expertise at the same time."

### BIG DATA FROM THE SKY

Another project that is placing UCT at the centre of international big data research is the MeerKAT Large Surveys and the Square Kilometre Array (SKA).

Africa's biggest science project, the MeerKAT radio telescope, is a precursor to the SKA telescope. Four key science programmes on MeerKAT are led by UCT astronomers. These research programmes will gather up to one petabyte (1 000 terabytes) of data per year, so advanced tools will have to be developed to process, analyse and store this amount of data. This will be done in collaboration with the SKA South Africa project office. SKA South Africa, UCT and UWC have attracted an eminent role player in this field from Canada, Professor Russ Taylor, who joined the university early in 2014 and will co-ordinate a big data vision for radio astronomy in South Africa. "The global SKA big science data world is coming to South Africa this decade," says Taylor, adding that it is probably one of the two projects in the world driving a big data revolution in astronomy.

## BIG DATA CHAMPION FOR UCT

The UCT Astronomy Department and the University of the Western Cape (UWC) Department of Physics earlier this year welcomed the appointment of Professor Russ Taylor to the joint UCT/UWC Square Kilometre Array (SKA) Research Chair. Professor Taylor will play a key role in building big-data research capacities and expertise in the region and the continent.

Professor Taylor, coming from the Department of Physics and Astronomy at the University of Calgary, has a wealth of experience and expertise in radio astronomy, in particular wide-field polarisation, cosmic magnetism and big data, and has played a prominent role in the SKA project since its inception. He was the founding international SKA project scientist and co-authored the first SKA science case. He represented Canada as one of the national members on the SKA Organisation Board. Previously he served as the founding Executive Secretary of the International SKA Steering Committee, the predecessor to the International SKA Science and Engineering Committee.

THERE IS LIKELY A LIMITED WINDOW OF OPPORTUNITY TO ESTABLISH NATIONAL LEADERSHIP IN BIG DATA AND A GLOBAL PRESENCE IN THIS EMERGING FIELD.



Professor Taylor's research covers the cosmic battle between the forces of magnetism and gravity, which is probably responsible for slowing the pace at which the universe uses up its gravitational energy, allowing enough time for life to arise. "My research plan is to use MeerKAT and KAT-7 to measure the polarisation of radio waves and to trace the properties of magnetic fields in galaxies and intergalactic space," says Taylor. "This will give scientists a better understanding of the evolution of cosmic magnetism."

Professor Taylor has also served as the Canadian ALMA Software Manager for the Canadian component of the international software development for astronomical use of the Atacama Large Millimetre Array. He was the Canadian co-



principal investigator on an international partnership to launch a radio telescope for Very Long Baseline Interferometry (VLBI) imaging between Earth and space: the VLBI Space Observatory Programme (VSOP) space mission. As part of the mission, he directed one of three international centres for the processing of the VSOP mission data. He is also principal investigator of the International Galactic Plane Survey, a consortium of more than 60 Canadian and international scientists formed to carry out a co-ordinated data-intensive project of high-resolution imaging of the interstellar medium over the disc of our galaxy. In this capacity, he has also served as the chair of both the management committee for the Canadian component of the project (the Canadian Galactic Plane Survey) and the international project steering committee.

Taylor is chair of an international consortium of 31 scientists from Australia, Canada, the USA, Europe and India that carries out a large-scale spectro-polarimetric all-sky survey project with the Arecibo radio telescope. This project has been granted 2 000 hours of observing time over four years and foreshadows the data volumes that will be generated by MeerKAT.

MEERKAT IS EXPECTED TO GATHER UP TO ONE PETABYTE (1 000 TERABYTES) OF DATA PER YEAR, SO ADVANCED TOOLS WILL HAVE TO BE DEVELOPED TO PROCESS, ANALYSE AND STORE THIS AMOUNT OF DATA.



There is nothing small about the SKA project. It is the biggest science project ever carried out on African soil. Each MeerKAT antenna, which will be incorporated into the mid-frequency component of SKA Phase 1 when that instrument is constructed, stands 19.5 metres tall and weighs 42 tons.

When completed, the SKA will be the world's largest radio telescope, located in Africa and Australia, but shared by astronomers around the globe. Until then, MeerKAT will be the most sensitive and powerful L-Band radio interferometer in the world. In addition to operating as a stand-alone, world-leading imaging radio telescope, MeerKAT will participate in global VLBI (very long baseline interferometry) operations with all major VLBI networks around the world operating at the MeerKAT frequencies, adding considerably to the sensitivity of the global VLBI networks.

The complete MeerKAT array will have 64 receptors – antennas with receivers, digitisers and other electronics. Connected by 170 kilometres of underground fibre-optic cable, the receptors will operate as a single, highly sensitive astronomical instrument, controlled and monitored remotely from the MeerKAT control room in Cape Town.

When fully operational, the MeerKAT will generate enough data from the antennas to fill about four-and-a-half million standard 4.7-gigabyte DVDs in a day.

Professor Taylor has served on the board of the directors of the international SKA Organisation

(representing Canada), and has experience as an observer and observing proposal referee for the US National Radio Astronomy Observatory, Very Large Array. He is the international project leader for the design of the global data-delivery system for the SKA project. This, together with his expertise as a big data specialist, means that he is well-positioned to guide UCT toward realising its SKA big data vision. He was the founding international SKA project scientist and co-authored the first SKA science case.

#### A RESEARCH REVOLUTION

In addition to his own research with SKA, Professor Taylor will also be working to put South Africa – and Africa – on the map in terms of data capacity. He says that there is likely to be a limited window of opportunity to establish national leadership in data-intensive research and a global presence in this emerging field.

While big data is, by its very nature, a massive challenge to the university, it is also a driver of the transformation of science and, by extension, a driver of global change, and UCT is already part of the revolution.

"We are not trying to break into a field where we are absent – we are already there," says Professor Visser. "If we grasp the opportunity to take leadership in this area we can really make a difference in the country and to science around the world: solving Africa's issues, but also making Africa part of the global solutions."



## E-RESEARCH CENTRE BREAKS NEW GROUND

UCT has taken the lead on the African continent in establishing an eResearch Centre to ensure that the university can continue to operate as a top research institution in the age of big data.

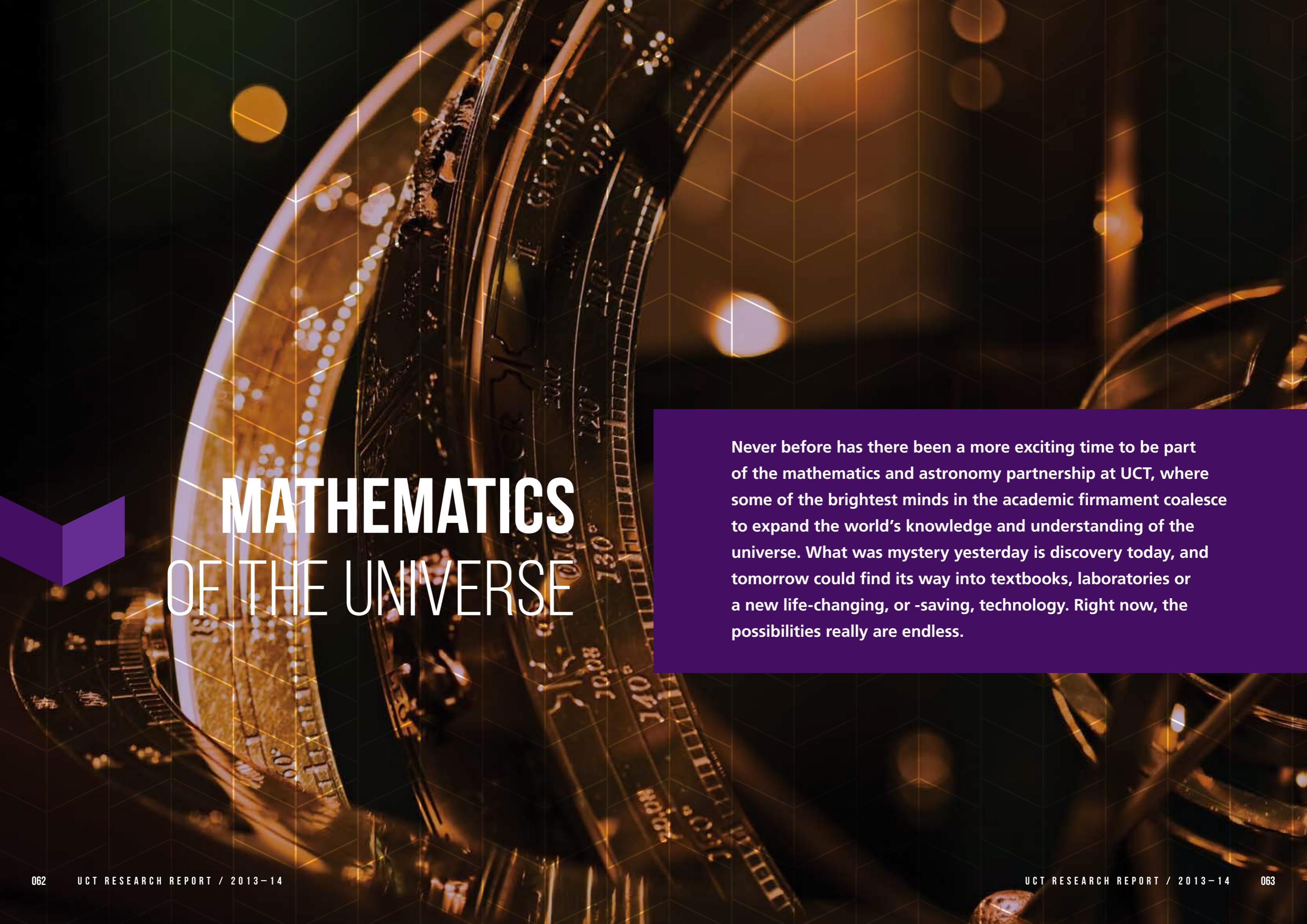
According to Professor Danie Visser, Deputy Vice-Chancellor with responsibility for research at UCT, research today is fast becoming inconceivable without adequate eResearch infrastructure – information and communication technology (ICT) assets, facilities, skills and services – to support it. "Universities without an equipping strategy may continue to perform, but only for a time. As research changes, all support areas serving research must keep up to stay relevant. Without change, there is a risk that service areas will provide yesterday's solutions," he says.

UCT approved the establishment of an eResearch Centre in March 2014. The centre will support and enhance the university's research capabilities. A large component of the eResearch strategy at UCT revolves around ICT. Researchers in many fields rely increasingly on ICT as a component of their research, with requirements ranging from support for data management strategies and data-centric architectures to access to specific tools and software for data analysis. Technology is also accelerating the pace and

scale of research, with large-scale data requiring a more structured approach to data management and storage. New and more powerful instruments are required: digital recognition of text, speech and imagery, and facilitating crowdsourcing and citizen science.

"We are seeing three major drivers for the ICT change programme, influenced by both global challenges and our own local challenges," says Sakkie Janse van Rensburg, executive director of Information and Communication Technology Services (ICTS) at UCT. "We want to deliver more, which will require a new organisational structure and roles; we want to deliver the right thing, which means more focus on governance; and we want to deliver it in the right way, which means we need to improve our internal processes to help researchers conduct research faster and more cost-effectively. The concept of eResearch explores the question of how we can, with the latest tools, technologies and approaches, strengthen that research workflow or pipeline of 'conceive – design – explore – analyse – collaborate – publish – expose'."

For several years now, ICTS has been delivering eResearch support through the establishment of an HPC (high performance computing) cluster that supports advanced research computing. Janse van Rensburg says that, in 2013 alone, more than 155 researchers across campus were supported, and they submitted more than 270 000 jobs requiring HPC facilities. The computing time for that year added up to more than two million hours.



# MATHEMATICS OF THE UNIVERSE

Never before has there been a more exciting time to be part of the mathematics and astronomy partnership at UCT, where some of the brightest minds in the academic firmament coalesce to expand the world's knowledge and understanding of the universe. What was mystery yesterday is discovery today, and tomorrow could find its way into textbooks, laboratories or a new life-changing, or -saving, technology. Right now, the possibilities really are endless.

# ENDLESS POSSIBILITIES

UCT's Astrophysics, Cosmology and Gravity Centre (ACGC) is where astronomy and mathematics fuse to produce a string of astounding discoveries and to grapple with the most challenging questions about the universe. In partnership with numerous international research institutions, the ACGC is becoming Africa's astronomy hub, attracting talented postgraduate students, postdoctoral fellows and faculty from around the world. Additional collaborations with electrical engineering and computer science mean that South Africa is well positioned to make a major contribution to international astronomy research with projects like MeerKAT, the Square Kilometre Array (SKA) and Southern African Large Telescope (SALT).

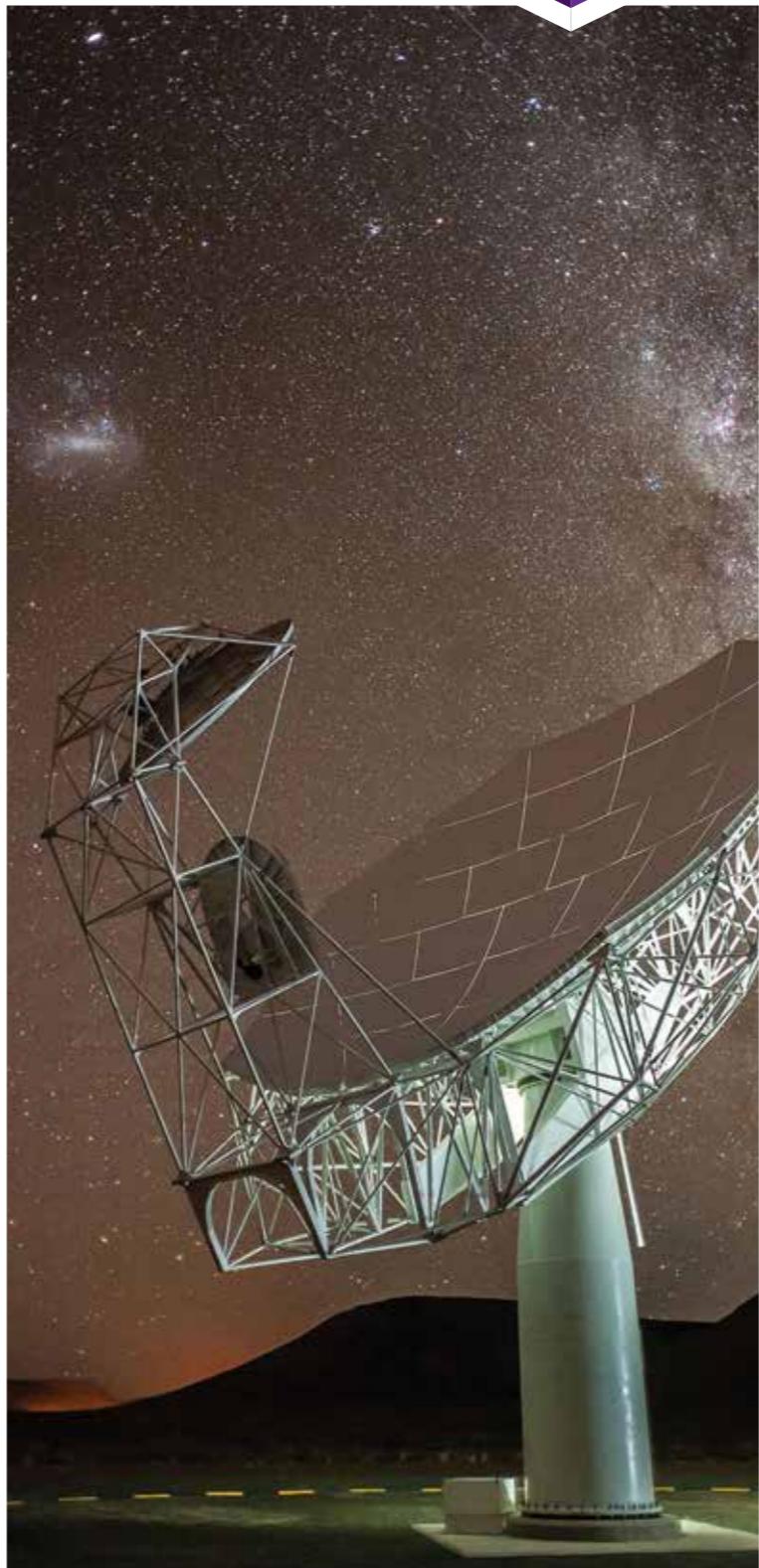
Perhaps because astronomy encompasses a broad range of technologies and science topics, it is the perfect medium through which to introduce and emphasise the importance of physics and mathematics, and their applications, to a diverse audience.

## SHARING THE EXCITEMENTS AND ACHIEVEMENTS

Professor Tom Jarrett, DST/NRF SARChI Chair in Astrophysics and Space Science at UCT, says, "Astronomy has a long history of pushing the boundaries of our understanding, as well as technology, and therefore represents the power of investing in research and development. By sharing the excitement of the achievements within this field, we hope to attract young minds and build a foundation within the country that promotes problem-solving, a thirst for knowledge and the belief that anything is possible."

The importance and urgency of such an understanding cannot be over-emphasised, particularly in the light of the vast international investment in the SKA, which will need local expertise to exploit its full potential.

The SKA will be the world's largest radio telescope, located in Africa and Australia, but shared by astronomers around the globe. MeerKAT is a precursor to the SKA telescope, and will later be incorporated into the mid-frequency component of SKA Phase 1 when that instrument is being constructed. Until then, MeerKAT will be the most sensitive L-Band radio



The newly constructed MeerKAT antenna (photo from SKA South Africa).

interferometer in the world. The full MeerKAT array will consist of 64 receptors – antennas with receivers, digitisers and other electronics. Connected by 170 kilometres of underground fibre-optic cable, the 64 receptors will operate as a single, highly sensitive astronomical instrument, controlled and monitored remotely from the MeerKAT control room in Cape Town. By the end of 2014, the first four receptors will have been installed in the Karoo. All 64 will be ready by the end of 2016, with final commissioning completed in 2017.

Dr Amanda Weltman, senior lecturer in the Department of Mathematics and Applied Mathematics, is one of a number of leading researchers who have been drawn to the ACGC because of the importance of these projects. Dr Weltman, who was based at the Centre for Theoretical Cosmology in the Department of Applied Mathematics and Theoretical Physics at the University of Cambridge before returning to UCT, her *alma mater*, in 2009, says that her timing could not have been better. "From relative obscurity, South Africa is now at the forefront of the international science scene with our winning the SKA bid that will bring the largest scientific experiment of our time to Africa. It is an absolute privilege to be a part of the rapid transformation that South Africa is undergoing as a true science destination," she says.

## THE MARRIAGE OF PHYSICISTS AND ASTRONOMERS

Dr Weltman joins senior South African astronomers who have held formal meetings to discuss strategy, time frames and optimisation of resources to prepare for the coming SKA era. This includes research in the international arena, recruitment and training of the next generation of astronomers, and advancing human capital development. Professor Jarrett says, "The South African government has invested heavily in science and technology, and hence in its future. It is vital that we physicists and astronomers use our resources and knowledge to excel in several key research areas."

He explains the close link that exists between mathematics, physics and astronomy: "All scientists need tools, and the way that astronomers decode the 'language' of the universe is through mathematics. Physical laws that go into the most sophisticated computer models, algorithms and simulations require mathematics, statistics, and logic and reason to describe them. Here at UCT we have a strong partnership between the astronomers and the mathematical cosmologists, forming a centre of

excellence, the ACGC, which is a synergy between empirical research (astronomers at UCT and the South African Astronomical Observatory (SAAO)) and theoretical modelling and analysis (applied mathematics and cosmology)."

FROM RELATIVE OBSCURITY, SOUTH AFRICA IS NOW AT THE FOREFRONT OF THE INTERNATIONAL SCIENCE SCENE WITH OUR WINNING THE SKA BID THAT WILL BRING THE LARGEST SCIENTIFIC EXPERIMENT OF OUR TIME TO AFRICA.



The ACGC brings together researchers from the Department of Astronomy and two research groups within the Department of Mathematics and Applied Mathematics, the Cosmology and Gravity Group (CGG) and the QGaSLab (the Laboratory for Quantum Gravity and Strings). Shared areas of research include neutral hydrogen (HI) radio surveys with MeerKAT, galaxy evolution and transformation, large-scale structure, stellar and galactic astronomy, history of astronomy, observational cosmology, dark energy, chameleon dark energy, modified gravity, inhomogeneous cosmology, string theory and string cosmology.

The Department of Astronomy at UCT is active in a variety of additional research themes: extragalactic large-scale structures and evolution of galaxies in the universe, cosmic flow fields, the extragalactic distance scale, detailed studies of the HI (the simplest but most abundant atom in space) and dark-matter content of nearby galaxies, the study of galactic structure, and high-speed stellar photometry and spectroscopy of variable stars and stellar pulsations. With the opening of SALT and the construction of MeerKAT, new research areas have been initiated in galaxy evolution, the relation between dark and visible matter in nearby galaxies, and the evolution of the HI content of the universe.

The CGG has a diverse range of expertise and strong links with the SAAO. Its number of international

collaborations has grown, largely as a result of bilateral agreements signed with other countries. CGG is pioneering in both theoretical and experimental aspects of cosmology and physics. Key research themes of the group include, among others, early universe physics, cosmology, non-linear problems in astrophysics and cosmology, modelling inhomogeneity, gravitational wave physics and observational cosmology.

## REVOLUTIONARY PHYSICS AND COSMOLOGY

One of the CGG's leading scholars is Emeritus Distinguished Professor of Complex Systems, George Ellis. A veteran cosmologist and National Research Foundation A-rated scientist, Professor Ellis is currently overturning everything we thought we knew about black holes. He has initiated a new attack on the issue of black-hole evaporation, and has released a preliminary report: *Astrophysics Black Holes may Radiate, but they do not Evaporate*. This work is still controversial, but has generated sufficient interest to make it the subject of a news and views article in *Nature*. It is possible that the final answer will be even more dramatic: black-hole event horizons may never form. This would be a novel statement and would imply that no singularity

forms, which would be revolutionary from a theoretical standpoint. However, astrophysical black holes would still exist in that they exert large gravitational forces, as recently tested by researchers in Astronomy at UCT.

Dr Weltman is accustomed to such revolutionary ideas. In this field, new things are being discovered all the time that are turning the world as we know it on its head, she says. She herself is involved in a proposed new solar telescope to be built at the European Organisation for Nuclear Research (CERN) called the IAXO project. Among other things, this telescope will search for so-called chameleon particles from the sun. These particles were co-proposed by Dr Weltman a decade ago in a series of now-famous papers that not only propose this new particle and interaction, but may also explain the observed accelerated expansion of our universe. The IAXO helioscope will search for axions and chameleons and, if either is found, it would be groundbreaking for physics and cosmology.

"What if the universe as we know it – its size, its shape, space and time even – were not fundamental things that exist as an independent stage on which the dance of the stars is set? What if it emerged as a result of the millions and millions of interactions at the very smallest

## A PASSIONATE RESEARCHER

Professor Thomas Jarrett took over the DST/NRF SARChI Chair in Astrophysics and Space Science in 2012. He joined UCT from the Infrared Processing and Analysis Centre at the Californian Institute of Technology (CalTech), the academic home of NASA's Jet Propulsion Laboratory, where he played a major role in the preparation, and subsequent analysis, of the extragalactic Two Micron All Sky Survey catalogue (2MASX). He functioned as the project scientist for the Infrared Science Archive (IRSA) and was the principal lead of the Nearby Galaxy Group of the Wide-Fields Infrared Space Explorer (WISE). He also served on the WISE science team, which defined and managed the mission. While he is world-renowned for his expertise in the near- and mid-infrared, he also has hands-on experience of all other bands of the electromagnetic spectrum, from radio to X-ray, both Earth- and space-based.

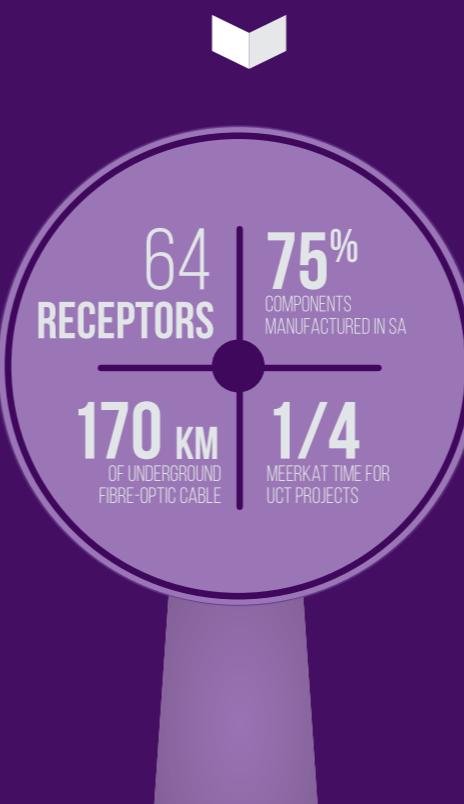
Professor Jarrett is a passionate researcher whose interest and expertise focus on the extragalactic large-scale structure and visualisation of the nearby universe, the Zone of Avoidance (the area of the night sky that is obscured by our own galaxy), interacting galaxies,



Professor Thomas Jarrett.

star-formation processes and galaxy evolution. He was well known to the department by the time he joined UCT, having had active collaborations with its various members for many years – even co-supervising, mentoring and hosting UCT postgraduate students in the United States.

## MEERKAT LEADING THE WAY



## SKA TELESCOPE WORLD'S LARGEST RADIO TELESCOPE COMING 2030

scale, in the same way that none of the macroscopic properties of water – its ability to flow, boil and freeze – manifest at the microscopic molecular level, but are emergent through the interactions of millions and millions of H<sub>2</sub>O molecules?" asks Dr Jeff Murugan, deputy director of ACGC.

A string theorist, Dr Murugan leads a team of

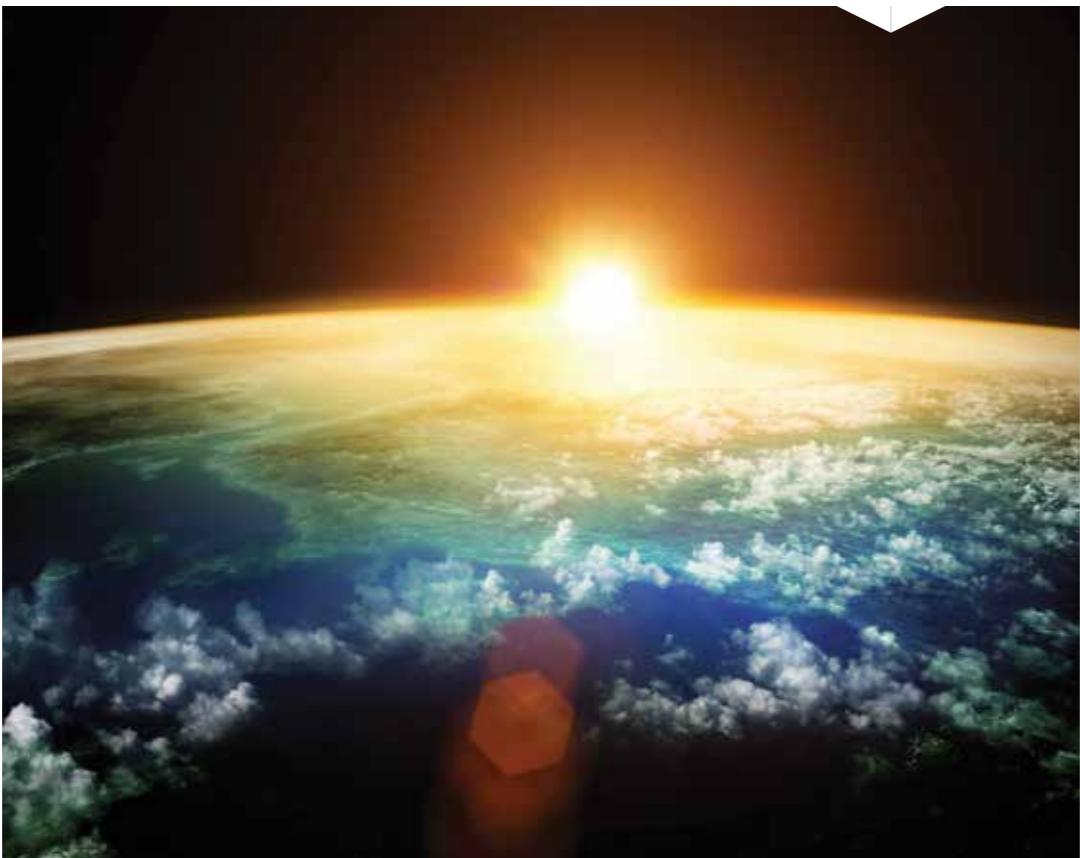
**BY SHARING THE EXCITEMENT OF THE ACHIEVEMENTS WITHIN THIS FIELD, THE HOPE IS TO ATTRACT YOUNG MINDS AND BUILD A FOUNDATION WITHIN THE COUNTRY THAT PROMOTES PROBLEM-SOLVING, A THIRST FOR KNOWLEDGE AND THE BELIEF THAT ANYTHING IS POSSIBLE.**



mathematical physicists at UCT and the University of Surrey, who attempted to answer these questions as part of QGaSLab's five-year programme on emergent spacetime. So far, they have discovered new quantum objects called giant torii. The novel topology (mathematics-speak for shape) of these objects promises to be a significant step on the road to understanding the nature of space and time at the cutting edge between mathematics and physics.

Using sophisticated tools from an esoteric branch of mathematics called algebraic topology, the team was able to classify these objects according to a set of numbers that were independent of geometry – so-called topological invariants – that they hope to use to develop these ideas further. Dr Murugan was invited to present the findings at String 2014, a major international conference at the Institute for Advanced Study at Princeton University in June 2014.

Another potentially revolutionary area of research is concerned with cosmic voids that occupy more than half the volume of the universe. "Usually the



large voids in the universe are expected to cause the images of background galaxies to appear smaller and less bright, owing to the gravitational bending of light known as gravitational lensing," says Dr Weltman. "Objects on the far side of a void are supposed to be observed as slightly smaller than if the void were not there, which, together with conservation of surface brightness, implies a net reduction in photons received."

## WHAT IF THE UNIVERSE AS WE KNOW IT – ITS SIZE, ITS SHAPE, SPACE AND TIME EVEN – WERE NOT FUNDAMENTAL THINGS THAT EXIST AS AN INDEPENDENT STAGE ON WHICH THE DANCE OF THE STARS IS SET?



In research over the last year, a team led by cosmologist Dr Chris Clarkson, a senior lecturer in the Astrophysics Cosmology and Gravity Centre, has discovered that, contrary to the usual expectation,

objects on the far side of a void are brighter than they would be otherwise. Galaxies behind the void appear brighter and larger than usual owing to the void expanding faster than the surrounding universe, leading to an overestimate of the distance to these objects.

This remarkable result has been labelled anti-lensing and this important change to the standard picture of cosmic magnification is now being taken into account in the UK component of the international Sloan Digital Sky Survey (SDSS) collaboration. The SDSS is a major multi-filter imaging and spectroscopic redshift survey using a dedicated 2.5-metre wide-angle optical telescope at Apache Point Observatory in New Mexico, United States. A first detection is expected by the end of 2014. Further afield, it is being taken into account in Euclid and SKA predictions.

### GALAXIES IN A SUPERMASSIVE TANGO

In yet another groundbreaking discovery, a team of international astronomers, led by Professor Jarrett, has uncovered a rare astrophysical phenomenon that may produce powerful ripples through space. A pair of supermassive black holes, each over a billion suns in cumulative mass, are swirling at the centre of the galaxy known as WISE J233237.05-505643.5. When two large galaxies collide and merge into one

## THE FRENCH CONNECTION

UCT has signed a tripartite agreement with the Université de Montréal in Canada and the Université de Ouagadougou in Burkina Faso to develop an academic exchange and co-operation in education and research between the universities in the field of astronomy. The signing of the agreement followed initial visits to Cape Town by the presidents of the Université de Montréal and the Université de Ouagadougou, when they met with researchers from the Department of Astronomy.

UCT has also joined the Association des Universités Francophones (AUF) in order to strengthen the links between UCT and universities in French-speaking African countries. Through this agreement, the three universities have agreed to foster student and academic exchanges, joint research activities and exchange of academic material.

The agreement is yet another step in a five-year relationship with the French-speaking universities that has already seen two Burkinabè students awarded

professor at UCT and head of the Astronomy Group at the University of Southampton (UK), and Associate Professor Patrick Woudt, deputy head of the Department of Astronomy, and titled "A Return to Strong Radio Flaring by Circinus X-1 Observed with the Karoo Array Telescope Test Array KAT-7", the paper was accepted by the journal *Monthly Notices of the Royal Astronomy Society*.

UCT researchers are leading four of the approved MeerKAT Key Science Projects, representing a quarter of MeerKAT time. One of these projects is the 3 000-hour ThunderKAT survey for astrophysical transients. Dr Armstrong has been working on the design of this survey together with Professor Fender and Associate Professor Woudt, the leaders of the ThunderKAT project that will search for all types of radio bursts and flashes in KAT-7 and MeerKAT data on timescales from seconds to years. The specialised MeerKAT Karoo Array Processor Building is the cutting-edge data centre for the MeerKAT telescope that has been built in an underground bunker at the Karoo observatory site. KAT-7 was completed in 2010 as an engineering prototype for MeerKAT.

In another world first, a team of UCT PhD students and postdoctoral fellows led by Professor Claude Carignan, DST/NRF SARCHI Chair in Multi-wavelength Astronomy, together with SKA SA scientists Dr Sharmila Goedhart and Dr Sean Passmoor, has

scholarships by UCT's National Astrophysics and Space Science Programme (NASSP); they are now busy with their graduate studies.

## THE THREE UNIVERSITIES HAVE AGREED TO FOSTER STUDENT AND ACADEMIC EXCHANGES.



An additional four students are being supported through their PhD studies: two at Université de Montréal, one at the Université Laval in Québec and one at the Université de Provence in France. When these students return to Burkina Faso, the agreement will allow them to continue world-class research projects in collaboration with researchers at UCT, using large African research facilities like the Southern African Large Telescope (SALT), MeerKAT and the Square Kilometre Array (SKA).

published, in the prestigious *Astronomical Journal*, the first scientific publication on HI using KAT-7 observations. The astronomers pointed the telescope towards a galaxy called NGC 3109 – a spiral galaxy about 4.3-million light years away from Earth, located in the constellation of Hydra. Their aim is to study its dark-matter content and they have already accumulated more than 120 hours of observations.

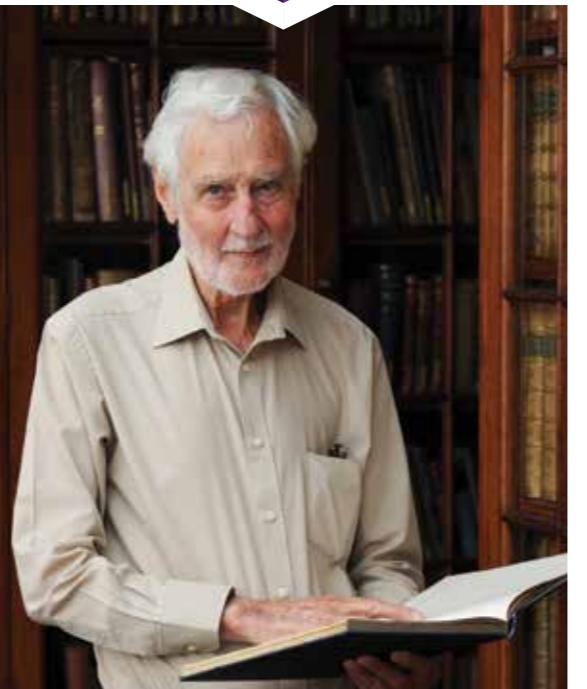
## FIVE AMONG TRILLIONS

It is hardly surprising that the researchers behind these new discoveries are earning international reputations for excellence in their own right. Emeritus Honorary Professor Michael Feast of the Department of Astronomy is one of a handful of South African astronomers whose work has earned him an NRF A-rating. At the age of 87, he has published a paper on Cepheid stars (one of the tools used in studies of the cosmic distance scale) in *Nature*, 66 years since his first offering appeared in this prestigious, multidisciplinary journal, when he was a fresh-faced 21-year-old.

Co-authored with colleagues Professor Patricia Whitelock and Dr John Menzies from the SAAO, and in collaboration with Japanese researcher Noriyuki Matsunaga (University of Tokyo), the paper is the result of the study of just five pulsating Cepheid stars.

"The Milky Way," explains Professor Feast, "appears as a bright band across the night sky and is part of a great disc of stars and other matter that is the most prominent component of our galaxy. Our sun is in this disc, about 28 000 light years from the centre. The region within 10 000 light years of the sun has

NOW WE ARE SO MUCH  
CLOSER TO THE PHYSICS, OR  
PARTICLES, THE UNIVERSE IS  
MADE OF, ALTHOUGH THERE  
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TO BE ANSWERED.



Emeritus Honorary Professor Michael Feast.

been well studied and shows that stars are kept in the disc by the combined gravitational attraction of all the stars there."

The paper relates to what happens as one goes to the outer regions of our galaxy. Radio astronomers have used observations of hydrogen gas to show that a disc still exists there, though thicker than near the sun. Astronomers describe this as "flared".

"However, the density of stars is not sufficient to hold the gas in place," says Professor Feast, "suggesting that dark matter of an unknown type may provide some of the gravitational force. The behaviour of the gas is difficult to study, as its distance cannot be determined in any direct way and our understanding of the outer galaxy depends on a theoretical model."

Professor Feast and his co-authors have been studying the five stars (Cepheid variables) whose distances they can determine directly, and which they show to be in this flared outer disc – the first stars to be discovered there. "These are special stars," he says. "They are 75 000 light years from the sun and up to a million times fainter than the faintest stars visible to the naked eye. To study them we needed observations from the Japanese–South African Infrared Survey Facility, as well as crucial observations from SALT. The few stars we have located must be just the tip of the iceberg and future work involving, for instance, ground-based follow-up of observations, made by the recently launched astronomical satellite Gaia, will present opportunities to probe in detail the distribution of dark matter in the outer galaxy and give clues to its nature."

The excitement of discovery never dims for Professor Feast: "When I came into astronomy we were just getting used to the idea that the universe was expanding. Now we are so much closer to the physics, or particles, the universe is made of, although there are still many questions to be answered."

## AN INTERNATIONAL KNOWLEDGE EXCHANGE

International collaboration, such as that with the University of Tokyo, is standard for this area of research. As UCT grows as a hub for astronomy and astrophysics research in Africa, it is also increasingly channelling resources and outreach to neighbouring countries. The university is a partner in research projects involving eight other African countries in this field, and has led research outreach to Mozambique and Ethiopia in recent years. Its goal is to train future leaders in radio astronomy and mathematics of the universe across the continent.

As part of this, the Department of Astronomy hosted a large international conference on galactic and extragalactic novae early in 2013. This important meeting of the most exciting minds in the field was called "Stella Novae: Past and future decades". It was only the fourth in a prestigious series of international conferences ever held on classical novae, following "Novae and Related Stars" in Paris in 1976, "Physics of Classical Novae" in Madrid in 1989, and "Classical Nova Explosions" in Sitges in 2002.

The occasion brought together 90 experts and young emerging researchers from around the world to discuss their latest research in understanding the evolution scenarios of the binary systems in classical novae, the physics of the nova explosion, the energetic feedback of the nova ejecta into the interstellar medium, and multi-wavelength observations and modelling of the nova outburst, as well as the relationship between novae and type Ia supernovae, which occur in binary systems where two stars are orbiting one another.

Since the last conference in 2002, new developments in nova research have emerged, and it was in Cape Town that the latest developments were explored in the nova field, from both theoretical and observational points of view, throughout the whole of the electromagnetic spectrum. Another topic of animated discussion was the possible future potential for discovery with the advent of all-sky surveys of the transient sky, global networks of robotic telescopes and large future telescope facilities that provide scientists with new windows into the study of classical and recurrent novae.

## BUILDING A LOCAL TALENT BASE

Events such as "Stella Novae: Past and future decades" play a major role in building local expertise in Africa – and, by extension, at UCT. According to Professor Renée Kraan-Korteweg, the head of the Department of Astronomy, there is a shortage of good astronomers in South Africa, in particular radio astronomers, and this is a major threat to the future of SALT, SKA, MeerKAT and astronomy in general. "UCT's goal is to train future leaders for these kinds of opportunities," she says.

THERE IS A NEED TO  
TAKE ASTRONOMY  
TO STUDENTS OF ALL  
WALKS OF LIFE.



UCT is currently the only South African university to include a major in astrophysics in its undergraduate programme. It is attracting a steadily increasing number of students. Professor Kraan-Korteweg noted that 75% of undergraduates in the astrophysics programme in 2012 at UCT were black South Africans. UCT also offers a range of postgraduate study opportunities in the field, primarily through the National Astrophysics and Space Science Programme (NASSP). NASSP began as a result of a National Research Foundation strategy-planning exercise in 2000 and has, in the past decade, tried to address the lack of local astronomers, and black astronomers in particular, by offering postgraduate degree programmes and research support to promising students. The overarching aim is to produce an international network of African astronomers, space scientists and citizens bonded by the common experience of schooling and interlinked both professionally and personally.

In addition to an eventful research year in 2013, the NASSP has drawn recruits from third-year mathematics, physics and engineering undergraduates, allowing South African students and those from around Africa and the rest of the world to study under the guidance of some of South Africa's leading scientists. Those students who graduated from the programme in 2013 are now equipped to do research at the cutting edge of astrophysics and have the broad science skills needed in a modern technological society.

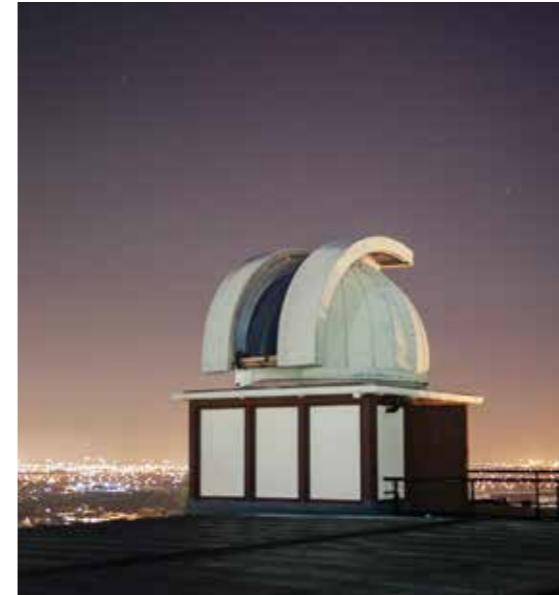


## BRINGING ASTRONOMY

### DOWN TO EARTH

Important as these initiatives are, Professor Jarrett says that the astronomy hub at UCT also has ambitions to make astronomy more accessible to more people, and the launch of the Tony Fairall Teaching Observatory in December 2013 will go a long way towards achieving this aim.

Named after the late Professor Tony Fairall, a much-loved and longstanding member of the Department of Astronomy at UCT, who himself spent much of his career trying to make astronomy more accessible to the general public (he was the director of the Cape Town Planetarium for 17 years), the teaching observatory was unveiled in December 2013, and houses a new Celestron 14-inch telescope. Equipped with a modern CCD (telescopic camera) and spectrograph, the telescope will be used for teaching purposes as part of the undergraduate astrophysics



Above: The Tony Fairall Teaching Observatory.  
Top: Star trail over Sutherland.

curriculum. "Astronomy is more than PhD and MSc degrees," says Professor Jarrett. "There is a need to bring astronomy to students of all walks of life. With the newly launched Tony Fairall Teaching Observatory, astronomy can be used to train and entertain, and this is something we hope to make accessible to high-school students and the public at some point in the future."

This is just one more way in which UCT is positioning itself as a centre of excellence in mathematics and astronomy. Projects like the Teaching Observatory developing alongside MeerKAT, the SKA and the slightly older SALT are allowing UCT's brightest minds in mathematics and astronomy to collaborate in ways that were unthinkable a decade ago. Exactly what this collaboration will yield in the years to come is for now as much a mystery as the more challenging questions around the mathematics of the universe but will, no doubt, prove every bit as exciting and astounding.



# FRAGILE CONTINENT

The Intergovernmental Panel on Climate Change (IPCC) reported in early 2014 that Africa was one of the continents most vulnerable to climate change, not just because of the reality of rising temperatures and erratic weather patterns, but because of its poor state of economic development and low adaptive capacity. Understanding, confronting and managing the dynamics and impact of these challenges is a core research focus at UCT, where researchers are collaborating across all seven faculties on issues of adaptation and mitigation and working to push the boundaries of science to help build a stable future for the continent.

# SCIENCE WITHOUT BOUNDARIES

## AN AFRICAN RESPONSE TO CLIMATE CHANGE



**"The greater Agulhas Current is one of the most energetic current systems in the global ocean. It plays a fundamental role in determining the mean state and variability of the regional marine environment, affecting its resources and ecosystem, Southern African weather, and the global climate on a broad range of temporal and spatial scales," writes Dr Björn Backeberg, a postdoctoral fellow at the Nansen-Tutu Centre for Marine Environmental Research at UCT, and his colleagues in a recent paper.**

Students of oceanography and related disciplines naturally gravitate to UCT, at the tip of Africa, which juts out into the Atlantic Ocean just north of a point where the wild Southern Ocean meets the Atlantic and the Indian oceans. The Agulhas Current moves along the eastern side of the continent to a place roughly south of Cape Town, where it turns (retroflects) and heads back into the Indian Ocean once more. These features play a profound role in the planet's climate, in the oceans, on land and in the atmosphere.

The combination of UCT's situation in this interesting geographical nexus, together with its reputation as one of Africa's top research institutions, has proved irresistible, and the university has attracted a vast pool of talent in climate change science and research over the years.

"At UCT, we arguably have the biggest critical mass of expertise in the climate change domain in Africa," says Professor Mark New, who heads up the African Climate and Development Initiative (ACDI) – one of the university's six Signature Themes. "We are the recognised centre of excellence in Africa and one of a very few developing countries that really can compete at an international level in climate change science."

It is important that Africa takes a lead in this regard because the continent is one of the most vulnerable to the effects of climate change. According to the *Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report*, released in 2014, the reality of rising temperatures and erratic weather patterns, coupled with high levels of poverty and low adaptive capacity, makes it likely that people on the continent will bear the brunt of the negative effects of climate change: from worsening food security to increased health risks. The report states that annual temperatures in Africa are likely to rise faster than the global average, exceeding two degrees by the end of the century (relative to the late 20<sup>th</sup> century), and could reach as much as three to six degrees under some scenarios. Given that two-thirds of the continent is already classified as dry land and that 98% of agriculture in sub-Saharan Africa, which is the mainstay of economic activity in terms of employment, is rain fed, the need for

## AFRICAN CLIMATE REALITIES

1987

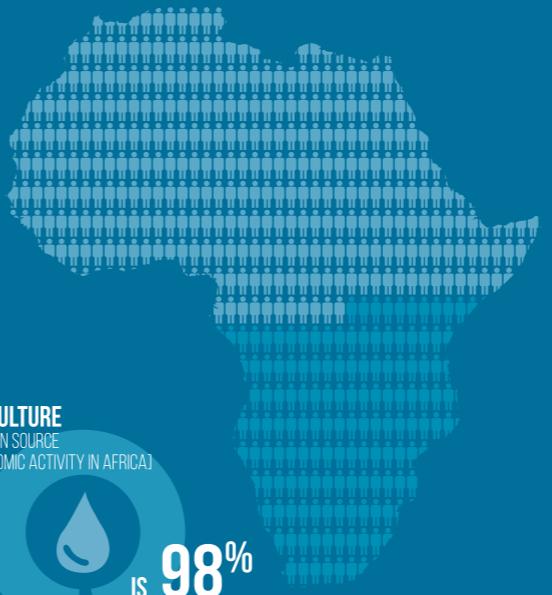


2010

POPULATION DOUBLES TO  
**1BILLION**  
**47.5%**

LIVE BELOW THE POVERTY LINE

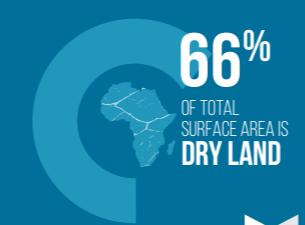
PEOPLE LIVING IN POVERTY WILL BE  
MOST AFFECTED BY CLIMATE CHANGE



AGRICULTURE  
(THE MAIN SOURCE  
OF ECONOMIC ACTIVITY IN AFRICA)



**2-6°**  
TEMPERATURE  
RISE BY END OF THE  
CENTURY



POPULATION BY 2050  
**2.4BILLION**

adaptation is paramount. Africa is the second most populated continent in the world after Asia, with one billion people as of 2010, and this is expected to rise to 2.4 billion by 2050. Forty-seven-and-a-half percent of people still live below the poverty line, a significant proportion of which are chronically poor.

UCT scientists, working in collaboration with global and African peers, are playing a key role in understanding and mitigating these threats. The ACDI, which was established in 2011, is at the heart of much of this work, co-ordinating research within and across disciplines at UCT, and facilitating interdisciplinary work focused on two main areas: the impact of and adaptation to climate change, and mitigation.

"The ACDI is a network, a broker and a matchmaker, working with departments and research groups across all seven faculties at UCT, from atmospheric physics through to the business school and law faculty," says Professor New. "Complex problems such as climate change demand a co-ordinated, interdisciplinary response. We are working on developing research strategically in specific areas, as well as creating new research areas that are relevant to the Signature Theme."

To do this, ACDI builds on the work of a number of established research groups within or allied to various departments, such as the Energy, Environment and Climate Change Group at the Energy Research Centre, the Percy FitzPatrick Institute of African Ornithology and the Climate Systems Analysis Group (CSAG), all of which have drawn in exceptional scientists and students with a strong focus on climate change issues. Many of these nodes of excellence are internationally recognised in their own right.

## ADAPTATION BEYOND BORDERS

A flagship ACDI project is the new five-year research project, Adaptation at Scale in Semi-Arid Regions (ASSAR), which is focused on understanding climate change in semi-arid areas across Africa and Asia and determining what kind of adaptation strategies are necessary. ACDI is taking the lead in ASSAR and will drive the Southern African component of the research.

The project is funded by Canada's International Development Research Centre (IDRC) and the United Kingdom's Department for International Development (DfID), and falls under the umbrella of the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), a seven-year, C\$70-million

research initiative in Africa and Asia. "Our aim is to understand what the critical vulnerabilities to climate change are, with a special focus on the poorest and most vulnerable in semi-arid areas," says Professor New. "The consortium will seek to understand potential adaptation options to reduce poverty and improve livelihoods, and perhaps even more critically, to understand what the barriers to and enablers of effective response are."

## COMPLEX PROBLEMS SUCH AS CLIMATE CHANGE DEMAND A CO-ORDINATED, INTERDISCIPLINARY RESPONSE.



"The scope of ASSAR's research is huge," says Professor New. "And it is a flagship of the ACDI because of its regional breadth and its emphasis on interdisciplinarity."

## GREATER THAN THE SUM OF THE PARTS

If ASSAR is an exemplar of ACDI's interdisciplinary approach on a regional and global scale, the Bergrivier Climate Knowledge Network (CKN) is doing the same thing on a local scale. Led by a team of UCT action researchers from across the university, in partnership with the Western Cape Government

and funded through a number of sources, including the Carnegie Corporation, Cape Higher Education Consortium (CHEC), the British High Commission and, more recently, National Treasury, via the Flanders International Co-operation Agency, it is a collection of projects initially focused on exploring climate change, environmental and development issues within the Bergrivier Local Municipality, situated in the greater West Coast district of the Western Cape.

"The Bergrivier Climate Knowledge Network brings together a network of academic practitioners and civil society members working within the ambit of the Bergrivier Municipality to facilitate knowledge-sharing, relationship-building and applied interdisciplinary research. We wanted to push the boundaries of what is possible at a local level by taking an interdisciplinary approach to a local challenge, and this region presents an ideal test site," says Professor New.

One area of focus of the project is the Berg River. Recognised as a system under extreme environmental and resource stress that is critical to the economy of the Western Cape, the Berg River flows from its primary source in the Drakenstein mountains to the sea north of Saldanha Bay, passing through some of the Western Cape's most important agricultural areas along its 294-kilometre length. About half of its length forms the southern boundary of the Bergrivier Municipality, which stretches from the Atlantic Ocean to the Groot Winterhoek Mountains inland.

"Professor New approached us and said he would like to offer scientists and students a chance to do applied



Lack of water and sanitation facilities impact on downstream water quality in the Berg River.

## HEALING IN THE WILDERNESS

Honours student Nicola Kuhn is assessing the vegetation in the Groot Winterhoek Wilderness Area (GWWA) as part of the Bergrivier Climate Knowledge Network (CKN). "This is one of the main catchment areas, so it is of interest to get a sense of its environmental history and see if it is functioning as it should since it became a wilderness area in 1973," says Professor Timm Hoffman, head of the Plant Conservation Unit.



*Protea laurifolia.*

Kuhn used four indicators to assess the health of the GWWA: changes in the intensity of gulley erosion and the extent of soil deposition areas; changes in composition and extent of cover of the vegetation; changes in two specific Protea species; and changes in thickets around rocky areas.

After 40 years of protected area management, she found that gulley erosion had stabilised and that most deposition areas had become vegetated. Total basal cover was approximately eight times greater than it was in 1973. The *Protea nitida* population was more than five-and-a-half times greater and had a large number of juvenile individuals. The *Protea laurifolia* population was approximately four times greater, with the dominant class shifting from adults in 1973 to seedlings in 2013. An extensive fire in 2009 took its toll on thicket cover at some, but not all, rocky outcrop locations. "While evidence suggests an improvement of most ecosystem health indicators and therefore an effective management regime, the GWWA is still at risk of being affected by climate change with an increased aridity and occurrence of wildfires predicted for the area," concludes Kuhn.

research," says Penny Price, Control Officer (Climate Change Adaptation) in the Western Cape Government. Since the provincial government wanted to mainstream climate change, incorporating the concept into all its programmes, it took up the offer with alacrity. The province is well aware of the climate change pressures being brought to bear on the region, and the urgency for action. "We were hoping to get support from experts in the development of adaptation plans at a local level," says Price.

It's taken time to get off the ground, says Professor Timm Hoffman, who heads up the Plant Conservation Unit, based in the Department of Botany, and is an ACDI associate and part of the Bergrivier CKN, but that's because it has required the development of trust and real relationships between people coming from very different worlds. However, Price feels it has now reached a point where a genuine network has been created; one that has its own momentum. "Municipal managers feel they can pick up the phone and talk to a scientist about research they'd like to do. It has been incredibly useful," adds Price. "It's a model we'd like to replicate."

The Bergrivier CKN has delivered real benefits to the municipality. For example, a piece of research done by UCT scientists in collaboration with the Council for Scientific and Industrial Research (CSIR) has given the municipality very valuable information for planning, says Price. "They looked at statistically significant trends in rainfall, and found, contrary to expectations, that rainfall is not decreasing in the area. The number of rainfall days has decreased, but the rain has intensified."

This strong signal for the future has important implications for smaller towns in the Bergrivier Municipality, in terms of infrastructure planning: storm-water pipes will probably need to be larger to cope with the increased flow. And in the agricultural sector, intensified rainfall demands a greater focus on erosion control and protection of the soil.

Another sub-project of the CKN is aiming to cast light on how the nexus concept – the intersection of water, food, biodiversity, energy and land – applies at the catchment scale. Researchers are working to describe and quantify the natural resource base of the Berg River region in order to inform decision-making and project development that is consistent with sustainable resource use and development within the municipality and the Berg River catchment area.

The cross-fertilisation between these various projects is significant. Professor New says that what they are discovering, as the CKN unfolds, is

that an interdisciplinary approach has tremendous benefits even for those projects that have a more monodisciplinary focus. "Because they are taking place within an interdisciplinary environment, this allows for better framing of the problem and the research is informed from multiple viewpoints. And of course, the results feed into other projects and interest groups," he says.

## A WIDER CONVERSATION

One of the benefits of an interdisciplinary approach is that it enables everyone in the network to interact with a much broader set of expertise. In the same way, the ACDI strives to add value to existing areas of research excellence within the university, such as the CSAG, by linking them into a broader framework and into a wider conversation.

Director of the CSAG, Professor Bruce Hewitson, has been with UCT since 1992 and has seen this group of multidisciplinary scientists expand its vision in that time, moving from relatively narrow-focus science to a body that looks at climate change through a multitude of lenses, from agriculture to economics and ethics, thanks in part to the additional linkages ACDI brings.

## FISHER WOMAN

A postdoctoral student at the UCT Marine Research Institute (Ma-Re) was recently joint winner of a prestigious United Nations award, one of the 2013 SEED (Supporting Entrepreneurs for Sustainable Development) awards. Dr Hilkka Ndjaula's Dried Fish Company (DFC) and its partner, the Women's Enterprise Development Initiative (WEDI), aim to help Namibians attain food security and reduce the economic gender gap in that country by boosting women-led enterprises.

For someone hailing from a country where the fishing industry is a pillar of the economy, it's hardly surprising that Ndjaula's postdoctoral studies in marine biology revolve around the population dynamics of small pelagic fish like sardines and anchovies. Her doctorate and master's in marine biology were completed in Norway. DFC uses solar energy to dry frozen horse mackerel, which is then distributed to outlets run by WEDI, a women's co-operative that has exclusive distribution rights focused on rural areas.

Pictured right: Dr Hilkka Ndjaula.

CSAG's role has also expanded, not just beyond the boundaries of the university, but also beyond the boundaries of South Africa. "We want to export capacity, through capacity-building, across Africa," says Professor Hewitson. "We are working with a number of regional partners – and with young, emerging scientists – in West, East and Southern Africa."

As part of its capacity-building work, the CSAG hosts a Winter School, a two-week intensive course targeting mid-career professionals engaged in decision-making and policy development that involves issues related to climate change and adaptation. The most recent example was a course for city managers from Addis Ababa, Dar es Salaam, Maputo, Kampala and Luanda.

The CSAG has also invested in a Climate Information Platform, which offers free use of a massive database, integrated with guidance documents that will help the user to make the most of the information in the system.

Professor Hewitson also chairs CORDEX, the Co-ordinated Regional Downscaling Experiment, funded by the World Climate Research Programme. CORDEX arose out of a recognition that there was a need for high-resolution regional information regarding future climate – in other words, very detailed models at local



## THE FUTURE OF THE OKAVANGO BASIN

The great Okavango Delta is fed by seasonal rains that fall in southern Angola, sending waters on a 1 200-kilometre journey to the basin that holds the Okavango. But with predictions of rising temperatures in the west of Southern Africa, will the waters still come? And will they be as massive and awe-inspiring, filling the basin with enough water to protect and maintain the Okavango ecosystem? Or are we likely to see floods even bigger than the ones that occurred from 2009 to 2011?



Dr Piotr Wolski, senior research officer in the Department of Environment and Geographical Science, together with Professor Bruce Hewitson, director of the Climate System Analysis Group (CSAG) at UCT, and colleagues in the USA, have laboured over models of the delta's future, and have concluded that more severe flooding is unlikely, despite the general prediction that anthropogenic climate change leads to an increase in frequency and magnitude of extreme weather events such as floods.

According to their paper, published in the *Journal of Hydrology* in January 2014, greenhouse gas emissions have in fact substantially reduced the chance of the floods. "The air is warmer in the climate we are experiencing and the river takes a long time to flow down to the delta," explains Dr Wolski, "so you get more evaporation occurring before the river even reaches the delta, and thus fewer high floods." However, natural variability in the system means that above-average flooding will continue to occur.

"If not for climate change," says Dr Wolski, "the Okavango system would have experienced even larger flooding from 2009 to 2011 than it actually did." However, he said that in the long term, the delta was likely to shrink somewhat in size.

level. Due to the dearth of African regional information, Africa is a priority of CORDEX.

Scientists can no longer think in silos; there is an ethical dimension to their work, and they have a responsibility to society to provide information that will lead to relevant and appropriate decision-making. In a paper published in *Climatic Change* in November 2013, Professor Hewitson and his co-authors stress the importance of providing information that satisfies the criteria of being plausible, defensible and actionable: "Climate scientists cannot absolve themselves of their ethical responsibility when informing adaptation and must, therefore, be diligent in ensuring that any information they provide adequately addresses these three criteria."

## THE CANARY IN THE MINE

When it comes to data on the local level, birds can act as an indicator of approaching problems – just like the canary in the mine – and this is one way that research carried out by the Percy FitzPatrick Institute of African Ornithology contributes to the growing understanding of climate change.

The southern fiscal (*Lanius collaris*, also known as the fiscal shrike or common fiscal), a sit-and-wait predator that perches on exposed branches and drops down on small creatures such as lizards, has been studied by Drs Susan Cunningham and Rowan Martin (postdoctoral fellows in the FitzPatrick Institute), together with Carryn Hojem (field assistant) and the late Professor Phil Hockey (previously director of the institute).

The researchers were interested in the impact of higher temperatures on the breeding success of the birds, so they looked at birds close to the edge of their range where temperatures are highest.

In a recent paper published in the *Public Library of Science (PLOS)*, the scientists reported that, at higher temperatures, the parent birds reduced the rate at which they brought food to the nest, resulting in growth stunting in their offspring. The nestlings left the nest smaller and later, which could both help them (smaller birds may cope better in hotter temperatures) and harm them (staying in the nest longer exposes them to a greater risk of predation).

This study was undertaken in the context of a larger programme of research, called "Hot Birds", where researchers seek a greater understanding of precisely how climate change is likely to affect our birds through investigation of the mechanistic links between climate, physiology, behaviour and, ultimately, population processes.



## THE FUTURE OF FOOD

Another living system vulnerable to the effects of climate change and one that has enormous significance for humans – especially in Africa – is the already fragile food system. According to a 2009 World Bank report on climate resilience in Africa, rain-fed agriculture contributes some 30% to African GDP, employs about 70% of the population and is the main safety net of the rural poor. And yet many regions in Africa can already not claim to be food secure; as temperatures rise and rainfall fluctuates, the picture could become much worse. Scientists across the ACDI network are involved in several research projects aimed at understanding and adapting to the impact of climate change on agriculture.

"Adaptive Intervention in Agriculture to Reduce Vulnerability of Different Farming Systems to Climate Change in South Africa" is a project led by Dr Peter Johnston in the CSAG and funded by the Water Research Commission, which will investigate the impact of projected climate change on agriculture; assess the vulnerability of crops, rangelands and farming households and enterprises; and identify and suggest

appropriate adaptive techniques and practices in selected catchments and farming areas. The report will provide an assessment of the vulnerability of different farming systems to climate change. It will evaluate alternative adaptation practices and techniques (both indigenous and science-based knowledge) and, if necessary, develop and test innovative, appropriate and sustainable interventions, including internal management measures and external policy measures.

The CSAG's Dr Olivier Crespo has been working with colleagues across South Africa and in Swaziland on a related project involving an expert team of climate, crop, economic and IT research scientists evaluating the impact of climate change on the production and prices of important crops. At the same time, the project seeks to build human and institutional capacity in this field.

The project is testing models that estimate what the production of staple crops in the region during the period 2070 to 2099 will be. These models will yield an accurate picture of productivity and projected prices in important staple crops – maize, sorghum,

## MARINE PROTECTED AREA IMPROVES YIELD WITHOUT DISADVANTAGING FISHERS

Do Marine Protected Areas (MPAs) disadvantage fishermen? In a paper published in *Nature Communications* in August 2013, Dr Sven Kerwath (a research associate at UCT and scientist at the Department of Agriculture, Forestry and Fisheries), postdoctoral fellow Dr Henning Winker, Dr Albrecht Götz of the Southern African Environmental Observation Network and Professor Colin Attwood of Ma-Re, set out to answer this question.



Their research focused on the roman (which most people know as the red roman, *Chrysoblephus laticeps*), a sea bream endemic to South Africa's coast. Examining 15 years of data, they found that the establishment of the Goukamma MPA did not result in a drop in total catch, nor did the fleet have to travel greater distances to get the catch.

The suggestion is that roman left the MPA as fish densities built up, spilling out into areas where catching them was legal. In addition, a boost in roman egg production in the protected area would benefit unprotected areas too, as eggs drift with the currents.

sugar cane, wheat and sweet potatoes – and will then be used to test the economic outcomes of different farming systems, providing options for the future.

According to a paper published in *Global and Planetary Change* in December 2013 by Nkulomo Zinyengere (a PhD fellow in the CSAG), Dr Crespo and Dr Sepo Hachigonta, harvests in Africa are likely to decline steadily over the next 90 years. The researchers reviewed 19 recent studies of the impact of climate change on crops in the 21<sup>st</sup> century, and found that maize yields are projected to decline on average by 18%.

## THE SEA, THE SEA

Agriculture – and thus food security – across Africa is profoundly affected by changes that scientists are recording in the seas around us. Features ranging from huge currents to massive eddies in the Atlantic, Indian and Southern Oceans are crucial factors in the global climate picture, directly affecting agricultural land use through rainfall patterns and temperature shifts – and indirectly impacting on the rest of the planet, too. These seas are relatively easily accessible to the more than 40 researchers who work at UCT Marine Research Institute (Ma-Re) and those in the Department of Oceanography. Ship cruises, field trips and remote sensing by satellite are used to gather samples and data for analysis by the multidisciplinary team.

On one such research expedition, an all-women team of scientists from UCT, led by senior lecturer Dr Isabelle Ansorge of the Department of Oceanography, sailed on the polar research vessel SA *Agulhas II* to the subantarctic Prince Edward Islands in April 2014. A key purpose of the trip was to study warm eddies in the ocean. These southward-moving eddies bring warm, salty water to the polar frontal band of ice circling the Antarctic. The focus was on two ocean eddies: a recently formed eddy in the subantarctic (at 49°S, 30°E), and one that has relocated southwards into the Antarctic zone (to approximately 58°S).

Eddies, Dr Ansorge explains, are areas of intense biological and physical activity and are "one of the main mechanisms in which water characteristics such as heat, salt, carbon dioxide, nutrients and biota are exchanged around the oceans."

Heat, salt and carbon dioxide: these are all features affected by climate change, and eddies are a mechanism to balance the world's ocean climate. That makes them an important subject that needs to be understood. Master's student Kirrin Reid had studied

them via satellite images, but this voyage gave her a chance to get up close and personal with the eddies she had only seen from afar. Reid was supported by four other postgraduate students attached to UCT's Department of Oceanography: Katherine Hutchinson, Moagabo Ragoasha, Lisa Holton from the UK, and Alice Lebehot from France. Katherine Hutchinson graduated in December 2013, having earned a rare co-badged master's degree from UCT and l'Université de Bretagne Occidentale, France. Co-badged qualifications reflect the changing academic environment, which is trending towards greater collaboration between academic institutions, especially between those in the Global North and the Global South, as well as towards a greater fluidity in postgraduate study – much more research happens in a multidisciplinary environment today.

#### TOWARDS GREATER ACCURACY

Several aspects of science are involved in creating a rich, detailed and accurate understanding of the dynamics of climate change. The kind of on-site measurement Dr Ansgre's team has been doing feeds information and data into the science of prediction, which must be as reliable and accurate as possible. This is the area that Dr Backeberg of the Nansen-Tutu Centre (NTC) is currently working on.

The NTC is a joint venture between the Norwegian Nansen Environmental Centre and South African partners that aims at improving the capacity to observe, understand and predict the seas, to support research as well as fisheries, coastal management, maritime security, recreation and tourism.

"Two years ago, I had a paper published in *Nature* in which I used satellite measurements to show that all around South Africa, ocean features like eddies (mesoscale structures between 100 and 400 kilometres in diameter) are intensifying," says Dr Backeberg.

Now he is working on a new paper aimed at laying the foundation for the development of a regional prediction system for the greater Agulhas Current system. "We are trying to develop a system that will give more accurate and better results," he says. This is crucial to predicting extreme weather events, as well as understanding features like the sardine run, which is dependent on movements of the Agulhas Current.

#### INVESTING IN CAPACITY

Dr Backenberg's work illustrates how science can contribute to addressing complex problems that affect life on Earth and makes a good case for why investing in this capacity is important. The potential, and the need,

## 'SCARE LINES' SLASH ALBATROSS DEATHS BY 99%

A seven-year research project, recently published in the international scientific journal *Animal Conservation*, has shown that using "scare lines" to keep birds away from trawl cables during trawl fishing can dramatically reduce seabird deaths.

The research, which monitored trawl fishers off the coast of South Africa from 2006, showed that the use of the lines resulted in a reduction of 90% in seabird deaths and 99% in albatross deaths.

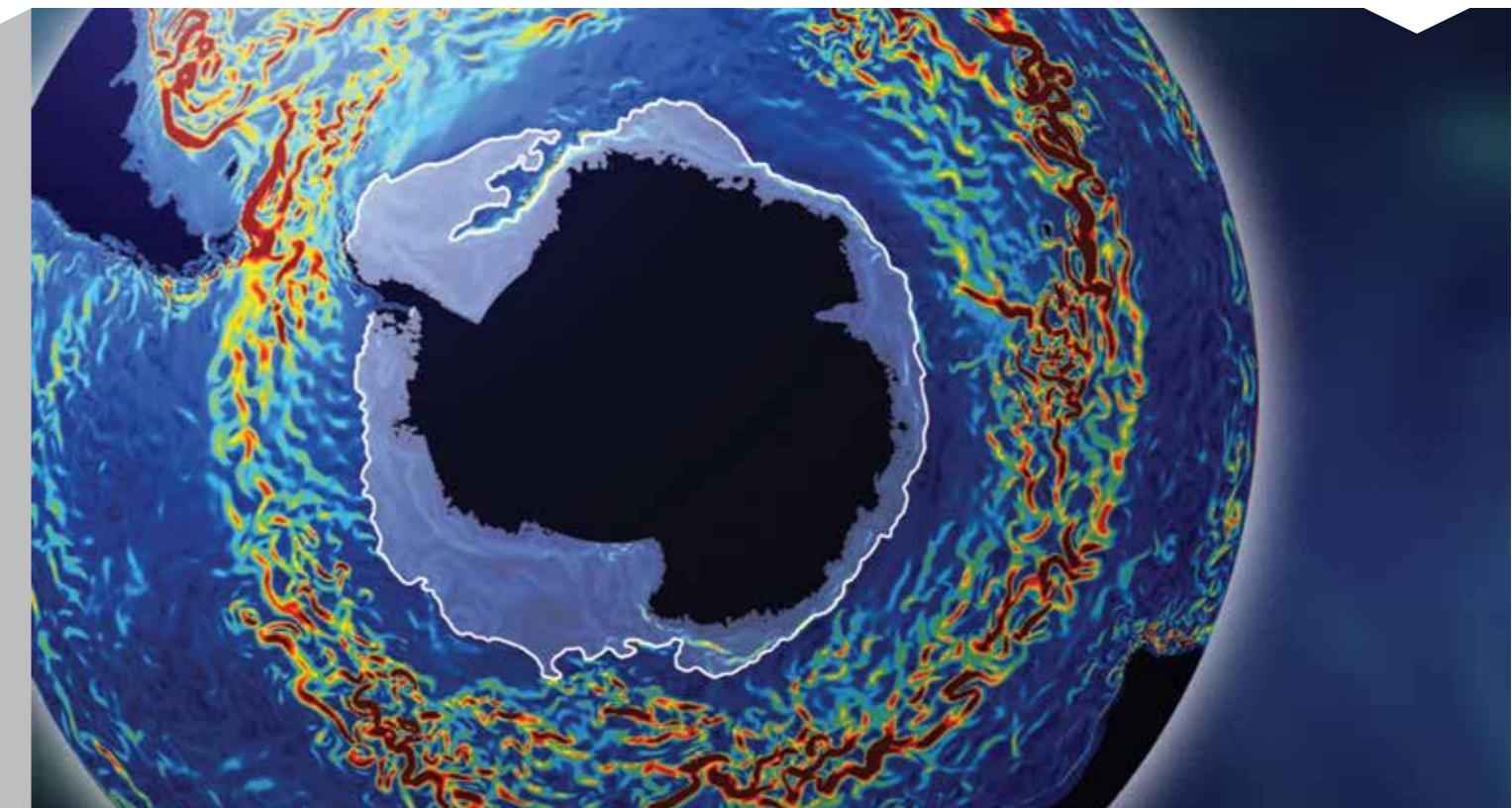


Flurry for food: Seabirds attracted to the fish offal as a result of onboard processing. Many become tangled in the trawl cables and drown.

Seabirds, especially albatrosses and petrels, are drawn in their thousands by the offal discarded from onboard processing factories. While they're scavenging, they become tangled in the trawl cables and drown.

Trawlers (mainly the hake fishery) use large nets, held in the water by thick cables, to trawl the seafloor. The scare lines – a simple 30m length of strong rope with five to 10 paired lines of visible streamers attached – work by distracting and confusing the birds, keeping them away from the trawl cables.

Accidental seabird deaths during fishing pose the single biggest threat to seabird populations around the world, says co-author of the paper Dr Ross Wanless, a UCT research associate and seabird division manager and the Africa co-ordinator of the BirdLife International Marine Programme.



This image of the Antarctic Circumpolar Current indicates current speed: blue shows slow-moving water and dark red indicates speeds of above 1.5km per hour. The pale blue halo around Antarctica indicates sea ice. Image courtesy of the National Science Foundation.

for this kind of research is infinite. Fortunately, this node of climate change capacity at UCT is attracting significant funds to the university that is enabling a growth of capacity.

At the beginning of 2014, three new research chairs and one senior research fellow were seconded to the ACDI for a three-year tenure. These positions have a strategic role: each of them will offer leadership and boost research production through activities focused on the themes they lead.

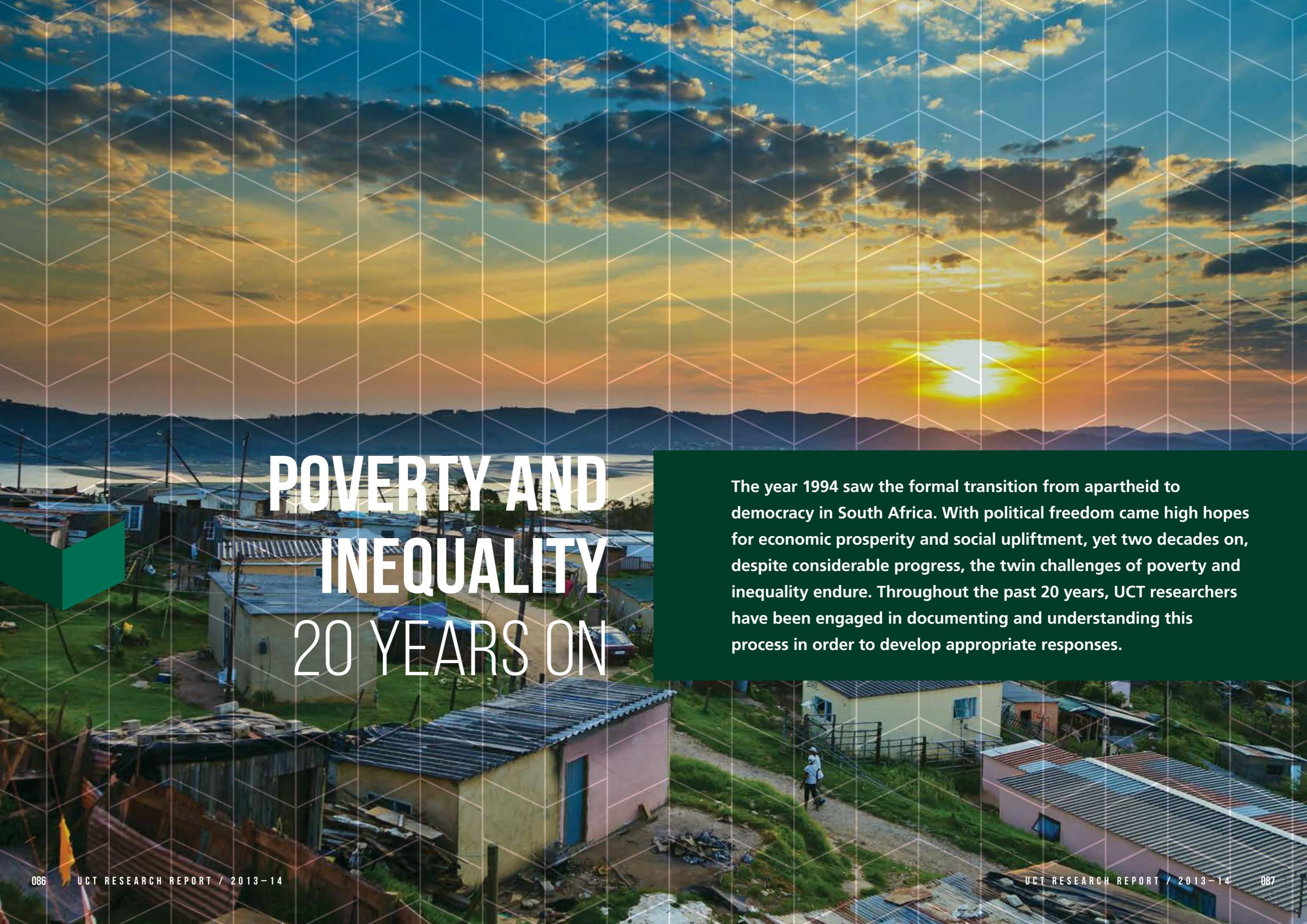
Professor Ralph Hamann at the UCT Graduate School of Business, one of the three new research chairs, will look at complex social and environmental problems, including climate change, food security and mining-company-community relations. Associate Professor Martine Visser, who takes up the second research chair, focused on behavioural economic applications to climate change, natural resource use, health and poverty alleviation, is studying how social norms and preferences such as trust, co-operation and risk aversion impact on decision-making. The third research chair will be held by Associate Professor Res Altweig, who will be looking at understanding the impact of climate change on biodiversity and ecosystem services (using birds as indicators) and quantifying weather changes in Southern Africa and their attribution to climate change, with detailed analysis of weather trends.

Dr Britta Renkamp, who joins ACDI as a senior research fellow, will be addressing trade-offs between climate change mitigation and poverty alleviation – how can governments reduce emissions over the long term without jeopardising their countries' achievements in socio-economic development?

These four senior scientists add to the formidable range of experience, skill and knowledge in the ACDI and Ma-Re networks. Together, these two Signature Themes form the bedrock of the university's climate change response.

In February 2014, the Intergovernmental Panel on Climate Change (IPCC) reported that scientists are now 90% certain that human activities are causing climate change. Observational evidence indicates that natural systems in all continents and most oceans are being affected by climate changes, particularly temperature increases. It is now certain that these impacts will have an effect on the day-to-day lives of people and ecosystems.

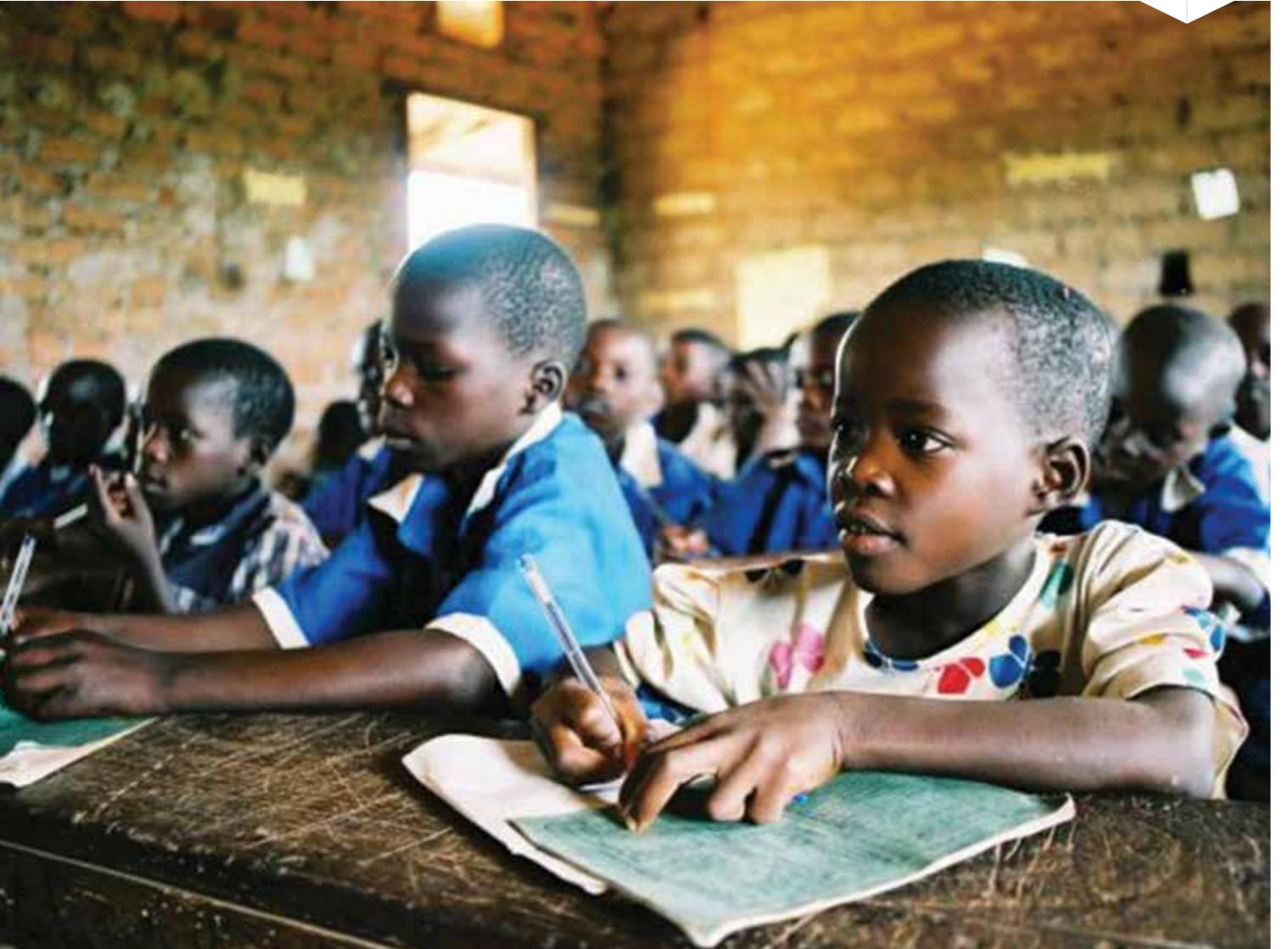
How we deal with this is up to us, and the research under way at UCT, by sea and land, across a range of disciplines, is helping to make sure that the African continent is as prepared as it can be to understand and manage the dynamics and impact of this crisis.



# POVERTY AND INEQUALITY 20 YEARS ON

The year 1994 saw the formal transition from apartheid to democracy in South Africa. With political freedom came high hopes for economic prosperity and social upliftment, yet two decades on, despite considerable progress, the twin challenges of poverty and inequality endure. Throughout the past 20 years, UCT researchers have been engaged in documenting and understanding this process in order to develop appropriate responses.

# OVERCOMING THE LEGACY OF POVERTY AND INEQUALITY



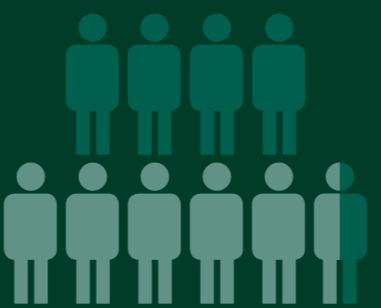
**South Africa in 1994 was a country marked by extreme poverty and inequality. The preceding decades of social and economic discrimination had left a legacy of adversity, which had been founded on racial divides. Millions of primarily black South Africans were mired in deplorable living conditions, lacking access to basic services such as running water, electricity and clean sanitation. The schooling and health systems that served the majority of the population were also inadequate.**

Two decades later, South Africa's story is one of both achievement and continuing challenges. There has been

undeniable progress on several fronts: the introduction of the new constitution in 1996, increased access to basic services, and the roll-out of the largest antiretroviral (ARV) programme in the world. Additionally, millions of South Africans are now beneficiaries of government grants and the large majority of children are enrolled in school.

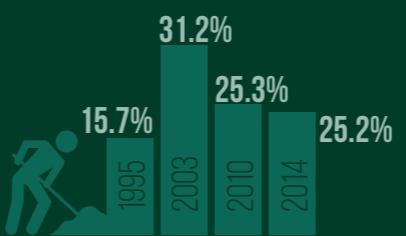
Despite these victories, the country still faces challenges that affect the day-to-day lives of many South Africans. Unemployment rates are high, access to quality services remains uneven, the education system is dysfunctional for all but the top 20% of schools, and crime and corruption are rife.

## KEY CHALLENGES

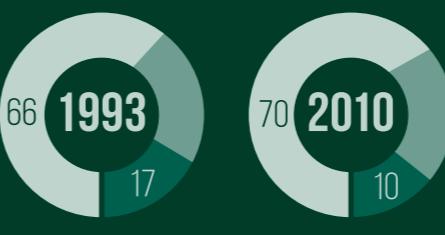


**54 % OF SOUTH AFRICANS STILL LIVE BELOW THE POVERTY LINE**

### UNEMPLOYMENT LEVELS ARE HIGH



### INCOME INEQUALITY HAS INCREASED



% OF TOTAL INCOME OF THE POPULATION

RICHEST 20%

POOREST 60%

Closely linked to each of these is the conundrum of poverty and inequality. During the post-apartheid period, overall poverty in South Africa has decreased, but only marginally, according to research led by Professor Murray Leibbrandt, DST/NRF SARChI Chair in Poverty and Inequality, published in the *Oxford Companion to the Economics of South Africa*. The proportion of people living below the poverty line decreased from 56% in 1993 to 54% in 2010 and, while government grants have had a significant impact, a substantial proportion of South Africans remain in severe poverty.

In terms of inequality, the gap between the rich and poor has increased during the last 20 years, in terms of both overall income inequality and inequality within racial groups, particularly black Africans. In 1993, the richest 20% of people earned 66% of the total income in the population and the poorest 60% together earned about 16% of the total income. By 2010, these figures had changed, with the richest 20% of people earning about 70% of the total income in the population and the poorest 60% together only earning about 10% of the total income. In recent years, the Gini coefficient (a measure of inequality of distribution) has hovered around 0.69, making South African society one of the most unequal in the world.

At UCT, researchers across a wide variety of academic disciplines – from engineers to economists, geographical scientists to sociologists, physiotherapists to political scientists – are involved in documenting and understanding these changes, as well as developing appropriate responses to the continuing challenges that relate to the twin burdens of poverty and inequality. Launched late in 2013, the fourth of the Vice-Chancellor's Strategic Initiatives – the Poverty and Inequality Initiative (PII) – was set up to tackle the question of why, in a country of rich resources, poverty and inequality are persisting and even, in the case of inequality, deepening. With its members drawn from diverse disciplines, the PII aims to identify all major role players inside and outside the university (including academics, research groups and non-governmental organisations) who are doing work related to poverty alleviation, whether in policy or aimed at intervention.

### EMPLOYMENT AND UNEMPLOYMENT

One of the key drivers of poverty and inequality in South Africa is undoubtedly the labour market. The persistently high levels of unemployment, as well as rising inequalities in earnings that have marked the post-apartheid era, have prevented any meaningful reduction in poverty and inequality.

In 1995, the unemployment rate was 15.7%, according to Statistics South Africa. By 2003, this figure had almost doubled, with unemployment reaching a record high of 31.2%. Although the economy had generated a fair number of jobs, the number of individuals entering the labour force over this period was significantly greater, thus leaving more than five million South Africans without work. After some fluctuation, in 2010 unemployment rates were at 25.3%.

While much research has been generated, the knowledge base on South African unemployment – and its inter-relatedness with poverty and inequality – is fragmented and many gaps in research and policy debates are apparent. It is against this backdrop that the Research Project on Employment, Income Distribution and Inclusive Growth (REDI3x3) was conceived. Launched in 2012, REDI3x3 is a national multiyear, collaborative, independent research initiative funded by the National Treasury and managed by UCT's Southern Africa Labour and Development Research Unit (SALDRU). The project is designed to forge a stronger engagement between research and policymaking and to promote dialogue across disciplines and paradigms. By generating an independent, rich and nuanced knowledge base and expert network, it intends to contribute to co-ordinated, consistent and effective policies directed at the three critical problem areas of unemployment, inequality and poverty.

With such critical levels of unemployment, job creation remains high on the policy agenda. However, there are several hurdles to employment in the South African context – skills shortages, the efficiency of labour and non-labour market regulations, and support for labour-market institutions. The Employment Promotion Programme (EPP), based in the Development Policy Research Unit (DPRU), aims to identify and implement solutions to these systematic employment constraints. Funded by the United Kingdom's Department for International Development (DfID), projects supported by the EPP fall into three categories: knowledge and intelligence gathering, capacity-building support for the labour market and other relevant institutions, and support for innovative pilot interventions.

A potential constraint to employment, which has come under much scrutiny recently, is the setting of minimum wages. There is ongoing debate as to whether minimum wages in certain sectors of South Africa's economy are set too high and therefore price workers out of the labour market, which in turn exacerbates unemployment. Research on this issue by professors Nicoli Nattrass and Jeremy Seekings at the Centre for Social Science Research (CSSR) attracted widespread media attention in early 2013. Their ongoing analysis of the crisis in the clothing industry suggests that the

## THERE HAS BEEN UNDENIABLE PROGRESS ON SEVERAL FRONTS: THE INTRODUCTION OF THE NEW CONSTITUTION IN 1996, THE ESTABLISHMENT OF AN INDEPENDENT JUDICIARY, INCREASED ACCESS TO BASIC SERVICES, AND THE ROLL-OUT OF THE LARGEST ARV PROGRAMME IN THE WORLD.



## THE NATIONAL INCOME DYNAMICS STUDY

A major project at UCT, aimed specifically at tracking the changes over time in the lives and well being of South Africans, is the National Income Dynamics Study (NIDS). Implemented by The Southern Africa Labour and Development Research Unit (SALDRU) and funded by the Presidency, NIDS is the first national household panel study in South Africa. It tracks the income, consumption, expenditure and other relevant variables of around 28 000 individuals and their households over time.

"The value of the NIDS data lies in its unique ability to detail and explain the unfolding social dynamics of contemporary South Africa. Who is trapped in poverty? Who is moving into the middle and upper classes? And, most importantly for policy, what are

## ONE OF THE MOST VISIBLE CHANGES IN SOUTH AFRICAN CITIES OVER THE LAST 20 YEARS HAS BEEN THE PATTERN OF RESIDENTIAL INTEGRATION AND SEGREGATION.



imposition of minimum wages in this labour-intensive sector is threatening thousands of jobs. However, this has been robustly criticised by researchers at UCT's Institute of Development and Labour Law and is the topic of ongoing debate. The research and this debate raise some difficult policy dilemmas: given the exceptionally high levels of unemployment, how should policymakers balance the goal of job creation with the goal of achieving decent, well-paid work? Should low-wage employment be permitted because it mitigates poverty, even if wages are very low?

Minimum-wage legislation has also been a focus of research at the DPRU. Here the aim has been to understand and measure the enforcement of minimum-wage laws. Funded by the International Development Research Centre (IDRC), the project has three distinct components: one measuring the enforcement of

the key drivers of these changes?" says Professor Murray Leibbrandt, DST/NRF SARChI Chair in Poverty and Inequality.

To date, three surveys, or waves, have been collected: in 2008, 2010 and 2012. The most recent wave of NIDS was launched in December 2013 in an event organised by the National Planning Commission. Many commissioners joined the statistician general, his senior staff and high-level policy officials from the Presidency and the departments of Education, Health and Social Development for a day-long engagement with a set of papers that had been prepared by a SALDRU team on relevant findings from the first three waves of NIDS data. The research has been published and is uniquely able to illuminate issues such as poverty, inequality and mobility dynamics, progress through school by learners from poor households, the health-seeking behaviour of these households, and patterns of migration, changing household composition and labour-market dynamics during the financial crisis.

sectoral minimum-wage laws and the causal effect of enforcement on compliance with them; another looking at the nature, role and functioning of the regulatory agencies involved in the monitoring and enforcement of minimum-wage laws; and the last measuring the impact of minimum-wage laws on employment and other labour-market outcomes.

Some of the findings from this project raise interesting questions in the light of the recent protests over farm workers' wages in the Western Cape. Research by Professor Haroon Bhorat, director of the DPRU and DST/NRF SARChI Chair in Economic Growth, "Poverty and Inequality: Exploring the Interactions for South Africa", together with colleagues, shows that, since the implementation of the sectoral minimum-wage law in agriculture in 2003, average wages in agriculture have increased significantly across all provinces. In the Western Cape, where compliance has been one of the highest, farm workers also earn substantially more than in other provinces. To understand why the strikes then occurred in this province and not others, a research project led by Professor Lungisile Ntsebeza, DST/NRF SARChI Chair in Land Reform and Democracy in South Africa, and colleagues from the Centre for African Studies, has started collecting data on the strikes with the aim of providing a detailed account of events between August 2012 and February 2013. The second phase of the research project will attempt to locate the strikes within the broader context of rural resistance and transformation, not only in the countryside, but in the country as a whole.

## THE ROLE OF SMALL BUSINESS IN JOB CREATION

In South Africa, small, medium and micro enterprises (SMMEs) play a vital role in job creation. However, these entities face a number of constraints that make it difficult to operate and expand into larger profitable entities. Various interventions have been designed to support SMMEs so that they can overcome these obstacles. During 2013, J-PAL Africa, based in SALDRU, ran an evaluation of a project by the Business Bridge Initiative. The project targets individuals who already own micro enterprises and gives them the skills required to expand their operations in terms of revenue, profit and number of employees. By providing skills to owners of small existing businesses, the hope is that these businesses will grow to the point where they can provide employment for those without self- or wage-employment.

Another research project looking at micro enterprises is being run by Dr Margaret Booyens from the Department of Social Development and Associate Professor Roshan Galvaan from the Department of Health and Rehabilitation Sciences. The project, titled "Youth-Owned Small-scale Enterprise Development: Pathways to success", explores how the agency of young people is activated and supported to advance successful business development. During 2013, Dr Booyens and Associate Professor Galvaan interviewed young South African citizens between the ages of 20 and 29, living in Saron, Montagu and Citrusdal, who had been running their own legal small businesses for two or more years.

## UNEQUAL EDUCATION

Many scholars agree that education is a critical ingredient of any strategy to redress deep-seated structural inequality, but in South Africa, the education system itself is highly unequal.

When the newly elected democratic government took office in 1994, it inherited a dysfunctional education system. Over the last two decades, the government has instituted a plethora of policies to address the inequalities and deficiencies, but today, after a string of reforms in school access, curriculum, teacher training, governance and financing, the performance of the bulk of South Africa's education system is catastrophically poor. While resources flow more equitably and access to education has expanded significantly, educational outcomes for the vast majority of learners continue to be poor. Despite receiving a relatively large slice of the public pie, the prevailing story of education in South Africa is one of high student dropout rates,



low completion rates and dismal achievement levels. Indeed, comparative international assessments in reading and literacy, mathematics and science locate the performance of South Africa's schools as worse than most other African countries. According to the 2014 *World Economic Forum Global Information Technology Report*, South Africa is last out of 148 countries in terms of its maths and science education.

What are some of the reasons for this poor performance? Typically, research attempting to explain these continuing shortfalls observes factors such as poor teacher training, a weak curriculum and learning deficits in primary school. A new research project looks instead at the relative influence of political and institutional constraints in accounting for poor schooling outcomes. This project, titled "The Provision of Basic Education in South Africa: Institutional and political challenges", is a multiyear, multilevel study, undertaken jointly by the Graduate School of Development Policy and Practice, the Department of Political Studies and the School of Education, in partnership with the University



of Manchester's Effective States and Inclusive Development Research Centre. Over the course of three years, the researchers plan to collect data at the national, provincial and school level in order to explore the extent to which the performance of schools can be explained as an outcome of the interactions between, on the one hand, the prevailing political dynamics and, on the other, the characteristics of the prevailing institutional arrangements.

Analyses of learner performance in South Africa reveal that there is a small proportion (about 25%) who perform relatively well. However, the vast majority have extremely poor achievement outcomes. Essentially, there are two different education systems in South Africa: a functional schooling system that caters for the rich and a largely dysfunctional schooling system catering for the majority of poor learners. While schools in the former system are becoming increasingly deracialised, this dual pattern of schooling in South Africa continues to reflect the lines of apartheid's historical geography.

Research led by Professor Pam Christie at the School of Education is exploring these differentiated spatial patterns of schooling in South Africa. Through a comparative study in three regions, she aims to investigate the spatial practices, representations of space and lived experiences of these schools, with a view to understanding how inequalities are constituted and how they might be shifted. During 2013, Professor Christie and her team developed the conceptual and theoretical framing for their

research. They are currently gathering and mapping information about patterns of schooling in the Western, Eastern and Northern Cape.

While poor schooling outcomes during the post-apartheid era have painted a rather dismal picture of education in South Africa, it is possible to identify schools in poorer contexts that are performing better than others, thus presenting a more nuanced account. The SPADE (Schools Performing Above Demographic Expectations) Project, also located in the School of Education, looks at a sample of primary schools in the Western Cape that are performing above expectations, given their low socio-economic contexts. SPADE researchers are interested in what contributes to better performance in these schools. They include three domains in their research: the home, school organisation and the classroom.

Preliminary findings suggest that higher-performing schools have certain organisational features that contribute to their success, such as consensual relations between staff in the school and an absence of enduring, explicit conflict, low teacher and student absenteeism and a strong ethic of care for the child. At the classroom level, researchers have identified certain effective pedagogic strategies – related to pace, sequence and coherence of the lesson – in higher-performing schools in lower-income communities. Their analysis also shows that schools perform optimally when management is able to draw on their knowledge and experience regarding pedagogy, curriculum and evaluation to fulfil their management responsibilities with authority.



## POVERTY AND INEQUALITY IN POST-APARTHEID CITIES

With two-thirds of South Africa's total population now living in urban areas, cities have increasingly been recognised as key spaces for economic and social development.

Rapid urbanisation over the post-apartheid period has meant a massive increase in the number of urban residents who need housing, jobs, transport, services, health care and schooling. While the state has made important progress in some areas, urban growth continues to put a critical strain on the provision of services and infrastructure, exacerbating the already high levels of poverty and inequality that exist in cities.

One of the most visible changes in South African cities over the last 20 years has been the pattern of residential integration and segregation. Research by Professor Owen Crankshaw in the Department of Sociology shows how changing patterns of inequality in the labour market have resulted in the emergence of new spatial divisions in South Africa's cities. In May 2014, Professor Crankshaw published an article in the *Sunday Times* explaining that the movement

of well-educated blacks into managerial, professional and technical jobs has led to a significant growth in the black middle class. This, in turn, has resulted in an influx of black middle-class residents into formerly whites-only suburbs. The spatial implication is that these areas have become increasingly desegregated. There are now more black South Africans in the middle classes than white and, in the formerly whites-only suburbs of Johannesburg, two-thirds of the residents are now black.

On the other end of the scale, however, many less-educated blacks have become poorer because of rising unemployment. This has meant that townships are increasingly concentrated with poor, unemployed workers and there has been a steady growth in backyard rooms and informal settlements in these areas.

"The new pattern of residential segregation in our cities is not the same as apartheid segregation. This new pattern of segregation is a division between the racially mixed middle-class suburbs on the one hand, and the black working-class townships with high levels of unemployment on the other," writes Professor Crankshaw.

Looking at spatial inequalities in South African cities through a slightly different lens is Professor

Robert Cameron from the Department of Political Studies, together with Dr Helder do Vale from the Centre for Political and Constitutional Studies in Spain. Their research focus is on the perpetuation of spatial inequality through uneven financial and institutional endowments in local government. Post-apartheid South Africa experienced a sweeping process of decentralisation that attempted to foster an equal distribution of basic services between local governments. However, as Professor Cameron and Dr Do Vale propose, this process created new inequalities in the delivery of local services between South African municipalities. Their findings suggest that these local asymmetries result from the uneven financial and institutional endowments in local government. The metropolitan municipalities have been able to improve welfare outcomes because of their stable sources of revenues. Cities like Johannesburg and Cape Town also "have greater autonomy than other local governments in the country in managing their resources and are better able to respond to the demands of the local population". Professor Cameron and Dr Do Vale are using their research to develop a closer understanding of the trajectories of local welfare regimes in South Africa.

Cities are not only locations where people live and work and benefit from services, they are also

## VULNERABLE GROUPS

Promoting greater equity and access to education and development opportunities is key to guaranteeing the rights of children. Since 1994, many policies and interventions have been designed to ensure that the rights of children, along with those of other vulnerable groups, such as women and people with disabilities, are realised.

Vulnerable groups constitute a significant proportion of the population and experience a higher risk of poverty and social exclusion than the rest. In South Africa, women, children and people with disabilities often face serious challenges that make them particularly vulnerable to further impoverishment and exclusion.

The White Paper on Social Welfare, adopted in 1997, has formed the basis for social welfare policy in South Africa over the post-apartheid era. In 2013, Professor Viviene Taylor, head of the Department of Social Development, was appointed by the national Minister of Social Development to chair the Ministerial Committee on the Review of the Implementation of the White

important sites of activism and social-movement mobilisation. With a history of forced removals and apartheid-era evictions, and in a context of pervasive poverty and inequality, struggles for socio-economic rights have been pertinent in post-apartheid cities. Students and researchers from the Department of Environmental and Geographical Science have collaborated with the Valhalla Park Civic and its activists to look at ways in which activism and work for justice and transformation shape neighbourhood and city politics.

Struggles to access houses, the occupation of land and contestation of the city's razing of shack settlements in court are important civic successes. Yet the Valhalla Park Civic and its residents feel a stigma as leaders and residents in a "dysfunctional township": an impoverished, violent, gangster-ridden neighbourhood. Drawing on political mobilisation, and building "community", together the researchers and activists have documented the challenges and opportunities in neighbourhood initiatives to address poverty, as well as reflecting on the building of collaborative relationships and trust, and how knowledge may be collaboratively constructed. To date, a range of documents from popular booklets to academic publications have been produced from this collaborative nine-year research project.

Paper on Social Welfare. The primary research aim of the committee is to review how the vision, goals and objectives of the white paper are being implemented across the country, and the impacts on poverty, social inequality and vulnerability. Using a combination of methods, including reviews and analysis of official documents, reports and existing research on the status of social welfare across South Africa, the committee will identify the critical gaps and challenges in the provision of social development services.

Professor Taylor, together with two research assistants, is collating and analysing the data collected by the committee and writing up initial briefs on the findings. A number of these research outputs will be developed into articles, policy briefs and status reports. The process will also be written up and will be used for teaching on social-policy courses in the department.

## VULNERABLE GROUPS CONSTITUTE A SIGNIFICANT PROPORTION OF THE POPULATION AND EXPERIENCE A HIGHER RISK OF POVERTY AND SOCIAL EXCLUSION THAN THE REST OF THE POPULATION.



The Children's Institute (CI) has also played a key role in assisting the national Department of Social Development to design a comprehensive legal solution to the foster care crisis. There is substantial evidence that the foster care system is under serious strain and, as a result, many vulnerable children are left without assistance.

To date, the work of the CI has included conducting research for the department, together with the Community Agency for Social Enquiry, on the challenges and proposing options for reform; drafting regulations to show how reform options could be translated into law; creating dialogue platforms to promote discussion with government and civil society; and participating in litigation to get clarity on Children's Act clauses on foster care eligibility.

While government grants are particularly useful in providing financial assistance, there are challenges faced



by children that require different types of interventions. In South Africa, violence against children, especially in the context of poverty, occurs at a very high rate. Poverty is a particular risk for violence against children, as poor parents are less likely to have social support, more likely to use harsh, inconsistent parenting, less likely to be affectionate towards and to monitor their children, and more likely to use corporal punishment.

Effective interventions in the form of parenting programmes are needed to improve parenting and buffer the effects of poverty on children, and researchers in the Department of Psychology have undertaken to develop and test parenting programmes that will be appropriate in South Africa and other low- and middle-income countries. With the aim of developing programmes suitable for low-resource contexts, Associate Professor Cathy Ward and Inge Wessels are training community health workers to deliver the programmes, producing materials that are

low cost, and making them freely available. To date, the testing of various programmes for different age groups has found significant improvements in positive parenting behaviour. The researchers plan to test each programme in at least two other low- or middle-income countries, and hope to have them ready for widespread rollout by 2020.

Women are, of course, also victims of violence, and as a vulnerable group are over-represented among the poor; they also bear the brunt of the HIV/AIDS pandemic in South Africa. A recent study by researchers in the Department of Health and Rehabilitation Sciences explored methods to mitigate the consequences of living with HIV/AIDS in this environment. With the effective rollout of antiretroviral treatments in South Africa, the profile of HIV as a disease has changed, from being a terminal illness to a chronic disease, much like diabetes. From this standpoint, it is important to address the symptoms associated with HIV/AIDS in

order to maximise quality of life and participation in society; one of the most common symptoms in people with HIV/AIDS is pain, which can be addressed.

People with disabilities also face serious challenges that marginalise and exclude them from participating meaningfully in society. Associate Professor Theresa Lorenzo and a team of researchers from the Disability Studies Programme at the Department of Health and Rehabilitation Sciences are involved in a multiyear collaborative study on disabled youth. The study is being run by occupational therapy departments at six universities, together with community-based organisations across five provinces in South Africa.

The findings of the study give a picture of the inequalities faced by disabled youth and the factors that enable them to sustain their livelihoods. They show that disabled youth face significant barriers to education and employment and they have limited opportunities for social interaction and intimate relationships. The results also showed that community rehabilitation workers are well positioned to promote equal citizenship for disabled youth.

## A SHARED AIM

This and other research at UCT shows that the university is well on its way to gearing up and mobilising its resources to frame a co-ordinated, coherent response to the enduring challenges of poverty and inequality. This response will be profiled in the work of the national Carnegie3 initiative, the first phase of which was launched with the "Strategies to Overcome Poverty and Inequality" conference hosted by UCT in September 2012.

The core focus of the PII during the early months of 2014 was the identification and development of key research themes that would form the basis of the university's engagement with the Carnegie3 initiative. The structures that will support the process are firmly in place with a shared aim to collectively generate more effective interventions.

Using the considerable expertise of its members, the Poverty and Inequality Initiative will focus on themes such as inclusive growth, urban development, rural development, labour markets, education, health, and issues of social cohesion/community/crime – these themes resonate well with research already under way at UCT, and further afford opportunities for creating previously unexplored synergies, not only among researchers within the UCT community, but also expanding outward. The Poverty and Inequality Initiative is thus poised to play a key role in brokering these relationships and guiding the university's input into the national endeavour.



# URBAN AFRICA RISING

Africa is second only to Asia in its number of city dwellers, and its cities are growing at an unprecedented rate. Yet very little is known about how African cities are evolving. UCT researchers are rising to the challenge of creating a knowledge base that will support the building of more equitable African cities, making them liveable, accessible and sustainable for all – with policymakers, planners and builders working off a critical mass of usable knowledge.

# AFRICA'S CITIES CRYING OUT FOR REIMAGINATION



**Stereotyping would have you believe that Africa is a mass of undeveloped land where poverty rules. But the reality is something quite different. At present, the African continent is 40% urbanised. There are currently 414 million urban dwellers – and only Asia has more city-based people. The continent's largest cities all have populations of more than a million people.**

Moreover, the continent is developing at an unprecedented rate: the United Nations Department of Economic and Social Affairs (UNDESA) predicts that Africa will be 50% urban by 2030 and 60% urban by 2050.

The implications for both city dwellers and policymakers are staggering. In the words of Professor Edgar Pieterse, director of the African Centre for Cities

(ACC) and DST/NRF SARCHI Chair in Urban Policy, an interdisciplinary research and teaching programme at UCT, "The mind boggles, and it's impossible to wrap one's head around what that might mean in terms of the speed at which you build cities and the speed at which you need to provide services, what that could possibly mean for governance, how citizenship is instituted, and the overlay of that; the tumult of the post-colonial era in the last 50 years and what that has meant for the economic insertion of these countries into the global economy."

Urban population growth in Africa is taking place at such a rate that – if there is not an adequate understanding of the situation, and if solutions are not developed quickly – the continent is heading towards a crisis of poverty, inequality and lack of resources for its city people, warns Professor Pieterse.

To put the current situation in perspective, UCT research estimates that the middle-class population of South Africa is expected to double by 2050 and the population of informal dwellers to treble. Only three percent of urban dwellers are eligible for a mortgage and only 28% have stable jobs (including minimum-wage employees). Sixty-three percent are in vulnerable jobs, ie sources of income they could lose at any time. The implication is therefore that urban planners have to build infrastructure that is desperately needed, but that might fall apart at any time because tax bases might not be maintained. In a nutshell, the number of urban dwellers is increasing dramatically, and economic development is not always keeping up. In many cases, there is in fact economic stagnation and contraction, yet city populations continue to expand and there are increasing demands on resources and expectations of economic opportunity.

## THE NEED FOR KNOWLEDGE

Understanding what is driving this growth is becoming a key concern for researchers. While migration is a factor in the growth of these cities, it is not the primary factor – and more than one scholar has pointed out that migration is not, in fact, as dramatic an influence as has been previously believed, so attempts to stem the tide of migration are not addressing the problem.

**THE CONTINENT IS  
HEADING TOWARDS  
A CRISIS OF POVERTY,  
INEQUALITY AND LACK  
OF RESOURCES FOR ITS  
CITY PEOPLE.**



Professor Pieterse, together with the University of Bristol's Dr Sean Fox, a contributor to Professor Pieterse and Professor Sue Parnell's recent edited volume *Africa's Urban Revolution*, argues that cities are actually expanding from within, owing to a decrease in mortality rates and an increase in fertility. Furthermore, rural development can actually increase, rather than decrease, the movement towards cities: people who migrate to cities tend to be young, healthy and aspirational, so improving conditions rurally and providing hope and education are likely, in fact, to create more of the kinds of individuals who are likely to move rather than stay where they are.

Furthermore, Africa has been identified globally as a potential growth market, which is encouraging the pattern of development even further. However, because cities are growing so rapidly, often they – and their structures – are not fully understood. In this environment, it is becoming crucial to build a knowledge base that interrogates the patterns, structures and likely outcomes of Africa's new urban centres.

Many scholars have pointed out the necessity of increasing the knowledge base surrounding Africa's cities. "Bad theory leads to bad policy," as Dr Fox puts it. Professor Parnell, an urban geographer in the Department of Environmental and Geographical Science, explains how the dearth of data on African urbanisation – ranging from a lack of

historical understanding to a basic lack of practical information, such as maps and censuses – can lead to poor policymaking. “We have not given adequate cognisance [to this area] ... Africans themselves have ignored the urban revolution,” she says.

Professor Parnell further points out that there is a critical lack of understanding of African economics. “We don’t understand the informal sector, so we stereotype,” she says. “We don’t understand Africa’s urban labour market very well.” There is also a tendency to inflate increases in wealth, because it is coming off such a low base, and there is a lack of knowledge about where to invest, she says. In this respect, however, corporates understand what academics have missed: the numbers, although they may be inaccurate, are “sufficiently large to be important”, and the economic future is, as Professor Parnell puts it, “opportunely urban”. Now the challenge is to understand how to leverage that.

The solution, believes Professor Pieterse, is a paradigm shift to a truly democratic urban environment, where people’s needs inform engineering plans instead of the other way around. But it is easier said than done, and the need for scholarly input is enormous.



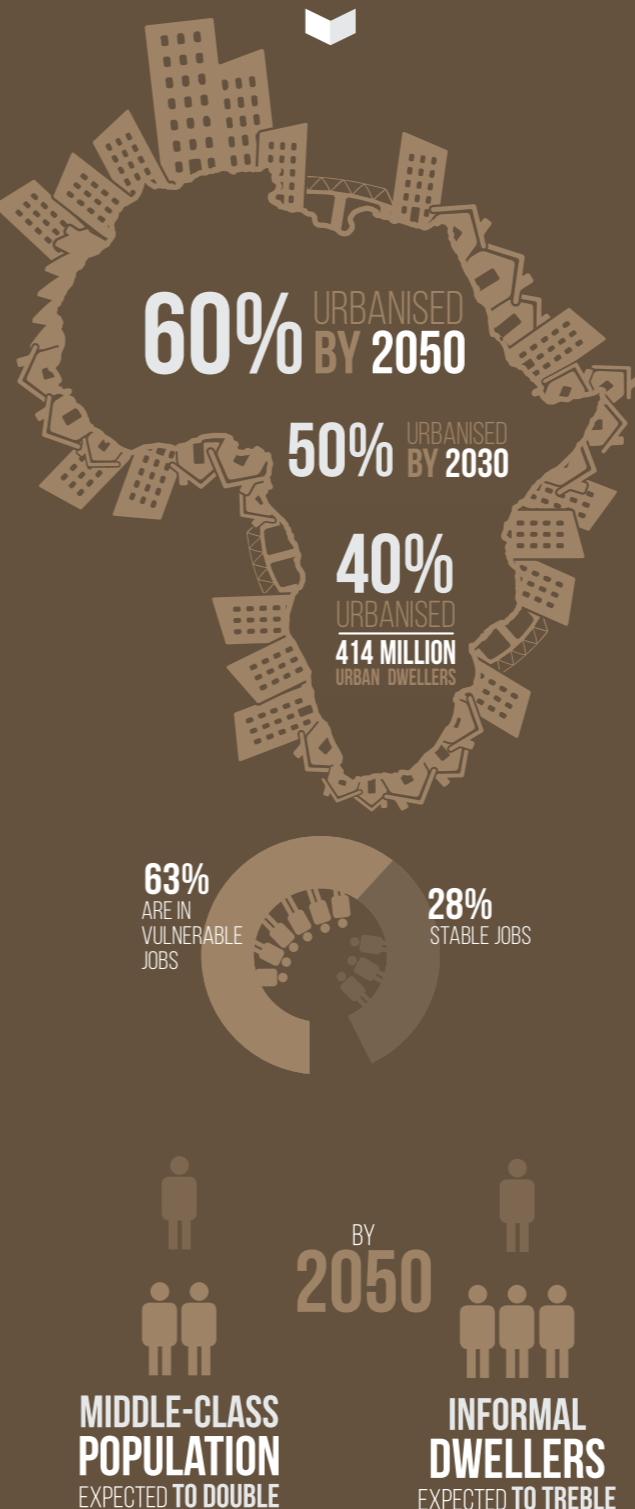
## GETTING BEYOND THE STEREOTYPES

One of the major challenges facing African urbanisation today is an anti-urban bias, believes Professor Parnell. “Ninety percent of the funding (from donors) will go to rural development,” she says. “This speaks of a definite anti-urban bias.” However, through the painstaking work of scholars and academics, attitudes and thought patterns are slowly changing.

Scholarship is also doing its bit in carving out a spot for Africa in what Professor Parnell calls the “international imagination” where, she believes, Africa has traditionally been sorely underrepresented. There is simply a lack of current understanding of Africa, says Professor Parnell, so “we need detailed, comprehensive histories”. Most importantly, we need this information for individual cities, because Africa is *not* a country. “We need to be careful that we don’t generalise about ‘the African city’.”

One of the major generalisations that have to be overcome is the belief that the African city is a slum city. This stereotype is an unhelpful designation. While there is poverty, and most Africans do not have a mortgage,

# URBAN AFRICA



many are, in fact, building themselves up slowly: there is a youth bulge, and rapid development. We may look back on this time very differently in decades to come.

## LIVEABLE CITIES

However, Professor Parnell warns that the crucial time is now: without access to basic services and unless it is ensured that individuals’ building methods on their homes enable upgrading, waste removal and sanitation for public health purposes, then slums will eventually develop. Again, she points out the need for engagement with a suitable knowledge base in order to ensure that livable cities are being constructed over time. “To assume planners can do everything on their own is deeply problematic,” she says.

Furthermore, there is a critical need to engage African cities with the global challenges of climate and environmental change. For instance, urban areas are where people are most dependent on, for example, dammed water, and disease profiles in cities are shifting because of temperature change.

THE SOLUTION IS A PARADIGM SHIFT TO A TRULY DEMOCRATIC URBAN ENVIRONMENT, WHERE PEOPLE’S NEEDS INFORM ENGINEERING PLANS INSTEAD OF THE OTHER WAY AROUND.



The challenge, of course, is to make this workable for all: for instance, Cape Town’s Green Point Common or the Promenade are attractive urban spaces, but they fail at being democratic because they are largely inaccessible to a large percentage of the population owing to distance and transport limitations.

A further complication is that of polylocality. There are many circular migrants in cities: people who extract what they need from the city economically, but invest elsewhere; or, to put it another way, they inhabit the city for working purposes but live, or set root, somewhere else, developing a split identity. This naturally has implications on housing policy and the broader economy. How are city planners and policymakers to tackle this when it is not a pattern

that is yet fully understood? The answer, once again, lies in developing a deeper understanding of these fast-developing patterns. There is little time to be lost in getting to grips with Africa's urbanisation process, particularly in breaking through stereotypes and establishing a high standard of scholarship in this rapidly developing field.

And develop it has to. "There is not enough potential in rural development," says Professor Parnell. "There is a lightness and optimism associated with the urban future, and I subscribe to that."

## INFORMAL SETTLEMENT UPGRADING HAS THE POTENTIAL TO ADDRESS A RANGE OF BASIC NEEDS OF URBAN RESIDENTS AND INCREASE THEIR PARTICIPATION IN URBAN DECISION-MAKING PROCESSES.



One of ACC's flagship projects is the innovative Sustainable Human Settlements CityLabs, which are a forum for the co-production of knowledge between academics, practitioners and civil society. Over the past 18 months, academics and practitioners have engaged in the eight active CityLabs focusing on Central City, Philippi, Urban Ecology, Urban Flooding, Human Settlements, Healthy Cities, Alcohol and Public Culture and Urban Violence.

During 2013, the CityLabs, in collaboration with the Isandla Institute, brought together researchers and practitioners to document and explore good practice in the upgrading of informal settlements. The lessons from several such interactions (or co-productions of knowledge) are being developed into a book on informal settlement upgrading in South Africa.

The research shows that informal settlement upgrading has the potential to address a range of basic needs of urban residents and increase their participation in urban decision-making processes. This is most likely to happen if upgrading projects are linked into broader urban development processes and form part of city-wide upgrading strategies.



Professor Edgar Pieterse.

## NEW PERSPECTIVES ON AFRICA'S URBAN REVOLUTION

An important new book, edited by professors Edgar Pieterse and Sue Parnell and featuring input from several scholars, has put African urbanisation firmly in the spotlight. Published in 2014 by Zed Books, *Africa's Urban Revolution* offers fresh perspectives on how to build more livable cities in Africa and brings readers up to date with current debates and research in the rapidly developing field of urban development.

At the Cape Town launch, Professor Pieterse pointed out that one of the key drivers behind the book was the sense that policymakers and political leaders were not willing to engage with substantive and qualitative aspects of the change taking place across Africa – and that there was therefore a need to convene some of the key voices that needed to be heard.

"We have access to an incredible array of scholars," he pointed out, adding that transport, climate change and food security, as well as the role of conflict in the development of cities, are all issues that need to be analysed in more depth – and which the book tackles as a starting point. "This is not the end of the story – it is very much the beginning," says Professor Pieterse.

The result of these combined studies is a book that is, according to reviewer Hannah Gibson, policy researcher at the Africa Research Institute, "a welcome and vital addition to a burgeoning field". By framing the issues at stake and providing a springboard for creating solutions, it is one of a number of engaging and readable solutions for scholars, stakeholders and practitioners alike.



## INVESTING IN CAPACITY DEVELOPMENT

Without strong local government, properly capacitated, the future of cities is in jeopardy. Professor Gordon Pirie, deputy director of the ACC, identifies a number of crises around city planning and the urgent need to begin teaching and writing about cities differently. One of these is a serious shortage of a professional cohort of city officials and technical experts, especially those trained to comprehend and deal with every aspect of hugely complex cities (in resource-constrained contexts), including finance, engineering, services and environment. Another is a shortage of urban professionals and practitioners (not just city planners); yet others are outdated urban training courses and outmoded public thinking and debate about cities.

All of these issues can, of course, be challenged, but it takes time and different ways of thinking. Among its many activities to redress this, the ACC runs an MPhil course directed at mid-career professionals interested in thinking differently about cities and upgrading their skills, ensuring that those in the field already can maintain freshness of thinking. It has also raised funds for the past three years to exchange doctoral students and Cape Town City officials in placements that are cross-fertilising ideas and action specifically in the areas of green economy, energy, climate change and the built environment, thereby ensuring that there is not a limiting gap between academics and practitioners.

## FUNDING FOOD SECURITY

In 2014, the African Centre for Cities (ACC) was awarded close to £2 million from the ESRC-DFID (Economic and Social Research Council – Department for International Development) joint fund for poverty alleviation research (Poverty in Urban Spaces theme) – a significant achievement and opportunity for research. The research team will be led by Vanessa Watson, professor of city planning in the School of Architecture, Planning and Geomatics and deputy dean of the Faculty of Engineering & the Built Environment. It will focus on urban poverty, specifically through the lens of food, in three secondary cities in Africa: Kisumu in Kenya, Kitwe in Zambia and Epworth in Zimbabwe. This work builds on existing ACC networks and partnerships, including the African Food Security Urban Network, the Association of African Planning Schools and Women in Informal Employment: Globalising and Organising.

The project aims to contribute to frontier research on the articulations and remediation of poverty in urban Africa, and the research is particularly innovative in its focus on food and on secondary cities. It anticipates theoretical and applied research contributions, in addition to academic capacity development within the region and the strengthening of local government institutions.

## EMPOWERING CITIZENS

However, even if the state were better capacitated, it could not, on its own, solve the problems presented by rapid urban development. Massive systemic reform is needed when it comes to making cities livable for all, says Professor Pirie. Specifically, it is through allowing widespread agency that the inequality gap can be tackled, and acceptable urban dwellings and facilities can be made for all. "It is not just a case of bypassing, but also of reforming the state to ensure an appropriate legal regime that has legitimacy when it is enforced," says Professor Parnell, a founding member of the ACC and member of its executive committee. "Across Africa there is an urgent need to empower residents and NGOs themselves to take charge – not just of building, upgrading or formalising the informal, but of processes that can help to create change."

"Citizens can be empowered to make representations, to debate and challenge local government, and to monitor inactivity, servicing and billing. Recourse to privatisation is not an option for poor people in cities."

To this end, the ACC aims to improve the level of public discourse – not only through the channels of open talks and public media, but also through a series of public-facing exhibitions that will take place in Cape Town throughout 2014.

"We want to invite other scholars and the public to engage with us to build some sort of critical mass [of knowledge] around this discourse," says Professor Pieterse. Professor Pirie agrees: "The ACC's purpose is to get people thinking imaginatively and progressively about cities. Often, African cities are seen as just too bewildering."

But, bewildering or not, as professors Parnell and Pieterse put it in *Africa's Urban Revolution*, "increasing levels of urbanisation are probably inevitable and must be confronted". There is no escaping the reality of Africa's rapidly growing cities, or the fact that development is not always occurring at the same rate. To prevent gross inequalities from being perpetuated, it is critical to have scholars, practitioners and the public working together to re-imagine the construction – and ongoing development – of Africa's cities. UCT's scholars are working overtime on a viable starting point. ■

## BUILDING A KNOWLEDGE BASE

Much of the research at UCT around cities is linked to the ACC. The initiative is focused on scholarship regarding the dynamics of unsustainable urbanisation processes in Africa, with a view to identifying system-wide responses. Professor Edgar Pieterse holds the DST/NRF SARChI Chair in Urban Policy, and leads a team of experts developing an Urban Development Framework for South Africa.

Professor Pieterse says the birth of the ACC came at a time when there was an increasing global discourse about urbanisation – and the question became unavoidable: why is there never an African voice?

The ACC seeks to be that voice and in seven short years has built an impressive record of scholarship and research.

Professor Pieterse believes it is possible to completely rethink the notion of resource allocation. "It's a story of widening inequality, of intensifying grinding poverty, and the intensification of disproportional risk on the part of the urban majority across the Global South," he says. He believes that if one combines the knowledge and creative power of

### THE ACC IS A MAJOR PLAYER IN CONTEMPORARY URBAN DISCOURSE INTERNATIONALLY.



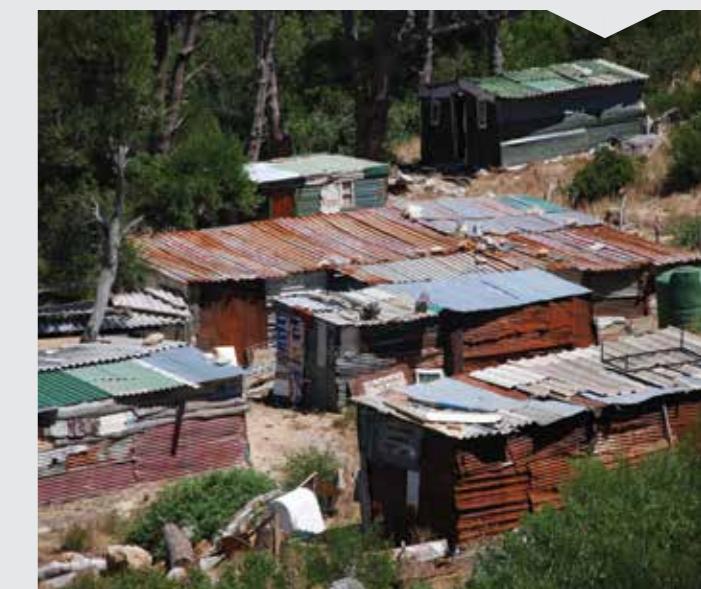
four types of people, this can be achieved. The first type is the philosopher-ethicist, who will provide the critical mass of knowledge needed. The second is the artist, who is in tune with the interior voice of human beings. The third type he refers to as the hacker, who is able to both master machinery and systems, and subvert these for a greater purpose. The final type would be the designer, whose creativity can make an urban space that works for everybody.

These principles certainly underpin some of the work done by the ACC, although its emphasis is considerably broader. Professor Gordon Pirie, deputy director of the ACC, says the ACC exists primarily to generate new knowledge about urban processes and provide an evidence base for making African cities more efficient, equitable and sustainable.

To this end, its purpose is to spread awareness among national and urban policymakers in Africa and globally about the many crises facing cities on the continent, and the potential that cities have to ease and resolve continental problems, such as poverty, inequality and climate change, as well as to build a new generation of urban scholars and practitioners.

For Professor Pirie, there is no shortage of achievements at the ACC. It has maintained an impressive record of publication since inception and has established itself as the pre-eminent hub of multidisciplinary urban research in Africa.

In the past year alone, several major publications have been produced by academics at the ACC, including *Africa's Urban Revolution*, edited by professors Pieterse and Parnell and published in 2014 by Zed Books, and *Rogue Urbanism: Emergent African Cities* (Jacana), which was edited by Professor Pieterse and AbdouMaliq Simone. According to Professor Pieterse, the books seek to get policymakers and political leaders to engage with the substantive and qualitative aspects of the African urban discourse. A third volume, *The Routledge Handbook on Cities of the Global South*, edited by Professor Parnell and Associate Professor Sophie Oldfield, published by Routledge in 2014, works towards a geographical alignment of urban studies, employing a southern



urban lens to stimulate scholarly discussion about and engagement with the city.

The ACC is a major player in contemporary urban discourse internationally and it continues to attract significant research grant income. As a result, it is a sought-after research partner, source of advisory services, and a go-to place for postgraduate researchers and established scholars.

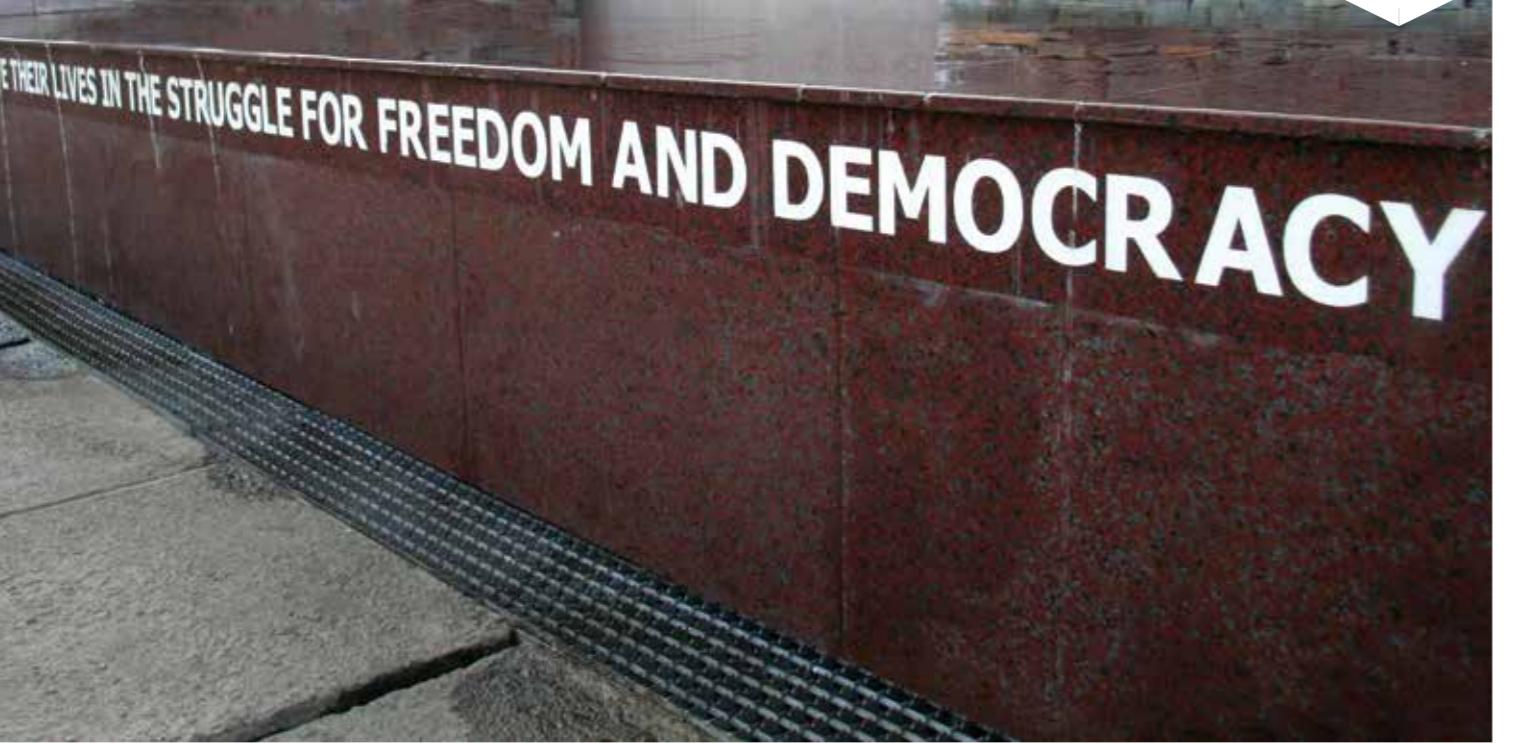


# DEMOCRACY AND GOOD GOVERNANCE



UCT has always been at the forefront of contributing to a united and democratic South Africa – through activism as well as research and analysis. Twenty years into democracy, academics and students across departments continue to be engaged in socially responsive work and research-based interventions, seeking to strengthen the rule of law and measure the progress of democratisation – both in South Africa and on the continent more broadly.

# BRINGING SOUTH AFRICA'S VISION FOR DEMOCRACY TO LIFE



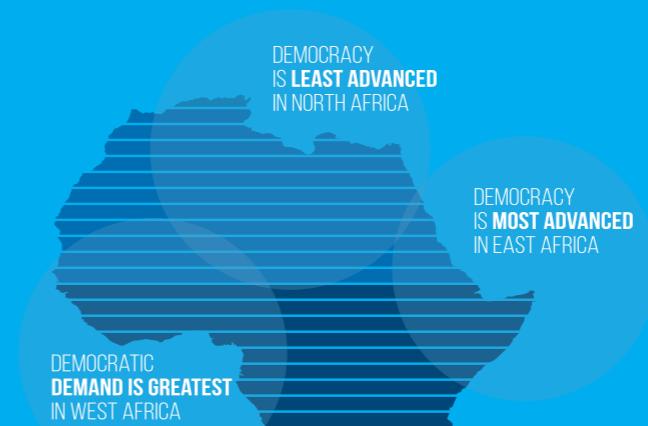
The year 2014 commemorates the 20<sup>th</sup> anniversary of South Africa's first free and fair election, marking the country's transition to democracy. One of the milestones of this peaceful transition, which ended the disenfranchisement of the majority of South Africans and the human rights abuses of apartheid, was the adoption of South Africa's new Constitution. Never envisaged as a once-off declaration, but rather as the blueprint for South Africa's ongoing transformation, the Constitution expresses the country's vision for a democratic and open society, founded on social justice and fundamental human rights, in which government is based on the will of the people and everyone is equal before the law.

The values of inclusiveness, equality, accountability, transparency and the commitment to the rule of law that shape South Africa's Constitution make up the criteria summed up by the term "good governance". Good-governance standards are used by international development agencies, watchdog non-governmental organisations (NGOs) and academics alike to measure the progress of democratisation.

The standards of good governance are also an important focus of research at UCT. Across the university, researchers are engaged in measuring and analysing a wide range of good governance indicators. Their work explores ways to strengthen the rule of law. It tries to understand the factors necessary for accountable leadership that champions citizens' rights and is fiscally responsible. The realities of equality are interrogated through, for example, the question of access to land, women's rights and socio-economic upliftment. The role of inclusiveness is explored and public participation, civil society and media, which give people a voice, are supported and encouraged. Researchers question how transparency and the free flow of information assist in fighting corruption and protecting whistleblowers, and Africa-wide research investigates how societies can create strong legislatures and examines the impact of elections on attitudes about democracy.

Much of this research takes place across disciplines and departments, as well as other institutions and organisations, drawing on cross-sections of expertise and knowledge to bring South Africa's vision for democracy to life.

# AFRICA AND DEMOCRACY



7 OUT OF  
**TEN**  
AFRICANS WANT DEMOCRACY



(PERCEPTION)  
AFROBAROMETER SURVEY OF 34 COUNTRIES IN 2013

## STRENGTHENING THE RULE OF LAW

The Democratic Governance and Rights Unit (DGRU), an applied research unit within the Department of Public Law, is an exemplar of the university's integrated approach to research. Established in 2004 in order to further increase the Faculty of Law's contribution to democracy and human rights in South Africa and the region, the unit is primarily concerned with the relationship between rights and governance in a way that Vanja Karth, DGRU programme manager, describes as "quality scholarly research informing the advocacy work done in collaboration with civic organisations".

Karth runs the Southern African Development Community (SADC) Judges' Support Programme, in partnership with Oxford University's Pro Bono Publico group. The aim of the project is to strengthen the rule of law and the independence of the judiciary in the region through the ongoing support of judges, by providing comparative research assistance. UCT postgraduate students get paid to do research for SADC judges and also get a chance to do clerking internships at courts during their vacations. Apart from the invaluable support this lends to the judges, the project offers the students practical experience of the kind of work they will be expected to perform when they enter the workplace. It also affords SADC judges the opportunity to complete a four- to six-week research stay at the Faculty of Law.

In 2013, the DGRU hosted the first SADC Judges' Forum, offering judges the space to discuss and debate issues of critical concern in an intellectually safe environment – an initiative that has won international recognition in the form of an award and a financial grant from the World Justice Project.

The Judges' Support Programme and the rule of law in the region were given a further boost by the decision in 2013 to house the Southern African and the African Legal Information Institutes (LIs) within the DGRU. The two LIs boast the largest online free-access collection of case law and legislation in Southern and sub-Saharan Africa. As legal materials in the region are expensive and hard to come by, the project opens up the possibility for any interested parties to source legal information from their computers and mobile devices at a reduced cost. There is a collaborative plan to provide offline access to African judges who struggle to obtain legal resources. This will enhance the level of research, resulting in improved judgments, and help to speed up access to justice. Providing the LIs with a scholarly home also ensures that the legal materials are reliably researched and edited, which will, in turn, benefit civil society and interested citizens.

## TRANSPARENCY AND JUDICIAL INDEPENDENCE

Strengthening the judiciary in this way is of great importance for democracy and good governance – not least because, too often, this crucial third branch of government comes under attack.

In South Africa, as in many democracies, two of the government's branches – the legislative and the executive – are accountable to voters. All but two cabinet ministers need to be appointed from among members of parliament. Recently the fact that the third branch, the judiciary, is not elected has been used in attempts to undermine judges' legitimacy, with the allegation that judicial officers do not have a democratic mandate. The argument has mainly been raised when courts have been critical of other branches of government. On the other hand, opposition parties are concerned that the ruling party might abuse its power to "pack" judicial posts with pro-executive candidates.

This is not just a theoretical worry: appointments are made on the basis of a recommendation by the Judicial Service Commission (JSC) which, in the current political balance in South Africa, can be dominated by members of the ruling party. Independent observers agree that, in order to maintain a separation of powers, the appointment process followed by the JSC needs to be as transparent and accountable as possible.

UCT can play a vital watchdog role in this regard, and DGRU researchers Tabeth Masengu and Chris Oxtoby do just that by compiling detailed reports of the judicial records of candidates shortlisted for judicial appointment. This assists the JSC and provides civil society and other interested stakeholders with an objective basis on which to assess candidates' suitability for appointment to the bench. The researchers monitor the JSC interviews and comment on issues such as fair questioning and the time allocated for candidate selection. The DGRU argues that allowing for a longer time between the announcement of the candidate shortlist and the interviews taking place would improve good governance by facilitating greater public participation in the judicial appointments process.

The data collected also form the basis for detailed and relevant research into the question of gender equity in judicial appointments. Women are under-represented on the bench, and the unit's work focuses on identifying and removing the barriers to gender transformation in the judiciary in South Africa.



## THE TWO LEGAL INFORMATION INSTITUTES HOUSED AT UCT BOAST THE LARGEST ONLINE FREE-ACCESS COLLECTION OF CASE LAW AND LEGISLATION IN SOUTHERN AND SUB-SAHARAN AFRICA.



Further concerns around judicial independence in South Africa were raised in 2013 when the Department of Justice and Constitutional Development awarded a tender to review the jurisprudence of the Constitutional Court and the Supreme Court of Appeal. The DGRU is conducting a parallel review, which aims to fill the gaps in the government brief. The unit's research centres on the courts' decisions during the period from 2009 to 2013, as well as government's compliance with instructions contained in court orders. At the same time, the research also looks into briefing patterns of advocates in the light of the mandate for transformation in the legal system regarding race and gender composition.

## TRANSFORMATION AND WOMEN'S EMPOWERMENT

In 2013, United States President Barack Obama visited UCT as part of his Africa trip. In his remarks to a full house in Jameson Hall, Obama reflected on the new model of partnership between the United States and Africa, and the importance of good governance and its relationship with economic development: "We're interested in investing, not in strongmen, but in strong institutions: independent judiciaries that can enforce the rule of law; honest police forces that can protect the peoples' interests instead of their own; an open government that can bring transparency and accountability. And, yes, that's why we stand up for civil society – for journalists and NGOs, and community organisers and activists, who give people a voice. And that's why we support societies that empower women – because no country will reach its potential unless it draws on the talents of our wives and our mothers, and our sisters and our daughters."

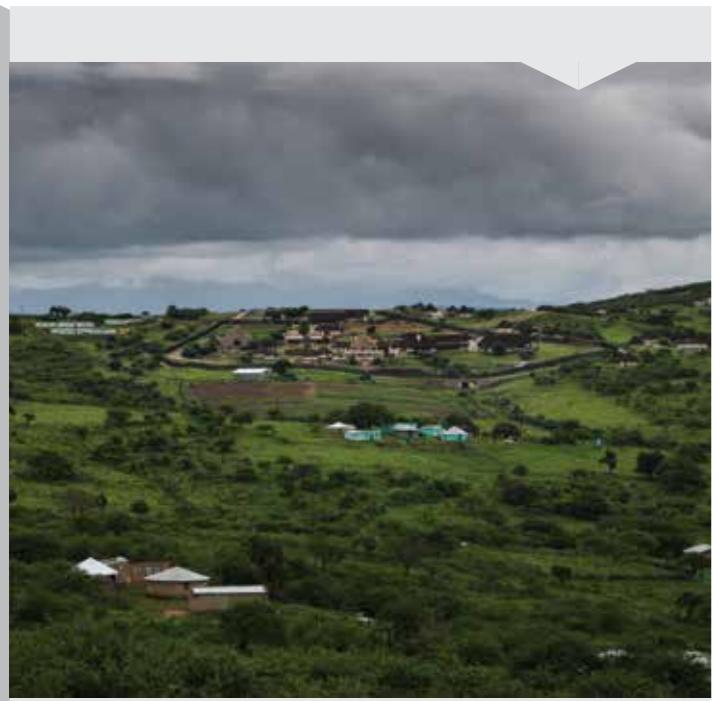
Obama's words speak directly to the work done by the Law School's Centre for Law and Society (CLS). The CLS has identified South Africa's rural women as particularly vulnerable and its Rural Women's Action Research (RWAR) programme consists of various projects to assist in protecting and realising

## UCT RESEARCH ASSISTS AFRICAN UNION WITH GOOD GOVERNANCE IMPLEMENTATION

In 2013, the Democratic Governance and Rights Unit (DGRU) and Democracy in Africa Research Unit (DARU) co-operated in co-ordinating research for the African Union carried out by members of the African Network of Constitutional Lawyers. Their findings on African Constitutionalism and the rule of law, including suggestions on how to improve the implementation of the African Charter on Democracy, Elections and Governance, were presented to the African Union by Richard Calland, associate professor in the Public Law Department and DGRU director, in Dakar in 2013.

women's rights. A recent successful example of its work was the lapsing of the Traditional Courts Bill, which threatened equal citizenship rights and women's rights in particular. When the bill was tabled, the CLS held a workshop in rural areas to find out about citizens' experiences regarding traditional courts and informing them of the implications of the bill. Together with partners in the Alliance for Rural Democracy, CLS made it possible for rural citizens to participate in the public participation process held in the provinces, as well as making submissions in parliament. CLS senior researcher Dr Mbongiseni Buthelezi describes the centre's role as "one of research, mobilisation and strategic litigation, as well as speaking with the people rather than on their behalf".

The bill was intended to apply in the geographical areas of the previous bantustans: arbitrarily delineated "homelands" created by the apartheid government where African people had to live. By defining areas where customary law is practised, but structures are inherited from the pre-democratic era, the bill would have further affirmed pre-existing boundaries. If the bill had become law, rural citizens in those areas would have been subject to a separate legal system with drastic powers vested in non-elected and non-accountable traditional chiefs. The bill would have concentrated power in the hands



## SPOTLIGHT ON NKANDLA UPGRADES

The Democratic Governance and Rights Unit (DGRU) has been playing a role in raising public awareness around "Nkandlagate".

DGRU research is focused on promoting access to information, theory and practice in South Africa. As part of this, in the *Mail & Guardian's* court case for access to information on security upgrades to President Zuma's private home in Nkandla, the unit made an *amicus curiae* submission (unsolicited information by a non-party to the lawsuit to assist the court).

The upgrades have come under intense scrutiny and criticism over the alleged non-accountable use of taxpayers' money for private interest. The newspaper's application for information had been declined, with the argument that Nkandla was one of South Africa's national key points and that disclosing the information would threaten national security. The DGRU submission contained comparative research on National Key Points and historical instances of denying access of information on the grounds of national security and secrecy arguments in South Africa and abroad.

At the end of April 2014, the Pretoria High Court found in favour of the *Mail & Guardian*, ordering the Minister of Public Works to provide the newspaper with a full set of documents regarding the Nkandla upgrade.

of senior traditional leaders and added powers that they did not traditionally hold under custom, such as being able to impose sanctions of forced labour or to deprive citizens of land rights without any right to appeal. Research by the CLS showed that women's rights would have been severely disadvantaged by the law, as they would have not been able to represent themselves in traditional court proceedings. There was no provision for legal representation and there were restricted options to solve conflicts through the normal court system. Because of the opposition encountered from rural women, the National Council of Provinces, South Africa's second legislative chamber, let the bill lapse.

Another bill that the CLS has identified as problematic is the Restitution of Land Rights Amendment Bill. Passed just before the 2014 national elections, the bill, which aims to empower traditional leaders, will be used to bolster the power of traditional leaders at the expense of those who were forcibly removed during apartheid, argues Dr Aninka Claasens, director of RWAR. Dr Claasens points out that large-scale transfers of land to traditional leaders will undermine the tenure security guaranteed under the Constitution for the most vulnerable, especially rural women. Land reform is an ongoing issue in South Africa. Threatening women's access to land perpetuates the existing inequality and adds to women's disenfranchisement in the context of traditional governance, she says.

The CLS is also involved in researching the implications of the Traditional Affairs Bill with its long-term partners from the Legal Resources Centre. The bill is another example of a law trying to centralise power with traditional leaders and exaggerating traditional leaders' roles in interpreting and shaping custom, instead of custom being defined by practice from the ground up.

In related work, the CLS's New Mining Programme researches and monitors mining agreements entered into by traditional leaders ostensibly representing rural people. The research has found that some traditional leaders are not accountable to their community, either in terms of decision-making or in terms of fiscal accountability. They enter into mining agreements without consulting the community and don't share the substantial licensing fees or royalty payments they receive. These traditional leaders are skewing customary governance for their own advantage and preventing the community from challenging the decisions made on their behalf.



## ACCOUNTABILITY AND THE FIGHT AGAINST CORRUPTION

Supporting authorities who don't serve their people and are not accountable carries the risk of fostering corruption. In his speech at UCT, President Obama pointed out that fighting corruption was a matter of self-interest and economics: "Economies with governments that respect the rights of their citizens and abide by the rule of law do better, grow faster, draw more investment than those who don't. That's just a fact."

THE PERCENTAGE OF ECONOMIC CRIMES IN SOUTH AFRICA DETECTED THROUGH WHISTLEBLOWING HAS MORE THAN HALVED IN THE PAST SEVEN YEARS.



It is concerning, then, that in South Africa, people who blow the whistle on corruption in government or the private sector not only risk being sidelined in their work or losing their jobs, but frequently also have to fear for their lives. As a consequence, the percentage of economic crimes in South Africa detected through whistleblowing has more than halved in the past seven years. The National Planning Commission is the latest body to have identified changes to whistleblower legislation as a prerequisite to good governance. Suggestions for reform include improving the protection of whistleblowers and making them eligible for financial rewards linked to the amounts involved in the crime. The DGRU's research on these so-called "bounty provisions" helped to frame the discussions at a 2013 round table that brought together government, state institutions supporting constitutional democracy and civil society organisations. The content and outcome of the debate fed straight into refining the DGRU's further research.

In South Africa in the past year, the Nkandla scandal (see far left) has seen the debate about corruption and accountability loom large in the public consciousness. The reluctance to deal with the Nkandla allegations, combined with the passing of the contentious Protection of State Information Bill, has raised questions nationally and internationally around South Africa's commitment to transparency and good governance.



Once again, UCT has not shied away from playing a key role in this debate. One of the most important independent tools measuring openness in South African society is the Open Society Foundation's *Open Society Monitoring Index*. The collection and analysis of the index's empirical data is conducted by the Democracy in Africa Research Unit (DARU), which is housed in the Centre for Social Science Research (CSSR) in the Faculty of Humanities. The index was launched in 2010 and publishes measurements of accountable and responsive government, free flow of information, adherence to the rule of law and fiscal accountability.

### DEMOCRATIC INSTITUTIONS AND THE PUBLIC PERCEPTION OF DEMOCRACY

Pointing to the importance of one of these measurements, the free flow of information in democracies, Professor Robert Mattes, DARU director, and Carlos Shenga, a PhD student and director of the Centre for Research on Governance and Development (CPGD) in Mozambique, published research in 2013 that showed that low-information societies, such as Mozambique, where the research was conducted, are likely to produce uncritical citizens and a low demand for democracy. Educational opportunities, independent media and electoral reforms towards a constituency-based system are identified by the researchers as key factors that might strengthen the demand for democracy in such societies.



A recent analysis by DARU of Afrobarometer data – another UCT-linked research project that measures public attitudes toward democratic and economic reform in 35 African countries – suggests that good governance, as embodied by the freeness and fairness of elections, has a far more important impact on citizens' perceptions of democracy than does economic performance or personal material well-being. It would appear that flawed elections reduce the demand for further democratisation – an important insight against the background of declining electoral quality in Africa after a period of relative improvement.

Afrobarometer is run in partnership with several African institutions, of which UCT, through DARU,

is one. DARU is increasingly responsible for the scientific parts of the project, especially sampling, fieldwork and data management; it also leads capacity building efforts in the project, and runs an annual CSSR-Afrobarometer Summer School at UCT, aimed at young researchers from Afrobarometer partner organisations, but also attended by growing numbers of UCT students. The Summer School is unique in the sense that it teaches research methods and social statistics, but also offers modules on substantive theories of democracy and governance in Africa.

Every year, DARU offers bursaries to approximately 10 UCT postgraduate students, who act as research assistants on the project and also receive hands-on experience in data entry and data analysis, as part of its effort to strengthen systematic and quantitative research. The students are able to use the data as part of their honours, master's or doctoral research.

Afrobarometer data provides a fascinating insight into how Africans themselves view democracy. The latest round of data, for instance, illustrate that seven out of 10 Africans want democracy and that demand for democracy has climbed from 36% in 2002 to 51% in 2012. However, less than 43% currently consider their country to be a democracy. The data will soon be used to contribute to and review the Index of African Governance compiled by the Mo Ibrahim Foundation, which wants to supplement its objective data on government performance

### RESEARCHING VOTER CHOICE

The run-up to and the results of South Africa's fifth democratic election have captured much national and international attention. The Democracy in Africa Research Unit (DARU) has conducted regular post-election surveys of voters, known as the South African National Election Study.

Recent DARU research, designed to be part of a larger international study known as the Comparative National Elections Project, has focused on the way political parties shape public attitudes towards democracy by stimulating voter interest and mobilising people to vote. The unit has also conducted post-election surveys in Mozambique and Kenya, and DARU hopes to extend this research further into Africa in the coming months.

with subjective data on citizens' experiences and evaluations. It has thus helped Afrobarometer to expand its work into other African countries.

Public opinion data from Afrobarometer also feeds into research by the African Legislatures Project (ALP) – a joint project between DARU and Bridgewater State University in the USA, which attempts to identify the key factors that influence the strength of legislative institutions.

**LOW-INFORMATION SOCIETIES ARE LIKELY TO PRODUCE UNCRITICAL CITIZENS AND A LOW DEMAND FOR DEMOCRACY.**



In order to better understand the role of legislatures in Africa's new democracies, ALP has collected data from and about members of parliament (MPs) in both constituency-based and party-representation systems across Africa. Research published in 2013 and 2014 shows that strong African parliaments (ie those that are able to check the executive, amend and delay government-initiated legislation and run their own

institution) are characterised by strong constitutional powers, where MPs see themselves as "institutionalists" and prioritise developing legislation and conducting oversight over representing their constituency or their party. These factors turn out to be more important determinants of a legislative chamber's strength than infrastructure or technical support.

### EQUALITY AND INCLUSIVENESS

While free and fair elections and the free flow of information may influence citizens' attitudes towards democracy, they are not in and of themselves sufficient conditions for a healthy democracy. Experience has shown all too vividly that continued or exacerbated social inequality in a country can lead to citizen dissatisfaction and increased political instability. This has become

evident in the intensifying service delivery protests and labour strikes that have marked the 2013/14 period in South Africa. Africa, by and large, continues to be a continent characterised by extremes and South Africa is leading the way. It is currently regarded as the most unequal society in the world with a Gini coefficient of around 0.69.

One of the problems is that economic growth on the continent does not necessarily lead to improving people's lives, as is evident from the Afrobarometer research in 2013. An analysis of the data co-published by DARU staff suggests that the high growth rates measured in some African nations in recent years have not, in fact, led to a reduction in the severe poverty experienced by the majority of those countries' citizens. Growth has failed to create

sufficient new jobs and the benefits have accrued to only a few individuals. In fact, there is evidence that, rather than improving the situation, such rapid economic expansion may exacerbate social inequalities and increase political instability.

**NO COUNTRY WILL REACH ITS POTENTIAL UNLESS IT DRAWS ON THE TALENTS OF OUR WIVES AND OUR MOTHERS, AND OUR SISTERS AND OUR DAUGHTERS.**



Another UCT unit working on the concern around the continued inequalities apparent in South African labour and land issues is the Centre for African Studies (CAS). Professor Lungisile Ntsebeza, CAS director and AC Jordan Chair of African Studies, who holds the DST/NRF SARCHI Chair in Land Reform and Democracy in South Africa, is teaching postgraduate courses in development, democracy, justice and inequality in South Africa and on the African continent. While his published work in 2013 focused on land reform in South Africa and the undoing of a century of dispossession, he is also instrumental in forging research partnerships with other African universities.

In 2014, researchers and students at CAS, including Professor Ntsebeza, have teamed up with the Surplus People Project (SPP) to do research on the conditions of farm workers and dwellers on commercial and game farms. The project focuses on labour and land issues, including the recent strikes in South Africa's agricultural sector. It will engage farm workers and activists involved in the struggle for democracy and the socio-economic upliftment of rural citizens, as well as government officials who formulate and implement policies that have far-reaching implications for society at large.

To mark South Africa's two decades of democracy, CAS is organising various review processes, including a colloquium, about the pace and extent of change and transformation. Topics focus on education and labour issues, as well as the land and language question.

### DEMOCRACY AS LIVED EXPERIENCE

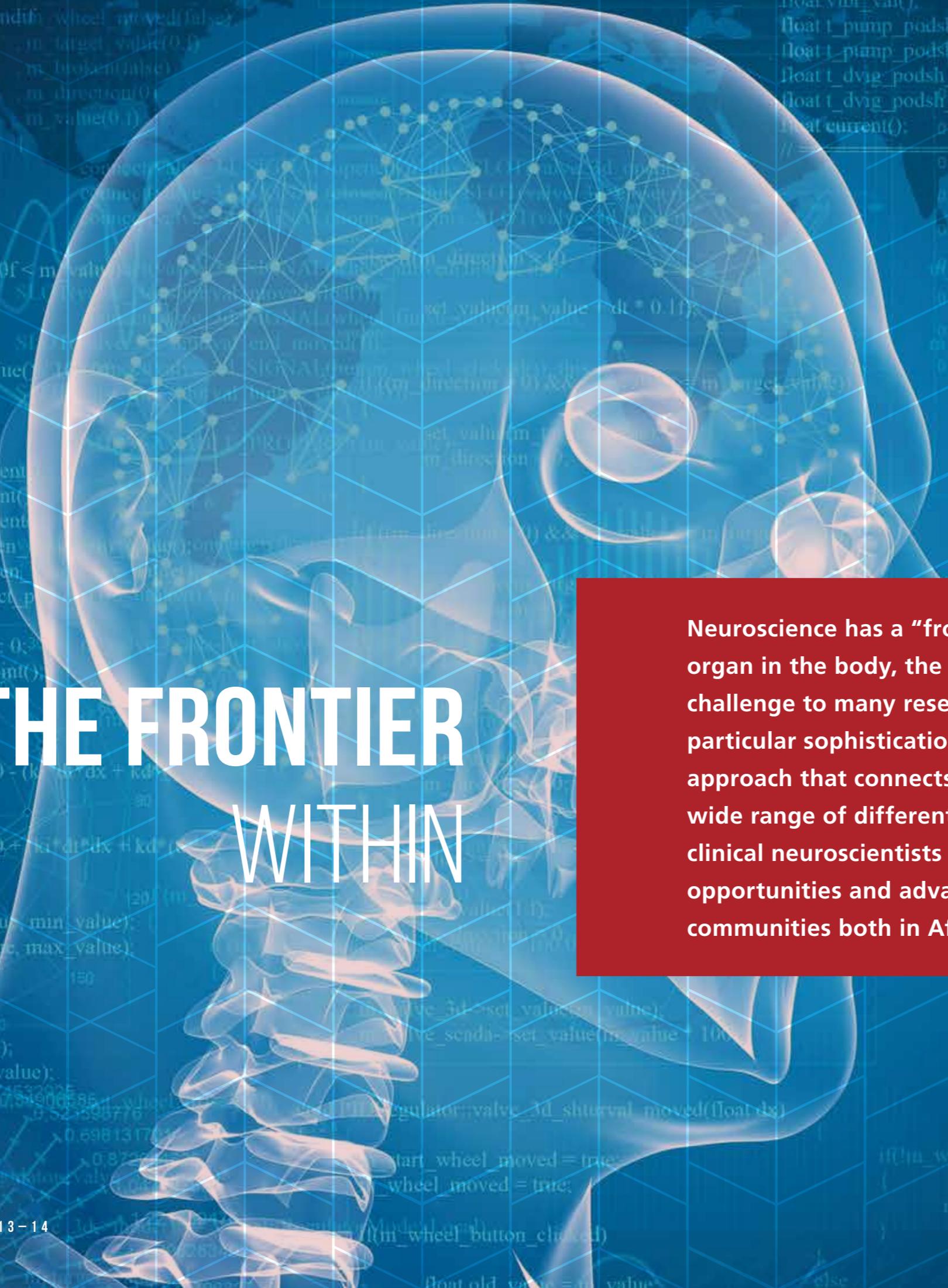
By providing such spotlight assessments, in addition to the ongoing research into judicial independence, women's rights, accountable governments, the free flow of information, elections and equality, CAS and the other UCT centres all attest to the fact that democracy will remain a concept on paper if it does not translate into the lived reality experienced by citizens. A guaranteed right to freedom of speech is meaningless if people don't exercise the right.

The research conducted at UCT contributes to this body of free speech, which assists Africans to participate in and create united and inclusive societies. The intellectual capital, research and teaching across UCT are helping to make South Africa's vision for an open and just society come alive, and will, it is hoped, continue to make a significant contribution to deepening the democratisation in the region as it moves into its next 20 years of democracy.





# THE FRONTIER WITHIN



Neuroscience has a “frontier” feel to it. The most complex organ in the body, the brain represents the ultimate challenge to many researchers and its study requires particular sophistication. Through a transdisciplinary approach that connects cutting-edge technology with a wide range of different scientific disciplines, basic and clinical neuroscientists at UCT are tapping into local opportunities and advancing research that has benefits for communities both in Africa and internationally.

# A NEW VIEW OF THE BRAIN: RELYING ON TRANSDISCIPLINARITY

The vast majority of brain and behavioural research worldwide has been done in WEIRD populations: that is, in regions of the world that are westernised, educated, industrialised, rich and democratic. Only a minority of such work has happened in African populations, despite the rich diversity of the continent's genes and cultures.

In addition, there is a major research gap when it comes to the mental health of African populations. More than 95% of research publications in the area of psychiatry emerge from high-income countries, even though the majority of those suffering from common mental disorders live in low- and middle-income countries.

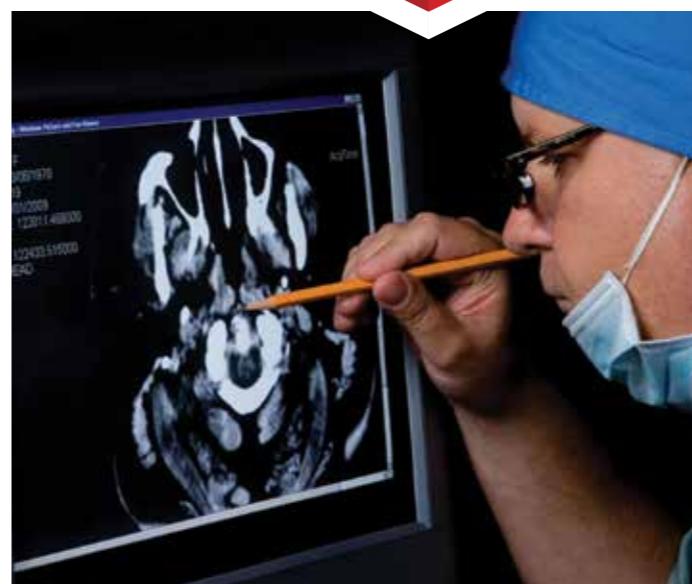
There is therefore enormous scope for basic and clinical neuroscientists in South Africa, not only to verify and corroborate existing data, but to add new information and take the field in novel directions. For example, there is a key opportunity for UCT researchers to study neuro-HIV, substance disorders, trauma- and stressor-related disorders, psychotic disorders and neurodevelopmental disorders. Given that the demographics of Africa are slanted towards the youth, and given the early age of onset of these disorders, there is a particular need to examine them early in life.

At the same time, the brain is enormously complex. To find answers to the most pressing questions within these areas, UCT scientists are embracing an inter- and transdisciplinary approach to research. Interdisciplinarity is an increasingly powerful approach to research that crosses disciplinary boundaries to create an holistic approach to data collection. It applies to research efforts focused on problems that cross the boundaries of two or more disciplines. Transdisciplinarity is an emerging idea in research that can suggest an even tighter synthesis creating a new intellectual framework, but is also applied to activities that reach outside the academic research environment to act in partnership with non-academic collaborators.

Brought together by developments in cutting-edge technology, such as brain imaging, experts from a number of different disciplines are able to frame problems collectively, acquire and interpret data, and generate significant findings that are reliant on and relevant to the local context.



THANKS TO A SINGLE INSTRUMENT, WE HAVE BEEN ABLE TO BRING TOGETHER A TEAM THAT HAS SPARKED COLLABORATION AND RESEARCH THAT WOULDN'T OTHERWISE HAVE HAPPENED.



## A CROSS-FACULTY COLLABORATIVE APPROACH

Leading some of UCT's most meaningful work in basic and clinical neuroscience is the Brain and Behaviour Initiative (BBI). One of the university's six Signature Themes, the BBI has three main arms of research: psychological trauma, substance use disorders and neuro-HIV.

Committed to a cross-faculty, collaborative approach to research in the cognitive and affective neurosciences, the BBI is not only generating new research data, but also creating a new framework within which scientists can achieve results. Many students in the BBI have supervisors from different departments and disciplines. In the last year, this interdisciplinary approach led to 27 peer-reviewed journal articles and one patent.

With technology such as the Siemens 3 Tesla Magnetom Allegra, housed at the Cape Universities Brain Imaging Centre (CUBIC) (see p125), BBI scientists integrate brain-imaging data, genetic testing and neuropsychological assessment in the hope of gaining new insights into key basic and clinical questions of relevance to South Africa and the continent.

"Brain-imaging technology has been essential for the success of the BBI project, as well as for the research productivity of a very diverse multidisciplinary team of basic and clinical scientists," says BBI director Professor Dan Stein.

"Thanks to a single instrument, we have been able to bring together a team that has sparked collaboration and research that wouldn't otherwise have happened. In that way, we are facilitating conversations between different experts in different departments," says Professor Ernesta Meintjes, who holds the DST/NRF SARChI Chair in Brain Imaging, located in the Medical Research Council (MRC) Medical Imaging Research Unit in the Department of Human Biology.

In neuroscience, understanding the structural and functional aspects of the brain and its development increasingly relies on the integration of multiple methodologies. Similarly, brain-imaging studies may require a successful conversation between imaging scientists, neuropsychologists and clinicians.

A co-ordinated research effort is required from start to finish, with psychiatrists generating patient samples, psychologists developing the paradigm that is measured during imaging, geneticists gathering DNA data on subjects being examined,

physicists fine-tuning the hardware and software of the imaging machine, and anatomy experts helping to analyse the resulting images.

### NEURO-HIV: A YOUTH PERSPECTIVE

Dr Jacqueline Hoare, director of the Division of Liaison Psychiatry in the Department of Psychiatry and Mental Health and co-director of the HIV Mental Health Unit, argues that her research would not be possible without an interdisciplinary approach: "Basic sciences, health sciences and human psychology: we are all working together as a team to create a conversation around what we're doing in neuroscience and what our results in the lab translate into in real life," she says.

Dr Hoare and her team are engaged in a groundbreaking study using diffusion tensor imaging (DTI) to examine the effects of HIV on cerebral white matter (nerve tissue) in HIV-positive children who are slow progressors of the disease. Slow progressors are defined as vertically infected HIV-positive adolescents who receive no or minimal antiretroviral therapy (ART).

Focusing on asymptomatic HIV-positive eight to 12-year-olds from the Western Cape, they are attempting to develop methodology and screening tools for a population group where data are relatively unknown.

According to Dr Hoare, it is believed that this is the first study to utilise DTI to examine the effects of HIV on white matter in slow progressors.

"The prospects of HIV-positive children surviving into adolescence have greatly improved, meaning that the number of these patients is on the increase. But what we do not know is the long-term effects of HIV on the brains of children who survive into adolescence and adulthood, and the effects of the virus on behaviour, brain cognition and, ultimately, adaptive functioning," explains Dr Hoare.

By establishing what effects HIV has on the brains of those in this group, Hoare says they can move on to developing a methodology and validating screening tools that can serve to motivate for children who test positive for neurocognitive disorders, despite their asymptomatic status, to get access to better care and ART.

**BASIC SCIENCES, HEALTH SCIENCES AND HUMAN PSYCHOLOGY; WE ARE ALL WORKING TOGETHER AS A TEAM TO CREATE A CONVERSATION AROUND WHAT WE'RE DOING IN NEUROSCIENCE AND WHAT OUR RESULTS IN THE LAB TRANSLATE INTO IN REAL LIFE.**



The Siemens 3 Tesla Magnetom Allegra is a compact, dedicated brain MRI scanner.

## LIFTING THE LID ON BRAIN IMAGING

The Siemens 3 Tesla Magnetom Allegra, the centrepiece of the brain-imaging capabilities at the Cape Universities Brain Imaging Centre (CUBIC), is currently the most advanced brain imaging instrument on the market.

Over its nearly seven-year history, access to this cutting-edge brain imaging has made possible multiple research projects in key areas, including neurocognitive effects of HIV, TB, medical drugs, alcohol, crystal methamphetamine (tik), foetal alcohol syndrome, psychological trauma and schizophrenia.

For researchers whose work centres on correlating what is seen clinically with vital structures in the brain, the CUBIC technology and its staff are invaluable. "Having access to the 3T scanner is tremendous and very few countries in the developing world have access to this technology," says Dr Jacqueline Hoare, director of the Division of Liaison Psychiatry in the Department of Psychiatry and Mental Health.

The CUBIC has also led to impressive growth in basic science research with improved imaging and analysis techniques. In a collaboration with the Centre for High Performance Computing, data archiving and analysis is facilitated on the largest computer cluster in Africa.

The core focus of the centre is collaborative neuroimaging research and establishing the CUBIC as a cutting-edge neuroimaging research facility. In this way, the centre aims to develop and foster technical expertise, publish results in peer-reviewed journals and strive towards better healthcare management in South Africa.

Part of a joint initiative between Siemens, Stellenbosch University, UCT and the Medical Research Council, the CUBIC is situated on the Stellenbosch University Health Sciences Campus.

"What we hope to do is make clinicians in the community aware of this cohort of children and provide them with rapid screening tools in order to pick up neurocognitive disorders and get them adequate treatment," says Dr Hoare.

According to Statistics South Africa, an estimated 63 000 new HIV infections amongst children from birth to 14 years old were recorded in 2011. Ten percent of the South African population is living with HIV, according to figures for 2013. Thus Dr Hoare's work is key to addressing local issues.

The brain-imaging technology available at the CUBIC is a significant benefit. "A lot of my work centres on correlating what is seen clinically with actual structures in the brain," says Dr Hoare. "Having access to the 3T scanner is tremendous and very few countries in the developing world have access to this technology."

### FROM HIV TO ALZHEIMER'S

The HIV-1 sub-type clade C, predominantly found in South Africa, has been investigated in only a handful of studies. Associate Professor John Joska, from the Division of Neuropsychiatry in the Department of Psychiatry and Mental Health and director of the HIV Mental Health Unit, and his team were among the first to publish an investigation of this unique population group and the neurocognitive outcomes in those receiving ART. The article was published in the *South African Medical Journal* in October 2013.

Cognitive impairments of varying severity, ranging from mild deficits evident only on formal cognitive testing to severe HIV-associated dementia, are prevalent in an estimated 30% to 60% of HIV-positive individuals. The incidence of milder forms of this spectrum of disease, known collectively as HIV-associated neurocognitive disorders (HAND), is on the increase in South Africa, despite access to ART.

One suggested explanation for this increase is the level of penetration of ART drugs into the central nervous system (CNS), particularly in South Africa, where changes to the South African Antiretroviral Guidelines in April 2010 introduced a new first-line regimen of ART that is better tolerated, but has a lower level of CNS penetration, which may be relevant to the incidence of HAND.

To investigate this, the researchers examined the CNS penetration effectiveness (CPE) of ART on patients from the Western Cape aged 18 to 35 who were infected with the HIV-1 sub-type. Results revealed improved cognition in those who adhered to ART regimens for one year, with no association between CNS penetration levels and drug effectiveness.

The findings are consistent with international studies that also showed no association between ART-regimen CPE and cognitive outcomes. Locally, the study gives reassurance to clinicians, as South Africa's current low CPE-scoring first-line regimen performed as well as higher CPE-scoring regimens.

This study forms part of a collaborative research programme into HIV-associated neurocognitive disorders by the departments of Psychiatry, Psychology, Neurology and Geriatric Medicine. According to study partner Professor Marc Combrinck from the Division of Geriatric Medicine, the value of this body of information extends to a broader understanding of cognitive impairment.

"Investigating the role of inflammation of the brain resulting from infections in the body, such as HIV, contributes to how we understand neurodegeneration that occurs both in HAND and in the degenerative disorders of older persons such as Alzheimer's disease," says Professor Combrinck.

"Although they work in different ways, the theme seems to be the same in both groups. If we can somehow limit the inflammation, we could potentially retard or slow the progression of neurodegenerative diseases."

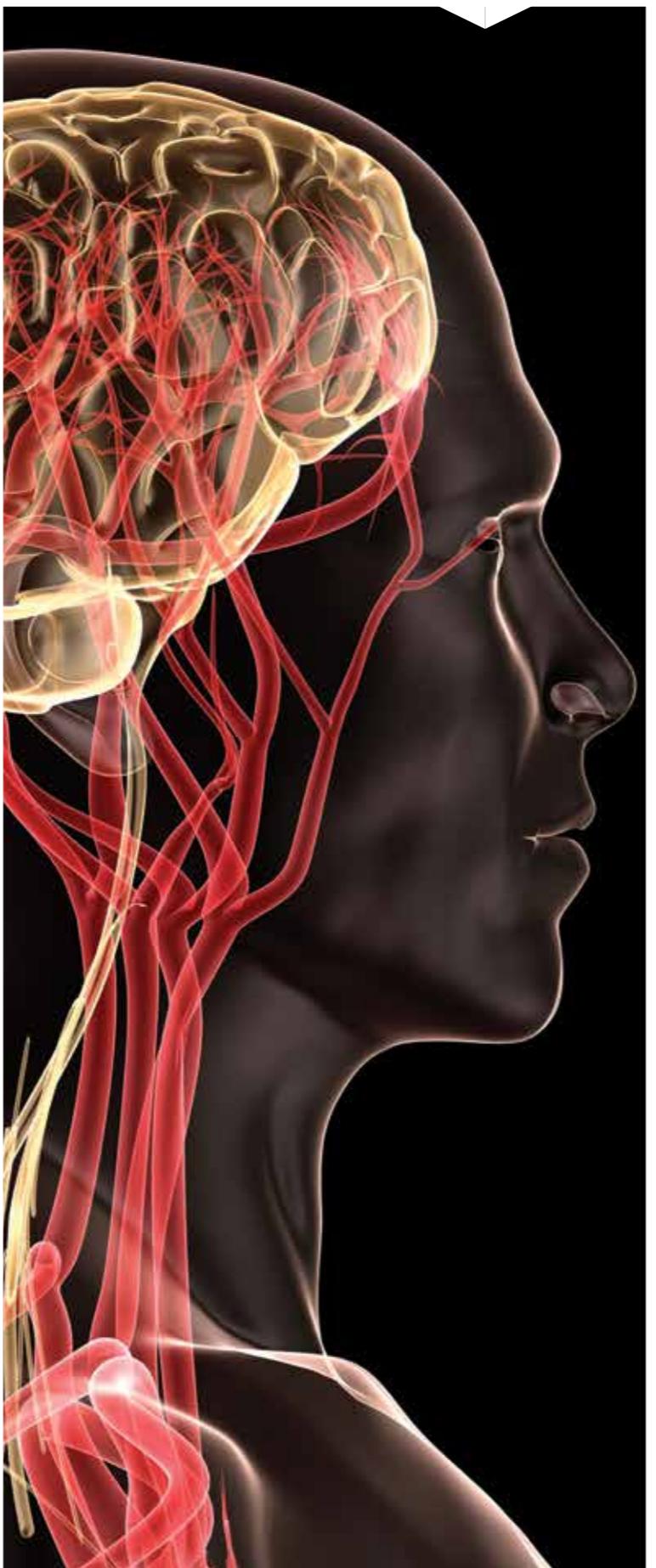
While studies have been done internationally to support the link between inflammation and Alzheimer's disease, the application of that thinking is a first for South Africa. "We are certainly the first people to look at this question on the continent and particularly in South Africa, where we have a high rate of HIV infection and systemic infections in general," says Professor Combrinck.

#### DRUGS AND THE DEVELOPING BRAIN

HIV infection is just one influence on neurodevelopment being investigated by UCT scientists. The effects of substance abuse are also a significant focus, with a particular interest in the impact on prenatal children and young adolescents.

Animal studies have shown that methamphetamine (MA) crosses the placenta of MA-exposed pregnant rodents, affecting the developing foetus and, in particular, the central nervous system (CNS). Furthermore, human studies have shown that MA crosses the human placenta, as well as the blood-brain barrier, to exert effects on the foetal brain.

"CNS development and maturation require a carefully patterned sequence of events and processes, more complex and extending over a longer period



than any other organ system. Thus, the CNS is particularly vulnerable to prenatal environmental influences," says Dr Kirsten Donald from the Division of Developmental Paediatrics in the Department of Paediatrics and Child Health.

With very few studies having looked at the longitudinal effects of substance exposure on the developing brain, Dr Donald has published work in the journal *Metabolic Brain Disease* in January 2014 using brain-imaging technology to identify potential changes in brain volumes and cortical thickness of six-year-old children from the Western Cape with prenatal MA-exposure.

COMBINING  
THE EXPERTISE OF A  
RANGE OF DISCIPLINES  
ALLOWS AN  
INTEGRATED AND FAR  
MORE SOPHISTICATED  
APPROACH TO  
THESE ISSUES.



"Measuring functional brain development is difficult, both because the brain is a complex, hierarchical system and because few non-invasive methods are optimised for infants and young children," says Dr Fleur Howells, a lecturer in neuroscience in the Department of Psychiatry and Mental Health, who is interested in the translation between basic and clinical neuroscience, and who has collaborated with Dr Donald.

The research done by a team of cognitive and neuroimaging neuroscientists, paediatric neurologists, developmental paediatricians and psychiatrists reveals that in-utero exposure to MA results in structural changes, mainly of striatal, parietal and temporal areas, with measurable differences between genders. In light of a global increase of MA use, this study is an example of the strategic placement of UCT to counteract a global dearth of research. This is not only because MA use is prevalent in South African communities, but also because the university has access to expertise and technology that makes investigating complex brain systems possible.

"Transdisciplinary collaboration is a huge advantage in this field, where an understanding of structural and functional aspects of brain development cannot be addressed using a single-dimension approach," says Dr Marcin Jankiewicz, director of CUBIC.

"Combining the expertise of a range of disciplines allows an integrated and far more sophisticated approach to these issues, both in terms of the methodology used to investigate neurobiological and functional effects of environmental exposure on early brain development, and by providing a broad context for interpretation of these findings and their potential significance," concurs Professor Colleen Adnams, head of the Division of Intellectual Disability in the Department of Psychiatry and Mental Health, who, like Professor Meintjes, has made major contributions to understanding the effects of alcohol on the developing brain.

#### A DIFFERENT KIND OF GENE POOL

Genetics plays a part in this collective approach to brain development research. Shareefa Dalvie, a PhD student in the Division of Human Genetics, supervised by its head, Professor Raj Ramesar, examines how genes interact with environmental measures to impact on brain volumes in adolescents with alcohol-use disorders (AUDs).

"Previous studies have indicated that early-life adversity, genetic factors and alcohol dependence (AD) are associated with reduced brain volume in adolescents," says Dalvie. "However, data on the interactive effects of early-life adversity, genetic factors and AD on brain structure in adolescents are limited."

To decode this, Dalvie is examining whether specific polymorphisms in particular candidate genes interact with childhood trauma to predict alterations in brain volume in adolescents with AUD. Combining genetics with neuroimaging and psychology, researchers assess participants for trauma using the Childhood Trauma Questionnaire in conjunction with brain-imaging results.

Although this investigation is currently in progress, the work adds to research Dalvie has already done in understanding AUD in the South African population. Alcohol use is prevalent in adolescents in the Western Cape, and so she has published on genetic polymorphisms that may increase risk in this population.

Despite the pervasive problem of AUDs, Dalvie says there has been a paucity of previous research investigating genetic variants associated with this phenotype in a

South African population. Her work therefore serves to increase the body of evidence investigating genetic variants and alcohol-use disorders in genetically admixed populations.

Various other doctoral students and postdoctoral fellows are also engaged in studies of genetics that are adding to body of work at UCT. Dr Nastassja Koen, project manager of the BBI, is doing her PhD in the area of the genetics of post-traumatic stress disorder (PTSD). Her project has attracted funding from the National Institutes of Health, and indeed, the range of funding obtained by different BBI investigators attests to the novelty and significance of this work.

Professor Jack van Honk, a lecturer in the Department of Psychiatry and the Institute of Infectious Disease and Molecular Medicine, confirms the value of studying South African populations. He has studied people with Urbach-Weithe disorder, a genetic condition that is associated with amygdala damage and is more commonly found in South Africa than elsewhere. His work has led to new insights into brain plasticity, and has been published in a range of prestigious journals (see p131).

## PRIZE WINNER SEEKS WAYS TO ROLL OUT LOW-COST MENTAL HEALTH CARE IN AFRICA

There is currently just one psychiatrist for every two million people on the continent, and one psychologist for every two-and-a-half million. At least 75% of people living with mental disorders in low- and middle-income countries have no evidence-based mental health care. "If you were to only use specialists to treat mental disorders in Africa, the queue would stretch halfway across the continent," says Associate Professor Crick Lund of the Department of Psychiatry and Mental Health.

Associate Professor Lund and his team at the Alan J Flisher Centre for Public Mental Health, of which he is director, are looking at ways of narrowing this treatment gap. One such project is AFFIRM (Africa Focus for Intervention Research in Mental Health), part of a global drive to find low-cost interventions

### LOCAL PROBLEMS, GLOBAL IMPACT

Much of this research involves collaborating, not only across disciplinary boundaries, but also across geographical boundaries.

It is notable that students from a number of different countries have been attracted to the BBI. Several international postdoctoral fellows have helped strengthen brain imaging locally. These include Dr Samantha Brooks from the UK and Dr Paul Taylor from the USA, each of whom has unique skills. Other postdoctoral research fellows, such as Dr Joe Ramondo and Dr Jonathan Ipser, have returned to South Africa after stints abroad. A European and South African Research Network in Anxiety Disorders (EUSARNAD) grant has been particularly helpful in encouraging academic exchange such as these (see p130).

An international research exchange involving the University of Southampton, UCT and 11 other institutions, EUSARNAD aims to develop a greater understanding of anxiety disorders and develop more effective treatments for patients.

by using non-specialist health workers to treat mental disorders in Africa. AFFIRM's work will contribute towards models of how to deliver low-cost mental health interventions, which will ultimately inform ministries of health across Africa. It is also building capacity in the area by funding fellowships for students from Ghana, Ethiopia, Uganda, Malawi and Zimbabwe to complete an MPhil in Public Mental Health at UCT.

Associate Professor Lund's research has a direct impact on policy and is, in many ways, the epitome of engaged scholarship. He received the Alan Pifer Award earlier this year – the Vice-Chancellor's annual prize in recognition of outstanding socially responsive research and one of UCT's most prized awards. Speaking at the award ceremony, Associate Professor Lund said: "This [award] is particularly important for me, not just personally, but also because it's an opportunity to draw attention to this neglected area of mental health.

"People who live with mental disorders are among, and continue to be among, the poorest, the most marginalised, the most disenfranchised members of our society, not just in South Africa but across the African continent."

## MENTAL ILLNESS AND TREATMENT IN AFRICA

1 PSYCHIATRIST FOR EVERY 2 MILLION



1 PSYCHOLOGIST FOR EVERY 2.5 MILLION

IF YOU WERE ONLY TO USE SPECIALISTS TO TREAT MENTAL DISORDERS IN AFRICA, THE QUEUE WOULD STRETCH HALFWAY ACROSS THE CONTINENT

The programme provides the opportunity for students involved in anxiety research to spend time in other countries learning new skills.

Professor Stein says that UCT is also attracting students from a number of African countries, including Kenya, Nigeria and Uganda. "The attraction is the range of work that we are doing at UCT, in that we address locally relevant problems, such as neuro-HIV, substance-use disorders and psychological trauma, using a broad range of cutting-edge methods," he says.

Using a transdisciplinary approach to address these problems, whether among the international exchange students or UCT's researchers, helps lay the groundwork for creating solutions. Indeed, the BBI is particularly well placed to explore the relationship between neuroscience and pertinent issues in public mental health in South Africa, Africa and beyond. "A lot of the public mental health focus is on low- and middle-income countries, where they don't have the opportunity to do things like brain imaging," says Professor Stein, "whereas we can combine imaging with issues that have real public health importance, like exposure to alcohol in pregnancy and depression, for example."

Associate Professor Kevin Thomas from the Department of Psychology, who has brought key neuropsychology expertise to many BBI projects, agrees. "We have the expertise and the technology to facilitate these conversations," he says.

According to Associate Professor Crick Lund, director of the Alan J Flisher Centre for Public Mental Health and head of the Division of Public Mental Health in the Department of Psychiatry and Mental Health, UCT's combination of strong academic resources and location makes it the logical conduit for research in sub-Saharan Africa on a variety of public mental health challenges. "Research can be incredibly powerful to inform policy," says Associate Professor Lund, who won the Alan Pifer Award in recognition of outstanding socially responsive research in 2013 (see left). The award is made annually by the Vice-Chancellor of UCT and is very much in the spirit of transdisciplinarity, which should include not only moving findings from bench to bedside, but also moving research from the bed to the broader society.

As part of a National Institute of Mental Health (NIMH) grant programme, UCT, under the leadership of Associate Professor Lund, is one of four regional research hubs collaborating to develop capacity and improve the delivery of cost-effective mental health interventions in sub-Saharan Africa. The other three are in South America, Ethiopia and South Asia.

"Through collaboration, we can use research to inform the scaling up of mental health services in African countries, so that we can provide African ministries of health with models to deliver low-cost mental health interventions," says Associate Professor Lund. His work, along with that of his colleagues, is also funded by the Department for International Development (DfID) in the UK and by the European Union, and has played an important role in influencing South Africa's recently published mental-health policy.

### BETTER UNDERSTANDING OF THE BRAIN

The value of basic and clinical neuroscience research to inform better standards of care is not limited to public mental health. Across the UCT campus, a good deal of work is being done to better understand the brain to enhance health outcomes.

Professor Anthony Figaji, head of the Paediatric Neurosurgery Unit in the Division of Neurosurgery, is doing exciting work in the area of paediatric neurosurgery. Internationally recognised for his work in the management of acute brain injury in children, he is currently also the head of Paediatric Neurosurgery at the Red Cross War Memorial Children's Hospital.

With a focus on coupling clinical expertise with innovative technology, Professor Figaji's work aims to improve the care of patients in acute coma and to grow the discipline of neurocritical care in South Africa. His work has initiated a comprehensive intraoperative neurophysiological monitoring programme to increase the safety of operating on tumours in high-risk areas

of the brain and the spinal cord, which was previously unavailable in South Africa.

Professor Mark Solms, head of the Department of Psychology in the Faculty of Humanities, has brought together psychoanalysis and neuroscience in seminal ways. One example is the work of Dr Melike Fourie, a postdoctoral fellow working with professors Solms, Stein and Pumla Gobodo-Madikizela of the University of the Free State, on mapping the brain's empathetic response to expressions of forgiveness and remorse in post-apartheid South Africa by exposing participants to similar scenarios to those seen at the hearings of the Truth and Reconciliation Commission (TRC).

Dr Fourie and her colleagues recently published a paper on how people who suffered significant childhood maltreatment may differ in their responses to empathy-inducing stimuli from individuals who did not experience childhood hardship.

Professor Don Ross, the Dean of Commerce, is developing the area of neuroeconomics at UCT – a field that brings together ideas and methods from neuroscience and economics to address key areas of relevance to South Africa, including substance use disorders and gambling.

In collaboration with Professor Harold Kincaid, another A-rated scholar in the School of Economics, Professor Ross has revealed interesting similarities between gambling and addiction in South Africa and in the developed world. The results of their study examining gambling and addiction in the informal settlement of

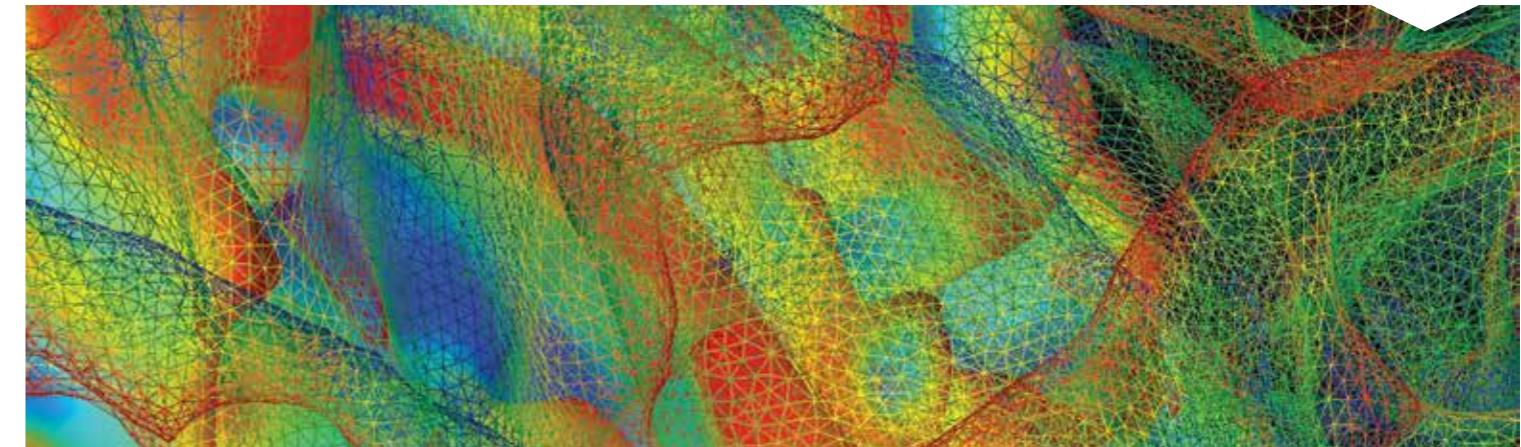
### A CO-ORDINATED RESPONSE TO ANXIETY DISORDERS

UCT is playing a major part in improving knowledge about anxiety disorders on an international scale. Through a partnership with the European and South African Research Network in Anxiety Disorders (EUSARNAD), the university is facilitating an international research exchange that aims to develop a greater understanding of these disorders and more effective treatments for patients.

The backbone of any effective treatment is rigorous, empirically tested data and a dedicated research team, according to EUSARNAD. To support this, the project brings together researchers from UCT and 11

other institutions to produce first-rate research. By placing individual exchange researchers in institutions with novel populations and methodologies, this international collaboration allows for greater attention to important questions about anxiety. The result is a stronger body of data that can be used to inform more effective care.

The EUSARNAD initiative was first launched in 2011 by David Baldwin, professor of psychiatry at the University of Southampton and honorary professor in the Department of Psychiatry and Mental Health at UCT, as the Anxiety Disorders Research Network. The collaboration originated within the network of a number of leading research centres in Europe and with support from the European College of Neuropsychopharmacology.



A visualisation of the brain showing the volume of the cortex. Image courtesy of the National Institute of Mental Health.

### LARGE-SCALE STUDIES OF DISEASE AND DISORDER SHOULD BE CARRIED OUT USING AFRICAN SAMPLES.



Khayelitsha show that the apparently high levels of pathological gambling in the community most likely reflect boredom owing to unemployment, rather than a true public health problem.

"As a very interesting sidelight of the project, quantitative estimates of risk preferences, based on experiments, found that the distribution of these preferences among Khayelitsha adults was very similar to what we observe in samples from rich countries," says Professor Ross. "That is, the overwhelming majority of subjects were moderately risk-averse. This is contrary to widespread expectations that poverty generates a wide range of relatively extreme responses to risk, from extreme risk aversion to recklessness."

This is just one more example of how research in an African context is helping to enrich a global understanding of the brain and human behaviour that is being translated into better treatment and better outcomes for people in a variety of contexts. Indeed, given that Africa, and particularly South Africa, has one of the most diverse human populations in the world, large-scale studies of disease and disorder should be carried out using African samples. Considering their vast expertise, access to cutting-edge technology and track record of collaborative research leadership, it stands to reason that UCT scientists are the ideally placed partners in the future of basic and clinical neuroscience discovery.

### NEW INSIGHT INTO THE ROLE OF THE "SOCIAL BRAIN"

Research led by Professor Jack van Honk from the Department of Psychiatry and Mental Health and the Institute of Infectious Disease and Molecular Medicine, together with collaborators from the Netherlands and a range of other countries, has brought new insight into the role of the amygdala or "social brain" through investigating a rare genetic developmental disorder that is found in South Africa.

Urbach-Wiethe Disease (UWD) has been reported in a community in the Namaqualand region, where 40% of the world's approximately 100 reported cases of the condition are found. Studying five female patients, Professor von Honk examined lesions of the basolateral amygdala characteristic of the disease to reveal that it made the patients hypervigilant for fearful expressions.

The findings have important implications for the understanding of the basolateral amygdala's role in an array of social behaviours, and especially its role in fear and anxiety disorders. Furthermore, they highlight the value of brain-imaging capabilities and the importance of UCT's geographic location.

"Cultural neuroscience holds promise for South Africa, given the genuine cultural diversity of the population and the modern neuroimaging infrastructure in Cape Town," says Professor von Honk, an NRF A-rated scholar, who published his work on UWD in *PNAS (Proceedings of the National Academy of Sciences of the United States of America)*, one of the world's most prestigious scientific journals, last year.



# INNOVATION IN HEALTH

The burden of disease in Africa remains one of the continent's biggest obstacles to progress. Researchers across UCT have stepped up the battle against the main health challenges facing the continent and are paving the way for significant breakthroughs – with vaccines, cures and workable treatments no longer a distant dream, but an imminent reality.

# PAVING THE WAY FOR A HEALTHIER CONTINENT

In its 2014 bulletin on world health statistics, the World Health Organisation (WHO) reports that the average life expectancy in sub-Saharan Africa for men and women is still below 55, despite global trends towards living longer. The risk of a child dying before its fifth birthday is eight times higher in the WHO Africa Region than in the WHO European Region.

The statistics point relentlessly to the fact that Africa's development remains severely hampered by disease. Sub-Saharan Africa is the region worst affected by HIV/AIDS. South Africa has the highest prevalence of the disease in the world: about 5.6 million people are currently living with HIV in South Africa.

The country also has one of the most serious tuberculosis (TB) epidemics in the world, coupled with a rising number of TB cases as a result of HIV and TB co-infection. TB is now the leading cause of death in South Africa and, according to some estimates, about 80% of the population has latent TB. Other serious infectious diseases include malaria, which kills two children every minute in Africa.

Non-communicable diseases (NCDs) are also on the rise. Heart disease, stroke, diabetes and some cancers currently contribute to 30% of deaths in South Africa. About 6.3 million South Africans have high blood pressure and three million have type 2 diabetes. In addition, wider access to antiretroviral therapy has transformed HIV/AIDS into a chronic disease, meaning people are living long enough to be at risk from NCDs.

## AT THE VANGUARD

Keenly aware of these statistics, the Faculty of Health Sciences is at the vanguard of the fight to contain the impact of disease on the continent. One of the largest and most prolific health faculties in Africa, it celebrated its 100<sup>th</sup> anniversary in 2012 and is moving into the next 100 years with some of the world's top research groupings poised to make a tangible difference to the health of millions of Africans.

It is also one of the most well-resourced faculties in the developing world, attracting significant investment in its research. A highlight in 2013 was the fact that UCT drew more funding for direct grants from the prestigious



National Institutes of Health (NIH) in the USA than any other non-American university in that year (see p144).

The NIH is the largest source of medical funding in the world. When asked at a recent international press conference why so many principal investigators in the projects it was funding were from South Africa, the answer, they said, was scientific quality.

The faculty is "the crown jewel of medical schools in South Africa", says its dean, Professor Wim de Villiers, who is proud of its place among the top medical schools in the world.

## INTERDISCIPLINARY STRENGTH

One of the strengths of the faculty is the ability of its researchers to work together across various platforms in multidisciplinary collaborations to achieve extraordinary results, says Professor Bongani Mayosi. He is head of the Department of Medicine, the largest department in the

faculty, which plays a leading role in medical education and research, as well as providing clinical services to the communities of the Western Cape.

"There are many examples of leading research in which we have made major discoveries that have deepened our understanding of biology based on the definition of new mechanisms of disease. We are also making an impact on the practice of medicine through the discovery of new diseases, and new ways of diagnosis and treatment of old diseases," says Professor Mayosi.

The Institute of Infectious Disease and Molecular Medicine (IDM) exemplifies the interdisciplinary nature of the work in the faculty. "We have a critical mass at UCT: a large number of people working at the intersection of the basic, clinical and public health sciences. We are developing a culture of working together instead of in silos," says Professor Valerie Mizrahi, who heads up the institute.

## AFRICAN INNOVATION IN AFRICAN HEALTH CARE

A unique collaboration between the UCT Faculty of Health Sciences and the UCT Graduate School of Business (GSB) was launched in 2013 to pioneer inclusive and innovative solutions to healthcare challenges in Africa.

Jointly based in the Bertha Centre for Social Innovation and Entrepreneurship at the GSB and in the Department of Medicine and Groote Schuur Hospital, the Inclusive Health Innovation Initiative (IHII) is a response to the complexity of the challenges facing health care.

"Now, more than ever, innovation is required to develop solutions that can improve the delivery of health care in Africa in an inclusive, effective and affordable manner," says Dr François Bonnici, director of the Bertha Centre. "These solutions must transcend current challenges in the system to improve health outcomes for patients, but also to change the routines, responsibility and values of our health workers responsible for delivering the care."

Kicking off its activities, the IHII hosted a summit in Cape Town in January 2014, the first of its kind in Africa, that gave international and local innovators, experts and influencers the opportunity to discuss



Dr François Bonnici, director of the Bertha Centre (second from left) with participants of South Africa's first-ever health hackathon.

and debate what healthcare innovation means in and for an African context. The summit was one of the first official events on the World Design Capital 2014 calendar, and was organised around the theme of "designing solutions, addressing needs".

The IHII also hosted the country's first health hackathon a week before the summit. Based on a proven international innovation model, this event exposed participants to the role technology can play in transforming healthcare delivery in an African context, and challenged participants to create and build innovative mobile health applications that addressed real and pressing health challenges.

The IDM celebrates its 10<sup>th</sup> year in 2014 and has become a hub for interdisciplinary collaboration. Almost a fifth of the university's research income is raised by members of the IDM, who are drawn from several departments in the Faculty of Health Sciences and the Faculty of Science.

### WORKING AT THE CUTTING EDGE

When talking about the burden of disease, Professor Mizrahi says, "It's not a pretty picture. The urgency of the medical need makes it essential to research new interventions and to learn as much as we can in the process."

The IDM has become known as a leader in the areas of HIV/AIDS, TB, TB-HIV, human papilloma virus and parasitic disease research, with more than 20 research

groupings, many of which have built a world-class reputation for their work in novel and innovative strategies to address disease in Africa.

One such group, the H3-D Drug Discovery and Development Centre, which is led by Professor Kelly Chibale from the Department of Chemistry in the Faculty of Science, is Africa's first integrated modern drug discovery and development centre whose objective is to deliver drug candidates for clinical development. In 2013, the centre completed a study that is set to find a novel, pre-clinical drug candidate for malaria. The same year, H3-D also received a major boost from Celgene Global Health (CGH), a division of Celgene Corporation, a global biopharmaceutical company, to help identify novel drugs for the treatment of TB. Under the collaborative agreement, Celgene will provide H3-D with compounds that target TB, and H3-D scientists

### RISING STAR



Associate Professor Graeme Meintjes.

Associate Professor Graeme Meintjes of the Department of Medicine received the European Developing Countries Clinical Trials Partnership (EDCTP) Rising Star Africa Award for 2013.

Meintjes attracted attention with his work in the field of HIV and TB research and he is the lead investigator on the randomised placebo-controlled trial of prednisone for the treatment of Tuberculosis-Immune Reconstitution Inflammatory Syndrome (TB-IRIS), which demonstrated that prednisone provides benefits in terms of reduced hospitalisation and improvement in symptoms.

This was the first clinical trial of IRIS treatment and the evidence has been incorporated into national and international guidelines. His work has defined the diagnostic approach to TB-IRIS, highlighting the importance of excluding drug-resistant TB. Professor Meintjes says there is definitely a need for TB-preventive therapy that, when added to ART, reduces the risk of TB by 37%, as reported in *The Lancet* recently by a team led by Dr Molebogeng Rangaka of the Clinical Infectious Diseases Research Initiative.

HIS WORK HAS DEFINED THE DIAGNOSTIC APPROACH TO TB-IRIS, HIGHLIGHTING THE IMPORTANCE OF EXCLUDING DRUG-RESISTANT TB.



Since 2005, Associate Professor Meintjes has also collaborated with researchers from St George's Hospital, London, on trials aimed at improving initial treatment of cryptococcal meningitis.

As a result of this research, he was asked to be a member of the WHO's Guidelines Development Group for guidelines on the diagnosis, prevention and management of cryptococcal infection in adults and children, thereby impacting policy and clinical practice in Africa.

## 10 YEARS OF RESEARCH EXCELLENCE

### THE INSTITUTE OF INFECTIOUS DISEASE & MOLECULAR MEDICINE (IDM)



WHERE WORLD-CLASS SCIENTISTS WORK COLLABORATIVELY TO TACKLE DISEASES OF IMPORTANCE IN AFRICA

will optimise these compounds to deliver pre-clinical candidates suitable for testing in humans.

H3-D will also benefit from a new R370 million biotechnology partnership between UCT and the South African Medical Research Council (MRC) with funding and support from the Bill and Melinda Gates Foundation, the Department of Science and Technology and the Department of Health. The partnership's purpose is to develop new medicines, vaccines and other biotechnologies to combat Africa's big killers: HIV/AIDS, TB and malaria.

### TB: A PERFECT STORM

Of the three, the disease that is the closest to home is TB. "There is more TB in Cape Town than in Canada, the US, France and Germany put together. And it's getting consistently worse," Emeritus Professor Robin Wood from the Department of Medicine said earlier in 2014, after he was awarded an A2 rating by the National Research Foundation, pegging him as a world leader in his field of HIV/AIDS and TB.

**THERE IS MORE TB IN CAPE TOWN THAN IN CANADA, THE US, FRANCE AND GERMANY PUT TOGETHER. AND IT'S GETTING CONSISTENTLY WORSE.**



Part of the problem is that TB has developed from being multidrug-resistant (MDR-TB) to extensively drug-resistant (XDR-TB), which is much harder to treat because the tuberculosis bacterium has become even more resistant. South Africa reports more cases of XDR-TB than any other country in the world.

H3-D is one of about 15 top research groupings across the university currently focusing its efforts on TB. The quest for a vaccine is one of the key drivers of the research and is fuelling a number of researchers in two IDM research groupings: the Clinical Infectious Diseases Research Initiative (CIDRI) and the South African Tuberculosis Vaccine Initiative (SATVI). But results are sometimes discouraging. In February 2013, *The Lancet* published results from a Phase IIb clinical trial evaluating the safety and efficacy of MVA85A, a candidate vaccine for preventing TB in infants, showing that a single dose was not sufficient to confer statistically significant

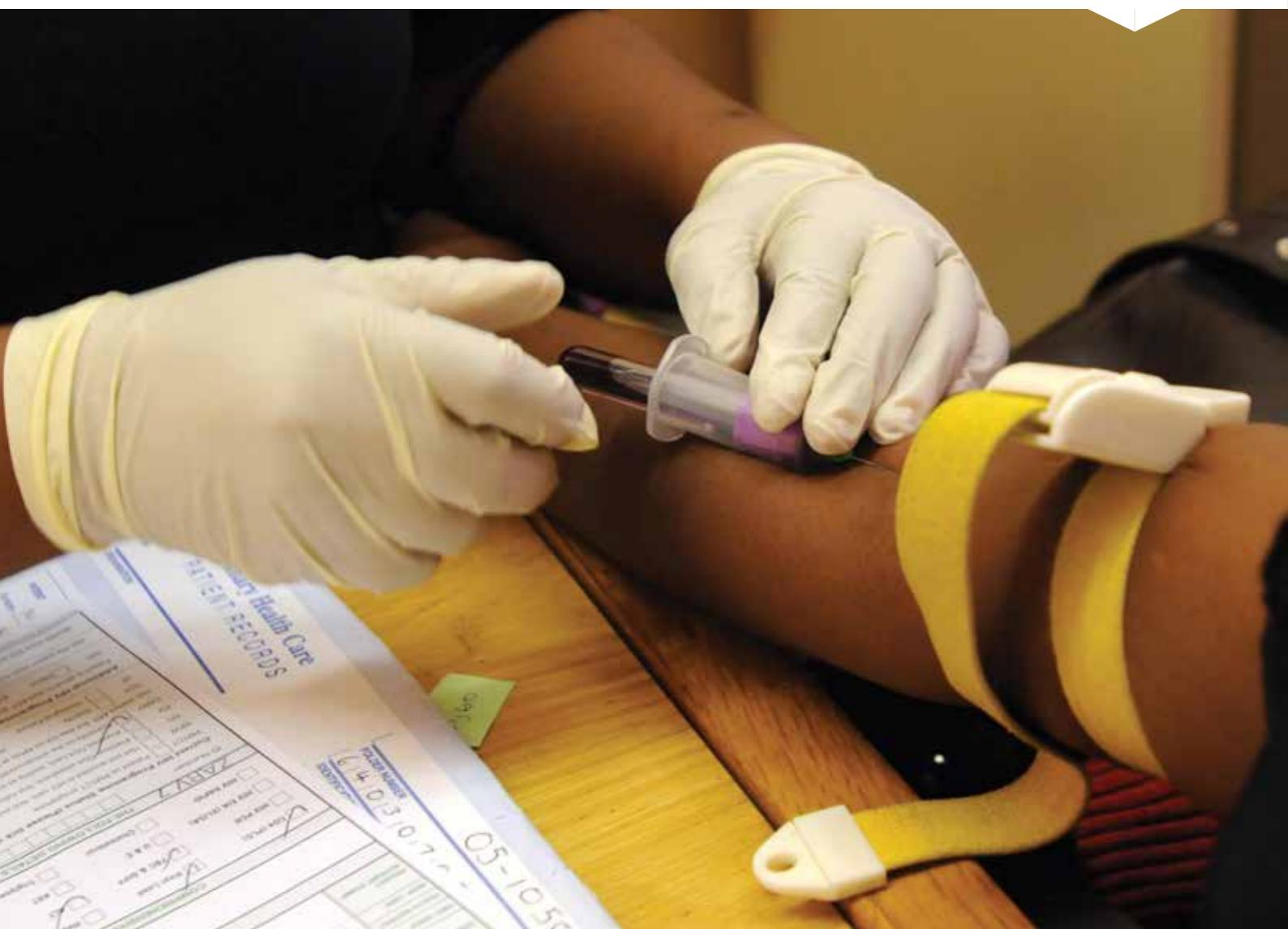
protection against TB or infection in infants vaccinated at birth with BCG (Bacillus Calmette-Guérin vaccine). Oxford University fellow Professor Helen McShane collaborated with Dr Michele Tameris, associate professors Mark Hatherill and Tom Scriba, Professor Willem Hanekom and others from SATVI on this landmark study.

Although the results disappointed in terms of efficacy, they provided critical information for shaping the global agenda for TB-vaccine research. With new funding from the MRC and NIH for TB-vaccine and drug-discovery research, UCT researchers are set to make important contributions in these areas.

While a vaccine is often seen as a silver bullet, more effective diagnosis and treatment of the disease at community level can play a fundamental role

in combating a disease. A study led by Professor Keertan Dheda, who heads the Lung Infection and Immunity Unit in the Department of Medicine at UCT and Groote Schuur Hospital, found that an innovative TB diagnostic tool developed in the US – the GeneXpert – can be placed in community clinics and operated by trained nurses to deliver quicker TB test results, resulting in a more rapid diagnosis and better prognosis for patients. This paves the way for using new tests in TB hot-spots such as prisons, mines and high-burden clinics where drug-resistant TB is common.

Another noteworthy project, spearheaded by Dr Malebogeng Rangaka, working with Professor Gary Maartens of the Division of Clinical Pharmacology and Professor Robert Wilkinson, director of CIDRI, showed a role for isoniazid preventive therapy



## PAPER IN THE LANCET ON INH PREVENTIVE THERAPY IN PATIENTS ON ANTIRETROVIRAL THERAPY

A trial of isoniazid preventive therapy (IPT) plus antiretroviral therapy (ART) to prevent TB has shown safety and efficacy in patients with HIV, according to a UCT research team, whose findings were published in *The Lancet* in 2014. TB is the biggest cause of morbidity and mortality in people infected with HIV in Africa. Both IPT and ART protect against TB in HIV-infected people, but it was not known if the two would give additional protection or could be safely combined.

The research team was headed up by Dr Malebogeng Rangaka and included clinic staff working for Médecins Sans Frontières (MSF) and the Western Cape Provincial Government, with supervision from Professor Gary Maartens and Professor Robert Wilkinson from the Department of Medicine. They conducted a trial of IPT in people on ART to prevent TB at Khayelitsha Site B Clinic in Cape Town. The addition of IPT was found to be safe and to reduce TB incidence by 37%.

Discussing the purpose of the study, Professor Maartens explains that it is well established that the risk of TB can also be reduced by IPT in HIV-infected people not on ART. However, ART also reduces the risk of TB. It was previously unknown whether isoniazid would give additional benefit and whether it was safe in patients on ART.

"These findings will change clinical practice and contribute immensely to the reduction of the scourge of TB. It is one of the highlights of research in the faculty in recent times," says Professor Bongani Mayosi, head of medicine.

The study was funded by the Department of Health, MSF, the Wellcome Trust and the European and Developing Countries Clinical Trials Partnership, while MSF were key partners in conducting the study.

in reducing the incidence of TB when added to antiretroviral therapy (see left). Dr Rangaka was awarded the London School of Hygiene and Tropical Medicine's prestigious Woodruff Medal for her PhD thesis on this work.

**TB IS A MONSTER, BUT IF WE WORK TOGETHER WE CAN FIND A MULTI-PRONGED SOLUTION TO CONTROL IT.**



"We have a perfect storm in the country for TB infection. But it is not hopeless. We have to remain positive and do what we can in our own way. We need to work together, including doctors, researchers and government officials, and put shoulders to the wheel. This is a 'monster', but if we work together we can find a multi-pronged solution to control it," says Professor Dheda.

### SLAYING THE HIV/AIDS DRAGON

A beast of almost equal proportions in Africa is HIV/AIDS, and the search for an effective vaccine is also at the top of this research agenda.

Considerable progress has been made, with two HIV vaccines developed in the laboratories of professors Anna-Lise Williamson and Carolyn Williamson under the auspices of the South African Aids Vaccine Initiative (SAAVI) in the IDM, which have been tested in the USA and SA as part of the HIV Vaccine Trials Network. The results are now being collated and at the time of writing were about to be released to the international research community.

The two lead researchers behind these vaccines have in the meanwhile continued to push the boundaries of science. Professor Anna-Lise Williamson, who is the principal investigator in the HIV Vaccine Development Group and the Human Papillomavirus Research Group, and joint staff member of the IDM and the National Health Laboratory Services, published research in 2013 on the high rate of multiple concurrent human papillomavirus infections among HIV-infected South African adolescents. Professor Carolyn Williamson, who heads the Division of Medical Virology and is also a member of the IDM, was involved with colleagues in studies tracking viral evolution in HIV-infected individuals leading to new discoveries for approaches to preventing the disease.

A critical barrier in the development of an HIV vaccine is the identification of mechanisms to generate antibodies through vaccination that can neutralise an array of HIV variants. Professor Williamson was involved in the discovery of how changes in the position of sugar moieties (a portion or part of a molecule) on the surface of the virus can result in the development of these types of antibodies, providing a potential approach that can be recapitulated through vaccination.

Her group also identified superinfection with a second HIV strain in a woman in KwaZulu-Natal who responded to her HIV infection by making antibodies that researchers were able to identify and clone. The antibodies, called broadly neutralising antibodies, are particularly potent because they can kill multiple strains of HIV. The cloned antibodies were then used in a series of experiments in the laboratory to understand the development pathway followed by the woman's immune system to make these potent HIV-neutralising antibodies. This work is crucial as it points to the discovery of mechanisms to elicit broadly neutralising antibodies through vaccination.

## NEW IDEAS IN THE FIELD OF HEART DISEASE

While TB and HIV tend to dominate the conversation around disease in Africa, UCT researchers are also engaged in leading research into NCDs. WHO statistics show that coronary ischaemic heart disease is one of the top three causes of premature death in the world today. According to the Heart and Stroke Foundation (South Africa), 33 people die of a heart attack each day in South Africa. UCT researchers from different disciplines such as surgery, engineering, biomaterials and cell biology are working on finding solutions to address the many issues surrounding this killer.

A recent boost to this research has been the installation of National Research Foundation-funded state-of-the-art intra-operative medical imaging equipment (a Philips Pulsera C-arm X-ray and angiography system and a General Electrics Vivid I portable cardiovascular ultrasound system) in the Cardiovascular Research Unit, which is enabling the study of therapies for heart attacks and subsequent heart failure. The development of an affordable prosthetic heart valve for easy implantation outside big medical centres that could benefit millions of South Africans and Africans with rheumatic heart diseases is also within reach.

Other interesting work by a team led by Dr Neil Davies at the Cardiovascular Research Unit may have found a solution for treating infarcted dead heart tissue. Currently, the only treatment for heart failure

## 33 PEOPLE DIE OF A HEART ATTACK EACH DAY IN SOUTH AFRICA.



is a heart transplant, but Dr Davies' work has shown that hydrogel injections can improve the heart's function after an infarction (tissue death) and prevent the heart's enlargement, the precursor of heart failure. This work has also shown that treating a patient several days after the infarct may be more beneficial than immediate biomaterial injection.

## BEHIND THE SCENES

Much of the work against these diseases, both infectious and chronic, takes place in quiet laboratories and university offices away from the frontlines of medical care, where fundamental research is helping to uncover new knowledge about how disease works.

Professor Mizrahi says that a "blue skies" element is absolutely critical in the battle against the burden of disease. "By understanding disease mechanisms at a fundamental level, we can contribute significantly to the development of new tools to control these diseases, be they diagnostics, vaccines or drugs. For me, there is nothing more rewarding than making a fundamental discovery that has an impact on how we think about disease pathogenesis," she says.

By understanding how infection works, a fuller picture of the disease is obtained, providing important answers for those working on protection against diseases like TB, agrees Professor Frank

Brombacher, who holds the DST/NRF SARChI Chair in the Immunology of Infectious Diseases in Africa. "Some of our findings will feed into translational research to develop efficient drugs and vaccines. Fundamental research is a requisite for translational research. When someone develops a new vaccine, very often it depends on the fundamental research.

"The nature of clinical human research is restricted in its experimental approaches. In contrast, experimental infection studies in mice and particularly in transgenic mice, developed by us and others, allow us to uncover the role of a candidate gene in a particular disease, like TB from the molecule to the whole organism," says Professor Brombacher. He is engaged in groundbreaking work on immunological mechanisms in experimental murine models for human diseases like TB, African trypanosomiasis, leishmaniasis and helminthic infections, including bilharzia, four of the top 10 diseases declared by WHO as threats to combat and all leading to chronic disease.

## THE URGENCY OF THE MEDICAL NEED MAKES IT ESSENTIAL TO RESEARCH NEW INTERVENTIONS AND TO LEARN AS MUCH AS WE CAN IN THE PROCESS.



Professor Brombacher has published more than 170 original papers and during 2013 made several important discoveries, for instance on leishmaniasis, where he demonstrated that IL-4-instructed dendritic cells are important for host resistance in cutaneous leishmaniasis. This is the most common form of leishmaniasis, a skin infection caused by a single-celled parasite that is transmitted by sandfly bites, which has notable implications for efficient vaccination.

In terms of helminth infection (caused by a worm-like parasite), Professor Brombacher and Dr William Horsnell of the Division of Immunology studied B-cell function in protective TH2 immunity against *N. brasiliensis* infection. The findings of the study showed that rational vaccination strategies against nematode parasites such as hookworms need to be developed with an understanding of primary and secondary immune responses, in order for mechanisms other than antibodies to be optimally protective.



Professor Brombacher and his team also showed that statins can increase protection against TB and listeriosis – important footwork for vaccine research.

### TRANSLATING RESEARCH INTO ACTION

Research excellence is not only about finding vaccines and testing drugs. It is also about developing programmes and solutions for community clinics and the national and provincial health departments regarding the diagnosis and treatment of health problems. UCT researchers are playing a pioneering role in translating research into policy and action.

The UCT-based Chronic Diseases Initiative in Africa (CDIA) has established itself as the group to consult in South Africa on NCDs. It played a significant role in advising the national Department of Health when South Africa became one of the first countries in the world in 2013 to regulate salt content in foods. South Africa has one of the highest levels of hidden salt in food in the world, which contributes to hypertension and obesity, and which in turn is a driver for heart disease, stroke and some cancers.

The CDIA's work is also serving as an incubator to develop and test innovations in NCD care with the potential to be rolled out across Africa. Research highlights in 2013 include the publication of the

SOUTH AFRICA HAS ONE OF THE HIGHEST LEVELS OF HIDDEN SALT IN FOOD IN THE WORLD, WHICH CONTRIBUTES TO HYPERTENSION AND OBESITY.



highly innovative Primary Care 101 guidelines on the management of NCD. The initiative was also involved with group diabetes education programmes, as well as the development of mobile technology to deliver SMS support to patients with hypertension to promote adherence to treatment. This work is being evaluated in a clinical trial in collaboration with researchers from Oxford University.

### FORWARD TO THE FUTURE

The many different kinds of research activity, interdisciplinary and international collaborations, as well as provincial and national success stories, illustrate why UCT is currently standing out as a place where major funders are coming to invest in long-term programmes. The university is also attracting students from across the globe, who benefit from working in world-class research groupings at the cutting edge of science and treatment.

A distinctive feature of working in South Africa on these diseases, where researchers have a special responsibility to contribute, is that the research becomes the vehicle through which top people in the field are developed. "Research and training are inextricably linked. This system has produced phenomenal people. Some have stayed with UCT and others have gone on to other universities. The impact of this 'seeding' effect is profound," says Professor Mizrahi.

UCT's role in the fight against disease is results-driven and on the cusp of making major discoveries, leading to potentially breakthrough treatments and paving the way towards a healthier continent. Professor Mayosi says, "We are facing formidable health challenges in Africa, but I'm optimistic about UCT's role and the researchers' ability to address these challenges. It turns out we are up to the task. In South Africa, at UCT, we have the intellectual power to deal with these problems, and we have the resources as well."



## PUTTING CHILDREN AT THE TOP OF THE HEALTH AGENDA

Child health is a major challenge for South Africa and for the continent, where there is high childhood mortality and preventable morbidity. There is an epidemic of infectious diseases such as pneumonia, diarrhoea and TB. Research in child health has been particularly under-resourced, given the large burden of disease and the high proportion of children in the South African population.

In October 2013, the Research Centre for Adolescent and Child Health (REACH) was opened at the Red Cross War Memorial Children's Hospital. This state-of-the-art expanded clinical research centre is devoted to child health and is headed by Professor Heather Zar, head of the Department of Paediatrics and Child Health in the Faculty of Health Sciences.

REACH is the first of its kind in Africa and also serves as a hub supporting other clinical research sites in the community and at other healthcare facilities, and contributing to the development of capacity in child health and in clinical research.

The centre has about 40 full-time members of staff funded through grant support, and has several local, national and international collaborations. It is undertaking research with an important impact on child health globally.

Studies currently under way address key health priorities such as childhood TB, pneumonia, whooping cough, HIV and adolescence, and diarrhoea. A unique birth cohort study, the Drakenstein Child Lung Health study, is currently under way in Paarl and is supported by this core centre.

This study, a first for Africa, investigates the determinants of child health from the antenatal period through birth and early childhood and includes a focus on maternal and paternal health.

## UCT ATTRACTS LION'S SHARE OF NIH DIRECT GRANTS

UCT's reputation for research excellence was endorsed with news in 2013 that the university attracted more funding for direct grants from the National Institutes of Health (NIH) than any other university in the world outside the USA. The NIH, the USA's medical research agency, is the largest source of medical funding in the world.

These research grants, which amount to more than US\$9 million, make it possible for UCT's researchers to tackle some of Africa's most intractable health problems, such as HIV, TB and malnutrition. Most of the projects are large in scale and many involve collaboration with partner universities elsewhere in Africa. The funding may come from the USA, but one of its most significant impacts is building capacity in Africa to address its own health problems.

### UNRAVELLING THE MYSTERIES OF SICKLE CELL ANAEMIA

Associate Professor Ambroise Wonkam, senior specialist in the Division of Human Genetics in the Faculty of Health Sciences, runs one such project focusing on sickle cell anaemia. "Seventy percent of those with the disease were born in Africa, yet 70% of what we know about it was discovered outside Africa," says Associate Professor Wonkam. "We in Africa have to solve these problems ourselves: it is our duty."

The immediate goal of Associate Professor Wonkam's project is to find out why some patients get sicker than others, despite having the same gene malformation. He and his colleagues are looking for variations in other parts of the genome: this will help determine which patients have the disease from birth, enabling early interventions, and may lead to developing a drug to treat it.

### SCHIZOPHRENIA IN THE XHOSEA POPULATION

Professor Dan Stein, head of the Department of Psychiatry and Mental Health, is leading a project on the genetics of schizophrenia in the Xhosa population of South Africa. Professor Stein says, "This project will be the first to use modern genomic sequencing approaches to study schizophrenia in a population of Sub-Saharan African lineage.

If successful, our approach will identify genes important for the disorder in populations worldwide ... and help develop more effective treatment and prevention strategies."



### HIV: ELIMINATING MOTHER-TO-CHILD TRANSMISSION

Dr Mary-Ann Davies, senior researcher at the Centre for Infectious Disease Epidemiology and Research (CIDER), is looking at closing the gaps in prevention of mother-to-child transmission of HIV coverage, early infant diagnosis and treatment. "Virtual elimination of transmission of HIV from mothers to their babies is within reach in South Africa. Despite high levels of HIV among pregnant mothers, transmission to their babies has been reduced to less than 2%," says Dr Davies. If there were no interventions, the figure would be closer to 30%, so the programme has been hugely successful. "Yet, elimination remains elusive, with up to 1 000 infants still acquiring HIV in the Western Cape each year."

### HIGH-CALIBRE RESEARCH

It is the calibre of the scientists leading these projects at UCT that is part of the secret to South Africa's outstanding success in attracting grants from the NIH. The NIH have said that scientific quality is one of the main reasons why so many of its funded projects are located in South Africa.

"They fund based on excellence," says Associate Professor Nicola Mulder, head of the Computational Biology Group that receives NIH funding for bioinformatics. "It is an equal, peer-reviewed process, in which reviewers score the proposals based on scientific excellence."

# FACULTY OF SCIENCE

**Research in the Faculty of Science continues to go from strength to strength. Against a backdrop of the increasingly integrated nature of research, the past year saw our publication output grow and the international impact of our work improve.**

# DEAN'S REPORT

## PROFESSOR ANTON LE ROEX



THE FACULTY'S RESEARCH OUTPUT CONTINUES TO GROW, BOTH IN QUANTITY AND QUALITY; ISI JOURNAL ARTICLES INCREASED BY SIX PERCENT OVER THE PREVIOUS YEAR.

**164<sup>♦</sup>**  
NRF-RATED RESEARCHERS

**R113.42M**  
VALUE OF RESEARCH CONTRACTS

**1 041<sup>^\circ</sup>**  
REGISTERED POSTGRADUATES

The vast majority of staff in the Faculty of Science are actively involved in research programmes, and are located within 12 separate departments arranged on disciplinary grounds. There are 16 formal research units and centres within the Faculty of Science that are accredited by the University Research Committee. The faculty also supports 11 senior scholars, 10 DST/NRF SARChI chairs, and 91 honorary research associates formally linked to departments.

These various staff, together with their postgraduate students, all contributed to the faculty's research output, which continues to grow, both in quantity and quality; ISI journal articles increased by six percent over the previous year.

A major development in 2013 was the merger of two previously separate departments, Botany and Zoology, to form the single Department of Biological Sciences. This important development reflects the change in nature of biological research where ecology, biodiversity and conservation biology increasingly reflect the integration of the previously separate disciplines of botany and zoology.

To facilitate their research, staff were successful in raising approximately R142 million from governmental and non-governmental sources, with income from the latter comprising close to R69 million of this total, 50% higher than that received in 2012. The number of research

contracts, at 226, was also significantly higher than in 2012 (145).

In addition, an injection of around R8 million from university sources was a very welcome relief to many in the faculty. Income from industry, government, public entities and statutory bodies was essential in providing bursaries to master's and PhD students, postdoctoral fellowships, salaries of research and support staff and project running expenses.

The number of postgraduate and postdoctoral researchers continued to grow, with 388 PhD and 459 master's students registered in the faculty, and 153 postdoctoral fellows spread across the departments. The number of doctoral degrees awarded in 2013 was 59, and there were 142 master's degrees, 22% of the latter with distinction.

Two postgraduate students who excelled in their studies were James Lee-Thorp, Department of Mathematics and Applied Mathematics, who received the Southern Africa Association for the Advancement of Science (S2A3) Medal for his master's dissertation *Spectral Continuation Study of the Temporally Periodic Solitons of the Damped-Driven Nonlinear Schrödinger Equations*, and Dr Neil Hart, Department of Oceanography, who received the Faculty of Science PhD Medal for his thesis *Synoptic-scale Rainfall Patterns over Southern Africa: Scale interactions with large-scale modes of variability*.

The faculty strives to continually improve the international impact of its research. The latter can be gauged in a number of ways, one being the 2013 Quacquarelli Symonds World University Rankings by subject, where we were placed in the band of 101 to 150 top universities for the Biological Sciences and for Environmental Science, and in the band 50 to 100 for the Earth and Marine Sciences.

Another, wholly numerical, way to evaluate impact is to consider field normalised citation data. The 2013 Mouton Report (commissioned by UCT) showed that 14 science faculty disciplines have field normalised citation scores greater than 1 (which is the world average). It is also noteworthy that, in 11 of the 14 fields, the proportion of science faculty papers in the top 10% of cited articles worldwide is higher than the expected 10%. At a national level, some 40% of academic staff in the faculty are rated by the National Research Foundation as either international leaders (A-rated), or having strong international reputations (B-rated) or being outstanding young researchers with the potential to become world leaders (P-rated).

Staff in the science faculty continued to garner international and national recognition in 2013 for their

research contributions. Professor William Bond, Harry Bolus Professor of Botany, was elected as a Foreign Associate of the National Academy of Science in the USA (see p149). Professor Anusuya Chinsamy-Turan, head of the Department of Biological Sciences, was the recipient of the World Academy of Science Sub-Saharan Africa prize for the Public Understanding and Popularisation of Science.

THIS IMPORTANT DEVELOPMENT REFLECTS THE CHANGE IN NATURE OF BIOLOGICAL RESEARCH WHERE ECOLOGY, BIODIVERSITY AND CONSERVATION BIOLOGY INCREASINGLY REFLECT THE INTEGRATION OF THE PREVIOUSLY SEPARATE DISCIPLINES OF BOTANY AND ZOOLOGY.



At a national level, Professor Kelly Chibale received the Medical Research Council Young Scientist Award (Silver Medal) in recognition of the excellence of his research in drug discovery, and specifically for leading the project team that discovered a potential new drug treatment for malaria (see p168).

Associate Professor Maano Ramutsindela, from the Department of Environmental and Geographical Science, received the prestigious National Research Foundation (NRF) Award for Transformation of the Science Cohort, which recognises black scientists for their efforts in overcoming challenges. The award is focused on transforming the science cohort to be more representative of South African demographics (see p149).

Dr Amanda Weltman, Department of Mathematics and Applied Mathematics, was awarded the Jubilee Silver Medal by the South African Institute of Physics. Professor Graeme Cumming, Department of Biological Sciences, won the prestigious S2A3 British-South Africa Association Medal (Silver) for his research on biodiversity and conservation biology (see p150).

Emeritus Associate Professor Jenny Day was awarded the South African Society of Aquatic Scientists Gold Medal – awarded on rare occasions in recognition of an exceptionally high standard of research in the aquatic sciences, or an exceptionally valuable contribution to the management, conservation or development of aquatic ecosystems or resources, over an extended period.

Within UCT, Dr Andrew Hamilton (Department of Physics) was the recipient of the College of Fellows Young Researcher Award for his research in high-energy particle physics, working in the ATLAS Collaboration at the European Centre for Nuclear Research (CERN) in Geneva.

## THE ACADEMIC STAFF IS SUPPORTED BY MANY HIGHLY SKILLED AND DEDICATED ADMINISTRATIVE AND TECHNICAL STAFF.



The number and variety of research projects of international interest being undertaken by staff in the science faculty are too many to report on in this general, high-level introduction. Nevertheless, a glance through the list of publications emanating from the faculty provides insight into the many varied and exciting research projects that came to fruition during 2013.

In addition to research articles, books and book chapters that were published, three major international conferences were held at UCT and organised by staff in the faculty in 2013: the "Sixth International Conference: Hard and electromagnetic probes of high-energy nuclear collisions" (Theoretical Physics), the "Fourth Annual Symposium on Computing for Development" (Computer Science), and the Sixth International Conference on Information and Communication Technologies and Development (Computer Science). These important conferences contributed to improving our international visibility as a faculty.

The quality and research performance of the academic staff is supported by many highly skilled and dedicated administrative and technical staff. They make an invaluable contribution to the research endeavour of the faculty and without their skills, the range of exciting research activities reported on here would not be possible.

## FIRST LIGHT



Associate Professor Patrick Woudt from the Department of Astronomy has co-authored the first scientific paper based on observations performed with South Africa's new KAT-7 radio telescope. The paper, which was accepted by the prestigious journal *Monthly Notices of the Royal Astronomy Society (MNRAS)*, was written with Dr Richard Armstrong, a UCT alumnus and Square Kilometre Array (SKA) South African Fellow at UCT, and Professor Rob Fender of the University of Southampton and a SKA visiting professor at UCT.

Titled "A Return to Strong Radio Flaring by Circinus X-1 Observed with the Karoo Array Telescope Test Array KAT-7", the paper reports on observations of the neutron star binary Circinus X-1 in December 2011 and January 2012, which caught two successive bright radio flares from this unusual binary system. The project was a joint effort with the HarteRAO radio telescope near Johannesburg and KAT-7.

South Africa is constructing MeerKAT, the 64-dish radio interferometer that serves as a precursor to the SKA. UCT researchers are leading four of the approved MeerKAT Key Science Projects, representing a quarter of MeerKAT time. One of these projects is the 3 000-hour ThunderKAT survey for astrophysical transients led by Associate Professor Woudt and Professor Fender, which will search for all types of radio bursts and flashes in KAT-7 and MeerKAT data on timescales from seconds to years.

Associate Professor Woudt obtained his PhD in Astronomy at UCT in 1998 and has published 74 peer-reviewed journal articles (27 as first author). His teaching and research career at UCT spans more than 12 years and includes supervising various BSc honours, MSc and PhD students. A member of the International Astronomical Union, Commission 19 (Astrophysics) of the International Union of Pure and Applied Physics and the Council of the South African Institute of Physics, he is the co-principal investigator of ThunderKAT.

## FYNBOS CHAMPION GETS THE NOD FROM NAS

William Bond, the Harry Bolus Professor of Botany in the Department of Biological Sciences, has become just the fifth African scientist and third South African to be elected as a foreign associate of the United States' National Academy of Sciences (NAS). This award was, in particular, for his major contributions to the understanding of savannah grasslands and the role of fire in shaping their ecology.



Professor Bond, an ecologist with an interest in the processes that control large-scale vegetation, joins an elite group of eminent scientists from around the world. The NAS, which celebrated its 150th anniversary last year, is an independent body of approximately 2 200 members and 400 foreign associates. Nearly 200 members of this prestigious body are Nobel laureates.

Professor Bond and his colleagues in South Africa and elsewhere have shown that wildfires are a major force in shaping global vegetation – and have been for many millions of years.

"African vegetation is particularly interesting and challenging to study because of the complex interplay between climate, fire, large mammal herbivores, people, and increasing CO<sub>2</sub>, the hidden hand of global change," said the National Research Foundation (NRF) A-rated researcher.

He joins Professor Richard Cowling, a conservation biologist at Nelson Mandela Metropolitan University, as the only two current South African foreign associates of the NAS. Africa (including Madagascar) has only four foreign associates. This year, Dr Meave Leakey from Kenya was also added as an associate.

## AGAINST THE ODDS

Associate Professor Maano Ramutsindela of the Department of Environmental and Geographical Science won a National Research Foundation (NRF) Special Category Award in 2013 in recognition of his efforts in overcoming major challenges to get to where he is today. The award is focused on transforming the science cohort to be more representative of South African demographics.

As many black South Africans scientists can attest, the path to academic success is not always a smooth one. No-one knows this better than Associate Professor Ramutsindela. Born to a poor Limpopo family of seven children, he started his schooling at age nine in a mud building. After matriculating, he spent a year working as a full-time teacher assistant to raise money for his university fees. Studying under apartheid conditions when his alma mater (University of the North) was under siege by the South African security forces, Ramutsindela nonetheless managed 11 subject distinctions and went on to complete his honours degree, going abroad to do his PhD at Royal Holloway College of the University of London on a Canon Collins Trust Scholarship.

At UCT, he became one of the first group of social scientists to be awarded an NRF P-rating for young



researchers (usually under 40) in 2002, the first black geographer to edit the *South African Geographical Journal* and the first African to be elected a Fellow of the Society of South African Geographers. His work to transform the field has extended globally. As editorial board member for several leading journals, Associate Professor Ramutsindela is the representative of and voice for Africa on environmental and geographical matters. He has also earned international recognition, including the Distinguished Hubert H Humphrey Visiting Chair at Macalester College in the US.

## IN THE HOT SEAT

Professor Daya Reddy has been elected as president of the Academy of Science of South Africa (ASSAf), a voluntary association of eminent South African scholars and scientists seeking to advance science in the country.



## TWO BIRDS IN THE HAND

Conservation biologist Professor Graeme Cumming had reason to celebrate in 2013 with two top awards coming his way.

In June 2013, UCT's Pola Pasvolsky Chair in Conservation Biology clinched a prestigious NSTF-BHP Billiton TW Kambule award for his individual contributions to science, through research, over a period of five to 10 years.

Four months later, the Southern Africa Association for the Advancement of Science (S2A3) awarded him the British Association Medal (silver) for 2013. For the past 81 years, the S2A3 medal has been one of the highest awards made to young Southern African scientists for original research, and recognises outstanding capability and achievements in publications, discoveries or special skills.

"It's nice to have the recognition that what we're doing is important – and it's nice to give the work we do some publicity and prominence," says Professor Cumming.

Although Professor Cumming is based in the Percy FitzPatrick Institute of African Ornithology (Department of Biological Sciences), birds are only one focus of his broad range of research interests, which span landscape ecology, conservation biology, community ecology, resilience and complex systems theory. Among the programmes he runs is one on water birds and disease,

Professor Reddy, who holds the DST/NRF SARChI Chair in Computational Mechanics in the Department of Mathematics and Applied Mathematics, was inaugurated as the president of the post late in 2012 and will hold it until 2016.

At ASSAf, he says he hopes to build on "the very solid foundation established by my predecessors". That will involve expanding the academy's international role, tackling substantive issues with kindred academies in Africa, the Americas, Asia and Europe. Another area he wants to expand is in relation to the academy's core mandate of providing evidence-based policy advice to government and other institutions, a commission in which Professor Reddy would like to see more ASSAf members involved.

In 2013, Professor Reddy also won the Georg Foster Research Award, worth €60 000, from the prestigious Alexander von Humboldt Foundation in Germany.



particularly avian influenza and avian malaria (birds are not vectors for human malaria) and potential vectors of human and avian influenza.

Avian flu has hit the ostrich industry hard. H5N2, a highly pathogenic strain, resulted in farmers culling large numbers of birds, particularly after the 2011 outbreak. To monitor this, Professor Cumming has been working with the state veterinarian on the movement of ostriches from farm to farm.

But much of his focus is on ducks as primary vectors of avian influenza. Using telemetry, ducks like Red-billed Teal and Egyptian Geese (which are actually a shelduck, a cross between a goose and a duck) are tagged to document their range and movements.

## DOCTORAL GRADUATIONS

### M.E.S. ABDELWAHAB (MATHEMATICS AND APPLIED MATHEMATICS)

Topics in modified gravity  
Supervised by Professor P. Dunsby

### A.H.A. ALFEDEEL (MATHEMATICS AND APPLIED MATHEMATICS)

The impact of inhomogeneity on the analysis of cosmological data  
Supervised by Professor C. Hellaby

### M.A.A. BAKHEET (MATHEMATICS AND APPLIED MATHEMATICS)

Two-patch herbivore/vegetation models with density-dependent migration  
Supervised by Dr H. Laurie

### E. BANDA (MOLECULAR AND CELL BIOLOGY)

Investigating the photoperiodic flowering of impatiens balsamina cv. Dwarf Bush flowered: for insights into the molecular basis for floral induction and reversion  
Supervised by Dr L. Roden

### F. BANDAMA (ARCHAEOLOGY)

The archaeology and technology of metal production in the Late Iron Age of the Southern Waterberg, Limpopo Province, South Africa  
Supervised by Dr S. Chirikure and Dr S. Hall

### O.K. BOYINBODE (COMPUTER SCIENCE)

Towards an interactive mobile lecturing model: a higher-level engagement for enhancing learning  
Supervised by Dr A. Bagula and Associate Professor D. Ng'ambi

### P. CHELLAN (CHEMISTRY)

The synthesis and study of multimetallic platinum group metal complexes as in vitro pharmacological agents  
Supervised by Dr G. Smith and Professor K. Chibale

### Y.S. CHEMERE (ARCHAEOLOGY)

Hominin technological behavior during the later middle Pleistocene in the Gademotta formation, main Ethiopian rift  
Supervised by Dr D. Braun and Professor J. Sealy

### C. CHEPKEN (COMPUTER SCIENCE)

Telecommuting in the developing world: a case of the day-labour market  
Supervised by Professor E. Blake and Professor G. Marsden

### E.R. CHIMUSA (MOLECULAR AND CELL BIOLOGY)

Mapping genes underlying ethnic differences in tuberculosis risk by linkage disequilibrium in the South African coloured population of the Western Cape  
Supervised by Associate Professor N. Mulder

### H.S. CLAYTON (CHEMISTRY)

Synthesis, structural studies, anticancer activity and computational studies of osmium arene complexes  
Supervised by Associate Professor A. Hutton and Dr G.S. Smith

### C. COLLINS (OCEANOGRAPHY)

The dynamics and physical processes of the Comoros Basin  
Supervised by Professor C. Reason and Dr J. Hermes

### O.E. CURTIS (BOTANY)

Management of critically endangered renosterveld fragments in the Overberg, South Africa  
Supervised by Professor W. Bond and Dr S. Todd

### C. EDMONDS-SMITH (CHEMISTRY)

The development of a process and quality control methods for conjugate vaccine against streptococcus pneumoniae serotype 1  
Supervised by Associate Professor N. Ravenscroft and Dr S. Wilson

### P.N. EZE (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)

Reconstruction of environmental and climate dynamics using multi-proxy evidence from palaeosols of the Western Cape, South Africa  
Supervised by Professor M. Meadows and Dr F. Eckardt

### B.S. FRANK (ASTRONOMY)

The dynamics of molecular gas in nearby galaxies  
Supervised by Professor C. Carignan, Professor W.J.G. de Block and Dr D. Sherperd

### J. FREDERICK (MOLECULAR AND CELL BIOLOGY)

Genetic characterization of Rhodococcus rhodochrous ATCC BAA-870 with emphasis on nitrile hydrolysing enzymes  
Supervised by Professor T. Sewell and Professor D. Brady

### L.A. GIBSON (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)

The application of the surface energy balance system model to estimate evapotranspiration in South Africa  
Supervised by Dr F. Eckardt, Dr C. Jarman and Dr Z. Su

### A.A. GIDELEW (MATHEMATICS AND APPLIED MATHEMATICS)

Beyond the concordance cosmology  
Supervised by Professor P. Dunsby

<b>S.W. GITAU (COMPUTER SCIENCE)</b> Designing ummeli a case for mediated design, a participatory approach to designing interactive systems for semi-literate users Supervised by Professor G. Marsden and Dr J. Donner	Supervised by Professor D. Britton and Professor M. Härtig	<b>A.M.K. NZIOKI (MATHEMATICS AND APPLIED MATHEMATICS)</b> A study of solutions and perturbations of spherically symmetric spacetimes in fourth order gravity Supervised by Professor P. Dunsby	Supervised by Associate Professor P. Ryan and Dr A. Jenkins
<b>B.J. GRIESHABER (MATHEMATICS AND APPLIED MATHEMATICS)</b> Locking-free discontinuous Galerkin methods for problems in elasticity, using linear and multilinear approximations Supervised by Professor D. Reddy	<b>T. MAHAMO (CHEMISTRY)</b> Iminophosphine complexes of palladium and platinum: catalysis and metallacycloalkanes synthesis Supervised by Dr G. Smith, Professor Dr K Lammertsma and Professor S.F. Mapolie	<b>S.M. OKANGA (BIOLOGICAL SCIENCES)</b> Influences of host community, water quality and urbanization on avian malaria ecology in South Africa Supervised by Professor G. Cumming and Professor P. Hockey	<b>J.M. SHELTON (BIOLOGICAL SCIENCES)</b> Impacts of non-native rainbow trout on stream food webs in the Cape Floristic Region, South Africa: integrating evidence from surveys and experiments Supervised by Emeritus Professor J. Day, Professor M.J. Samways and Dr S. Lowe
<b>J.F. GUAMBE (BIOLOGICAL SCIENCES)</b> An assessment of the use of nuclear microprobe techniques in pollution studies: quantification of elemental concentrations in fish scales Supervised by Emeritus Professor J. Day and Professor M. Mars	<b>G.A. MAURE (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)</b> Effects of biomass-burning aerosol loading on southern African climate Supervised by Dr M. Tadross and Professor B. Hewitson	<b>C.P. OLIVIER (MATHEMATICS AND APPLIED MATHEMATICS)</b> The direct scattering study of the parametrically driven nonlinear Schrödinger equation Supervised by Dr N. Alexeeva	<b>M.A. STANKIEWICZ (PHYSICS)</b> Physics of low and intermediate spin states of atomic nuclei in the mass A~160 region Supervised by Professor D. Aschman and Dr R.A. Bark
<b>I.F.M. HALO (OCEANOGRAPHY)</b> The Mozambique channel eddies: characteristics and mechanisms of formation Supervised by Dr I. Ansorge, Dr P. Penven and Dr S. Bernard	<b>M.M. MOHAJANE (CHEMISTRY)</b> Dipeptides as potential anti-inflammatory drugs for rheumatoid arthritis Supervised by Professor G. Jackson	<b>S.J. PERKINS (COMPUTER SCIENCE)</b> Field D* Pathfinding in weighted simplicial complexes Supervised by Dr P. Marais and Dr J. Gain	<b>H.C. STARK (MOLECULAR AND CELL BIOLOGY)</b> Targeted expression of the anti-HIV microbicide lectin griffithsin in maize and tobacco Supervised by Professor E. Rybicki and Dr R. Chikwamba
<b>C.D. JACK (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)</b> A Lagrangian moisture source attribution model and analysis of southern Africa Supervised by Professor B. Hewitson	<b>A.A. MULLER (OCEANOGRAPHY) CROSS-SHORE</b> exchange in the northern Benguela and the related role of upwelling filaments Supervised by Professor C. Reason, Dr V. Mohrholz and Dr M. Schmidt	<b>R.M. PHAROAH (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)</b> Sometimes I think the shack was better": examining flood-risk in subsidised housing areas in Cape Town Supervised by Associate Professor S. Oldfield and Dr A. Holloway	<b>J. TANGKUAMPIEN (COMPUTER SCIENCE)</b> A community-based approach to new medium integration in South African education: a combination of ICT4D process approach and ethnographic action research techniques Supervised by Professor G. Marsden
<b>D. JAPPIE-MAHOMED (CHEMISTRY)</b> Urinary glycosaminoglycans and their possible protective role in calcium oxalate kidney stone disease, with particular reference to the rarity of this condition in black South Africans: <i>in vitro</i> and <i>in vivo</i> investigations Supervised by Professor A. Rodgers and Associate Professor N. Ravenscroft	<b>G. MUNYUKI (CHEMISTRY)</b> Molecular mechanism of action of tyrocidine antimicrobial peptides using NMR spectroscopy and computational techniques Supervised by Professor G. Jackson and Dr G. Venter	<b>L.J. QUICK (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)</b> Late quaternary palaeoenvironments of the southern Cape, South Africa: palynological evidence from three coastal wetlands Supervised by Professor M. Meadows and Dr B.M. Chas	<b>A.M. THOMPSON (BIOLOGICAL SCIENCES)</b> Post-fledging begging and development in Southern pied babblers ( <i>Turdoides bicolor</i> ) Supervised by Associate Professor P. Ryan and Dr N. Raihani
<b>B.S. KAPLAN (BIOLOGICAL SCIENCES)</b> In pursuit of panacea: mitigating human-baboon conflict in the Cape Peninsula, South Africa Supervised by Associate Professor J. O'Riain	<b>M.M.A. MUSTAFA (COMPUTER SCIENCE)</b> Mixed-language Arabic-English information retrieval Supervised by Associate Professor H. Suleiman	<b>A.F. RAJOELIMANANA (ASTRONOMY)</b> Long-term properties of X-ray binaries in the magellanic clouds Supervised by Professor PA. Charles and Professor B. Warner	<b>O.C. UMEH (MATHEMATICS AND APPLIED MATHEMATICS)</b> The influence of structure formation on the evolution of the universe Supervised by Professor C. Clarkson and Professor G.F.R. Ellis
<b>I.M. LADEIRA (COMPUTER SCIENCE)</b> Simulating storyteller-audience interactions in digital storytelling: questions, exchange structures & story objects Supervised by Professor G. Marsden and Dr L. Green	<b>J.M. NYAGA (BIOLOGICAL SCIENCES)</b> Nutritional contribution of atmospheric deposition to the Strandveld vegetation of West Coast South Africa Supervised by Professor M. Cramer, Associate Professor J.C. Neff and Associate Professor J.S. Compton	<b>W.M.L. ROBINSON (MATHEMATICS AND APPLIED MATHEMATICS)</b> Modeling the impact of the South African small pelagic fishery on African penguin dynamics Supervised by Emeritus Professor D. Butterworth and Dr É. E Plagányi	<b>M.G. WALLACE (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)</b> Modelling the impact of future climate change on subregional wheat production in the Western Cape Supervised by Dr M. Tadross
<b>M.C. LAIRD (ZOOLOGY)</b> Taxonomy, systematics and biogeography of South African actiniaria and corallimorpharia Supervised by Professor C. Griffiths	<b>V. NYAU (MOLECULAR AND CELL BIOLOGY)</b> Nutraceutical antioxidant potential and polyphenolic profiles of the Zambian market classes of bambara groundnuts ( <i>Vigna subterranea</i> L. Verdc) and common beans ( <i>Phaseolus vulgaris</i> L.) Supervised by Professor J. Farrant and Dr J.R. Rodrigues	<b>M.I. SAMUELS (BOTANY)</b> Pastoral mobility in a variable and spatially constrained South African environment Supervised by Professor T. Hoffman and Dr N. Allsopp	<b>S. WILLIAMS (ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE)</b> Beyond rights: developing a conceptual framework for understanding access to coastal resources at Ebenhaeser and Covie, Western Cape, South Africa Supervised by Associate Professor M. Sowman and Professor T. Dietz
<b>B. MAGUNJE (PHYSICS)</b> Charge transport in printed silicon nanoparticle networks		<b>J.M. SHAW (ZOOLOGY)</b> Power line collisions in the Karoo: conserving Ludwig's bustard	<b>R.I. WILLIAMSON (OCEANOGRAPHY)</b> Estimating the spatial and temporal variability of primary production from a combination of <i>in situ</i> and remote sensing data: a southern Benguela case study

Supervised by Professor J. Field, Professor F.A. Shillington, Associate Professor A. Jarre and Dr A. Potgieter

#### Y. ZHANG (PHYSICS)

Applications of QCD sum rules at finite temperature  
Supervised by Professor C. Dominguez and Professor A. Peshier

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Chibale, K., Nchinda, A.T., Sturrock, E.D. Angiotensin I-Converting Enzyme (ACE) Inhibitors. National Phase Patent Application Canada 2,609,811.

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Egan, T.J., Hunter, R., Zishiri, V.K. Quinoline Compounds Containing A Dibemethin Group. National Phase Patent Application ARIPO AP/P/2011/005602.

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Le, H. Medium Access Control in Wireless Sensor Networks. National Phase Patent Application South Africa 2012/06813.

Rybicki, E.P., Tanzer, F.L. Expression System Incorporating a Capsid Promoter Sequence as an Enhancer of a Cytomegalovirus Promoter. National Phase Patent Application ARIPO AP/P/2008/004476.

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Rybicki, E.P., Varsani, A.D. Chimaeric Human Papillomavirus 16 L1 Virus Like Particles and a Method for Preparing the Particles. National Phase Patent Application Canada 2,486,450.

# DEPARTMENT OF ARCHAEOLOGY

**Head of Department: Emeritus Professor John Parkington**

## Departmental Profile

The Department of Archaeology is characterised by a diversity of well-established research interests. The Western Cape has a rich archaeological heritage which includes evidence of hunter-gatherer settlement, pastoralist communities and colonial settlers – all the subject of ongoing research. Further afield, the Department also has a research focus on the archaeology of early Tswana and Sotho-speaking agropastoralists, particularly in North West and the Free State. In addition, the Department is home to archaeometric and materials research, focussing on palaeoanthropology, past environments, early human diets and materials analysis.

## Departmental Statistics

### Permanent and long-term contract staff

Emeritus Professor	1
Professor	1
Associate Professor	1
Senior Lecturers	2
Lecturers	3
Technical Support Staff	2
Administrative and Clerical Staff	1
Departmental Assistant	1
Lab Assistant	1
<b>Total</b>	<b>13</b>

### Honorary staff

Honorary Research Associates	10
<b>Total</b>	<b>10</b>

### Students

Postdoctoral	2
Doctoral	14
Masters	10
Honours	9
Undergraduates	628
<b>Total</b>	<b>663</b>

## Research Fields and Staff

### Permanent Academic staff

**EMERITUS PROFESSOR JOHN PARKINGTON**  
Head of Department. Hunter-gatherers, palaeoenvironmental reconstruction and human ecology, prehistoric art, coastal archaeology

**PROFESSOR JUDITH SEALY**  
Archaeometry, stable isotopes, precolonial southern Africa

**ASSOCIATE PROFESSOR REBECCA ROGERS ACKERMANN**  
Hominid evolution, variation, morphometrics, visualization and modelling, quantitative methods

**DR DAVID BRAUN**  
Senior lecturer: Early Stone Age in eastern and southern Africa, stone artefact technology

**DR SHADRECK CHIRIKURE**  
Senior lecturer: Archaeometallurgy, Iron Age, heritage studies

**DR SIMON HALL**  
Senior lecturer: hunter-gatherers and farmers, Stone/Iron Age interaction, landscape sharing

**DR RIASHNA SITHALDEEN**  
Lecturer: Primate biogeography using genetic techniques, academic development in the geosciences

**DR DEANO STYNDER**  
Lecturer: African fauna, faunal analysis, ecomorphology, palaeoenvironments

**DR ALEXANDRA SUMNER**  
Lecturer: Lithic analysis, human cognitive evolution

### Emeritus Professor

**PROFESSOR NIKOLAAS J. VAN DER MERWE**  
Isotopes, palaeodiets, palaeoenvironments, archaeometallurgy

### Emeritus Associate Professor

**ASSOCIATE PROFESSOR A. SMITH**  
Prehistoric pastoralism, origins of food production, ethnohistory

### Honorary Research Associates

**DR GRAHAM. AVERY**  
Archaeozoology

**DR KYLE BROWN**  
Stone artefact studies, landscape archaeology

**DR PER DITLEF FREDRIKSEN**  
Ceramics, ethnoarchaeology, archaeology of farming communities

**MR PIETER JOLLY**  
Contact period rock art, history of San-Nguni/Sotho interaction

**DR ALEX MACKAY**  
Middle Stone Age, stone artefact technology

**PROFESSOR TIM MAGGS**  
Iron Age archaeology in southern Africa

**DR WEBBER NDORO**  
Heritage Studies

**DR JAYSON ORTON**  
Later Stone Age, stone artefacts, cultural resource management

**PROFESSOR LARISSA SWEDELL**  
Primateology

**PROFESSOR SUSAN PFEIFFER**  
Biological anthropology

### Postdoctoral Research Fellows

**DR MARINA IGREJA**  
Stone tool use-wear analysis, techno-economic strategies, behavior of early modern humans.

**DR ASHLEY COUTU**  
Isotope ecology, bio-archaeology, historical archaeology

### Distinguished Visitors

**PROFESSOR JACK FISHER**  
Montana State University – faunal remains in archaeology

**DR ALEX MACKAY**  
Australian National University – Pleistocene lithic technology

**PROFESSOR SUSAN PFEIFFER**  
University of Toronto – biological anthropology

**PROFESSOR PIERRE-JEAN TEXIER**  
CNRS-Valbonne France – prehistory

**DR GUILLAUME PORRAZ**  
CNRS, University of Paris 10 – Stone artefact technology of the Middle Stone Age

**DR BENJAMIN COLLINS**  
University of Toronto at Scarborough – Zooarchaeology, Middle and Later Stone Age

### Contact Details

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### Research Output

#### Chapters in books

Bandama, F. 2013. A reappraisal of Stone Age hunter gatherer research in Zimbabwe with a special focus on the later periods in eastern Zimbabwe. In M. Manyanga and S. Katsamudanga (eds), Zimbabwean Archaeology in the Post-Independence Era, pp. 17-35. Harare: SAPES Books. ISBN 9780797456341.

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- Will, M., Parkington, J.E., Kandel, A.W. and Conard, N. 2013. Coastal adaptions and the Middle Stone Age lithic assemblages from Hoedjiespunt 1 in the Western Cape, South Africa. *Journal of Human Evolution*, 64: 518-537.

# DEPARTMENT OF ASTRONOMY

**Head of Department: Professor Renée C. Kraan-Korteweg**

## Departmental Profile

The Astronomy department has a strong focus on multi-wavelength (X-ray, optical, infrared, radio) observational astronomy with strengths in extragalactic astronomy (*large-scale structures of galaxies, cosmic flows, galaxy evolution and star formation, galaxy clusters, galaxy dynamics and dark matter*), stellar astrophysics (*Cataclysmic variables, X-ray binaries, accretion disks in compact binaries, supernova remnants, stellar pulsations and stellar evolution*) and astronomical instrumentation (*high-speed CCD detectors*).

The Department hosts two SARCHI chairs, one in Astrophysics and Space Science (DST/NRF) and one in Extragalactic Multi-wavelength Astronomy (SKA). Staff in the Astronomy department lead four of the ten MeerKAT Large (legacy) Survey Projects, focussing on the study of explosive radio transients in our Galaxy and the nearby Universe (ThunderKAT), to the study of the gas dynamics in nearby galaxies (Mongoose) and the evolution of galaxies and their gas content over cosmic time scales (MIGHTEE and Laduma).

The Astronomy department is part of the Research Centre for Astrophysics, Cosmology and Gravitation (ACGC) at UCT (<http://www.acgc.uct.ac.za>), established in 2009, and is an active participant of the National Astrophysics and Space Science Programme – hosted at UCT – which offers Honours and Master's degrees. Strong links have been established with the South African Astronomical Observatory (SAAO) and the SKA South Africa project through joint staffing positions and postgraduate student supervision. The Department also enjoys active research collaborations with a range of national and international groups.

## Departmental Statistics

### Permanent and long-term contract staff

Professors	3.5
Associate Professor	1
Senior Scholar/Emeritus Professor	1
Senior Lecturer	1
Lecturer	1.5
Visiting SKA Professor	0.1

Administrative Staff	5
<b>Total</b>	<b>13.1</b>

### Honorary & Emeritus Staff

Honorary Professor	1
<b>Total</b>	<b>1</b>

### Affiliated Researchers

Honorary Professors	3
Honorary Academic	1
<b>Total</b>	<b>4</b>
Postdoctoral Fellows	15
<b>Total</b>	<b>15</b>

### Students

Doctoral	18
Masters (Research)	1
Masters (NASSP Dissertation)	15
Masters (NASSP Coursework)	14
Honours (NASSP)	16
Undergraduate	153
<b>Total</b>	<b>217</b>

### Research Fields and Staff

#### Permanent Academic Staff

**PROFESSOR RENÉE C. KRAAN-KORTEWEG, HEAD OF DEPARTMENT: CO-DIRECTOR ACGC**  
Large-scale structures and streaming motions in the nearby Universe, the Zone of Avoidance, systematic HI-surveys, evolution and transformation of galaxies.

**PROFESSOR CLAUDE CARIGNAN**  
SKA SARCHI Chair: Galaxy dynamics and dark matter; astronomical instrumentation and techniques.

**PROFESSOR THOMAS JARRETT**  
DST/NRF SARCHI Chair: Galaxy evolution and star formation, large-scale structure and bulk-flow motions in the local Universe, astrophysical databases and large data sets.

**ADJUNCT PROFESSOR PATRICIA WHITLOCK**  
Joint SAAO/UCT position: Galactic structure, stellar evolution, Local Group galaxies, long period variable and symbiotic stars.

**ASSOCIATE PROFESSOR PATRICK A. WOUDT**  
Deputy Head of Department: Cataclysmic variable stars, ultra-compact binaries, high time domain astrophysics.

**DR KURT VAN DER HEYDEN**  
Senior Lecturer Director NASSP (from 1 July 2013): Supernovae and Supernova remnants, systematic HI surveys, clusters of galaxies, X-ray spectroscopy.

**DR SARAH BLYTH**  
Lecturer: Large-scale structure, galaxy evolution and galaxy clusters, HI-surveys.

**DR VANESSA MCBRIDE**  
Lecturer: Joint SAAO/UCT position X-ray binaries, Magellanic Clouds.

#### Emeritus Professor/Senior Scholar

**EMERITUS DISTINGUISHED PROFESSOR BRIAN WARNER**  
Cataclysmic variable stars, white dwarf stars, history of astronomy.

#### Contract Staff

**PROFESSOR ROB FENDER**  
Visiting SKA Professor: X-ray binaries, neutron stars, black holes, accretion discs, radio transient surveys.

#### Honorary Staff in the Department

**HONORARY PROFESSOR MICHAEL W. FEAST & HONORARY RESEARCH ASSOCIATE**  
Stellar evolution, Galactic structure, long-period variable stars, distance scale.

#### Honorary Staff Associated with the Department

**HONORARY PROFESSOR PHIL A. CHARLES (UNIVERSITY OF SOUTHAMPTON)**  
Cataclysmic variables, X-ray binaries, neutron stars, black holes, accretion discs.

**HONORARY PROFESSOR ERWIN DE BLOK (ASTRON, NL)**  
Dark matter in disk galaxies, low-surface brightness galaxies, HI surveys, the interstellar medium in nearby galaxies, evolution of dark galaxies.

**PROFESSOR PETER DUNSBY**  
Honorary Academic, Director NASSP (until 30 June 2013), Co-director ACGC  
Theoretical cosmology and gravity.

Honorary Professor Ted Williams (Director, SAAO)  
Galaxy dynamics

#### Postdoctoral Fellows

**DR GARRY ANGUS**  
Cosmological simulations with modified Newtonian Dynamics.

**DR RICHARD ARMSTRONG**  
Radio transients, radio interferometric techniques.

**DR MACIEJ BILICKI**  
Cosmology, large-scale structure of the Universe, cosmic density and velocity fields, redshift and peculiar velocity surveys, cosmic flows.

**DR MICKAËL CORIAT**  
Accretion, jets, black hole and neutron star X-ray binaries.

**DR MICHELLE CLUVER**  
Galaxy evolution as traced by interactions in the group environment

**DR ED ELSON**  
Dynamical and star formation studies of nearby galaxies, simulations of HI data sets.

**DR ROGER DEANE**  
High redshift astrophysics with SKA Pathfinders and the effect of massive black holes on their host galaxies.

**DR KELLEY HESS**  
Neutral hydrogen in nearby galaxies, galaxy groups and clusters.

**DR TANA JOSEPH**  
Extra galactic x-ray binaries

**DR DANIELLE LUCERO**  
Cold gas and star formation in early-type galaxies.

**DR NATASHA MADDOX**  
Quasars and multi-wavelength observations of galaxies.

**DR DAVID PUGLIELLI**  
Galaxy dynamics

**DR VALERIO RIBEIRO**  
Cataclysmic variables, novae, radio transients.

**DR MATTHEW SCHURCH**  
Cataclysmic variables and X-ray binaries.

**DR LEE TOWNSEND**  
X-ray binaries, massive stars and magellanic clouds.

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## Research Output

### Chapters in books

Feast, M.W. 2013. Galactic distance scales. In T.D. Oswalt (ed), Planets, Stars and Stellar Systems, pp. 829-877. Netherlands: Springer Netherlands. ISBN 9789400756113.

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# DEPARTMENT OF BIOLOGICAL SCIENCES

(Including the Bolus Herbarium, The Plant Conservation Unit, The Percy FitzPatrick Institute of African Ornithology DST/NRF Centre of Excellence, The Marine Research Institute and The Animal Demography Unit, ADU)

## Head of Department: Professor Anusuya Chinsamy-Turan

### Departmental Profile

The Department of Biological Sciences was established in 2013 as a result of the merger between the long standing Botany and Zoology Departments. Our aim is to be recognised as a high quality biodiversity research and teaching department, with strong interdisciplinary research that understands and manages biodiversity resources in the face of climate change both locally and globally.

Thirty three academic staff, several research associates and at least 32 support staff make up our staff complement. In addition there are 43 postdoctoral research fellows, and 223 postgraduate students, 26 Honours students and 982 undergraduate students. Our Department is home to The Percy FitzPatrick Institute for African Ornithology, a DST/NRF Centre of Excellence, as well as to the Animal Demography Unit, the Bolus Herbarium and library, and the Plant Conservation Unit. The Seaweed Unit of the Department of Environmental Affairs & Tourism Chief Directorate: Fisheries Branch, Inshore Research is also housed in our Department, under Hon A/Prof Robert J Anderson. The Marine Research Institute (Ma-Re) is jointly hosted by our department and the Department of Oceanography. .

The vision of the **Percy FitzPatrick Institute for African Ornithology** is to be a leading international research and postgraduate training institute in the fields of ornithology and conservation biology, with particular emphasis on African issues. To achieve this, the Institute undertakes scientific studies involving birds that contribute to the theory and practice affecting the maintenance of biological diversity and the sustained use of biological resources. Current research programmes can be broadly placed within the themes of Characterising Biodiversity, Evolutionary Ecology and Maintaining Biodiversity. The Institute is home to the Niven Library, which holds Africa's most comprehensive collection of ornithological books and papers.

The **Plant Conservation Unit** focuses on sustainable land use, restoration and palaeoecology/environmental history with an emphasis on the conservation of the vegetation of the winter rainfall region of South Africa.

The mission of the **Animal Demography Unit** is to contribute to the understanding of animal populations, especially population dynamics, and thus provide input to their conservation. They achieve this through mass participation projects, long term monitoring, innovative statistical modelling and population-level interpretation of results. The emphasis is on the curation, analysis, publication and dissemination of data.

Located within an academic environment, the focus of the Bolus Herbarium is to aid in the teaching and research of the diversity of the southern African flora, particularly that of the Cape Floristic Region. With a collection of over 350,000 specimens, it is the third largest herbarium in South Africa and the third largest university Herbarium in the southern Hemisphere. The collection is recognized for its superb representation of the Cape Flora and the large number of type specimens housed.

The **Marine Research Institute** (Ma-Re) exists as an interdepartmental (and interfaculty) network linking staff and postgraduate students involved in marine research at UCT. Its research activities typically require the production of knowledge that draws on inputs (in planning) and outputs (based on specialist knowledge) that span disciplines and are problem-/ solution-oriented. To date, there has been good progress made in research arenas involving social-ecological systems linked to fisheries, in the development and use of indicators to track marine ecosystem changes, and in the use of satellite data, biophysical modelling and field measurements to understand variability in marine primary production in the region.

Besides the above focused research units, our department also hosts South African Research Chairs in Evolution and Systematics, and in Marine Ecology and Fisheries, and there are several other smaller groups that coordinate independent research on animals and plants in terms of conservation, ecology, evolution, systematics, physiology and their response to global climate change. A central theme that binds our research is our unique geographical location which we consider as a gateway to terrestrial biodiversity, as well as to the Atlantic, Indian, Southern and Antarctic oceans.

### Departmental Statistics

#### Permanent and long-term contract staff

Professors	10
Associate Professors	13
Senior Lecturers	4
Lecturers	6
Scientific Staff	4
Technical Support Staff	7
Administrative and Clerical Staff	21
Contract Research Staff	11
<b>Total</b>	<b>76</b>

#### Honorary Staff

Honorary Professors	5
Honorary Assoc. Professors	3
Honorary Research Associates	36
Emeritus Professors	5
Emeritus Associate Professors	3
<b>Total</b>	<b>52</b>
Research Affiliates	13

#### Students

Postdoctoral	43
Doctoral	92
Master's	131
Honours	26
Undergraduate	562
<b>Total</b>	<b>1274</b>

#### Permanent Academic Staff

##### PROFESSOR ANUSUYA CHINSAMY-TURAN

Head of Department. Palaeobiologist. Undertakes comparative bone and teeth histology of extant and extinct vertebrates (such as dinosaurs, Mesozoic birds, pterosaurs, nonmammalian therapsids, as well as, more recent Pliocene vertebrates).

##### PROFESSOR JOHN J. BOLTON

The biodiversity, biogeography, ecology, systematics and resource use of marine algae; marine aquaculture

##### PROFESSOR WILLIAM J. BOND

Plant ecology: evolutionary biology; conservation biology; fire and community dynamics.

##### PROFESSOR GRAEME CUMMING

Chair of Conservation Biology. Landscape ecology, conservation biology, community ecology, resilience and complex systems theory

**PROFESSOR TIM CROWE**

Evolution; systematics; gamebird management; sustainable utilization of wildlife

**PROFESSOR CHARLES GRIFFITHS**

Director of the Marine Biology Research Centre: aquatic invasive alien species; biodiversity and endemism patterns of African marine fauna; coastal marine ecology; amphipod taxonomy

**PROFESSOR TERRY HEDDERTON**

Plant systematics; bryology; molecular systematics; life history traits.

**PROFESSOR M. TIMM HOFFMAN**

Director of the Plant Conservation Unit: plant ecology; conservation biology; community ecology; biodiversity.

**PROFESSOR JEREMY MIDGLEY**

Plant ecology; evolutionary biology; forest ecosystem dynamics.

**ASSOCIATE PROFESSOR COLIN ATTWOOD**

Marine protected areas; line fish population ecology.

**ASSOCIATE PROFESSOR MICHAEL D. CRAMER**

Physiology; ecophysiology; plant nutrition.

**ASSOCIATE PROFESSOR EDMUND FEBRUARY**

Senior Lecturer: palaeoecology; ecophysiology.

**ASSOCIATE PROFESSOR LINDSEY GILLSON**

Deputy Director of the Plant Conservation Unit: conservation ecology; palaeoecology; theoretical ecology; landscape history.

**ASSOCIATE PROFESSOR JOHN HOFFMANN**

Integrating biological control into the management of alien invasive weeds in South Africa

**ASSOCIATE PROFESSOR DAVID JACOBS**

DST & NRF Research Chair in Animal Evolution and Systematics. Evolutionary biology; behavioural ecology, systematics and evolutionary development; bats and other mammals

**ASSOCIATE PROFESSOR ASTRID JARRE**

DST & NRF Research Chair in Marine Ecology & Fisheries. Ecosystem modeling: ecosystem approach to fisheries management, collaboration between social and natural scientists

**ASSOCIATE PROFESSOR MIKE LUCAS**

Honorary Research Fellowship, National Oceanography Centre, Southampton, UK. UCT: biological oceanography; biogeochemical cycling; phytoplankton dynamics, carbon/nitrogen cycling and climate change.

Research in the Benguela upwelling, North and South Atlantic and Southern Ocean ecosystems. South African Surface Ocean Lower Atmosphere Study (SOLAS) SSC

**ASSOCIATE PROFESSOR COLEEN MOLONEY**

Plankton ecology; ecosystem dynamics; fisheries ecology; ecological modelling.

**ASSOCIATE PROFESSOR JUSTIN O'RIAIN**

Social mammals; behavioural ecology; vertebrate reproduction

**ASSOCIATE PROFESSOR MIKE PICKER**

Insect ecology; insect biodiversity

**ASSOCIATE PROFESSOR PETER RYAN**

Seabird-fishery interactions; avian evolutionary biology; marine pollution; behavioural ecology; island conservation

**ASSOCIATE PROFESSOR ANTHONY G. VERBOOM**

Senior Lecturer: Plant systematics, ecophysiology, biogeography.

**DR ARJUN AMAR**

Raptor research, Rarity & conservation of African birds

**DR JACQUELINE BISHOP**

Lecturer: Evolutionary biology and conservation genetics.

**DR GARY BRONNER**

Senior Lecturer: systematics, ecology and conservation biology of African small mammals, with emphasis on endemic and threatened golden moles; Scientific Editor: African Zoology

**DR SAMSON B. CHIMPHANGO**

Lecturer: Physiology; nitrogen fixation.

**DR LESEGO KHOMO**

Lecturer: Soil Science

**DR LAWRENCE KRUGER**

Lecturer: Savanna ecology, particularly elephant impacts on vegetation structure, biodiversity consequences.

**DR HEATHER MARCO**

Lecturer: Neuropeptide purification/biochemistry; crustacean neuroendocrinology & physiology; insect neuroendocrinology; Convenor of second year Form and function (Ecophysiology) course. Alexander von Humboldt Foundation Research Fellow

**DR A. MUTHAMA MUASYA**

Senior Lecturer: plant systematics; molecular systematics; biogeography.

**DR ADAM WEST**

Lecturer: Ecophysiology, climate change, stable isotopes.

**Emeritus Professors /Senior Scholars****EMERITUS PROFESSOR/SENIOR SCHOLAR****GEORGE BRANCH**

Rocky-shore ecology; estuarine and lagoonal ecology; invertebrate fisheries management; fisheries policy; subsistence fisheries; impacts of diamond-mining; coastal ecology

**EMERITUS PROFESSOR/ SENIOR SCHOLAR****GERD GÄDE**

Invertebrates; isolation and characterization of neuropeptides; intermediary metabolism; anaerobic metabolism; insect flight and its control by hormones; mode of action of invertebrate neuropeptide hormones; phylogeny; confirmation of expression of genome predicted neuropeptides by mass spectrometric methods; spectrometric methods; cloning of neuropeptide precursors and their cognate receptors

**EMERITUS PROFESSOR/SENIOR SCHOLAR****LES UNDERHILL**

Director Animal Demography Unit. Interfaces statistics and biology, in applications of statistics in the biological sciences, particularly ornithology and ecology

**EMERITUS PROFESSOR JOHN FIELD**

Former Director Marine Research Institute

**EMERITUS PROFESSOR W R SIEGFRIED**

Former Director of the Percy FitzPatrick Institute

**Emeritus Associate Professors****EMERITUS ASSOCIATE PROFESSOR BRYAN DAVIES**

River ecology; ecosystem processes; ecological effects of dams and rivers; wetland ecology

**EMERITUS ASSOCIATE PROFESSOR JENNY DAY**

Director of the Freshwater Research Unit; freshwater ecology; bioassessment; crustaceans; wetlands, particularly temporary and saline waters; conservation and management of inland water ecosystems; water chemistry and water quality

**EMERITUS ASSOCIATE PROFESSOR JENNIFER JARVIS**

Small and subterranean mammal ecophysiology and ethology

**Technical and Administrative Support Staff****TERRY H TRINDER-SMITH – PRINCIPAL SCIENTIFIC OFFICER****CORNELIA KLAK – PRINCIPAL SCIENTIFIC OFFICER****DAWOOD HATTAS – PRINCIPAL SCIENTIFIC OFFICER****LIESL PHIGELAND – CHIEF SCIENTIFIC OFFICER****GREGORY DUGGAN – SENIOR SCIENTIFIC OFFICER****ANDREA PLOS – PRINCIPAL TECHNICAL OFFICER****CHRIS TOBLER – PRINCIPAL TECHNICAL OFFICER****GONZALO AQUILAR – PRINCIPAL TECHNICAL OFFICER****GEORGE DU PLESSIS – CHIEF TECHNICAL OFFICER****PETRA MULLER – CHIEF TECHNICAL OFFICER****MICHAEL BROOKS – SENIOR TECHNICAL OFFICER****DESMOND BARNES – SENIOR TECHNICAL OFFICER****ROB LITTLE – MANAGER: DST/NRF CENTRE FOR EXCELLENCE****SAROJINI I PILLAY – ADMIN MANAGER****NATALIE JODAMUS – SAP ADMINISTRATOR****TANIA CELESTE JANSEN – SENIOR SECRETARY****SORAYA ABRAHAMS – SENIOR SECRETARY****TAMARA NOZEWU – SENIOR SECRETARY****ELLENOR SALO – SENIOR SECRETARY****SANDY SMUTS - ADMINISTRATIVE ASSISTANT****ANTHEA STAIN – ADMINISTRATIVE ASSISTANT****GRANVILLE FAULMANN – WORKSHOP/ DEPARTMENTAL ASSISTANT****NAZLI DAVIDS – DEPARTMENT ASSISTANT****GUGULETHU NJ GININDZA - DEPARTMENT ASSISTANT****ZAMIKAYA JIKUMILAMBO – LABORATORY ASSISTANT****SUSAN KUYPER – EXECUTIVE ASSISTANT****HILARY BUCHANAN – ADMINISTRATIVE ASSISTANT****ANTHEA LINKS – ADMINISTRATIVE ASSISTANT****MARGARET KOOPMAN – NIVEN LIBRARY MANAGER****CHARLENE J CHRISTIAN – HERBARIUM ASSISTANT****RENE A NAVARRO – INFORMATIONS SYSTEMS CONSULTANT****HANS-DIETER OSCHADLEUS – RINGING CO-COORDINATOR****VINCENT MORAN – CONSULTANT****MRS GILLIAN SMITH - MARINE BIOLOGY****Contract Research Staff****DR LYNNNE J SHANNON****DR HENNING WINKER - ASSESSMENT OF FISH STOCKS****MS FIONA IMPSON - DEVELOPMENT OF INSECT AGENTS FOR BIOLOGICAL CONTROL OF ALIEN INVASIVE PLANTS.****MS CARIEN KLEINJAN -EVALUATION OF INSECT AGENTS USED FOR BIOLOGICAL CONTROL OF ALIEN INVASIVE PLANTS.****JOHANNA M LOT – RESEARCH ASSISTANT****CHRISTINE MOORE -PROJECT MANAGER: SPATIAL RESILIENCE OF PROTECTED AREAS****JOHAN C CARSTENS – RESEARCH ASSISTANT****SHAAMIELAH DAVIDS – RESEARCH TECHNICIAN****SAMUEL L JACK – RESEARCH ASSISTANT**

## **Research Affiliates**

### **PROF. P BLOOMER**

Project Manager, DST/NRF CoE at the Percy FitzPatrick Institute, University of Pretoria

### **A/PROF. R C K BOWIE**

Project Manager, DST/NRF CoE at the Percy FitzPatrick Institute, University of California  
Berkeley

### **DR R COVAS**

Cooperative breeding & sociality in birds (Sociable Weaver Research Project)

### **DR A JENKINS**

Raptor research programme, rarity & conservation of African birds

### **PROF. A MCKECHNIE**

Project Manager, DST/NRF CoE at the Percy FitzPatrick Institute, University of Pretoria

### **DR A MILEWSKI**

Interactions between plants and megaherbivores

### **DR M PINEIRO DE MELO**

Systematics and Biogeography

### **DR P PISTORIUS**

Project Manager, DST/NRF CoE at the Percy FitzPatrick Institute, NMMU

### **DR C O'RYAN**

Project Leader (Department of Molecular and Cell Biology, UCT)

### **DR L ROXBURGH**

Rarity and conservation of African birds

### **DR C SPOTTISWOODE**

Evolutionary ecology of avian clutch parasitism

## **Honorary Professors**

### **PROFESSOR DAVID CUMMING**

Influence of land use policy and practice on biodiversity and resilience in social-ecological systems

### **PROFESSOR LARRY HUTCHINGS**

Marine fisheries

### **PROFESSOR RICHARD COWLING**

Plant ecology; conservation biology; community ecology; biodiversity.

### **PROFESSOR JOHN S. DONALDSON**

Biodiversity.

## **PROFESSOR PETER LINDER**

Systematics; taxonomy; evolutionary biology.

## **Honorary Associate Professors**

### **ASSOCIATE PROFESSOR ROBERT J. ANDERSON**

Phycology.

### **ASSOCIATE PROFESSOR R J M CRAWFORD**

Animal Demography Unit

### **ASSOCIATE PROFESSOR R ALTWEGG**

Statistical ecology

## **Honorary Research Associates**

### **DR A BALME**

Carnivore Conservation

### **DR PAUL BARHAM**

Penguin survival

### **DR P BARNARD**

Birds & Environmental Change Partnership Programme,  
SA National Biodiversity Institute

### **DR N BERGH**

Systematics

### **PROF D BORCHERS**

Statistical ecology

### **DR P CARRICK**

Restoration ecology

### **DR ROB CRAWFORD**

Ecosystem approach to fisheries (as it relates to seabirds) and the conservation and suitable utilization of South Africa's seabirds

### **DR H DALLAS**

River health monitoring

### **DR M DE VILLIERS**

SARCA Project Manager – Diversity and distribution of reptiles in South Africa, Lesotho and Swaziland.

### **DR DAVID GRÉMILLET**

Visiting Research Associate: Functional ecology of marine birds. Ecophysiology of marine birds facing global change; functional and evolutionary ecology; avian energetic; biotelemetry; impact of marine fisheries; polar ecosystems; Benguela upwelling ecosystem.

### **DR H-J HAWKINS**

Protea Ecophysiology

## **DR S KERWATH**

Line fish research

### **DR S KIRKMAN**

Aizoaceae curation/taxonomy

### **DR F KRUGER**

Forest /Conservation/Ecology

### **DR H MALAN**

Freshwater Research

### **DR Q MARTINS**

Leopard conservation & human/wildlife conflict research

### **DR L MATTIO**

Seaweed Molecular systematics

### **DR B PATERSON**

DR L PICHEGRU  
Island Closure Task Team (Department of Agriculture, Forests and Fisheries)

### **DR A R RIDLEY**

Cooperative breeding and sociality in birds (including the Pied Babbler Research Project)

### **DR J-P ROUX**

Benguela system

### **DR C SAVAGE**

Coastal and estuarine ecosystems

### **DR G SCOTT**

Traditional medicine plants

### **DR A SEYDACK**

Forest ecology

### **DR R SIMMONS**

Raptor Research, Life History Strategies, Seabird Research, Climate Change Vulnerability and Adaptation

### **DR J SLINGSBY**

Global change impacts on fynbos

### **PROF C STIRTON**

Plant systematics

### **DR S TODD**

Land use/climate change impacts

### **DR L WALLER**

## **DR R M WANLESS**

Seabird conservation; island restoration; invasive alien species; mitigation measures for avoiding seabird bycatch in fisheries; marine protected areas and marine Important Bird Areas

### **DR I WIESEL**

### **DR ANTHONY J WILLIAMS**

Seabird biology and conservation; the status and distribution of seabirds in Latin America; synanthropic ecology

## **Postdoctoral Fellows**

### **DR SANTIAGO ANDRES-SANCHEZ**

### **DR MORAG AYERS**

### **DR YAHKAT BARSHEP**

### **DR ANNA BASTIAN**

### **DR AMY BETZELBERGER**

DR LAURA BLAMEY  
Coastal and fisheries ecology

DR RUTLEDGE STEVE BOYES  
Rarity and Conservation of African parrots

### **DR MARIETTE BRAND**

DR AURORE CANOVILLE  
Palaeobiology of early tetrapods

### **DR TRISTAN CHARLES-DOMINIQUE**

### **DR VALERIE CLARK**

DR T R COOK  
Seabird Research

### **DR BOGDAN CRISTESCU**

DR SUSAN CUNNINGHAM  
Sub-lethal Effects of Climate Change on Desert Birds

### **DR SOFIE DE MEYER**

DR ALETTA DE VOS  
Spatial resilience of protected areas

### **DR SERENA DOOL**

DR MARTHA FLOWER  
Sexual selection in Pied Babblers

**DR THOMAS PATRICK FLOWER**  
Behavioural ecology

**DR FITSUM GEBREELASSIE**  
Integrated population modelling

**DR ELEANORE HELLARD**  
Circulation of avian malaria within communities of wetland-associated birds in southern Africa

**DR GARETH PETER HEMPSON**

**DR SOPHIE ANNE KOHLER**

**DR ALAN LEE**  
Birds & Environmental Change

**DR BENNY LEMAIRE**

**DR AINHOA LEZAMA OCHOA**

**DR KATRIN LUDYNIA**  
Namibian seabirds in the Benguela System

**DR KRISTINE MACIEJEWSKI**  
Contribution of protected areas towards conservation of biodiversity

**DR LYDIANE MATTIO**

**DR THABISO MICHAEL MOKOTJOMELA**

**DR RALF MULLERS**  
Conservation of the Shoebill

**DR LLOYD NACKLEY**

**DR HILKKA NDJAULA**  
Modeling marine fisheries

**DR RAGNA REDELSTORFF**

**DR TIMOTHY REID**  
Island Conservation & Seabird Research

**DR RICHARD SHERLEY**  
Seabird biology

**DR SANDY-LYNN STEENHUISEN**

**DR ANTJE STEINFURTH**  
Factors influencing the ecology of the African Penguin

**DR GENEVIEVE THOMPSON**

**DR MALIKA VIRAH-SAWMY**

**DR NATASCHA VISSER**

**DR FLORIAN WELLER**

**DR KIRSTEN WIMBERGER**  
Animal behaviour

## Research Output

### Chapters in books

Anderson, T., Draper, K., Duggan, G., Green, L.J., Jarre, A.C., Rogerson, J., Ragaller, S. and Norton, M. 2013. Conservation conversations: improving the dialogue between fishers and fisheries science along the Benguela coast. In L. Green (ed), Contested Ecologies: Dialogues in the South on Nature and Knowledge, pp. 187-201. Cape Town: HSRC Press. ISBN 9780796924285.

Gade, G. and Marco, H. 2013. AKH/RPCH peptides. In Handbook of Biologically Active Peptides, pp. 185-190. Amsterdam: Academic Press. ISBN 9780123694423.

Herbstein, T.P.W., Froestad, J., Nel, D.C. and Shearing, C.D. 2013. Insurance, climate-risk and the barriers to change. Business and Climate Change Governance: South Africa in comparative perspective, pp. 156-172. Hampshire, England: Palgrave Macmillan. ISBN 9780230235977.

Midgley, J.J. and Bond, W.J. 2013. Plant adaptations to fire: an evolutionary perspective. In C. Belcher (ed), Fire Phenomena and the Earth System. An Interdisciplinary Guide to Fire Science, pp. 125-134. UK: Wiley-Blackwell. ISBN 9780470657485.

Pillay, D., Bownes, S.J. and Nel, H.A. 2013. Benthic invertebrates. In R. Perissinotto, D.D. Stretch and R.H. Taylor (eds), Ecology and Conservation of Estuarine Ecosystems, pp. 227-245. New York: Cambridge University Press. ISBN 9781107019751.

### Articles in peer-reviewed journals

Abad, F.X., Busquets, N., Sanchez, A., Ryan, P.G., Majo, N. and Gonzalez-Solis, J. 2013. Serological and virological surveys of the influenza A viruses in Antarctic and sub-Antarctic penguins. *Antarctic Science*, 25(2): 339-344.

Abdala, F., Jasinoski, S. and Fernandez, V. 2013. Ontogeny of the early triassic cynodont *thrinaxodon liorhinus* (therapsida): dental morphology and replacement. *Journal of Vertebrate Paleontology*, 33(6): 1408-1431.

Achterberg, E.P., Moore, C.M., Henson, S.A., Steigenberger, S.S., Stohl, A., Eckhardt, S., Avendano, C., Cassidy, M., Hembury, D., Klar, J.K., Lucas, M.I., Macey, A.I., Marsay, C.M. and Ryan-Keogh, T.J. 2013.

Natural iron fertilization by the Eyjafjallajokull volcanic eruption. *Geophysical Research Letters*, 40: 921-926.

Alstrom, P., Barnes, K., Olsson, U., Barker, F., Bloomer, P., Khan, A.A., Qureshi, M.A., Guillaumet, A., Crochet, P.A. and Ryan, P.G. 2013. Multilocus phylogeny of the avian family Alaudidae (larks) reveals complex morphology evolution, non-monophyletic genera and hidden species diversity. *Molecular Phylogenetics and Evolution*, 69: 1043-1056.

Altweig, R., Doutrelant, C., Anderson, M., Spottiswoode, C.N. and Covas, R. 2013. Climate, social factors and research disturbance influence population dynamics in a declining sociable weaver metapopulation. *Oecologia*, 7: 413-425.

Amosu, A.O., Robertson-Andersson, D.V., Maneveldt, G.W., Anderson, J. and Bolton, J.J. 2013. South African seaweed aquaculture: a sustainable development example for other African coastal countries. *African Journal of Agricultural Research*, 8(43): 5268-5279.

Chambers, L., Altweig, R., Barbraud, C., Barnard, P., Beaumont, L.J., Crawford, R.J.M., Durant, J.M., Hughes, L., Keatley, M.R., Low, M., Morellato, P.C., Poloczanska, E.S., Ruoppolo, V., Vanstreels, R.E.T., Woehler, E. and Wolfaardt, A.C. 2013. Phenological changes in the southern hemisphere. *PLoS One*, 8(10): e75514 DOI: 10.1371/journal.pone.0075514.

Abadi, F., Botha, A. and Altweig, R. 2013. Revisiting the effect of capture heterogeneity on survival estimates in capture-mark-recapture studies: does it matter? *PLoS One*, 8(4): e62636.

Katz, E., Tolley, K.A. and Altweig, R. 2013. Survival and abundance of Cape dwarf chameleons, *Bradypodion pumilum*, inhabiting a transformed, semi-urban wetland. *Herpetological Journal*, 23: 179-186.

Amar, A., Koeslag, A. and Curtis, O. 2013. Plumage polymorphism in a newly colonized black sparrowhawk population: classification, temporal stability and inheritance patterns. *Journal of Zoology*, 289: 60-67.

Authier, M., Peron, C., Mante, A., Vidal, P. and Gremillet, D. 2013. Designing observational biologging studies to assess the causal effect of instrumentation. *Methods in Ecology and Evolution*, 4: 802-810.

Balme, G. and Hunter, L.T.B. 2013. Why leopards commit infanticide. *Animal Behaviour*, 86: 791-799.

Barlow, R., Lamont, T., Britz, K. and Sessions, H. 2013. Mechanisms of phytoplankton adaptation to environmental variability in a shelf ecosystem. *Estuarine Coastal and Shelf Science*, 133: 45-57.

Barquette, V., Ryan, P.G. and Strauss, V. 2013. Stable isotope turnover in blood and claws: a case study in captive African penguins. *Journal of Experimental Marine Biology and Ecology*, 448: 121-127.

Barshep, Y. and Manu, S.A. 2013. Breeding phenology and moult of the endemic Bannerman's Weaver *Ploceus bannermani*. *Ostrich*, 84(3): 231-233.

Barshep, Y., Underhill, L.G., Balachandran, S. and Pearson, D.J. 2013. Conditions on the non-breeding areas affect primary moult strategy of the curlew sandpiper *calidris ferruginea*. *Ardea*, 101: 13-22.

Barshep, Y., Minton, C.D.T., Underhill, L.G., Erni, B. and Tomkovich, P. 2013. Flexibility and constraints in the molt schedule of long distance migratory shorebirds: causes and consequences. *Ecology and Evolution*, 3(7): 1967-1976.

Bates, M.F. and Little, I. 2013. Predation on the eggs of ground-nesting birds by *Dasyptelis scabra* (Linnaeus, 1758) in the moist highland grasslands of South Africa. *African Journal of Herpetology*, 62(2): 125-134.

Beale, C.M., van Rensberg, S., Bond, W.J., Coughenour, M., Fynn, F., Gaylard, A., Grant, R., Harris, B., Jones, T., Mduma, S., Owen-Smith, N. and Sinclair, A.R.E. 2013. Ten lessons for the conservation of African savannah ecosystems. *Biological Conservation*, 167: 224-232.

Bennett, B. and Kruger, F.J. 2013. Ecology, forestry and the debate over exotic trees in South Africa. *Journal of Historical Geography*, 42: 100-109.

Bernard, A.T.F., Götz, A., Kerwath, S.E. and Wilke, C.G. 2013. Observer bias and detection probability in underwater visual census of fish assemblages measured with independent double-observers. *Journal of Experimental Marine Biology and Ecology*, 443: 75-84.

Best, L., Attwood, C.G., da Silva, C. and Lamberth, S.J. 2013. Chondrichthyan occurrence and abundance trends in False Bay, South Africa, spanning a century of catch and survey records. *African Zoology*, 48(2): 201-227.

Bird, M., Mlambo, M. and Day, J.A. 2013. Macroinvertebrates as unreliable indicators of human disturbance in temporary depression wetlands of the south-western Cape, South Africa. *Hydrobiologia*, 720: 19-37.

Bird, M., Day, J.A. and Rebelo, A.J. 2013. Physico-chemical impacts of terrestrial alien vegetation on temporary wetlands in a sclerophyllous sand fynbos ecosystem. *Hydrobiologia*, 711: 115-128.

- Blamey, L., Plaganyi-Lloyd, E.E. and Branch, G.M. 2013. Modeling a regime shift in a kelp forest ecosystem caused by a lobster range expansion. *Bulletin of Marine Science*, 89(1): 347-375.
- Blamey, L., Howard, J., Agenbag, J. and Jarre, A.C. 2012. Regime-shifts in the southern Benguela shelf and inshore region. *Progress in Oceanography*, 106: 80-95.
- Bled, F.H.B., Nichols, J.D. and Altweig, R. 2013. Dynamic occupancy models for analyzing species' range dynamics across large geographic scales. *Ecology and Evolution*, 3(15): 4896-4909.
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## DEPARTMENT OF CHEMISTRY

(Including the Centre for Supramolecular Chemistry Research, the MRC/UCT Drug Discovery & Development Research Centre and the Scientific Computing Research Unit)

### Head of Department: Professor Susan A Bourne

#### Departmental Profile

The research activities of the department reflect the wide range and scope of the traditional sub-disciplines of inorganic, organic and physical chemistry, sustained by analytical, spectroscopic and computational methodology. The Department has active research groups with strengths in Catalysis, Bioinorganic, Biophysical and Bioanalytical Chemistry, Synthetic Chemistry, Medicinal Chemistry, Supramolecular Chemistry, Scientific Computing and Chemical Glycobiology. Programmes are devoted to fundamental and applied chemical research, and to interdisciplinary studies in which chemistry plays a key role. Synthetic studies are carried out in organic, organometallic and co-ordination chemistry, in order to develop and apply new methodology, and to prepare biologically active compounds, novel catalysts and components of new materials. These studies also provide tools for analytical and separation science, and models for advanced structural and conformational studies. Molecular structure determination with the aid of spectroscopic and X-ray diffraction techniques are two areas of specialisation in the department. Computational chemistry is a leading area of specialization supported by several state of the art clusters. Computer code development and modelling applications of biological and industrial problems play a key role in many of the Department's research programmes. There is also an active research thrust in the area of chemistry education, with a particular focus on student learning in tertiary level chemistry courses.

#### The Department of Chemistry is home to three UCT-accredited research units:

The Centre for Supramolecular Chemistry Research, CSCR (Dir. Prof. Mino Caira) studies the physical chemistry of supramolecular systems. Research projects include the synthesis and characterization of metal organic frameworks (MOFs) and large metal-

containing supramolecular assemblies with the potential for guest uptake (gas storage, molecular sensing), the study of selectivity in organic host-guest systems, and the beneficiation of pharmaceutically relevant materials through the investigation of their polymorphs, solvates, cyclodextrin inclusion complexes and cocrystals. Solid phases are studied using powder and single crystal X-ray diffraction, thermal analysis (including TGA and DSC) and spectroscopy (FTIR and solid-state NMR techniques). The thermodynamics of inclusion and complexation processes in solution are investigated by high-resolution NMR spectroscopy and isothermal titration calorimetry.

The MRC/UCT Drug Discovery & Development Research Centre, H3D (Dir. Prof. Kelly Chibale) aims to bridge the gap between basic and clinical studies, training a new generation of African scientists with key skills required for drug discovery and development – integrating medicinal chemistry, biology, pharmacology as well as drug metabolism and pharmacokinetics (DMPK) studies as reflected in the processes of Absorption, Distribution, Metabolism and Excretion (ADME). H3-D also focuses on beneficiation of clinically used drugs, including generic medicines. Drug beneficiation, amongst other things, involves selection of the optimum form of a solid drug candidate for pharmaceutical development and (re)formulation.

The Scientific Computing Research Unit, SCRU (Dir. Prof. Kevin J. Naidoo) develop state-of-the-art high performance computing (HPC) software as well as providing a modelling and informatics platform for applications in chemistry and chemical biology. SCRU's research activities include the development of software acceleration for life science applications. This aspect the unit's research is supported by hardware giant Nvidia Corporation. SCRU's specialised HPC facility houses the South Africa's most sophisticated scientific compute servers and GPU clusters designed for chemical and chemical biology applications. The specific objectives of the unit are to trace gene-to-glycan biochemical schemes important in glycobiology as well as model enzyme catalysed chemical reactions and ionic liquids.

The research enterprise of the Department of Chemistry is significantly enhanced by the appointment of two of its permanent staff members to DST/NRF South African National Research Chairs - Professor Kevin Naidoo in *Scientific Computing* and Professor Kelly Chibale in *Drug Discovery*. These highly prestigious appointments have raised the Department's international research profile significantly and contribute substantially to its research outputs.

## Departmental Statistics

### Permanent and long-term contract staff

Professors	7
Associate Professors	4
Senior Lecturers	3
Lecturers	3
Senior Scholars	2
Research Officers	7
Scientific Officers	10
Technical Officers	8
Support Staff	10
Administrative and Clerical Staff	8
<b>Total</b>	<b>62</b>

### Honorary Staff

Emeritus Professors	3
Honorary Research Associates	3
<b>Total</b>	<b>6</b>

### Students

Postdoctoral	25
Doctoral	59
Master's	24
Honours	18
Undergraduates	1504
<b>Total</b>	<b>1630</b>

## Research Fields and Staff

### Permanent Academic and long-term contract staff

#### PROFESSOR SUSAN A. BOURNE

Head of Department: Inclusion chemistry; crystallography; thermal analysis.

#### PROFESSOR MINO R. CAIRA

Solid state chemistry; drug polymorphism; drug pseudopolymorphism; drug-cyclodextrin inclusion; drug complexation; co-crystallization; drug enantiomeric separation.

#### PROFESSOR KELLY CHIBALE

Organic synthesis; medicinal chemistry.

#### PROFESSOR TIMOTHY J. EGAN

Bioinorganic chemistry of the malaria parasite.

#### PROFESSOR ROGER HUNTER

Synthesis; indole alkaloids; calixarenes; p-block synthetic methodology.

#### PROFESSOR GRAHAM E. JACKSON

Nuclear magnetic resonance; computer modelling; metal-ion equilibria; design of metal containing drugs; copper and rheumatoid arthritis.

#### PROFESSOR KEVIN J. NAIDOO

Scientific Computing – free energy calculations – reaction dynamics; code acceleration and general purpose graphical processing units; computational glycomics; cancer.

#### ASSOCIATE PROFESSOR BETTE DAVIDOWITZ

Chemical education; curriculum design; writing and communication within the discipline.

#### ASSOCIATE PROFESSOR DAVID W. GAMMON

Natural products chemistry; phytochemical studies on medicinal plants; carbohydrates; heterogeneous catalysis of organic reactions.

#### ASSOCIATE PROFESSOR ALAN T. HUTTON

Organometallic chemistry; co-ordination chemistry; microwave chemistry; electrochemistry.

#### ASSOCIATE PROFESSOR NEIL RAVENSCROFT

Physicochemical analysis of biologicals; carbohydrates; glycoconjugate and protein vaccines.

#### DR ANWAR JARDINE

Senior Lecturer: medicinal chemistry; chemical biology; enzymology; natural product and organic synthesis; drug design and development.

#### DR CATHERINE H KASCHULA

Lecturer: medicinal, synthetic and biological chemistry.

#### DR CLIVE OLIVER

Lecturer: self-assembly; large supramolecular assemblies; crystallography; inclusion chemistry.

#### DR GREGORY S. SMITH

Senior Lecturer: organometallic chemistry; catalysis; metal-containing polymers and dendrimers; bio-organometallic chemistry.

#### DR GERHARD VENTER

Lecturer: computational chemistry; electronic structure calculations; free energy methods for properties of solutions; ionic liquids.

#### DR SARAH WILSON

Senior Lecturer.

#### Emeritus Professors

#### PROFESSOR JAMES R. BULL

Organic synthesis; steroidal hormones; 19-norsteroids; estrogens; bioactive steroids; predictive design; cycloaddition.

#### PROFESSOR PETER W. LINDER

Solution equilibria of cyclodextrin inclusion complexes.

#### PROFESSOR ALISTAIR M. STEPHEN

Carbohydrate chemistry.

#### Senior Scholars

#### PROFESSOR LUIGI R. NASSIMBENI

Physical chemistry; thermal analysis; kinetics; inclusion compounds.

#### PROFESSOR ALLEN L. RODGERS

Kidney stones; urine chemistry; calcium oxalate crystallization.

#### Research Associates

#### DR GAËLLE RAMON

Supramolecular chemistry, inclusion compounds, metal organic frameworks, crystal engineering

#### Honorary Research Associates

#### DR SHIRLEY C. CHURMS

Writing and communication within the discipline.

#### PROF RAYMOND J. HAINES

Organometallic chemistry.

#### DR ELIZABETH TIMME

Assessment of possible immuno-modulatory carbohydrates from local and indigenous plants and fungi.

#### Research Officers

#### DR YASSIR YOUNIS ADAM

Research Officer: Chemoinformatics and synthetic medicinal chemistry: design and synthesis of small molecules for biological evaluations using computer aided drug design (CADD).

#### DR CHRISTOPHER BARNETT

Research Officer: Scientific Computing; Glycoinformatics; data analytics and visualisation; cancer.

#### DR CHITALU C. MUSONDA

Senior Research Officer: Medicinal Chemistry, TB drug discovery & development; malaria drug discovery & development.

#### DR TANYA PAQUET

Research Officer: Synthetic organic chemistry; medicinal chemistry; malaria; drug design and development; hit-to-lead and lead optimisation.

#### DR LESLIE STREET

Principal Research Officer: Medicinal chemistry; malaria and tuberculosis.

#### DR RENIER VAN DER WESTHUYZEN

Research Officer: Parallel synthesis; medicinal chemistry; discovery of new drugs for treatment of infections by mycobacterium tuberculosis.

#### DR SUSAN WINKS

Research Officer: Synthesis; medicinal Chemistry; tuberculosis; drug discovery and development

#### Postdoctoral Fellows

#### DR YASSIR YOUNIS ADAM

Hit to lead and lead optimization medicinal chemistry progression of antimalarial hits.

#### DR NYARADZO CHIGORIMBO-TSIKIWA

Biocatalytic modification of natural compounds for metabolite analysis.

#### DR DYANNE CRUICKSHANK

Beneficiation of bioactive compounds via supramolecular chemistry.

#### DR MARLENE ELIZABETH ESPINOZA MORAGA

Hit to lead medicinal chemistry new chemotherapeutic agents against tuberculosis (TB).

#### DR TZU-SHEAN FENG

Hit to lead medicinal chemistry progression of antimycobacterial hits.

#### DR MOGAMAT RIEDAA GAMIELDIEN

Protein 3D Structure.

#### DR RICHARD KLAUS GEISSNER

Hit to lead medicinal chemistry progression of antimycobacterial hits.

#### DR DIEGO GONZALEZ-CABRERA

Hit to lead and lead optimization medicinal chemistry progression of antimalarial hits.

#### DR ZE HAN

Hit to lead and lead optimization medicinal chemistry progression of antimalarial hits.

#### DR AHMAD HUSAIN

Crystal engineering of large supramolecular assemblies and metal-organic frameworks.

#### DR CLAIRE LE MANACH

Hit to lead and lead optimization medicinal chemistry progression of antimalarial hits.

**DR BANOTHILE CHARITY EVENTS MAKHUBELA**  
Development of water-soluble metalloendrimers for biphasic catalysis and as novel bioorganometallic drugs.

**DR YEVGENY MOSKOVITZ**  
Coarse grained force field development for glycan folding.

**DR GRACE MUGUMBATE**  
Application of in silico tools to the discovery of novel anti-infective agents.

**DR GADZIKANO MUNYUKI**  
Molecular dynamics of cyclic antibiotics.

**DR DUBEKILE NYONI**  
The design and development of novel ruthenium, rhodium and iridium dendritic multinuclear complexes for use in medicinal bio- and nanotechnology.

**DR RAGHAVAIAH PALLEPOGU**  
Supramolecular beneficiation of new drug candidates.

**DR TANYA PAQUET**  
Hit to lead and lead optimization medicinal chemistry progression of antimalarial hits.

**DR ELUMALAI PAVADAI**  
Drug design, feeding into medicinal chemistry and pre-clinical pharmacology.

**DR MARIVEL SAMIPILLAI**  
Inclusion of picolines by bis-(3,3'-bis-(9-hydroxy-9-fluorenyl)-2,2'-binaphthyl: selectivity and structure.

**DR RAJNI SHARMA**  
Development of novel antituberculosis molecules for computational drug design approaches..

**DR KAWALIJT SIGH**  
Towards the synthesis of reversed anti-tuberculosis agents and hybrid bacterial efflux pump inhibitors.

**DR CANDICE SOARES DE MELO**  
Hit to lead medicinal chemistry progression of antimycobacterial hits.

**DR COLIN WILSON**  
Medicinal chemistry of new antituberculosis agents.

**DR DAWIT WORKU**  
Porting molecular quantum code to high performance accelerators.

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## Research Output

### Chapters in books

De Villiers, K.A. and Egan, T.J. 2013. Iron(III) protoporphyrin IX and hemozoin: key targets in the chemotherapy of malaria. In G.C. Ferreira, K.M. Kadish, K.M. Smith and R. Guillard (eds), *Handbook of Porphyrin Science with Applications to Chemistry, Physics, Materials Science, Engineering, Biology and Medicine*, pp. 211-254. Singapore: World Scientific Publishing Co. Pte Ltd. ISBN 9789814407786.

Popa, M.M., Caira, M.R. and Dumitrescu, F. 2013. Pyrrolo [1,2-a] quinolines: synthesis and biological activity. In K.L. Ameta, R.P. Pawar, and A. Domb (eds), *Bioactive Heterocycles: Synthesis and Biological Evaluation*, pp. 19-40. USA: Nova Science Publishers, Inc. ISBN 9781622576364.

Rodgers, A. 2012. *Epidemiology: South Africa and Sub-Saharan Africa*. In J.J. Talati, H.-G. Tiselius, D.M. Albala and Z. Ye (eds), *Urolithiasis basic science and clinical practice*, pp. 67-71. London: Springer-Verlag London Limited. ISBN 9781447143833.

### Articles in peer-reviewed journals

Adams, M., De Kock, C., Smith, P.J., Chibale, K. and Smith, G.S. 2013. Synthesis, characterization and antiplasmodial evaluation of cyclopalladated thiosemicarbazone complexes. *Journal of Organometallic Chemistry*, 736: 19-26.

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## DEPARTMENT OF COMPUTER SCIENCE

### Head of Department: Associate Professor Sonia Berman

#### Departmental Profile

The Department's main research themes are Information and Communication Technology for Development (ICT4D) and High Performance Computing (HPC). ICT4D is a multi-disciplinary field which looks at the design and creation of computer systems for the developing world. These systems could cover any sub-discipline of computing, such as the Internet of Things, virtual environments, security, interaction design, artificial intelligence and information retrieval. However they differ in that design constraints for the developing world are different: power is limited, networks scarce, users can be illiterate, etc. ICT4D deals with the creation of ICT solutions that address defined developmental and social challenges like education, medical care, identity and human dignity. High Performance Computing is an enabling technology that seeks to improve the performance of computing applications. For example, a molecular simulation might be reduced from years to months, or digital 3D content produced in real time rather than requiring minutes to generate. A major theme of this HPC research is improving the speed of discipline-specific computational solutions.

The Department has two research centres and several research laboratories. The Collaborative Visual Computing Laboratory works in five main areas: procedural modelling, geometric compression, graphical simulation, virtual environments and computer games. The Digital Libraries Laboratory covers information storage and retrieval, including multilingual retrieval and cultural heritage preservation. The High Performance Computing Laboratory applies GPU programming and high throughput computing to areas such as scientific computing, visualisation and information retrieval, particularly in the domains of cultural heritage, radio astronomy and computational chemistry. The Intelligent Systems and Advanced Telecommunications Laboratory focuses on wireless sensor networks; and the Network and Information Security Laboratory on algorithms and systems for safe and secure information access.

ICT is an enabling technology, and thus highly cross-disciplinary. The UCT Centre in ICT for Development seeks to design, create and evaluate technologies that address the needs of the developing world, and to study the impacts of existing technology. This centre also includes staff from diverse UCT departments, such as Civil Engineering and Film and Media. It is closely associated with the Hasso-Plattner Research School in ICT for Development, through which the Hasso-Plattner Institute (Germany) funds African PhD students working in ICT for Development. The Samsung Mobile Innovation Lab is a joint Information Systems – Computer Science unit. The Telkom-Siemens Centre of Excellence in ATM and Broadband Networks and their Applications includes UCT's Communications Group in Electrical Engineering and the Departments of Computer Science at UCT and at Stellenbosch University.

#### Departmental Statistics

##### Permanent Staff

Professors	2
Associate Professors	4
Senior Lecturers	6
Administrative & Support Staff	6
<b>Total</b>	<b>18</b>

##### Adjunct & Honorary Staff

Adjunct Professors	1
Honorary Professors	1
<b>Total</b>	<b>2</b>

## **Students**

Postdoctoral	3
Doctoral	28
Master's	99
Honours	47
Undergraduate	953
<b>Total</b>	<b>1130</b>

## **Research Fields and Staff**

### **Permanent Academic Staff**

**ASSOCIATE PROFESSOR SONIA BERMAN**  
Head of Department: Data management

**PROFESSOR EDWIN BLAKE**  
ICT for Development: Human-Computer Interaction; User Experience in Games and Virtual Environments

**PROFESSOR GARY MARSDEN**  
Mobile Interaction Design: ICT for Development

**ASSOCIATE PROFESSOR JAMES GAIN**  
Computer Graphics: High Performance Computing; Visualisation

**ASSOCIATE PROFESSOR MICHELLE KUTTEL**  
Computational Science: Parallel Processing; Scientific Visualisation and Design

**ASSOCIATE PROFESSOR HUSSEIN SULEMAN**  
Digital Libraries; Information Retrieval; Internet technology; High Performance Computing; Computer Science Education

**DR ANTOINE BAGULA**  
Senior Lecturer: Traffic Engineering; Network Engineering; Network Security; Internet of Things

**DR ANNE KAYEM**  
Lecturer: Information Security

**DR HANH LE**  
Senior Lecturer: Networks; Distributed Computing

**DR PATRICK MARAIS**  
Senior Lecturer: Computer Graphics; Image Processing, GPU Computing

**DR AUDREY MBOGO**  
Senior Lecturer: Human Language Technologies; e-Health; Intelligent Systems and User Interfaces

**DR GEOFF NITSCHKE**  
Senior Lecturer: Artificial Intelligence; Co-evolution; Robotics

### **Administrative and Support Staff**

**MRS SALEGGA VALLEY**  
Administrative Officer

**MRS EVE GILL**  
Administrative Assistant

**MRS THELMA JENNEKER**  
Senior Secretary

**MS BERNIE SAM**  
Departmental Assistant

**MR CRAIG BALFOUR**  
Computer Systems Administrator

**MR SAMUEL CHETTY**  
Computer Systems Administrator

### **Postdoctoral Fellows**

**DR BRUCE MERRY**  
Computer Graphics

**DR SIMON PERKINS**  
High Performance Computing for Radio Astronomy

**DR HENDRANUS VERMEULEN**  
Serious Games and Gamification

### **Adjunct and Honorary Professors**

**HONORARY PROFESSOR JUDITH BISHOP**  
Software Engineering; Programming Languages; Distributed Systems

**ADJUNCT PROFESSOR ANDREW HUTCHISON**  
Information Security

### **Contact Details**

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### **Research Output**

#### **Articles in peer-reviewed journals**

Adamatzky, A. and Kayem, A. 2013. Biological evaluation of trans-African highways. *European Physical Journal-Special Topics*, 215: 49-59.

Adamatzky, A., Akl, S., Alonso-Sanz, R., Van Dessel, W., Ibrahim, Z., Ilachinski, A., Jones, J., Kayem, A., Martinez, G.J., de Oliveira, P.P.B., Prokopenko, M., Schubert, T., Sloot, P.M.A. and Yang, X. 2013. Are motorways rational from slime mould's point of view? *International Journal of Parallel, Emergent and Distributed Systems*, 28(3): 230-248.

Bidwell, N., Siya, S., Marsden, G., Tucker, W., Tshemese, M., Gaven, N., Ntlangano, S., Robinson, S. and Eglington, K.A. 2013. Walking and the social life of solar charging in rural Africa. *ACM Transactions on Computer-Human Interaction*, 20(4): 22(33pp).

Boyinbode, O., Ng'ambi, D. and Bagula, A.B. 2013. An interactive mobile lecturing model: enhancing student engagement with face-to-face sessions. *International Journal of Mobile and Blended Learning*, 3(2): 1-21.

Isafiade, O., Osunmakinde, I. and Bagula, A.B. 2013. A complementary vision strategy for autonomous robots in underground terrains using SRM and entropy models. *International Journal of Advanced Robotic Systems*, 10: 338:2013.

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Longmore, J., Marais, P.C. and Kuttel, M. 2013. Towards realistic and interactive sand simulation: a GPU-based framework. *Powder Technology*, 235: 983-1000.

Mafuta, M., Zennaro, M., Bagula, A.B., Ault, G., Gombachika, H. and Chadza, T. 2013. Successful deployment of a wireless sensor network for precision agriculture in Malawi. *International Journal of Distributed Sensor Networks*, 2013: 150703(13pp) DOI: 10.1155/2013/150703.

Merry, B., Gain, J.E. and Marais, P.C. 2013. Fast in-place binning of laser range-scanned point sets. *Journal of Computing and Cultural Heritage*, 6(3): 1-19.

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Perkins, S., Marais, P.C., Gain, J.E. and Berman, M.N. 2013. Field D\*path-finding on weighted triangulated and tetrahedral meshes. *Autonomous Agents and Multi-Agent Systems*, 26: 354-388.

Rogers, Y. and Marais, G. 2013. Does he take sugar? Moving Beyond the Rhetoric of Compassion. *Interactions*, 20(4): 48-57.

### **Peer-reviewed published conference proceedings**

Asanger, S. and Hutchison, A. 2013. Experiences and challenges in enhancing security information and event management capability using unsupervised anomaly detection. *Proceedings 2013 International Conference on Availability, Reliability and Security (ARES 2013)*, 2-6 September 2013, Universität Regensburg, Germany. Germany: Conference Publishing Services (CPS). ISBN 9780769550084.

Badenhorst, S., Blyth, S. and Kuttel, M. 2013. Acceleration of automated H1 source extraction. *Proceedings of Astronomical Data Analysis Software and Systems XXII*, 4-8 November 2012, University of Illinois, USA. San Francisco, USA: Astronomical Society of the Pacific. ISBN 9781583818343.

Mullins, T. and Bagula, A.B. 2013. Monitoring community clouds: the lightweight network management protocol. *Proceedings of 2013 IEEE 10th International Conference on Ubiquitous Intelligence & Computing and 2013 IEEE 10th International Conference on Autonomic & Trusted Computing*, 18-20 December 2013, Vietri sul Mare, Italy. Italy: IEEE. ISBN 9781479924813.

Bagula, A.B., Djenouri, D. and Karbab, E. 2013. On the relevance of using interference and service differentiation routing in the internet-of-things. *Proceedings of 13th International Conference on Internet of Things, Smart Spaces, and Next Generation Networking, NEW2AN 2013 and 6th Conference on Internet of Things and Smart Spaces, ruSMART 2013*, 28-30 August 2013, St Petersburg. Germany: Springer. ISBN 9783642403156.

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Chepken, C., Blake, E.H. and Marsden, G. 2013. ICTs and survival tactics for the day-labour workers: implications for design. *Proceedings of IST-Africa 2013*, 29-31 May 2013, Nairobi, Kenya. Kenya: IEEE. ISBN 9781905824380.

- Gain, J.E. 2013. Using poll sheets and computer vision as an inexpensive alternative to clickers. Proceedings of SAICSIT 2013, 7-9 October 2013, East London, South Africa. New York, USA: ACM. ISBN 9781450321129.
- Goldstein, M., Asanger, S., Reif, M. and Hutchison, A. 2013. Enhancing security event management systems with unsupervised anomaly detection. Proceedings of ICPRAM 2013 Proceedings of the 2nd International Conference on Pattern Recognition Applications and Methods, 15-18 February 2013, Barcelona. Germany: ACM. ISBN 9789898565419.
- Goss, R. and Nitschke, G. 2013. Automated network application classification: a competitive learning approach. Proceedings of the 2013 IEEE Symposium on Computational Intelligence for Communication Systems and Networks CICOMMS - 2013 IEEE Symposium Series on Computational Intelligence (SSCI), 16-19 April 2013, Singapore. USA: IEEE. ISBN 9781467359030.
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- Isafiade, O. and Bagula, A.B. 2013. CitiSafe: adaptive spatial pattern knowledge using Fp-growth algorithm for crime situation recognition. Proceedings of 2013 IEEE 10th International Conference on Ubiquitous Intelligence & Computing and 2013 IEEE 10th International Conference on Autonomic & Trusted Computing, 18-20 December 2013, Vietri sul Mare, Italy. Italy: IEEE. ISBN 9781479924813.
- Isafiade, O. and Bagula, A.B. 2013. Efficient frequent pattern knowledge for crime situation recognition in developing countries. Proceedings of the 4th Annual Symposium on Computing for Development ACM DEV-4 2013, 6-7 December 2013, Cape Town, South Africa. Germany: ACM. ISBN 978145032558.
- Kamkuemah, M. and Le, H. 2013. A study of different routing protocols for mobile phone ad hoc networks connected via bluetooth. In D. Al-Dabass, A. Orsoni, J. Yunus, R. Cant and Z. Ibrahim (eds), Proceedings - UKSim 15th International Conference on Computer Modelling and Simulation, UKSim 2013, 10-12 April 2013, Cambridge, United Kingdom. UK: IEEE. ISBN 9781467364218.
- Kamkuemah, M. and Le, H. 2013. Routing in Mobile Phone Ad Hoc Networks. Proceedings Fifth International Conference on Computational Intelligence, Communication Systems and Networks (CICSyN2013), 5-7 June 2013, Madrid, Spain. USA: IEEE. ISBN 9780769550428.
- Khan, H. and Hutchison, A. 2013. Data privacy implications for security information and event management systems and other meta-systems. Proceedings of Trust in the Digital World and Cyber Security and Privacy EU Forum 2013, 18-19 April 2013, Brussels, Belgium. Germany: Springer. ISBN 9783642412042.
- Laidler, C. and Kuttel, M. 2013. Detection of binary pulsars with GPU-accelerated sinusoidal Hough transformations. Proceedings of Astronomical Data Analysis Software and Systems XXII, 4-8 November 2012, University of Illinois, USA. San Francisco, USA: Astronomical Society of the Pacific. ISBN 9781583818343.
- Masinde, E., Bagula, A.B. and Muthama, N. 2013. Implementation roadmap for downscaling drought forecasts in Mbeere using ITIKI. Proceedings of the 2013 ITU Kaleidoscope Academic Conference, 22-24 April 2013, Kyoto, Japan. Japan: IEEE. ISBN 978926140618.
- Masinde, M., Bagula, A.B. and Nzioka, M. 2013. SenseWeather: sensor-based weather monitoring system for Kenya. Proceedings of IST-Africa 2013, 29-31 May 2013, Nairobi, Kenya. Kenya: IEEE. ISBN 9781905824380.
- Mbogho, A., Dave, J.A. and Makhubele, K. 2013. Diabetes advisor - a medical expert system for diabetes management. Proceedings of AFRICOMM 2013 - Fifth International Conference on e-Infrastructure and e-Services for Developing Countries, 25-27 November 2013, Blantyre, Malawi. Berlin: Springer. ISBN 9781631900006.
- Mbogho, A. and Marquard, S.C. 2013. Improving the transcription of academic lectures for information retrieval. Proceedings of 2013 12th International Conference on Machine Learning and Applications, 4-7 December 2013, Miami, Florida, USA. USA: IEEE. ISBN 9780769551449.
- Mbogo, C.C., Blake, E.H. and Suleman, H. 2013. A mobile scaffolding application to support novice learners of computer programming. G. Marsden and J. May (eds), Proceedings of the Sixth International Conference on Information and Communications Technologies and Development (ICTD 2013), 7-10 December 2013, Cape Town. Cape Town: ACM. ISBN 9781450319072.
- Meissner, F. and Blake, E.H. 2013. Availability4D: refining the link between availability and adoption in marginalised communities. P. Kotze, G. Marsden, G. Lindgaard, J. Wesson and M. Winckler (eds), Proceedings of 14th IFIP TC 13 International Conference on Human-Computer Interaction, INTERACT 2013, 2-6 September 2013, Cape Town, South Africa. Germany: Springer. ISBN 9783642404825.
- Merry, B., Gain, J.E. and Marais, P.C. 2013. Accelerating kd-tree searches for all k-nearest neighbours. Proceedings of Eurographics 2013, 6-10 May 2013, Girona, Spain. Spain: Eurographics Digital Library. ISSN 01677055.
- Mkhwanazi, X., Le, H. and Blake, E.H. 2013. Developing and evaluating routing protocols for rural areas that communicate via data mules. Proceedings Fifth International Conference on Computational Intelligence, Communication Systems and Networks (CICSyN2013), 5-7 June 2013, Madrid, Spain. USA: IEEE. ISBN 9780769550428.
- Molapo, M. and Marsden, G. 2013. Content prototyping - An approach for engaging non-technical users in participatory design. In P. Kotze, G. Marsden, G. Lindgaard, J. Wesson and M. Winckler (eds), Proceedings of 14th IFIP TC 13 International Conference on Human-Computer Interaction, INTERACT 2013, 2-6 September 2013, Cape Town, South Africa. Germany: Springer. ISBN 9783642404825.
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- Molapo, M. and Marsden, G. 2013. Software support for creating digital health training materials in the field. In G. Marsden and J. May (eds), Proceedings of the Sixth International Conference on Information and Communications Technologies and Development (ICTD 2013), 7-10 December 2013, Cape Town. Cape Town: ACM. ISBN 9781450319072.
- Munyaradzi, N. and Suleman, H. 2013. Quality assessment in crowdsourced indigenous language transcription. Proceedings of International Conference on Theory and Practice of Digital Libraries, TPDL 2013, 22-26 September 2013, Valetta, Malta. Berlin: Springer. ISBN 9783642405006.
- Nitschke, G. and Tolkamp, S. 2013. Approaches to dynamic team sizes. Proceedings of the 2013 IEEE Workshop on Robotic Intelligence in Informationally Structured Space RiiSS 2013 - 2013 IEEE Symposium Series on Computational Intelligence (SSCI), 16-19 April 2013, Singapore. USA: IEEE. ISBN 978146735877.
- Nleya, S., Bagula, A.B., Zennaro, M. and Pietrosemoli, E. 2013. A TV white space broadband market model for rural entrepreneurs. Proceedings of 2013 Global Information Infrastructure Symposium, GIIS 2013, 28-31 October 2013, Trento, Italy. Italy: IEEE. ISBN 9781479929696.
- O'Donovan, S., Gain, J.E. and Marais, P.C. 2013. A case study in the gamification of a university-level games development course. Proceedings of SAICSIT 2013, 7-9 October 2013, East London, South Africa. New York, USA: ACM. ISBN 9781450321129.
- Phiri, L. and Suleman, H. 2013. Flexible design for simple digital library tools and services. Proceedings of SAICSIT 2013, 7-9 October 2013, East London, South Africa. New York, USA: ACM. ISBN 9781450321129.
- Reitmaier, T., Benz, P. and Marsden, G. 2013. Designing and theorizing co-located interactions. Proceedings of 31st Annual CHI Conference on Human Factors in Computing Systems: Changing Perspectives, CHI 2013, 27 April - 2 May 2013, Paris, France. Germany: ACM. ISBN 9781450318990.
- Ssembatya, R., Kayem, A. and Marsden, G. 2013. On the challenge of adopting standard EHR systems in developing countries. Proceedings of the 3rd ACM Symposium on Computing for Development, DEV 2013, 11-12 January 2013, Bangalore, India. Germany: ACM. ISBN 9781450318563.
- Williams, K., Suleman, H. and Paihama, J. 2013. A comparison of machine learning techniques for handwritten |Xam word recognition. Proceedings of SAICSIT 2013, 7-9 October 2013, East London, South Africa. New York, USA: ACM. ISBN 9781450321129.
- Winschiers, H., Winschiers-Goagoses, N., Rodil, K., Blake, E.H., Zaman, T., Kapuire, G. and Kamukuenjandje, R. 2013. Moving away from Erindi-roukambe: transferability of a rural community-based co-design. Proceedings of the 12th international conference on social implications of computers in developing countries (IFIP), 21-24 May 2013, Montego Bay, Jamaica. USA: IEEE. ISBN 9789764102557.

# DEPARTMENT OF ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE

**Head of Department: Professor Michael E. Meadows**

## Departmental Profile

Major research themes covered by staff in the department reflect the interaction between humans and their environment and the variability of this environment, and the dynamic socio-economic and political conditions affecting society as a whole. Members of staff in the department draw empirical evidence from Africa to explore and engage these themes at various scales ranging from the global to the national, while also paying attention to specific challenges of reconstruction and development in South Africa. In the past five years, much of the research in the department focused on climate change, adaptation and modelling; ecology and society; environmental impact assessment; palaeoenvironment, geomorphology and remote sensing; theories, policies and practices in natural resource governance and management; biodiversity conservation and benefit sharing; and urban theory, policy and planning.

The department has ongoing research initiatives and collaboration with 49 institutions that are spread in six (6) continents. It has strong working relationships with institutions in five countries in Africa (Botswana, Kenya, Liberia, Mozambique, and Tanzania); five countries in Asia (China, India, Indonesia, Japan and Sri Lanka); eight countries in Europe (France, Germany, Ireland, Italy, Netherlands, Spain, Sweden and United Kingdom); two countries in North America (Canada and the United States); and one country in South America (Brazil). It has, through research themes mentioned above, engaged with policy and development, and played advisory roles in government and international bodies.

Structurally, the research enterprise in the department is diversified to accommodate various research cultures/approaches and interests. Academic staff members carry out research within and outside research nodes. There are three formally established research nodes, which include the Climate System Analysis Group (CSAG), which applies core research to meet the knowledge needs of responding to climate variability and change;

African Climate and Development Initiative (ACDI), which fosters interactions across disciplines at the University of Cape Town to enable improved understanding of the causes of climate change, the economic impact and the necessary policies to facilitate mitigation and adaptation; and the African Centre for Cities (ACC) which is an interdisciplinary research and teaching programme focusing on quality scholarship regarding the dynamics of sustainable urban processes in Africa, with an eye on identifying systemic responses. The fourth research grouping on Social and Environmental Dimensions of the Bio-economy is under way.

## Departmental Statistics

### Permanent and Long-term Contract Staff

Professors	3
Associate Professors	4
Senior Lecturers	4
Lecturers	4
Research Staff	16
Research Associates	3
Administrative & Support Staff	15
<b>Total</b>	<b>49</b>

### Emeritus & Honorary Staff

Honorary Professors	3
Emeritus Staff	2

## Students

Postdoctoral	9
Doctoral	38
Masters	65
Honours	23
Undergraduate	874
<b>Total</b>	<b>1009</b>

## Research Fields and Staff

### Permanent Academic Staff

#### PROFESSOR MIKE MEADOWS

Head of Department: Quaternary Environmental Change

#### PROFESSOR BRUCE HEWITSON

Chair in Climate Change  
Atmospheric Science, Climatology

#### PROFESSOR SUE PARRELL

Urban Studies, Historical Geography

ASSOCIATE PROFESSOR SOPHIE OLDFIELD  
Political and Economic Geography

ASSOCIATE PROFESSOR MAANO RAMUTSINDELA  
Political Geography, Transnational Regionalism

ASSOCIATE PROFESSOR MERLE SOWMAN  
Environmental Planning and Management, Coastal and Small-Scale Fisheries Management

ASSOCIATE PROFESSOR RACHEL WYNBERG  
Chair in Environmental and Social Dimensions of the Bio-economy  
Biodiversity and Social Justice, Commercial Use of Biodiversity, Access and Benefit Sharing; Genetic Resources for Food and Agriculture

DR BABATUNDE ABIODUN  
Senior Lecturer: Atmospheric Science, Climatology

DR PIPPIN ANDERSON  
Lecturer: Director of Graduate Studies

DR SHARI DAYA  
Lecturer: Gender, Modernity  
DR FRANK ECKARDT  
Senior Lecturer: Geomorphology, Remote Sensing

DR RICHARD HILL  
Senior Lecturer: Environmental Assessment and Management

DR PETER JOHNSTON  
Research Officer: Seasonal Forecasting Applications; Climate Change

DR ZARINA PATEL  
Senior Lecturer: Environmental governance and politics

DR. KEVIN WINTER  
Lecturer: Environmental Management, Water Resources, Monitoring and Evaluation

DR GINA ZIERVOGEL  
Senior Lecturer: Vulnerability and Adaptation

### Emeritus Staff

#### PROFESSOR RICHARD FUGGLE

### Contract Research Staff

MR CHIMANGO HARA  
Intern: Environmental Law

MR TICH MUKUNGA  
Intern: Atmospheric Science

DR BRADLEY RINK  
Human Geography

MS KIRSTEN SCOTT  
Research Assistant: EIA, Social Scoping Reports

MS ANNA STEYNOR  
Research Associate: Stakeholder Engagement

MS KATE SUTHERLAND  
Research Assistant: Climate Data Analysis

MS CLAIRE VAN WYK  
Intern: Atmospheric Science

DR PIOTR WOLSKI  
Senior Researcher: Hydrology

## Administrative and Support Staff

MRS SHARON ADAMS  
Administrative Officer

MR ALDINO ARENDSE  
Finance Officer  
MRS SHARON BARNARD  
Administrative Assistant

MS LISA COOP  
Research Assistant

MR ROGER DUFFETT  
IT Manager

MR TONY GEORGE  
Library Assistant

MS FAHDELAH HARTLEY  
Senior Secretary

MR SAYED HESS  
Laboratory Technician

DR CHRIS JACK  
Senior Scientific Technical Officer

MS VUYOKAZI MAFANYA  
Senior Secretary

MR PHILLIP MUKWENHA  
IT Assistant

MRS SHAADA REDDY  
Librarian

MS SHAHIEDA SAMSODIEN  
Senior Secretary

MS MATHILDA JACI VAN NIEKERK  
Research Assistant

MS RUWANI WALAWEGE  
Research Assistant

### Postdoctoral Fellows

DR OLIVIER CRESPO  
Agricultural and Water Research Modelling

DR JOSEPH DARON  
Climate uncertainties and adaptation

DR CHRIS LENNARD  
Atmospheric Science

DR NEIL MACKELLAR  
Climate and Land-cover Change

DR KAZEEM OARE OKOSUN  
Epidemiological modelling and climate impact

DR SERGE RAEMAEKERS  
Small-scale Fisheries Governance

DR SAMANTHA WILLIAMS  
Coastal and Small-scale Fisheries

### Honorary Professors

PROF JOHN BOARDMAN  
Soil Erosion, Land Degradation

PROF JONATHAN CRUSH  
International Migration, Transnationalism

PROF DAVE THOMAS  
Arid Zone Geomorphology, Quaternary Science

### Research Associates

DR MARIA HAUCK

DR LAURENCE NATHAN

DR DAVID FIG

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## Research Output

### Edited books

Elmqvist, T., Fragkias, M., Goodness, J., Gneralp, B., Marcotullio, P.J., McDonald, R.I., Parnell, S., Schewenius, M., Sendstad, M., Seto, K.C. and Wilkinson, C. (eds) 2013. *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities*. 755pp. Dordrecht: Springer Science & Business Media B.V. ISBN 9789400770874.

### Chapters in books

Anderson, P.M.L., Okereke, C., Rudd, A. and Parnell, S. 2013. Regional assessment of Africa. In T. Elmqvist, M. Fragkias, J. Goodness, B. Gneralp, et al. (eds), *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities*, pp. 453-459. Dordrecht: Springer Science & Business Media B.V. ISBN 9789400770874.

Elmqvist, T., Fragkias, M., Goodness, J., Gneralp, B., Marcotullio, P.J., McDonald, R.I., Parnell, S., Schewenius, M., Sendstad, M., Seto, K.C., Wilkinson, C., Alberti, M., Folke, C., Frantzeskaki, N., Haase, D., Katti, M., Nagendra, H., Niemel, J., Pickett, S.T.A., Redman, C.L.R. and Tidball, K. 2013. Stewardship of the biosphere in the urban era. In T. Elmqvist, M. Fragkias, J. Goodness, B. Gneralp, et al. (eds), *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities*, pp. 719-746. Dordrecht: Springer Science & Business Media B.V. ISBN 9789400770874.

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Goodness, J. and Anderson, P.M.L. 2013. Local assessment of Cape Town: navigating the management complexities of urbanization, biodiversity, and ecosystem services in the Cape floristic region. In T. Elmqvist, M. Fragkias, J. Goodness, B. Gneralp, et al. (eds), *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities*, pp. 461-484. Dordrecht: Springer Science & Business Media B.V. ISBN 9789400770874.

Johnston, P.A., Thomas, T.S., Hachigonta, S. and Sibanda, L.M. 2013. South Africa. In S. Hachigonta, G.C. Nelson, T.S. Thomas and L. Majele Sibanda (eds), *Southern African Agriculture and Climate Change: A Comprehensive Analysis*, pp. 175-212. Washington, DC: International Food Policy Research Institute. ISBN 9780896292086.

Meadows, M.E. 2013. William John Talbot 1908-1995. In H. Lorimer and C.W.J. Withers (eds), *Geographers Biobibliographical Studies Volume 32*, pp. 124-136. London: Bloomsbury Publishing Plc. ISBN 9781472512352.

Methner, N. 2013. Adaptation to climate change: an investigation into Woolworths' water management measures. *Business and Climate Change Governance: South Africa in Comparative Perspective*, pp. 135-155. Hampshire, England: Palgrave Macmillan. ISBN 9780230235977.

Nash, D. and Meadows, M.E. 2012. Africa. In S.E. Metcalfe and D.J. Nash (eds), *Quaternary Environmental Change in the Tropics*, pp. 79-150. Chichester, West Sussex: John Wiley & Sons Ltd. ISBN 9781118343258.

Patel, Z. and van der Merwe, C.D. 2013. Constitution Hill: just space or space of justice? In J. Simon, N. Temple and R. Tobe (eds), *Architecture and Justice: Judicial Meanings in the Public Realm*, pp. 115-130. Surrey, England: Ashgate Publishing. ISBN 9781409431732.

Rink, B.M. 2013. Que(e)rying Cape Town: touring Africa's 'gay capital' with the pink map. In J. Sarmento and E. Brito-Henriques (eds), *Tourism in the Global South: Heritages, Identities and Development*, pp. 65-90. Lisbon: Centre for Geographical Studies, University of Lisbon. ISBN 9789726362357.

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Vera, C., Gutowski, W., Mechoso, C.R., Goswami, B.N., Reason, C.J.C., Thorncroft, C.D., Marengo, J.A.,

Hewitson, B.C., Hendon, H., Jones, C. and Lionello, P. 2013. Understanding and predicting climate variability and change at monsoon regions. In G.R. Asrar and J.W. Hurrell (eds), *Climate Science for Serving Society: Research, Modeling and Prediction Priorities*, pp. 273-306. Dordrecht: Springer Science & Business Media B.V. ISBN 9789400766914.

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Abiodun, B.J., Lawal, K.A., Salami, A.T. and Abatan, A.A. 2013. Potential influences of global warming on future climate and extreme events in Nigeria. *Regional Environmental Change*, 13: 477-491.

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# DEPARTMENT OF GEOLOGICAL SCIENCES

## Head of Department: Professor Stephen Richardson

### Departmental Profile

Research in the Department of Geological Sciences covers a wide range of disciplines. The Department has strengths in geochemistry, structural geology and tectonics, igneous and metamorphic petrology, sedimentology, marine geology, economic geology and petroleum geophysics. General research interests include: global tectonics and geodynamics with emphasis on Gondwana geology; oceanic and continental igneous processes and the geochemical evolution of the underlying mantle; kimberlites and the genesis of diamonds; evolution of the Kaapvaal craton and gold genesis; paleoenvironments; marine geoscience and sedimentary geochemistry. Analytical facilities include X-ray fluorescence, X-ray diffraction, electron microprobe, fluid inclusion stage, stable isotope extraction lines and access to a stable isotope mass spectrometer, quadrupole (single collector) and magnetic sector (multi-collector) inductively coupled plasma mass spectrometers (solution and laser analysis) and associated clean laboratories.

### Departmental Statistics

#### Permanent and long-term contract staff

Professors	3
Associate Professors	2
Senior Lecturers	3
Lecturers	2
Senior Research Officer	1
Technical Support Staff	11
Administrative & Clerical Staff	2
<b>Total</b>	<b>24</b>

#### Honorary staff

Honorary Research Associates	3
Emeritus Professors	1
Emeritus Associate Professors	2
<b>Total</b>	<b>6</b>

### Students

Postdoctoral	1
Doctoral	9
Master's	22
Honours	16
Undergraduate	550
<b>Total</b>	<b>598</b>

### Research Fields and Staff

#### Permanent staff

##### PROFESSOR STEPHEN RICHARDSON

Head of Department: Isotope geochemistry; geochronology; diamonds; continental mantle evolution.

##### PROFESSOR CHRIS HARRIS

Stable isotope geochemistry; igneous petrology.

##### PROFESSOR ANTON LE ROEX

Dean of Science: Igneous geochemistry; analytical geochemistry; mantle evolution.

##### ASSOCIATE PROFESSOR JOHN COMPTON

Low-temperature and sedimentary geochemistry; marine geology.

##### ASSOCIATE PROFESSOR DAVID REID

Economic geology; Precambrian crustal evolution; carbonatites; isotope geochemistry.

##### MR GEORGE SMITH

Senior Lecturer: Petroleum geophysics.

##### DR EMESE BORDY

Senior Lecturer: Sedimentology

##### DR PHIL JANNEY

Senior lecturer: Igneous geochemistry; analytical geochemistry; cosmochemistry

##### DR JOHANN DIENER

Lecturer: Metamorphic petrology.

##### DR AKE FAGERENG

Lecturer: Structural geology.

#### Honorary Research Associates

EMERITUS PROFESSOR JOHN GURNEY  
Upper mantle research, diamonds, diamond exploration and instrumental analysis of minerals

#### EMERITUS ASSOCIATE PROFESSOR ANDY DUNCAN

Igneous Petrology; X-Ray Flourescence Spectroscopy

**EMERITUS ASSOCIATE PROFESSOR JAMES WILLIS**

X-Ray Fluorescence Spectroscopy

**PROFESSOR HARTWIG FRIMMEL**

Metamorphic petrology.

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**Research Output****Articles in peer-reviewed journals**

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Weis, F.W., Troll, V.R., Jonsson, E., Hogdahl, K.H., Barker, A.K., Harris, C., Millet, M.M. and Nilsson, K.N. 2013. Iron and oxygen isotope systematics of apatite-iron oxide cores in central Sweden. In E. Jonsson (ed), Proceedings of 12th Biennial SGA Meeting. Mineral Deposit Research for High-Tech World, 12-15 August 2013, Uppsala, Sweden. Sweden: Elanders Sweden AB. ISBN 9789174032079.

# DEPARTMENT OF MATHEMATICS AND APPLIED MATHEMATICS

(Including the Cosmology and Gravity Group, the Laboratory for Discrete Mathematics and Theoretical Computer Science (DMTCS Lab), the Marine Resource Assessment and Management Group (MARAM), the Centre for Research in Computational and Applied Mechanics (CERECAM), the Category Theory and Topology Research Group and the Laboratory for Quantum Gravity and Strings.)

## Head of Department: Professor Hans-Peter Kunzi

### Departmental Profile

The Department of Mathematics and Applied Mathematics houses a number of research groups and individual activities which, in total, cover a large part of the mathematical spectrum. Examples are: cosmology and relativity, computational and applied mechanics, marine resource assessment and management, rangeland modelling, industrial mathematics, discrete mathematics and theoretical computer science, topology, category theory, nonlinear mathematical physics, functional analysis, cryptography, string theory, financial mathematics and algebra. The Department has active research collaboration with other groups in the country and abroad. There is a strong postgraduate program, with M.Sc. and Ph.D. students in a variety of fields. A number of staff have NRF A-ratings and

B-ratings. The Department has a good technical and administrative infrastructure, and regularly hosts visitors from abroad. More information can be found on the website [www.mth.uct.ac.za](http://www.mth.uct.ac.za).

### Departmental Statistics

#### Permanent and long-term contract staff

Professors	6
Associate Professors	4
Senior Lecturers	11
Lecturers (full-time)	14
Senior Scholar	2
Research Staff	5
Technical Support Staff	3
Administrative and Clerical Staff	11
<b>Total</b>	<b>56</b>

#### Honorary staff

Emeritus Professors	7
Emeritus Associate Professor	1
Visiting Professor and Principal research officer	1
Research Associate	2
<b>Total</b>	<b>11</b>

#### Students

Postdoctoral	13
Doctoral	33
Master	52
Honours	18
Undergraduate	7292
<b>Total</b>	<b>7408</b>

### Research Fields and Staff

#### Permanent Academic and long-term contract staff

##### PROFESSOR HANS-PETER KÜNZI

Head of Department: Topology, orders, categories, combinatorics and their applications in analysis and algebra; particular focus being the theory of asymmetric topology; leader of topology and category theory research group

##### PROFESSOR IGOR BARASHENKOV

Nonlinear waves and solitons; nonlinear dynamics; mathematical physics

##### PROFESSOR BRUCE BASSETT

Observational and theoretical cosmology; nonlinear

optimization. Research astronomer at the South African Astronomy Observatory and senior researcher, African Institute of Mathematical Sciences

##### PROFESSOR PETER DUNSBY

Director of the National Astrophysics and Space Science Programme. Co-Director of the Astrophysics, Cosmology and Gravitation Centre: cosmological perturbations; cosmic microwave background anisotropies; gravitational lensing; inflationary cosmology; cosmological magnetic fields; teaching and technology

##### PROFESSOR GEORGE JANELIDZE

Category theory, Algebra, Topology, Sets and Logic

##### PROFESSOR DAYA REDDY

South African Research Chair in Computational Mechanics. Director, UCT Centre for Research in Computational and Applied Mechanics (CERECAM); mathematical and computational aspects of continuum mechanics; the finite element method

##### ASSOCIATE PROFESSOR CHRISTOPHER CLARKSON

Theoretical Cosmology – relativistic perturbation theory, dark energy, gravitational lensing

##### ASSOCIATE PROFESSOR CHRISTOPHER GILMOUR

Pointfree topology and sigma-frames; categorical topology

##### ASSOCIATE PROFESSOR CHARLES HELLABY

General relativity; cosmology; gravity

##### ASSOCIATE PROFESSOR ALEXANDAR IANOVSKY

Dynamical systems – finite and infinite dimensions; differential geometric methods in the theory of dynamical systems

##### DR NORA ALEXEEVA

Lecturer: nonlinear dynamics and solitons; pattern formation in reaction-diffusion systems; synchronization of chaotic systems

##### DR MARGARET ARCHIBALD

Lecturer: analysis of algorithms and combinatorics

##### DR PETER BRUYN

Senior Lecturer: group theory; permutation groups

##### DR FRANCOISE EBOBISSE BILLE

Senior Lecturer: calculus of variations; PDE; mathematical and computational aspects of continuum mechanics; the finite element method

##### DR TIRI CHINYOKA

Lecturer: modelling and analysis of complex fluids and flows

##### DR JURIE CONRADIE

Senior Lecturer: functional analysis; vector lattices; von Neumann algebras; non-commutative function spaces; mathematics education

##### DR DAVID ERWIN

Senior Lecturer: classical, applied and algebraic graph theory

##### DR EBRAHIM FREDERICKS

Lecturer: lie symmetries analysis of stochastic differential equations; lie symmetries analysis of partial differential equations; lie symmetries analysis of ordinary differential equations; applying lie symmetries to fluid mechanics, applying lie symmetries to mathematics of finance

##### DR JOHN FRITH

Senior Lecturer: frame theory; topos theory; categorical topology; mathematical education

##### MS MARIOLA KIROVA

Lecturer: mathematics education

##### DR HENRI LAURIE

Senior Lecturer: mathematical biology, in particular ecology; industrial mathematics; mathematics education

##### DR ROBERT MARTIN

Lecturer: functional analysis; operator theory

##### DR JEFF MURUGAN

Senior Lecturer: string theory, quantum gravity, neurophysics. Deputy HOD and Head of Laboratory for Quantum Gravity and Strings

##### DR ANDRIY POTOTSKYY (LEFT THE DEPARTMENT 30 SEPTEMBER 2013)

Lecturer: rectification of brownian motion, directed transport of particles in molecular rectifiers; many body systems: non-equilibrium dynamical density functional theory; fluctuations and noise induced motion: stochastic differential equations, jump processes, collective phenomena in coupled stochastic networks; pattern formation in complex systems

##### MR KENNETH RAHEL

Senior Lecturer: mathematics education

##### DR JESSE RATZKIN

Lecturer: geometric analysis

##### DR NEILL ROBERTSON

Senior Lecturer: functional analysis; locally convex spaces; descriptive set theory; infinite-dimensional holomorphy

**DR ANNELIESE SCHAUERTE**

Senior Lecturer: frame and biframe theory; categorical topology; uniform and quasi-uniform structures

**DR HARIS SKOKOS**

Senior Lecturer: nonlinear dynamical systems, chaotic dynamics and computational mathematics

**DR AMANDA WELTMAN**

Senior Lecturer: string theory, cosmology, gravity

**DR JONATHAN SHOCK**

Lecturer: string theory, mathematical biology, neuroscience and symbolic computation

**DR DEON SOLOMONS**

Lecturer: thermodynamics of spacetime; Interference and diffraction phenomena in gravitational lensing; structure formation in the universe; theories of higher order gravity

**DR HOLGER SPAKOWSKI**

Lecturer: theoretical computer science; computational complexity

**DR CHRISTINE SWART**

Lecturer: cryptography

**DR VITALI VOUGALTER**

Lecturer: nonlinear analysis, partial differential equations, mathematical biology

**MR THOMAS VAN HEERDEN**

Lecturer: nonlinear dynamics; mathematics education

**Senior Scholars****EMERITUS DISTINGUISHED PROFESSOR GEORGE ELLIS**

Distinguished Professor of complex systems; cosmology and general relativity theory; emergence and functioning of complex systems, including the human brain; science policy; mathematics and science education; metaphysics of cosmology and its connections to ethics and religion; social indicators

**Research staff****DR ANABELA BRANDÃO**

Senior Research Officer, MARAM; Southern Ocean toothfish assessment; SA west coast rock lobster surveys; minke whales, SA abalone assessment.

**DR CARRYN DE MOOR**

Senior Research Officer, MARAM; S.A. sardine and anchovy assessment and management

**DR SUSAN HOLLOWAY**

Senior Research Officer, MARAM; S.A. west and south coast rock lobster and horse mackerel assessment; whale management procedures

**DR KENNETH HUGHES**

Honorary Research Associate; number theory; algebra; algebraic geometry; topological quantum field theory; p-adic analysis, nil-theta functions

**DR ÉVA PLAGÁNYI-LLOYD**

Honorary Research Associate; multispecies modelling; Fisheries assessment and management ecological modeling, S.A. abalone assessment

**Distinguished visitors****EMERITUS PROFESSOR BERNHARD BANASCHEWSKI**

McMaster University, Hamilton, Ontario, Canada – pointfree topology; partially ordered algebraic systems; applied category theory

**PROFESSOR ROY MAARTENS, DIRECTOR OF INSTITUTE OF COSMOLOGY AND GRAVITATION, UNIVERSITY OF PORTSMOUTH, UK – RELATIVITY, COSMOLOGY, GRAVITY****Honorary staff****EMERITUS PROFESSOR RONALD BECKER**

Differential equations (bifurcations, abstract equations); theory of algorithms (graph partitioning, sorting networks) and Mathematical Finance

**EMERITUS PROFESSOR GUILLAUME BRÜMMER**

Topology and category theory group; categorical topology; asymmetric topology and uniformity

**EMERITUS PROFESSOR DOUG BUTTERWORTH**

Director, Marine Resource Assessment and Management Group (MARAM); particular focus on South African fisheries, northwest Atlantic fisheries, and southern bluefin tuna, Antarctic whale and krill resources

**EMERITUS PROFESSOR KATHY DRIVER**

Special functions, orthogonal polynomials and approximation theory

**EMERITUS DISTINGUISHED PROFESSOR GEORGE ELLIS**

Distinguished Professor of complex systems; cosmology and general relativity theory; emergence and functioning of complex systems, including the human brain; science policy; mathematics and science education; metaphysics of cosmology and its connections to ethics and religion; social indicators

**EMERITUS PROFESSOR KEITH HARDIE**

Homotopy theory; algebraic topology; digital topology; categorical topology

**EMERITUS ASSOCIATE PROFESSOR RONALD CROSS**

Functional analysis; unbounded linear operators; linear relations

**PROFESSOR PATRICIA WHITLOCK**

Visiting Professor and Principal Research Officer; SAAO

**DR DAVID RICHARDSON**

Research Associate; Rangeland Modelling Group; modelling grazing animal production systems; relations between complex and simple models

**PROFESSOR JOHN WEBB**

Mathematics education

**Postdoctoral Fellows****DR MICHAEL ABBOTT**

String Theory

**DR VINCENT BOUILLOT**

Cosmology

**DR VINICIUS BUSTI**

Cosmology

**DR ALVARO DE LA CRUZ DOMBRIZ**

Cosmology

**DR SUGUMI KANNO**

Cosmology and String Theory

**DR NIMA KHOSRAVI**

Cosmology

**DR MARC LILLEY**

Cosmology

**DR PATRICE OKOUMA**

Cosmology

**DR ROBERT POLTIS**

Cosmology

**DR XAVIER ROY**

Cosmology

**DR DIEGO SAEZ GOMEZ**

Cosmology

**DR PARAMJEET SINGH (UNTIL JULY 2013)**

Mechanics and partial differential equations

**DR PER ERIC SUNDIN (UNTIL OCTOBER 2013)**

String Theory

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**Research Output****Edited books**

Han, W. and Reddy, B.D. (eds) 2013. Plasticity: Mathematical Theory and Numerical Analysis. 421pp. Second Edition. New York: Springer. ISSN 09396047.

Krasinski, A., Ellis, G.F.R. and MacCallum, M.A.H. (eds) 2013. Golden Oldies in General Relativity. Hidden gems. 489pp. Heidelberg: Springer. ISBN 9783642345043.

**Chapters in books**

Ellis, G.F.R. 2013. Kenotic ethics and SETI: a present-day view. In D.A. Vakoch (ed), Extraterrestrial Altruism. Evolution and Ethics in the Cosmos, pp. 223-229. The Frontiers Collection. Heidelberg: Springer. ISBN 9783642377495.

Jasinoski, S.C., Cluver, M.A. and Reddy, B.D. 2013. Anatomical plasticity in the snout of *Lystrosaurus*. In C.F. Kammerer, K.D. Angielczyk and J. Frobisch (eds), Early Evolutionary History of the Synapsida, pp. 139-149. New York Springer. ISBN 9789400768413.

Kunz, M., Hlozek, R., Bassett, B.A., Smith, M., Newling, J. and Varughese, M. 2013. BEAMS: separating the wheat from the chaff in supernova analysis. In J.M. Hilbe (ed), Astrostatistical Challenges for the New Astronomy, pp. 63-86. New York: Springer Heidelberg New York Dordrecht London. ISBN 9781461435075.

**Articles in peer-reviewed journals**

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Abbott, M. 2013. The AdS<sub>3</sub> × S<sub>3</sub> × S<sub>3</sub> × S<sub>1</sub> Hernández-López phases: a semiclassical derivation. *Journal of Physics A-Mathematical and Theoretical*, 46: 445401 (16pp) DOI: 10.1088/1751-8113/46/44/445401.

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Abdelwahab, M., de la Cruz-Dombriz, A. and Dunsby, P.K.S. 2013. Cosmological tensor perturbations in theory beyond <sup>Λ</sup>CDM. Proceedings of Conference on Multiverse and Fundamental Cosmology, Multicosmofun 2012, 10-14 September 2012, Poland. USA: American Institute of Physics. ISBN 9780735411357.

Campbell, A., Rafel, K.T.P. and Vezi, T.E. 2013. The use of technology in addressing the mathematics education crisis in South Africa. In Z. Davis and S. Jaffer (eds), Proceedings of the 19th Annual Congress of the Association for Mathematics Education of South Africa (AMESA), 24-28 June 2013, Western Cape. Bellville, Cape Town, Western Cape: Association of Mathematics Education of South Africa (AMESA) ISBN 9780620567763.

Yanovski, A.B. 2013. Expansions over adjoint solutions for the Caudrey-Beals-Coifman system with Zp reductions of Mikhalov type. In I.M. Mladenov, A. Ludu and A. Yoshioka (eds), Proceedings of Expansions Over Adjoint Solutions for the Caudrey-Beals-Coifman System with Zp Reductions of Mikhalov Type, 8-13 June 2012, Bulgaria. Sofia: Avangard Prima. 1314-3247.

Zemlyanaya, E. and Alexeeva, N.V. 2013. Numerical study of travelling multi-soliton complexes in the ac-

driven NLS equation. Proceedings of 5th International Conference on Numerical Analysis and Applications, NAA 2012, 15-20 June 2013, Bulgaria. Cape Town: Springer. ISBN 9783642415142.

# DEPARTMENT OF MOLECULAR AND CELL BIOLOGY

**Head of department: Associate Professor Vernon Coyne**

## Departmental profile

The Department has interests and expertise in diverse areas of biology. The problem of desiccation in plants is being tackled by a combination of physiological and molecular approaches. "Biofarming" research involves the expression of pharmaceutically-important proteins in plants and insect cells, including vaccine candidates for human and animal diseases such as bluetongue, human papillomaviruses, human rotavirus and psittacine beak and feather disease. Plant biotechnology research for plant improvement is focused on developing virus-resistant and drought-tolerant crops and the molecular basis of nickel hyperaccumulation in plants. Plant defence responses are studied in both model and crop plants. Metabolic fingerprinting of plants with potential medicinal properties is performed with a view to production of natural medicinal products. Circadian rhythms and their role in plant development and responses, as well as sports performance in humans, are studied. Eukaryotic gene expression projects include the role of chromatin modifications in regulating the rhythms of gene expression and gene expression during neuronal differentiation and stress. Basic mechanisms underlying the regulation of gene expression are studied in human cells and in *Plasmodium*, with a view to pinpointing *Plasmodium*-specific mechanisms that can be exploited to develop novel anti-malarial drugs. Misfolding of DNA sequences is being investigated as a possible cause of inheritable mental diseases. In addition, the actions of mammalian hormones, synthetic contraceptives and steroid receptors are being investigated with a view to understanding mechanisms, integration of signalling pathways and role in HIV pathogenesis. Research on viral pathogenesis includes virus-host genomic and proteomic interaction studies for Maize streak virus, and protein structure-function studies of the envelope protein and its role in HIV transmission. Evolutionary

biology projects focus on mechanisms that shape both genomic and population-level diversity, as well as evolution of limb development in bats. Molecular virology studies focus on the genetic diversity and molecular biology of single-stranded DNA viruses of plants and animals, of the marine virome, and of papillomaviruses of primates and humans. Structural studies are being carried out by electron microscopy and X-ray crystallography on a number of proteins, including glutamine synthetase and members of the nitrilase superfamily, to obtain insights necessary for rational drug and industrial enzyme design. Research in marine biotechnology includes genetic and proteomic studies of the immune response of the abalone (*Haliotis midae*). In addition, probiotics are being developed to improve the growth rate and disease resistance of farmed abalone. Research in microbiology includes molecular-genetic investigations of industrially and medically important anaerobic bacteria such as *Corynebacterium*, *Bacteroides fragilis*, *Bifidobacterium* and the fibre-degrading bacteria in the ostrich gut. The taxonomy of antibiotic-producing actinobacteria is being investigated. The Department also runs an analytical facility (amino acid analysis, DNA sequencing, DNA synthesis, DNA microarrays and protein identification). The instrumentation in the facility consists of HPLCs, a GC MS/MS and LC-ESI QTOF and MALDI instruments for mass spectrometry.

## Departmental statistics

### Permanent and long-term contract staff

Professors	4
Associate Professors	3
Senior Lecturers	4
Lecturers	4
Research Staff	10
Technical Support Staff	7
Administrative and Clerical Staff	5
<b>TOTAL</b>	<b>37</b>

### Honorary staff

Honorary Professors	2
<b>TOTAL</b>	<b>2</b>

### Students

Post-doctoral	13
Doctoral	39
Masters	21
Honours	19
Undergraduate	273
<b>Total</b>	<b>365</b>

## Research fields and staff

### Permanent Academic staff

**ASSOCIATE PROFESSOR VERNON COYNE**  
Head of Department: Marine biotechnology

**PROFESSOR JILL FARRANT**  
Desiccation tolerance; resurrection plants; seeds; plant physiology; molecular biology; systems biology; metabolic fingerprinting of medicinal plants

**PROFESSOR JANET HAGGOOD**  
Molecular mechanisms of cell signalling and eukaryotic gene regulation via steroid receptors: role in HIV pathogenesis, immune and reproductive function

**PROFESSOR NICOLA ILLING**  
Evolution of development; regulation of gene expression; limb development, comparative genomics

**PROFESSOR EDWARD RYBICKI**  
Plant- and tissue culture-derived vaccines; oceanic viromics; Human papillomavirus (HPV); rotavirus; bluetongue virus; Beak and feather disease virus; geminivirus; Maize streak virus; molecular virology; molecular biotechnology

**ASSOCIATE PROFESSOR VAL ABRATT**  
*Bacteroides fragilis*; nitrogen metabolism; virulence; metronidazole; DNA damage and repair; *Bifidobacterium*; *Lactobacillus*; probiotics

**ASSOCIATE PROFESSOR SHARON REID**  
Gram-positive and anaerobic bacteria; *Clostridium acetobutylicum*; *Bifidobacterium*; *Lactobacillus*, gene regulation of nitrogen- and carbon-substrate utilisation; probiotics; molecular systematics; biofuels

**DR ROBERT INGLE**  
Senior lecturer: interactions between plants and their environment (plant innate immunity, metal hyperaccumulating plants)

**DR PAUL MEYERS**  
Senior lecturer: *actinobacterial taxonomy*; family *Streptosporangiaceae*; *Microbispora*; *Nonomuraea*; *Kribbella*; bioprospecting; novel antitubercular antibiotics

**DR COLLEEN O'RYAN**  
Senior lecturer: molecular and population genetics; genetics of neurodevelopmental disorders

**DR LAURA RODEN**  
Senior Lecturer: plant and human circadian rhythms; flowering time and photoperiodism; circadian regulation of plant defences; chronotype and performance

### DR THOMAS OELGESCHLÄGER

Lecturer: molecular mechanisms of RNA polymerase II transcription regulation in eukaryotes; core promoter-selective transcription regulation mechanisms; transcription regulation in *Plasmodium falciparum*

### DR SUHAIL RAFUDEEN

Lecturer: abiotic and biotic stress tolerance in plants; signalling and regulation of plant gene expression during stress; plant molecular biology; proteomics (protein expression profiling, protein mining); *Xerophyta viscosa*; maize; Tef

### DR JERRY RODRIGUES

Lecturer: protein chemistry; drug discovery; plant desiccation tolerance; polyphenol research

### DR ZENDA WOODMAN

Lecturer: HIV: structure-function and viral fitness; biochemical analysis of envelope's role in HIV pathogenesis

### Honorary staff

#### EMERITUS PROFESSOR HORST KLUMP

Energy landscapes of dynamic ensembles of rolling triplet repeat bulge loops: implications for DNA expansion associated with mental-disease states

#### EMERITUS PROFESSOR JENNIFER THOMSON

Transgenic maize for resistance to the African *Maize streak virus* and tolerance to drought

## Contract Research and Teaching staff

### DR INGA HITZEROTH

Senior Research Officer: plant-derived vaccines; Human Papillomaviruses (HPV), Beak and Feather disease virus (BFDV), Rotavirus and Influenza virus

### DR KERSHINI IYER

Senior Scientific Officer: plant biotechnology; promoter studies and RNA silencing of stress-associated genes from *Zea mays*

### DR REVEL IYER

Chief Research Administrator: agricultural biotechnology; plant molecular biology; plant transgenics

### DR ANN MEYERS

Research Officer: plant-produced proteins, monoclonal antibodies and vaccines; bluetongue virus; Rift Valley fever virus; Crimean Congo haemorrhagic fever virus; Foot and mouth disease virus

### DR SHANE MURRAY

Lecturer: crop genomics and transcriptomics; resistance in maize and grapevine to pathogens (fungi, viruses and phytoplasma)

**DR DIONNE SHEPHERD**

Research Officer: virology and plant biotechnology; development of maize streak virusresistant maize; maize streak virus diversity; plant-virus interactions

**Postdoctoral Fellows****DR GARETH EVEREST**

Antimycobacterial antibiotic drug discovery; actinobacterial characterisation; phylogeny of the family *Pseudonocardiaceae*; alternative taxonomic marker genes

**DR BRUNA GALVÃO**

Discovery and characterisation of novel putative virulence factors of the human opportunistic pathogen *Bacteroides fragilis*; membrane-associated adhesins; cell surface appendages; proteases

**DR SUZANNE HUDDY**

Plant and algal biotechnology; plant-produced enzymes and pharmaceuticals; plant and algal tissue culture and transformation studies; Influenza

**DR RODRICK KATETE**

Glycosylation profile of matching transmitter/founder and chronic subtype C HIV-1 gp140

**DR BRIAN KULLIN**

*Clostridium difficile* (epidemiology, factors involved in host colonisation and mechanisms of antibiotic resistance); oxalate utilisation by probiotic gut bacteria (possible role in kidney stone prevention)

**DR MARTHA NELSON-FLOWER**

Molecular ecology; relatedness within cooperatively breeding groups; spatial genetics; ecological immunogenetics (investigating MHC in a cooperatively breeding bird)

**DR NASHIED PETON**

Expression, structural and functional analysis of the "LEAome" of the desiccation tolerant plant *Xerophyta humilis*

**DR AMELIA REDDY**

Agricultural biotechnology; plant and algal molecular biology; understanding how plants and algae respond to stress and the mechanisms required for surviving stressful conditions

**DR MICHELE TOMASICCHIO**

Glucocorticoid receptor (GR) transcriptional signalling; cross talk between HIV-1 Vpr and the GR in transcriptional regulation of host genes

**CONTACT DETAILS**

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**Research Output****Authored books**

Thomson, J.A. 2013. Food for Africa. 172pp. Claremont, Cape Town: UCT press. ISBN 9781920499815.

**Chapters in books**

Duarte, J., Serufuri, J.-M.S., Mulder, N.J. and Blackburn, J. 2013. Protein function microarrays: design, use and bioinformatics analysis in cancer biomarker discovery and quantitation. In X. Wang (ed), Bioinformatics of Human Proteomics: 39-74. London: Dordrecht: Springer. ISBN 9789400758100.

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**Articles in peer-reviewed journals**

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Agrawal, G.K., Sarkar, A., Righetti, P.G., Pedreschi, R., Carpentier, S., Wang, T., Barkla, B.J., Kohli, A., Ndimba, B.K., Bykova, N., Rampitsch, C., Zolla, L., Rafudeen, M.S., Cramer, R., Bindschedler, L.V., Tsakirpaloglou, N., Ndimba, R., Farrant, J.M., Renaut, J., Job, D., Kikuchi, S. and Rakwal, R. 2013. A decade of plant proteomics and mass spectrometry: translation of technical advancement to food security and safety issues. Mass Spectrometry Reviews, 32: 335-365.

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Duvenage, L., Hitzeroth, I.I., Meyers, A.E. and Rybicki, E.P. 2013. Expression in tobacco and purification of beak and feather disease virus capsid protein fused to elastin-like polypeptides. Journal of Virological Methods, 191: 55-62.

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Ma, J., Christou, P., Chikwamba, R., Haydon, H., Paul, M., Ferrer, M., Ramalingam, S., Rech, E., Rybicki, E.P., Wigdorowitz, A., Yang, D. and Thangaraj, H. 2013. Realising the value of plant molecular pharming to benefit the poor in developing countries and emerging economies. Plant Biotechnology Journal, 11: 1029-1033.

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Robertson, S., Hapgood, J. and Louw, A. 2013. Glucocorticoid receptor concentration and the ability to dimerize influence nuclear translocation and distribution. Steroids, 78: 182-194.

Robertson, S., Rohwer, J., Hapgood, J. and Louw, A. 2013. Impact of glucocorticoid receptor density on ligand-independent dimerization, cooperative ligand-binding and basal priming of transactivation: a cell culture model. PLoS One, 8(5): e64831.

Ruschaupt, M., Martin, D.P., Lakay, F., Bezuidenhout, M.E., Rybicki, E.P., Jeske, H. and Shepherd, D.N. 2013. Replication modes of maize streak virus mutants lacking RepA or the RepA-pRBR interaction motif. Virology, 442: 173-179.

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Samuel, F.O., Segun, A., Baba, M.M. and Farrant, J.M. 2013. Oil of camelia sinensis inhibits pathogenic bacteria. International Journal of Phytomedicine, 5(2013): 163-172.

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Thuenemann, E., Lenzi, P., Love, A.J., Taliinsky, M., Becares, M., Zuniga, S., Enjuanes, L., Zahmanova, G., Minkov, I.N., Matic, M., Noris, E., Meyers, A.E., Hattingh, A., Rybicki, E.P., Kiselev, O.I., Ravin, N.V., Eldarov, M., Skryabin, G. and Lomonosoff, G. 2013. The use of transient expression systems for the rapid production of virus-like particles in plants. Current Pharmaceutical Design, 19: 5564-5573.

Tomasicchio, M., Avenant, C., Kotitschke, A., Ray, R. and Hapgood, J. 2013. The progestin-only contraceptive medroxyprogesterone acetate, but not norethisterone acetate, enhances HIV-1 Vpr-mediated apoptosis in human CD4+T Cells through the glucocorticoid receptor. PLoS One, 8(5): e62895.

Weber, B.W., Kimani, S., Varsani, A., Cowan, D.A., Hunter, R., Venter, G.A., Gumbart, J.C. and Sewell, B.T. 2013. The mechanism of the amidases - mutating the glutamate adjacent to the catalytic triad inactivates the enzyme due to substrate mispositioning. Journal of Biological Chemistry, 288(40): 28514-28523.

## Patents

Williamson, A.-L., Rybicki, E.P., Maclean, J. and Hitzeroth, I.I. 2013. Expression of Proteins in Plants. Registered in: Cape Town. US Patent. Date registered: 29/01/2013. US 2013/0130314 A1.

# DEPARTMENT OF OCEANOGRAPHY

(Including the Nansen-Tutu Centre for Marine Environmental Research, ICEMASA, and the Research Diving Unit)

## Head of Department: Professor Chris Reason

### Departmental Profile

The Department of Oceanography is the only such Department in sub-Saharan Africa, and is the major focus for research in physical oceanography, atmospheric science, ocean circulation, and climate in South Africa and elsewhere in Africa. The Department has research groupings in sea-going observations, satellite marine remote sensing, coastal oceanography, ocean and atmospheric modelling, marine and coastal meteorology, severe weather, the science underpinning operational oceanography, and climate variability and change. Six scientists in the Department have been favourably evaluated in the review process of the National Research Foundation. Active international associations are maintained by collaborative projects with Norway, France, Germany, Spain, the UK, Australia, USA and Canada. The Department maintains close contact with marine science activities in the governmental, private and academic sectors in South Africa and into Africa. The UCT Research Diving Unit (RDU) is housed within the Department and is fully equipped with a decompression chamber and compressor. Most scientific diving at UCT is carried out in conjunction with the RDU.

### Departmental Statistics

Professors	2
Senior Lecturer	2
Lecturer	1
Research Staff	2
Technical Support Staff	2
Administrative and Clerical Staff	2
<b>Total</b>	<b>11</b>

### Honorary Staff

Emeritus Professor	2
Honorary Professor	1
Honorary Research Associates	13
<b>Total</b>	<b>16</b>

### Students

Postdoctoral Fellows	2
Doctoral	26
Master's	20
Honours	9
Undergraduate	198
<b>Total</b>	<b>255</b>

### Research Fields and Staff

#### Permanent Staff

##### PROFESSOR C.J.C. REASON

Head of Department: Southern Hemisphere climate variability and change, Coastal and mesoscale meteorology, severe weather, regional oceanography, modelling

##### PROFESSOR F.A. SHILLINGTON

Shelf oceanography, satellite marine remote sensing

##### DR I.J. ANSORGE

Senior Lecturer: Southern Ocean

##### DR M. ROUAULT

Principal Research Officer: Ocean-atmosphere interaction

##### DR H.N. WALDRON

Senior Lecturer: biogeochemical oceanography

##### DR J. JACKSON-VEITCH

Lecturer: Benguela upwelling system, modelling

##### DR R ROMAN

Senior Scientific Officer: satellite marine remote sensing

##### MR P TRUTER

Diving Supervisor: ocean diving

##### MRS C. KHAI

Administrative Officer

##### MRS N. JABAAR

Resource Centre Officer

#### Emeritus Professors

##### PROFESSOR G.B. BRUNDIT

Operational oceanography

##### PROFESSOR J.G. FIELD

Senior Scholar: Marine Research Institute

### Contract Research Staff

#### DR BJORN BACKEBERG

Regional ocean modeling, data assimilation

### Honorary Professors

#### PROFESSOR L.V. SHANNON

Benguela ecosystem

### Honorary Research Associates

#### DR S. BERNARD

Optical oceanography

#### DR D. BYRNE

Aguilhas Current

#### DR C. DUNCOMBE RAE

Coastal ocean dynamics

#### DR J. HERMES

Regional ocean modelling

#### DR P. MONTEIRO

Biogeochemical oceanography

#### DR A. MAVUME

Tropical cyclones

#### DR MJ KRUG

Aguilhas current, remote sensing

#### DR T LAMONT

Coastal oceanography, remote sensing

#### DR S SWART

Southern ocean and gliders

#### DR NC FAUCHEREAU

Climate Variability

#### DR C RUIZ-SEBASTIAN

Marine ecologist

#### DR CJ ROY

Fisheries oceanography, upwelling systems

#### DR K BROWN

Marine ecologist

### Postdoctoral Fellows

#### DR ANNE TREASURE

Ecological modeling, Southern ocean

#### DR ISSUFO HALO

Ocean circulation modelling

## Contact Details

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## Research Output

### Chapters in books

Flato, G., Marotzke, J., Abiodun, B.J., Braconnot, P., Chou, S.C., Collins, W., Cox, P., Driouech, F., Emori, S., Eyring, V., Forest, C.E., Gleckler, P.J., Guilyardi, E., Jakob, C., Kattsov, V., Reason, C.J.C. and Rummukainen, M. 2013. Evaluation of climate models. In T.F.Stocker, D. Qin, K.G. Plattner, et al. (eds), Climate change 2013: The Physical Science Basis, pp. 741-866. Cambridge: Cambridge University Press. ISBN 9781107661820.

Strub, P.T., Combes, V., Shillington, F.A. and Pizarro, O. 2013. Currents and processes along the Eastern boundaries. In G.Siedler, S. M. Griffies, J. Gould and J.A. Church (eds), Ocean & Circulation and Climate: A 21st Century Perspective, pp. 339-384. Amsterdam: Elsevier. ISBN 9780123918512.

Vera, C., Gutowski, W., Mechoso, C.R., Goswami, B.N., Reason, C.J.C., Thorncroft, C.D., Marengo, J.A., Hewitson, B.C., Hendon, H., Jones, C. and Lionello, P. 2013. Understanding and predicting climate variability and change at monsoon regions. In G. R. Asrar and J.W. Hurrell (eds), Climate science for serving society: research, modeling and prediction priorities, pp. 273-306. Dordrecht: Springer Science & Business Media B.V. ISBN 978 94 007 66914.

### Articles in peer-reviewed journals

Allan, E.L., Froneman, P.W., Durgadoo, J.V., McQuaid, C., Ansorge, I.J. and Richoux, N.B. 2013. Critical indirect effects of climate change on sub-Antarctic ecosystem functioning. *Ecology and Evolution*, 3(9): 2994-3004.

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Blamey, R.C. and Reason, C.J.C. 2013. The role of mesoscale convective complexes in Southern Africa summer rainfall. *Journal of Climate*, 26: 1654-1668.

Bucciarelli, E., Ridame, C., Sunda, W.G., Dimier-Hugueney, C., Cheize, M. and Belviso, S. 2013. Increased intracellular concentrations of DMSP and DMSO in iron-limited oceanic phytoplankton *Thalassiosira oceanica* and *Trichodesmium erythraeum*. *Limnology and Oceanography*, 58(5): 1667-1679.

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Malan, N., Reason, C.J.C. and Loveday, B.R. 2013. Variability in tropical cyclone heat potential over the southwest Indian Ocean. *Journal of Geophysical Research-Oceans*, 118: 6734-6746.

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Moloney, C.L., Fennessy, S.T., Gibbons, M.J., Roychoudhury, A., Shillington, F.A., Von der Heyden, B.P. and Watermeyer, K. 2013. Reviewing evidence of marine ecosystem change off South Africa. African Journal of Marine Science, 35(3): 427-448.

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Rouault, M., Roy, S.S. and Balling, R.C. 2013. The diurnal cycle of rainfall in South Africa in the austral summer. International Journal of Climatology, 33(3): 770-777.

Sebastián, C.R. and McClanahan, T.R. 2013. Description and validation of production processes in the coral reef ecosystem model CAFFEE (coral-algae-fish-fisheries ecosystem energetics) with a fisheries closure and climatic disturbance. Ecological Modelling, 263: 326-348.

Sebastián, C.R. and McClanahan, T. 2013. Using an ecosystem model to evaluate fisheries management options to mitigate coral bleaching on Western Indian Ocean coral reefs. Western Indian Ocean Journal of Marine Science, 11(1): 77-86.

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Simon, M.H., Arthur, K.L., Hall, I.R., Peeters, F.J.C., Loveday, B.R., Barker, S., Ziegler, M. and Zahn, R. 2013.

Millennial-scale Agulhas current variability and its implications for salt-leakage through the Indian Atlantic ocean gateway. Earth and Planetary Science Letters, 383: 101-112.

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Treasure, A.M., Moloney, C.L., Bester, M.N., McQuaid, C.D., Findlay, K.P., Best, P.B., Cowan, D.A., de Bruyn, P.J.N., Dorrington, R.A., Fagereng, A., Froneman, P.W., Grantham, G.H., Hunt, B.P.V., Meiklejohn, K.I., Pakhomov, E.A., Roychoudhury, A.N., Ryan, P.G., Smith, V.R., Chown, S.L. and Ansorge, I.J. 2013. South African research in the Southern ocean: new opportunities but serious challenges. South African Journal of Science, 109(3/4): 1-4.

Treasure, A.M. 2013. Invasive aliens in Antarctica. Quest, 9(1): 30-34.

van Aken, H.M., Lutjeharms, J.R.E., Rouault, M., Whittle, C. and de Ruijter, W.P.M. 2013. Observations of an early Agulhas current retroflection event in 2001: a temporary cessation of inter-ocean exchange south of Africa? Deep-Sea Research Part I-Oceanographic Research Papers, 72: 1-8.

van Hulten, M.M.P., Sterl, A., Tagliabue, A., Dutay, J.-C., Gehlen, M., de Baar, H.J.W. and Middag, R. 2013. Aluminium in an ocean general circulation model compared with the West Atlantic geotraces cruises. Journal of Marine Systems, 126: 3-23.

## DEPARTMENT OF PHYSICS

### Head of Department: Associate Professor A Buffler

### Departmental Profile

The Department of Physics is accommodated in the R W James Building, which houses research laboratories equipped for nuclear physics, computational physics and nanoelectronics production. Additional facilities available to the Department are provided within the building by the Electron Microscope Unit (Scanning Electron Microscope and Transmission Electron Microscope), and at iThemba LABS (200 MeV cyclotron, a 5 MeV Van de Graaff accelerator used for ion beam analysis, including a nuclear microprobe, high resolution X-ray diffraction, and PET scanners adapted for positron emission particle tracking). The Department is also a member of both the ATLAS and ALICE collaborations at CERN.

### Major areas of interest include:

1. Experimental nuclear physics at iThemba LABS (D G Aschman, A Buffler, R W Fearick): (a) Gamma ray spectroscopy with the AFRODITE array; (b) Giant resonance reactions with the magnetic spectrometer; (c) Fast neutron physics.
2. Theoretical Physics (J W A Cleymans, C A Dominguez, W A Horowitz, A Peshier, S M Perez, H W G Weigert, and R D Viollier): (a) Research within the Centre for Theoretical and Mathematical Physics; (b) Structure of elementary particles; (c) Weak interactions; (d) Quantum Electrodynamics and Chromodynamics in vacuum at extreme temperatures and densities; (e) Renormalization group equations (Color Glass Condensate); (f) Nonlinear effects in QCD at high densities; (g) Phenomenology of heavy ion reactions; (h) Quark gluon plasma; (i) Nuclear structure and models.
3. Experimental high energy physics (J W A Cleymans, T Dietel, A Hamilton): (a) Research within the UCT-CERN Research Centre; (b) Relativistic heavy ion collisions within the ALICE collaboration at CERN; (c) High energy proton-proton collisions within the ATLAS collaboration at CERN.
4. Nanophysics and solid state physics (M D Blumenthal, D T Britton, C M Comrie and M Härtig): (a) Research within the Nanosciences Innovation Centre; (b) Structural and electrical properties of thin films; (c) X-ray diffraction studies of strain fields and residual stress analysis; (d) Single electron transport and interactions.

5. Applied Physics (A Buffler, I Govender, M R Nchodu, S W Peterson): (a) Positron Emission Particle Tracking at PEPT Cape Town, iThemba LABS; (b) Particulate flow and interaction characterization in engineering and biological systems by computational and mechanistic modelling; (c) Radiation transport modelling in industrial and medical systems; (d) Applied nuclear physics using neutrons.

6. Tertiary physics education (M S Allie, A Buffler, D Taylor and S M Wheaton): (a) Curriculum design and evaluation; (b) Role of language; (c) Understanding of measurement and uncertainty; (d) Modelling and visualization; (e) Computational Physics Education.

### Departmental Statistics

#### Permanent and long term contract staff

Professor	3
Associate Professor	6
Senior Lecturer	3
Lecturer	5
Part-time Lecturer	0
Technical Staff	4
Administrative Staff	3
Departmental & Lab Assistants	4
<b>TOTAL</b>	<b>28</b>

#### Research staff

Honorary Professor	1
Emeritus Professor	5
Emeritus Associate Professor	3
Honorary Research Associate	3
<b>TOTAL</b>	<b>12</b>

#### Students

Doctoral	30
Master's	18
Honours	4
Undergraduate	1583
<b>TOTAL</b>	<b>1635</b>

#### Staff and Research Fields

##### Permanent Academic staff

###### ASSOCIATE PROFESSOR A BUFFLER

Head of Department: Experimental Nuclear Physics, Physics Education

**PROFESSOR D G ASCHMAN**  
Experimental Nuclear Physics

**PROFESSOR D T BRITTON**  
Nanophysics

**PROFESSOR A PESIER**  
Theoretical Physics

**ASSOCIATE PROFESSOR M S ALLIE (CHED)**  
Physics Education

**ASSOCIATE PROFESSOR M D BLUMENTHAL**  
Solid State Physics

**ASSOCIATE PROFESSOR R W FEARICK**  
Experimental Nuclear Physics

**ASSOCIATE PROFESSOR M HÄRTING**  
Nanophysics

**ASSOCIATE PROFESSOR H W G WEIGERT**  
Theoretical Physics

**DR I GOVENDER**  
Senior Lecturer: Applied Physics

**MR G LEIGH**  
Senior Lecturer: Physics Education

**DR S M WHEATON**  
Senior Lecturer: Computational Physics

**DR T DIETEL**  
Lecturer: Experimental Particle Physics

**DR A HAMILTON**  
Lecturer: Experimental Particle Physics

**DR W A HOROWITZ**  
Lecturer: Theoretical Particle Physics

**DR S W PETERSON**  
Lecturer: Applied Nuclear Physics

**DR D TAYLOR (CHED)**  
Lecturer: Physics Education

### **Emeritus Professors**

**EMERITUS PROFESSOR J W A CLEYMANS**  
Senior Scholar: Theoretical Physics

**EMERITUS PROFESSOR C A DOMINGUEZ**  
Senior Scholar: Theoretical Physics

**EMERITUS PROFESSOR S M PEREZ**  
Theoretical Nuclear Physics

**EMERITUS PROFESSOR R D VIOLLIER**  
Theoretical Particle Physics and Astrophysics

**EMERITUS ASSOCIATE PROFESSOR C M COMRIE**  
Solid State Physics

**EMERITUS ASSOCIATE PROFESSOR P E SPARGO**  
History of Science

**EMERITUS ASSOCIATE PROFESSOR G ROBERTSON**  
Laser Physics

### **Honorary Professor**

**PROFESSOR Z VILAKAZI, ITHEMBA LABS**

### **Honorary Research Associates**

**PROFESSOR M LOEWE, UNIVERSITY OF MAINZ,**  
GERMANY

**PROFESSOR F E LUBBEN, UNIVERSITY OF YORK, UK**

**PROFESSOR K SCHILCHER, UNIVERSITY OF MAINZ,**  
GERMANY

### **Research Associate**

**DR GARY TUPPER, UNIVERSITY OF CAPE TOWN**

### **Postdoctoral Fellows**

**DR DANISH AZMI**

**DR KATIE COLE**

**DR RUDOLF NEUSSL**

**DR MAX RICHTER**

### **Distinguished visitors**

**PROF CHRISTINE LINDSTROM, OSLO & AKERSHUS**  
UNIVERSITY COLLEGE, NORWAY  
**PROF DAVID WOLFE, UNIVERSITY OF NEW MEXICO,**  
USA

**DR MARIAGIOVANNA GIANFREDA, UNIVERSITY OF**  
SALENTO, ITALY

**PROF ERASMUS DU TOIT, UNIVERSITY OF**  
STELLENBOSCH

**DR NITHAYA CHETTY, UNIVERSITY OF PRETORIA**  
DR GERMAN MONTOYA, WITS

**PROF JOHN WOOD, GEORGIA TECH, US**

**DR TONY PRICE, PRAVDA CONSORTIUM, UK**

**PROF BRUCE MELLADO GARCIA, WITS**

**DR TJAART KRUGER, UNIVERSITY OF PRETORIA**

**PROF WOLFGANG CHRISTIAN, DAVIDSON COLLEGE**  
– NC, USA

**DR RALF NOLTE, PTB, GERMANY**

**DR FRANCOIS GELIS, CEA-SACLAY, FRANCE**

**PROF ROGER CASHMORE, UK ATOMIC ENERGY**  
AUTHORITY

**DR HEATHER GRAY, CERN, SWITZERLAND**  
**PROF LOUIS BRUCH, UNIVERSITY OF WISCONSIN, US**  
**DR DIETER MUELLER, BOCHUM UNIVERSITY,**  
GERMANY

**DR YORK SCHROEDER, BIELEFELD UNIVERSITY,**  
GERMANY  
**DR GUILLAUME BEUF, UNIVERSIDADE DE SANTIAGO**  
DE COMPOSTELA

**PROF KAI ZUBER, DRESDEN UNIVERSITY, GERMANY**  
**DR SUSANNE HEINICKE, UNIVERSITY OF OLDENBURG,**  
GERMANY  
**PROF HUBERT SPIESBERGER, UNIVERSITY OF MAINZ,**  
GERMANY

**DR ANDREAS VON MANTEUFFEL, UNIVERSITY OF**  
MAINZ, GERMANY  
**PROFESSOR ALEJANDRO AYALA, UNIVERSITY**  
OF MEXICO

**PROF JOSE PENARROCHA, UNIVERSITY OF**  
VALENCIA, SPAIN  
**PROF AGNES MOCSY, PRATT INSTITUTE, NY, USA**

**DR TUOMAS LAPPI, UNIVERSITY OF JYVASKYLA,**  
FINLAND  
**PROF MARCO STRATMANN, BROOKHAVEN**  
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Twitter: http://www.twitter.com/uctphysics

YouTube: http://www.youtube.com/uctphysics

### **Research Output**

#### **Chapters in books**

Cleymans, J.W.A. 2013. The thermal model and the Tsallis distribution at the large hadron collider. In W. Greiner (ed), *Exciting Interdisciplinary Physics*, pp. 253-260. Germany: Springer. ISBN 9783319000466.

#### **Articles in peer-reviewed journals**

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Cleymans, J.W.A., Lykasov, G.I., Parvan, A., Sorin, A.S., Teryaev, O.V. and Worku, D. 2013. Systematic properties of the Tsallis distribution: energy dependence of parameters in high energy p-p collisions. *Physics Letters B*, 723: 351-354.

Comrie, C.M., Ahmed, A., Smeets, D., Demeulemeester, D., Turner, S., van Tendeloo, G., Detavernier, C. and Vantomme, A. 2013. Effect of high temperature deposition on CoSi2 phase formation. *Journal of Applied Physics*, 113(23): 234902(8pp) DOI: 10.1063/1.4811352.

Demeulemeester, J., Smeets, D., Comrie, C.M., Barradas, N.P., Vieira, A., Van Bockstael, C., Detavernier, C.,

# DEPARTMENT OF STATISTICAL SCIENCES

**Head of Department: Associate Professor Francesca Little**

## Departmental Profile

The Department of Statistical Sciences at the University of Cape Town is committed to the development of the statistical sciences within and beyond the university. In its teaching, the department recognises that there are needs both to train professionals in the statistical sciences, and to provide quantitative and decision-making skills to students in other disciplines. In its research, the department seeks to maintain a balance between the development of theory and applications of that theory. Researchers in the department collaborate with colleagues in the health and biological sciences, education, finance and industry. The research within the department is diverse but can be broadly grouped into the areas of Statistical Theory, Biological Statistics, Financial Modelling, Social Statistics and Operations Research and Decision Modelling, and Analytics. The department hosts the recently established Statistics in Ecology, the Environment and Conservation (SEEC) research unit.

## Departmental Statistics

### Permanent and long-term contract staff

Professors	3
Associate Professors	4
Senior Lecturers	6
Lecturers	10
Emeritus Professor	3
Emeritus Associate Professor	1
Scientific Officer	2
Administrative and Clerical Staff	6
<b>Total</b>	<b>34</b>

### Honorary staff

Honorary Research Associates	2
<b>Total</b>	<b>2</b>

## Peer-reviewed published conference proceedings

Cleymans, J.W.A. 2013. The Tsallis distribution for p - p collisions at the LHC. Proceedings of 2nd International Workshop on Discovery Physics at the LHC, (Kruger2012), 3-7 December 2012, Kruger, South Africa. South Africa: IOP Publishing Limited. ISBN 9781629930930.

Horowitz, W.A. 2013. Is it hard yet? The qualitative agreement of pQCD energy loss with RHIC and LHC data. Proceedings of 2nd International Workshop on Discovery Physics at the LHC, (Kruger2012), 3-7 December 2012, Kruger, South Africa. South Africa: IOP Publishing Limited. ISBN 9781629930930.

Nwosu, V., Allie, M.S., Demaree, D. and Deacon, A. 2013. A study of postgraduate students in an astrophysics bridging year: identifying contradictions in a complex system. In P.V. Engelhardt, A.D. Churukian, N.S. Rebello (eds), Proceedings of 2012 Physics Education Research Conference, 1-2 August 2013, Philadelphia, PA, USA. Melville, New York: American Institute of Physics. ISBN 9780735411340.

Peshier, A. 2013. Heavy-quark binary scattering in the quark-gluon plasma. Proceedings of 2nd International Workshop on Discovery Physics at the LHC, (Kruger2012), 3-7 December 2012, Kruger, South Africa. South Africa: IOP Publishing Limited. ISBN 9781629930930.

Powell, C. 2013. Quarkonia production at the STAR detector. Proceedings of 2nd International Workshop on Discovery Physics at the LHC, (Kruger2012), 3-7 December 2012, Kruger, South Africa. South Africa: IOP Publishing Limited. ISBN 9781629930930.

Scriba, M.R., Britton, D.T. and Harting, M. 2013. Hot wire and spark pyrolysis as simple new routes to silicon nanoparticle synthesis. Proceedings of Nanostructured Materials and Nanotechnology V - 36th International Conference on Advanced Ceramics and Composites, ICACC 2012, 16 April, Daytona Beach, Florida. USA: Unknown. ISSN 1966219.

Southey, D., Allie, M.S. and Demaree, D. 2013. Students' understanding of density: a cognitive linguistics perspective. In P.V. Engelhardt, A.D. Churukian, N.S. Rebello (eds), Proceedings of 2012 Physics Education Research Conference, 1-2 August, Philadelphia, PA, USA. Melville, New York: American Institute of Physics. ISBN 9780735411340.

## Patents

Britton, D.T. and Haerting, M. 2013. Semiconducting Nanoparticles with Surface Modification. Registered in: Cape Town. United States Patent. Date registered: 15/01/2013. US 8 354 662 B2.

Temst, K. and Vantomme, A. 2013. On the growth kinetics of Ni(Pt) silicide thin films. *Journal of Applied Physics*, 113: 163504(3pp) DOI: 10.1063/1.4802738.

Dominguez, C.A., Loewe, M. and Zhang, Y. 2013. Bottomonium in QCD at finite temperature. *Physical Review D*, 88(5): 054015(9pp) DOI: 10.1103/PhysRevD.88.054015.

Dominguez, C.A. 2013. Introduction to QCD Sum Rules. *Modern Physics Letters A*, 28(24): 1360002(10pp) DOI: 10.1142/S021773231360002X.

Dominguez, C.A., Loewe, M. and Zhang, Y. 2013. The a1(1260) meson and chiral symmetry restoration and deconfinement at finite temperature QCD. *Nuclear Physics B*, 234: 305-308 DOI:

Fujita, H., Fujita, Y., Adachi, T., Akimune, H., Botha, N., Hatanaka, K., Matsubara, Y., Nakanishi, K., Neveling, R., Okamoto, A., Sakemi, Y., Shima, T., Shimizu, Y., Smit, F.D., Suzuki,T., Tamii, A. and Yosoi, M. 2013. Isospin mixing of the isobaric analog state studied in a high-resolution 56Fe(3He,t)56Co reaction. *Physical Review C*, 88: 054329(6pp) DOI: 10.1103/PhysRevC.88.054329.

Govender, I., Cleary, P. and Mainza, A.N. 2013. Comparisons of PEPT derived charge features in wet milling environments with a friction-adjusted DEM model. *Chemical Engineering Science*, 97: 162-175.

Habanyama, A. 2013. Ion beam analysis of the interaction between platinum and germanium. *Nuclear Instruments & Methods in Physics Research Section B-Beam Interactions with Materials and Atoms*, 311(2013): 93-101.

Horowitz, W.A. 2013. Heavy Quark Production and Energy Loss. *Nuclear Physics A*, 904-905: 186-193.

Horowitz, W.A. 2013. Weakness or strength in the golden years of RHIC and LHC? *Nuclear Physics A*, 910-911: 239-242.

Jones, S. and Harting, M. 2013. A new correlation based alignment technique for use in electron tomography. *Ultramicroscopy*, 135: 56-63.

Kokalova, T., Freer, M., Buthelezi, E.Z., Carter, J., Fearick, R.W., Fortsch, S., Fujita, H., Neveling, R., Papka, P., Smit, F.D., Swartz, J.A. and Usman, I. 2013. Precision measurement of the 9.641 MeV, 3- state in 12C. *Physical Review C*, 87: 057307(3pp) DOI: 10.1103/PhysRevC.87.057307.

Lockett, R., Ball, D. and Robertson, G.N. 2013. Experimental cross-correlation nitrogen Q-branch CARS thermometry in a spark ignition engine. *Optics and Lasers in Engineering*, 51: 929-943.

Publications (104 in 2013) associated with the ATLAS collaboration and ALICE collaboration at CERN are not reflected in the list above.

## Students

Doctoral	8
Master's	28
Postgraduate service courses	65
Honours	25
Undergraduate	4263
<b>Total</b>	<b>4391</b>

## Research Fields and Staff

### Permanent Academic staff

#### ASSOCIATE PROFESSOR FRANCESCA LITTLE

Head of Department: Biostatistics; Longitudinal Data Analysis; Survival Analysis; Analysis of Causality.

#### PROFESSOR GRAHAM BARR

Macroeconomic model building and financial time series analysis; problem gambling analysis; teaching with spreadsheets.

#### PROFESSOR DAVE BRADFIELD

Financial risk management; Robust Portfolio Construction; Structural role of Assets in achieving Pension Fund Mandates in South Africa

#### PROFESSOR TIM DUNNE

Statistics for Measurement; statistical methods in education and psychology.

#### ASSOCIATE PROFESSOR SUGNET LUBBE

Multivariate statistics; Graphical displays; Biplots.

#### ASSOCIATE PROFESSOR CHRISTIEN THIART

GIS and spatial modeling.

#### ASSOCIATE PROFESSOR RES ALTWEGG

Statistics for Ecology, the Environment and Conservation.

#### DR BIRGIT ERNI

Senior Lecturer: environmetrics; biometrics; generalized linear models; spatial statistics.

#### DR JUWA NYIRENDZA

Senior Lecturer: operations research; management studies; simulation and Heuristics.

#### DR LEANNE SCOTT

Senior Lecturer: decision analysis; statistical methods in the social sciences and local government; operations research in developing countries; gambling; teaching with spreadsheets.

#### MR KARL STIELAU

Senior Lecturer: professional teacher.

#### DR FREEDOM GUMEDZE

Senior Lecturer: Biostatistics; mixed effect linear models; longitudinal data analysis; survival analysis.

#### DR MELVIN VARUGHESE

Senior Lecture: ecological modelling, statistical analysis of cosmological data; diffusion processes.

#### MR ALLAN CLARK

Lecturer: Bayesian analysis; Extreme value theory; Econometric modelling; Statistics for Ecology.

#### MR GREG DISTILLER

Lecturer: statistical ecology; capture-recapture models.

#### DR SEBNEM ER

Lecturer: Time series analysis; Panel data; Spatial statistics; Structural Equation Modeling;

#### MR DOMINIQUE KATSHUNGA

Lecturer: Multivariate analysis; Copulas.

#### MS HANNAH KROON

Lecturer: Professional teacher.

#### DR MIGUEL LACERDA

Lecturer: Phylogenetics; Bioinformatics; Stochastic processes.

#### MS SHEETAL SILAL

Lecturer: Mathematical modeling of infectious disease; public health.

#### DR JONAS STRAY

Lecturer: Optimization; Operations Research; Modeling for Sugar cane industry.

#### MR NEIL WATSON

Lecturer: Operations Research and Decision Modeling for Development.

### Technical Staff

#### MS KATYA MAUFF

Statistical Consultant: Statistical modelling; Nonlinear Mixed Effect modelling; Multivariate Statistics.

#### MS USHMA GALAL

Statistical Consultant

### Emeritus Professors

#### EMERITUS PROFESSOR RENKUAN GUO

Reliability and quality; imprecise spatial analysis.

#### EMERITUS PROFESSOR LINDA HAINES

Optimal experimental design; extreme value theory; modelling count data; time series.

#### EMERITUS PROFESSOR THEODOR STEWART

Senior Scholar: Multicriteria decision analysis and multiobjective optimization; resource allocation and management.

### Emeritus Associate Professors

#### EMERITUS ASSOCIATE PROFESSOR JUNE JURITZ

Biostatistics, hierarchical generalised mixed models.

### Contract staff

#### DR IAN DURBACH

Adjunct Senior Lecturer: decision analysis; risk and uncertainty.

### Postdoctoral Research Fellows

#### DR THEONI PHOTOPOLOU

Analysis of animal telemetry data, Bayesian state-space models for animal movement, movement ecology, regression analysis.

#### DR GUILLAUME PERON

### Honorary Research Associates

#### PROFESSOR ANESTIS ANTONIADIS

Inference on Stochastic Processes; Nonlinear Regression; Nonparametric Statistics; Wavelets in Statistics; Functional Data Analysis; Inverse Problems; Survival Analysis; Models in meteorology and climatology (Nuclear Agency, Grenoble); Statistical methods in Crystallography; Quality Control; Mixtures; Environmental Statistics; Statistical Analysis of Microarray Data; Sensitivity Analysis.

#### PROFESSOR DR GÜNTER SCHMIDT

Operations Research, Combinatorial Optimization, Conversion and Scheduling Problems, Financial Decision Support.

### Contact Details

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UCT General enquiries: +27 21 650 9111

UCT web: <http://www.uct.ac.za>

## Research Output

### Chapters in books

Janssen, R., Joubert, A.R. and Stewart, T.J. 2013. A multi-criteria approach to equitable fishing rights allocation in South Africa's Western Cape. In P. J.H. van Beukering (ed), *Nature's Wealth. The Economics of Ecosystem Services and Poverty*, pp. 155-171. USA, NY: Cambridge Univ Press, Edinburgh Bldg, Shaftesbury Rd, Cambridge, England. ISBN 9781107698048.

Kunz, M., Hlozek, R., Bassett, B.A., Smith, M., Newling, J. and Varughese, M. 2013. BEAMS: separating the wheat from the chaff in supernova analysis. In J. M. Hilbe (ed), *Astrostatistical Challenges for the New Astronomy*, pp. 63-86. New York: Springer Heidelberg New York Dordrecht London. ISBN 9781461435075.

### Articles in peer-reviewed journals

Altwegg, R., Collingham, Y.C., Erni, B. and Huntley, B. 2013. Density-dependent dispersal and the speed of range expansions. *Diversity and Distributions*, 19: 60-68.

Barr, G.D.I. and Kantor, B.S. 2013. Money supply and economic activity in South Africa - the relationship updated to 2011. *Journal for Studies in Economics and Econometrics*, 37(2): 23-40.

Barr, G.D.I. and Scott, L.D. 2013. Teaching statistical principles with a roulette simulation. *Spreadsheets in Education*, 6(2): 12.

Barshep, Y., Minton, C.D.T., Underhill, L.G., Erni, B. and Tomkovich, P. 2013. Flexibility and constraints in the molt schedule of long distance migratory shorebirds: causes and consequences. *Ecology and Evolution*, 3(7): 1967-1976.

Bled, F.H.B., Nichols, J.D. and Altwegg, R. 2013. Dynamic occupancy models for analyzing species' range dynamics across large geographic scales. *Ecology and Evolution*, 3(15): 4896-4909.

Cleary, S., Birch, S., Chimbindi, N., Silal, S.P. and McIntyre, D.E. 2013. Investigating the affordability of key health services in South Africa. *Social Science & Medicine*, 80: 37-46.

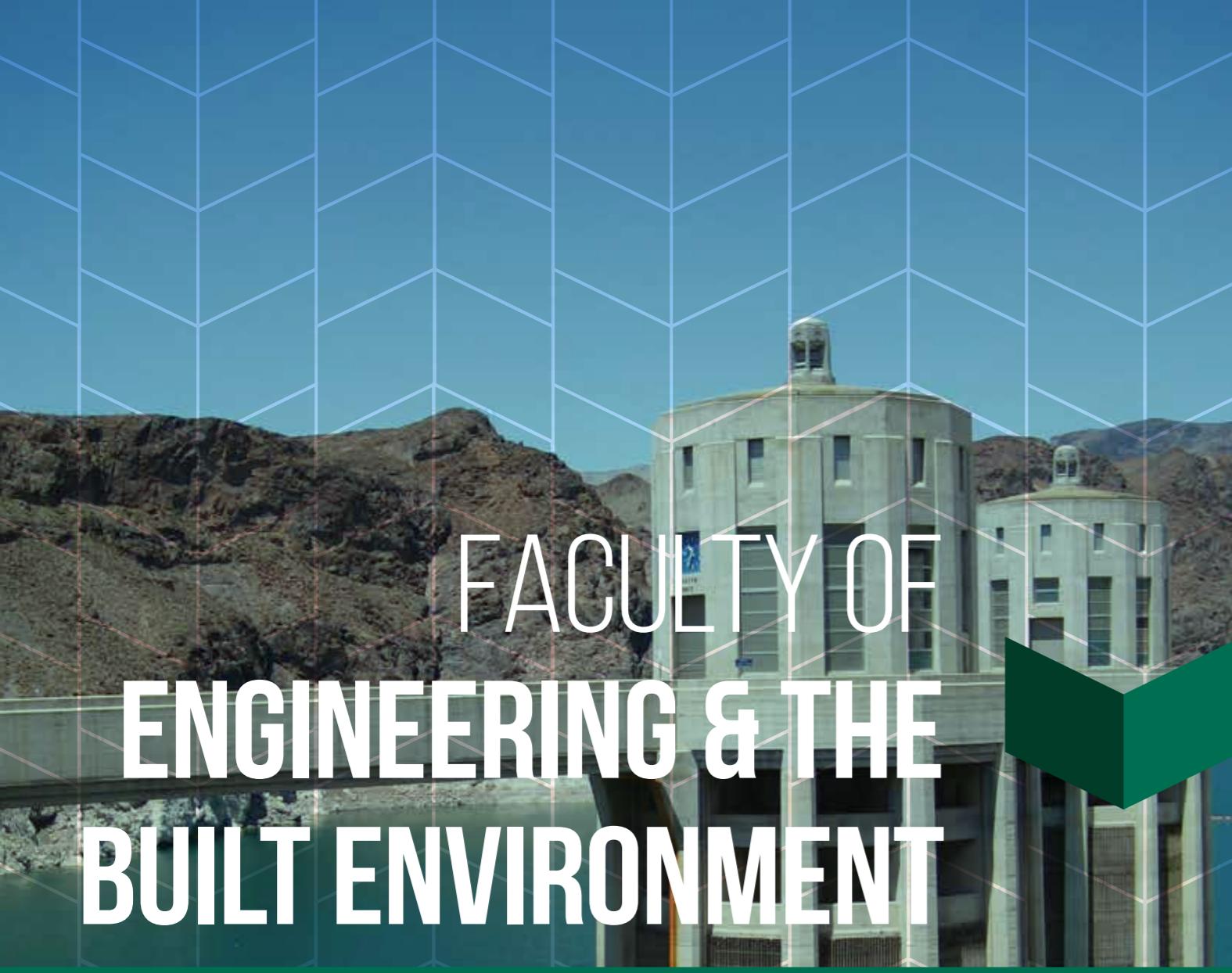
Cui, Y., Guo, R. and Guo, D. 2013. Probabilistic DEAR models. *International Journal of Machine learning and Cybernetics*, 4: 17.

Durbach, I.N., Katshunga, D. and Parker, H. 2013. Community structure and centrality effects in the South African company network. *South African Journal of Business Management*, 44(2): 35-43.

- Durbach, I.N. and Davis, S.J. 2012. Decision support for selecting a shortlist of electricity-saving options:a modified SMAA approach. *Orion: Journal of the Operations Research of South Africa*, 28(2): 99-116.
- Durbach, I.N., Scott, L.D., Nyirenda, J.C. and Silal, S.P. 2013. Operational research (ers) in development: growing a new generation of operational researchers. *Orion: Journal of the Operations Research of South Africa*, 29(1): 87-102.
- Erni, B., Bonnevie, B.T., Oschadleus, H.D., Altwegg, R. and Underhill, L.G. 2013. Moult: an R package to analyze moult in birds. *Journal of Statistical Software*, 52(8): 23pp.
- Flournoy, N.F., Haines, L.M. and Rosenberger, W. 2013. A graphical comparison of response-adaptive randomization procedures. *Statistics in Biopharmaceutical Research*, 5(2): 126-141.
- Gweshe, T. and Durbach, I.N. 2013. An analysis of the efficiency of player performance at the 2011 cricket world cup. *Orion: Journal of the Operations Research of South Africa*, 29(2): 137-153.
- Haines, L.M. 2013. A random walk approach for deriving exact expressions for probabilities associated with Efron's biased coin design. *South African Statistical Journal*, 47(2): 123-125.
- Heathfield, L.J., Lacerda, M., Nossek, C., Roberts, L.J. and Ramesar, R.S. 2013. Stargardt disease: towards developing a model to predict phenotype. *European Journal of Human Genetics*, 21(10): 1173-1176 DOI 10.1038/ejhg.2013.92.
- Kabera, G. and Haines, L.M. 2013. A note on the statistical analysis of point judgment matrices. *Orion: Journal of the Operations Research of South Africa*, 29(1): 75-86.
- Kaminer, D.B., Du Plessis, B., Hardy, A. and Benjamin, A. 2013. Exposure to violence across multiple sites among young South African adolescents. *Peace and Conflict*, 19(2): 112-124.
- Kaminer, D.B., Hardy, A., Heath, K., Mosdell, J. and Bawa, U. 2013. Gender patterns in the contribution of different types of violence to posttraumatic stress symptoms among South African urban youth. *Child Abuse & Neglect*, 37: 320-330.
- Khumalo, N., Gantsho, N., Gumedze, F.N. and Mthebe, T. 2013. Health risks of the clean-shave chiskop haircut. *SAMJ South African Medical Journal*, 103(7): 489-490.
- Knights, M., Bassett, B.A., Varughese, M., Hlozek, R., Kunz, M., Smith, M. and Newling, J. 2013. Extending BEAMS to incorporate correlated systematic uncertainties. *Journal of Cosmology and Astroparticle Physics*, 2013(1): 039(20pp). DOI: 10.1088/1475-7516/2013/01/039.
- Kock, A., O'Riain, M.J., Mauff, K.A.L., Meyer, M.A., Kotze, D. and Griffiths, C.L. 2013. Residency, habitat use and sexual segregation of white sharks, *Carcharodon carcharias* in False Bay, SA. *PLoS One*, 8(1): e55048(12pp). DOI: 10.1371/journal.pone.0055048.
- Lacerda, M., Moore, P.L., Ngandu, N., Seaman, M.S., Gray, E.S., Murrell, B., Krishnamoorthy, M.K., Nonyane, M., Madiga, M.C., Wibmer, C.K., Sheward, D., Bailer, R.T.B., Gao, H.G., Greene, K.M., Karim, S.S.A., Mascola, J.R., Korber, B.T.M., Montefiori, D.C., Morris, L., Williamson, C., Seoighe, C. and Consortium, 2013. Identification of broadly neutralizing antibody epitopes in the HIV-1 envelope glycoprotein using evolutionary models. *Virology Journal*, 10: 347(18pp).
- Mayosi, B.M., Ntsekhe, M., Bosch, J., Pogue, J., Gumedze, F.N., Badri, M., Jung, H., Pandie, S., Smieja, M., Thabane, L., Francis, V., Thomas, K., Thomas, B., Awotedu, A., Magula, N., Naidoo, D.P., Damasceno, A., Banda, A.C., Mutyaba, A., Brown, B., Ntuli, P., Mntla, P., Ntyintyane, L., Ramjee, R., Manga, P., Kirenga, B., Mondo, C., Russell, J.B.W., Tsitsi, J.M., Peters, F., Essop, M.R., Barasa, A.F., Mjiwanya, M.S., Sani, M., Olunuga, T., Ogah, O.S., Adebiyi, A., Aje, A., Ansa, V., Ojji, D., Danbauchi, S., Hakim, J., Matenga, J. and Yusuf, S. 2013. Rationale and design of the investigation of the management of pericarditis (IMPI) trial: a 2 2 factorial randomized double-blind multicenter trial of adjunctive prednisolone and mycobacterium w immunotherapy in tuberculous pericarditis. *American Heart Journal*, 165: 109-115.
- McLoughlin, J., Little, F., Mazok, C., Parry, C. and London, L. 2013. Prevalence of and associations with papsak wine consumption among farm workers in the Western Cape province, South Africa. *Journal of Studies on Alcohol and Drugs*, 74: 879-888.
- Mohr, E. and Schmidt, G. 2013. How much is it worth to know the future in online conversion problems? *Discrete Applied Mathematics*, 161: 1546-1555.
- Ochieng, A., Dalvie, M.A., Little, F. and Kromhout, H. 2013. Relationship between environmental exposure to pesticides and anthropometric outcomes of boys in the rural Western Cape, South Africa. *SAMJ South African Medical Journal*, 103(12): 942-947.
- Rodgers, A., Allie-Hamkulay, S., Jackson, G.E. and Durbach, I.N. 2013. Theoretical modeling of the urinary supersaturation of calcium salts in healthy individuals and kidney stone patients: precursors, speciation and therapeutic protocols for decreasing its value. *Journal of Crystal Growth*, 382: 67-74.
- Sather, B., Coulson, T., Grotan, V., Engen, S., Altweig, R., Armitage, K.B., Barbraud, C., Becker, P.H., Blumstein, D.T., Dobson, S.F., Festa-Bianchet, M., Gaillard, J., Jenkins, A.R., Jones, C., Nicoll, M.A.C., Norris, K., Oli, M.K., Ozgul, A. and Weimerskirch, H. 2013. How life history influences population dynamics in fluctuating environments. *American Naturalist*, 182(6): 743-759.
- Schmutz, A.M.S., Lubbe, S. and Archer, E. 2013. Clinical educator's self-reported personal and professional development after completing a short course in undergraduate clinical supervision at Stellenbosch University. *African Journal of Health Professions Education*, 5(1): 8-13.
- Scott, L.D. and Barr, G.D.I. 2013. Unregulated gambling in South African townships: a policy conundrum? *Journal of Gambling Studies*, 29: 719-732.
- Silal, S.P., Barnes, K.I., Kok, G.K., Mabuza, A. and Little, F. 2013. Exploring the seasonality of reported treated Malaria cases in Mpumalanga, South Africa. *PLoS One*, 8(10): e76640.
- Stewart, T.J. 2013. Special Issue on Evolutionary Multi-objective Optimization. *Journal of Multi-Criteria Decision Analysis*, 20: 3.
- Stewart, T.J. and Janssen, R. 2013. Integrated value function construction with application to impact assessments. *International Transactions in Operational Research*, 20(4): 559-578.
- Stewart, T.J., French, S. and Rios, J. 2013. Integrating multicriteria decision analysis and scenario planning - review and extension. *Omega-International Journal of Management Science*, 41(4): 679-688.
- Thiart, C. and Stein, A.S. 2013. Continental-scale kriging of gold-bearing commodities. *Spatial Statistics*, 6: 20.
- Varughese, M. 2013. Parameter estimation for multivariate diffusion systems. *Computational Statistics & Data Analysis*, 57: 417-428.
- Varughese, M. and Pienaar, E. 2013. Statistical inference for a multivariate diffusion model of an ecological time series. *Ecosphere*, 4(8): 104(14pp).
- Wheeler, M., De Villiers, M.S. and Altwegg, R. 2013. Effect of human disturbance on the behavioural responses and offspring survival of grey-headed albatrosses *Thalassarche chrysostoma* at Subantarctic Marion Island. *African Journal of Marine Science*, 35(4): 533-543.

#### **Peer-reviewed published conference proceedings**

- Coetzer, R.L.J. and Haines, L.M. 2013. Optimal designs for multiple-mixture by process variable experiments. In D. Ucinski, A.C. Atkinson and M. Patan (eds), *Proceedings of the 10th International Workshop in Model-Oriented Design and Analysis*, 10-14 June 2013, Lagow Lubuski, Poland. Switzerland: Dordrecht: Springer Science & Business Media B.V. ISBN 9783319002170.



# FACULTY OF ENGINEERING & THE BUILT ENVIRONMENT

The Faculty of Engineering & the Built Environment has emerged from a five-year strategic planning cycle and significant strides have been made towards our goal of establishing it as the faculty of choice for national and international staff and students. Investment in new buildings and the refurbishment of laboratories have improved the research space and infrastructure.

## DEAN'S REPORT PROFESSOR FRANCIS PETERSEN



HAVING A STRONG AND INTERNATIONALLY COMPETITIVE RESEARCH AND INNOVATION AGENDA WILL ALWAYS BE AT THE HEART OF STRATEGIC PLANNING FOR THE FACULTY.

51<sup>◦</sup>  
NRF-RATED RESEARCHERS

R135.42M  
VALUE OF RESEARCH CONTRACTS

1198<sup>◦</sup>  
REGISTERED POSTGRADUATES

Research in the Faculty of Engineering & the Built Environment continues to go from strength to strength. In the past year, a number of sophisticated analytical instruments have been purchased to assist various research groups in their work. The Department of Chemical Engineering received a new R14 million FEI QEMSCAN (quantitative evaluation of minerals by scanning electron microscopy) 650F as well as a high-resolution scanning electron microscope (see p156).

The new geotechnical laboratory in the Department of Civil Engineering has recently gone from a manual laboratory to a fully automated one, thanks to a grant from the Department of Higher Education and Training and the University Equipment Committee. The Department of Electrical Engineering has purchased a R3.5 million 10 MHz to 67 GHz Agilent PNA-X N5247A network analyser, which is an instrument used to measure and characterise electronic devices, antennas and systems, such as components and systems relating to radar, radio astronomy and telecommunications.

The high quality of research in the faculty is reflected in an increase in the number of peer-reviewed publications in international journals, and the international recognition that members of staff enjoy in their areas of research. A number of staff received international awards for their research, have been elected onto committees of local professional bodies, and serve on the editorial and advisory boards of various international journals and conferences. Clinton Hindes and Liana Müller

(School of Architecture, Planning and Geomatics) received an Award of Excellence in the category "Publications and Research" from the Institute for Landscape Architecture of South Africa for the book pair *South African Landscape Architecture: A compendium and A reader*. Dr Denis Kalumba (Department of Civil Engineering) was appointed to the South African Bureau of Standards national working committee to draft the new South African Geotechnical Design Standard. The best presentation award at the World Gold Conference in Brisbane went to Dr Megan Becker (Minerals to Metals Initiative, Department of Chemical Engineering). Associate Professor Neil Armitage (Department of Civil Engineering) received an award from the Water Research Commission for "Human Capital Development in the Water and Science Sectors".

Interdisciplinary thinking and activity have become firmly embedded in the objectives of the Centre for Research in Computational and Applied Mechanics (CERECAM), which has grown into a research centre comprising 13 full-time academic staff members from six departments and three faculties. In 2013, CERECAM had 21 doctoral and 14 master's students, who were drawn from all the member departments.

The DST/NRF South African Research Chairs Initiative (SARChI) is a flagship initiative of government designed to attract and retain excellence in research and innovation at South African universities. The faculty is proud that its total number of DST/NRF SARChI chairs increased to seven when Professor Arnaud Malan took up his chair in 2014. Four additional research chairs in the faculty are supported by industry.

The DST/NRF Centre of Excellence in Catalysis (c\*change) has undergone its second five-year review and the DST/NRF has confirmed an additional five years of funding. A total of 20 projects were funded during the course of 2013, of which 13 were multi-institutional and/or interdisciplinary projects. The centre has been awarded a DST/NRF SARChI Chair, which is expected to boost its scientific output.

National Research Foundation (NRF) ratings in the faculty have grown significantly over the past years, with 51 rated researchers at the end of 2013. It is exciting to see such a high number of young academics who have received ratings for their research and that the participation in the Emerging Researcher Programme continues to grow: a total of 79 researchers from the faculty have participated in the programme to date. The number of research contracts has increased significantly from 295 in 2012 to 395 in 2013. There has been a drive to grow our research and innovation output and with this in mind, a number of new master's programmes have been introduced into

the faculty, which will have spin-offs in the form of research contracts and income. A new transdisciplinary and inter-institutional Master of Philosophy specialising in Sustainable Mineral Resource Development was developed as part of the Education for Sustainable Development in Africa project convened by the United Nations University for Sustainability and Peace. It is based in the Department of Chemical Engineering, in partnership with the University of Zambia and the United Nations University in Japan. A multidisciplinary research-based MPhil programme in space studies is recruiting students with strong backgrounds in engineering, science, law and commerce. It is based in the Department of Electrical Engineering and exposes participants to all the key aspects of space science and technology. The MEng programme specialising in nuclear power provides an interdisciplinary postgraduate qualification in the key aspects of nuclear power for societal benefit: it encompasses the scientific, engineering and applications aspects of nuclear power, including the policy-operating, safety and regulatory aspects. The Department of Civil Engineering introduced an MEng and MSc Eng in Civil Infrastructure Management and Maintenance as well as an MSc in Geotechnical Engineering.

## THERE HAS BEEN A DRIVE TO GROW OUR RESEARCH AND INNOVATION OUTPUT.



The Department of Electrical Engineering hosted a workshop on high-performance signal processing, funded by the South African MeerKAT project, which allowed engineers and scientists to share thoughts on some of the technology underpinning high-performance computing.

The HySA/Catalysis Competence Centre co-hosted a workshop with Germany's Centre for Fuel Cell Technology. The workshop was on "Proton Exchange Membrane Fuel Cell Systems in South Africa: Supply chain opportunities and platinum-group metals beneficiation". Representatives from industry, government and academia from both countries met to see how they could chart collaborations in the field of hydrogen and fuel cell technology.

With an eye to future collaboration, the Flotation Research Group in the Department of Chemical Engineering hosted a joint student Flotation Day with the University of Queensland (UQ), Australia.

## ROYAL SOCIETY HONOUR FOR CIVIL ENGINEERING PROFESSOR



Alphonse Zingoni, Professor of Structural Engineering and Mechanics in the Department of Civil Engineering, was invited by the Royal Society of the United Kingdom in February 2013 to present his work on symmetry and applications of group theory in structural mechanics at one of the themed meetings of the Royal Society.

The only civil engineer among a distinguished group of mathematicians, physicists, chemists and engineers, and the only speaker from Africa, Zingoni explained how the mathematical concepts of group theory, exploited for many years by physicists and chemists to study problems in crystallography, quantum mechanics and molecular symmetry, could also be successfully applied in engineering.

According to Zingoni, not only can group-theoretic formulations vastly reduce computational effort (an important consideration in large-scale engineering problems), but they can also allow researchers to gain valuable insights into complex phenomena in engineering mechanics such as bifurcation, stability, vibration and non-linear dynamics. Such insights greatly enhance the capacity to predict unfavourable or catastrophic behaviour in engineering systems, making it possible to design these systems more safely and more effectively.

The written version of Zingoni's lecture has recently been published as a research paper in the prestigious *Philosophical Transactions* of the Royal Society, which was founded in 1662, and is the oldest scientific journal in the world.

In 2013, there were 1198 postgraduate students registered in the faculty. Of these, 599 students received awards to the value of R33 744 581, with a large percentage of the funding coming from donations and external funders. There are 23 postdoctoral research fellows in the faculty, with 11 of them in their first year of research.

Postgraduate students were rewarded for their excellent work. Philippa Hedley, a 2012 Master of Landscape Architecture graduate, received Corobrik's Most Innovative Final Year Landscape Architecture Project Award for her thesis on disused landscapes and the potential of damaged sites for redevelopment. Electrical Engineering PhD student Chris de Beer received a best paper award at the international conference sponsored by the Industrial Technology Industrial Electronics Society. Janine Loubser, a 2012 City and Regional Planning master's graduate, received the Royal Town Planning Institute's Education Award 2013 for excellence in spatial planning research – student entry. Mehdi Safari, a PhD student in the Centre for Minerals Processing, received first prize for the best student presentation and poster at MinProc 2013, the "Southern African Mineral Beneficiation and Metallurgy Conference". Doctoral student Petro Ernest (Communications Research Group) won one of three best paper awards at the 16<sup>th</sup> "Southern Africa Telecommunication Networks and Applications Conference". Drewan Sanders, a master's student in the Aeronautical Research Group, received the best paper award at the "International Aerospace Conference of South Africa". Another master's student, Mfundo Vezi (Department of Civil Engineering), attended the "South African National Committee on Large Dams Conference" where he was awarded a prize for the best-prepared and presented paper.

The Initiative for Public Good, co-ordinated by Emeritus Professor Duncan Fraser, continues to look at the development of new research projects that have wider socio-economic benefits. Bringing our research and training programmes in line with the developmental needs of society and industry guarantees that our work will remain relevant and attractive to funders. To this end, much has been achieved, and we will, through our inter- and transdisciplinary work, build on the excellence, visibility and impact of our research and innovation. Having a strong and internationally competitive research and innovation agenda will always be at the heart of strategic planning for the faculty. Part of our strategy over the next five years is to enable the faculty to grow, to link with other institutions, and to create frameworks at various academic levels. Recognising opportunities academically and within industry will stand us in good stead.

## PRIZE WINNER

This photograph (left) of Edward Peters, an MSc Chemical Engineering student in the Crystallisation and Precipitation Research Unit, won first prize in the International Year of Water Co-operation category at the South African Science Lens Competition, which was hosted by the South African Agency for Science and Technology Advancement. It was submitted by Cullinan Nicholas of the Diocesan College.



## XRD CELL OPENING UP NEW VISTAS FOR CATALYSIS RESEARCH

The Department of Science and Technology Catalysis Competence Centre (HySA/Catalysis), co-hosted by the Department of Chemical Engineering at UCT and Mintek, continues to make a research impact with its in situ reaction cell for a commercial X-ray diffractometer (XRD).

In 2013, Professor Michael Claeys, the inventor of the XRD cell, together with co-authors Nico Fischer, Brett Clapham, Theresa Feltes and Eric van Steen, published a paper on the use of the device in the respected *Angewandte Chemie International Edition* – one of the prime chemistry journals in the world with an impact factor of 13.7. The paper was also chosen by the editors as a “hot paper” for its importance in a rapidly evolving field, and artwork depicting the cell’s capabilities was included on the journal’s back cover.

The in situ XRD cell is proving to be a cutting-edge research tool and can be retrofitted to existing X-ray diffractometers or synchrotrons to enable materials such as catalysts to be studied at elevated temperatures and pressures in changeable gaseous or liquid environments. The construction and design overcome a number of shortcomings that restrict the use of current commercial systems and are opening up new areas of research.

Advantages over commercially available in situ cells include minimised dead volume and the possibility of co-feeding gases such as water vapour.

An automated control system for the XRD cell has been developed, whereby the XRD cell can be controlled remotely using a tablet. This control system is particularly useful for synchrotron applications where the instrument itself cannot be easily accessed during operation. A marketable, industrially designed control



Professor Michael Claeys.

box has been fabricated, with a holding place for the tablet. A transportation case for the XRD cell, control box and ancillary items has been manufactured.

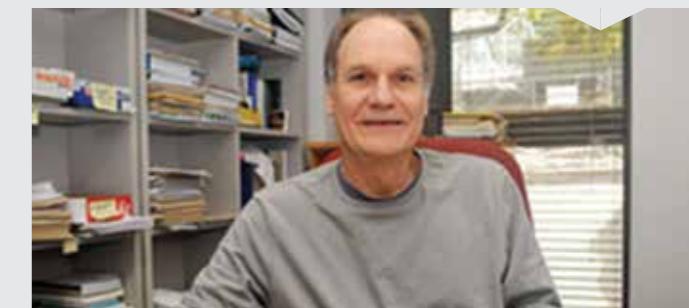
Collaborative work is being conducted with local industry using international synchrotron facilities. Two units have been sold internationally, in Europe and Asia, and interest has been expressed by other foreign institutions, including a global diffractometer supplier.

## HIGHEST HONOUR IN THE LAND FOR UCT WATER EXPERT

President Jacob Zuma has bestowed the Order of Mapungubwe on UCT wastewater treatment expert Professor George Ekama of the Department of Civil Engineering. The order was conferred on Freedom Day, 27 April 2013, “for research that has provided innovative solutions to enhancing and improving wastewater treatment and helped South Africa find answers to its water shortage problems”. Professor Ekama was among several South Africans, including the late Dr Neville Alexander, to be awarded this, the highest recognition in the land.

Professor Ekama is a civil engineer who lives by a simple research credo: “Locally inspired, globally relevant.” He has held a National Research Foundation (NRF) A-rating since 2006, which recognises him as a world leader in his field.

After qualifying from UCT in civil engineering, he started work on a construction site, but his interest in wastewater treatment was sparked when he met former UCT Professor Gerrit van Rooyen Marais, an expert in the field, who later became his PhD supervisor. He has remained at the forefront of developments in wastewater treatment ever since, primarily through a strong research group.



He describes his area of research as “fascinating” and says if you are looking for a biological process that needs to take place before treating water, don’t give up: “There are bacteria out there that can do amazing things. You are bound to find one.”

Widely published, with more than 150 papers on wastewater treatment in top international journals, Professor Ekama is also highly cited. He is one of only seven South Africans to be listed on www.ISIHightlyCited.com, an international website of the most cited academics globally. He is a senior fellow of the Water Institute of South Africa (WISA), and a fellow of the Royal Society of South Africa, of UCT and of the South African Academy of Engineers.



From left: Professor Danie Visser, Dr Rob Schouwstra (Anglo American Technical Solutions), Dr Romilla Maharaj (NRF), Dr Megan Becker, Professor Dave Deglon and Emeritus Professor Cyril O’Connor.

## RESEARCH BOOSTER

Research in the Centre for Minerals Research (CMR) was given a shot in the arm in late 2013 with the successful installation of a new R14 million FEI QEMSCAN 650F for automated mineralogy. Funded by the National Research Foundation (NRF) National Equipment Programme and the Centre for Minerals Research, the new instrument was delivered and installed in a custom-built facility for high-end electron microscopes and associated equipment, housed in the New

Engineering Building on Upper Campus. It replaces the very successful 14-year-old LEO QEMSCAN (donated to the CMR by Anglo American Platinum), which helped establish the mineralogical analyses capabilities of the CMR. The new QEMSCAN will be run as both a university and a regional facility (with the University of the Western Cape, the Cape Peninsula University of Technology and the University of Stellenbosch) for the acquisition of high-quality mineralogical data that will be used for world-class research across a broad range of disciplines.

# DOCTORAL GRADUATIONS

## E.O. AKROFI (GEOMATICS)

Assessing customary land administration systems for peri-urban land in Ghana  
Supervised by Associate Professor J. Whittal

## H. APPA (CHEMICAL ENGINEERING)

Numerical modelling of hydrodynamics, gas dispersion and mass transfer in an autoclave  
Supervised by Professor D. Deglon and Professor C. Meyer

## I.N. BANDA (CONSTRUCTION ECONOMICS AND MANAGEMENT)

Institutional mechanisms for water supply to informal settlements in Zambia: a grounded theory approach  
Supervised by Associate Professor K. Michell and Professor K.S. Cattell

## L. BBOSA (CHEMICAL ENGINEERING)

Probability based models for the power draw and energy spectra of a tumbling mill  
Supervised by Dr A. Mainza and Dr I. Govender

## K.J. CARDEN (CIVIL ENGINEERING)

A measure of sustainability in the context of urban water management in South Africa  
Supervised by Associate Professor N. Armitage

## W. COETZEE (CHEMICAL ENGINEERING)

Development of a computationally efficient bubble column simulation approach by way of statistical bubble micro-flow modelling  
Supervised by Dr R. Rawatla and Dr R. Coetzer

## J. ENGELBRECHT (ELECTRICAL ENGINEERING)

Parameters affecting interferometric coherence and implications for long-term operational monitoring of mining-induced surface deformation  
Supervised by Professor M. Inggs

## R. JOBANPUTRA (CIVIL ENGINEERING)

An investigation into the reduction of road safety risk in Cape Town through the use of microscopic simulation modelling  
Supervised by Associate Professor M. Vanderschuren

## D.V. KALLON (CHEMICAL ENGINEERING)

Circulation rate modelling of tumbling mill charge using Positron Emission Particle Tracking (PEPT)  
Supervised by Dr I. Govender and Associate Professor A.N. Mainza

## D. KOBEL (CIVIL ENGINEERING)

Quantifying the value of non-user benefits of improving water and sanitation in informal settlements  
Supervised by Associate Professor R. Del Mistro

## E. MAZIMPAKA (MECHANICAL ENGINEERING)

Woodfuel in Rwanda: impact on energy, poverty and the environment  
Supervised by Dr G. Prasad

## N. MOODLEY (ELECTRICAL ENGINEERING)

Power transformer health assessment derived from low energy and dissolved parameters  
Supervised by Professor T. Gaunt

## N. MOORUTH (CHEMICAL ENGINEERING)

An investigation towards passive treatment solutions for the oxidation of sulphide and subsequent removal of sulphur from acid mine water  
Supervised by Dr R. Van Hille

## R. NADJIASNGAR (ELECTRICAL ENGINEERING)

On improving the performance of Gauss-Newton filter  
Supervised by Professor M. Inggs

## B.N. NDLOVU (CHEMICAL ENGINEERING)

The effect of phyllosilicate mineralogy and surface charge on the rheology of mineral slurries  
Supervised by Professor D. Deglon, Dr M. Becker and Dr E. Forbes

## O.A. OLAOFFE (CHEMICAL ENGINEERING)

A bioprocess approach for enhanced biocatalytic activity and efficiency of whole cell escherichia coli expressing alkane hydroxylase CYP153A6 for terminal hydroxylation of n-octane  
Supervised by Professor S. Harrison and Professor M. Smit

## B.V. SOUBACHOV (ELECTRICAL ENGINEERING)

Pilot patterns and power loading in NC-OFDM cognitive radios  
Supervised by Mr N. Ventura

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## Filed applications

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Ginsberg, S.I., Parsons, A.T., Vicatos, G. An Endoprosthesis. National Phase Patent Application United States 14/127,933.

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Lusilao-Zodi, G-A., Morrison, N. A System and Method for Estimating Round-Trip Time in Telecommunication Networks. National Phase Patent Application South Africa 2012/05903.

# SCHOOL OF ARCHITECTURE, PLANNING AND GEOMATICS

(Including the African Centre for Cities)

**Director: Associate Professor Alta Steenkamp**

## School Profile

Within the School of Architecture, Planning and Geomatics, research work includes conventional research and applied research as well as creative work. This takes place within the actively teaching divisions within the School, as well as within dedicated research units. In the Architecture and Planning programmes these research endeavours include areas of enquiry such as urban design, architectural design, architectural education, digital technology, contemporary architectural theory and practice, planning theory, urban conservation, urban transport policy and urban informality.

The ethos of this School is also strongly influenced by our context: the physical context, the city, and the broader social/cultural/economic context of the region and the country. We are committed to engage with these contexts in both a meaningful and critical way, not as abstract sites for investigation but rather as peopled places to which we can respond.

The Geomatics Division within the School undertakes research in a variety of areas. These include documentation, modelling and visualization of African heritage sites, close-range photogrammetry, laser scanning of architectural structures and remote sensing of the environment; issues relating to land surveying, ownership, registration and tenure; modeling of the shape of the Earth (geoid) using gravity and satellite data, applications of GPS and modeling of datum transformations in Africa; applications of remote sensing and geographic information systems (GIS) to urban, agricultural and environmental monitoring. Spatial data infrastructure (SDI) development for integrated development planning (IDP) in sub-Saharan African cities.

## Research Units and Groups

### African Centre for Cities

Known colloquially by the acronym 'ACC', the Centre has established an impressive international profile and reputation as a dynamic home for analysis of urban problems and policies. Its interdisciplinary brand gives the ACC huge potential to facilitate urban conversations and inquiry throughout UCT.

'CityLabs', a new model of engaged and applied research, were created to address pressing concerns in Cape Town, including flooding, urban health, densification, ecology, and climate change. New Labs on violence, culture and human settlements have been launched. The ACC partners with international research units studying food security, and women's informal employment. Honours for ACC include its (renewed) status as a UCT 'Signature Theme' and a Rockefeller Innovation Award.

### School Statistics

#### Permanent and Long-term Contract Staff

Professors	5
Associate Professors	6
Senior Lecturers	10
Lecturers	9
Technical Support Staff	9
Administrative Staff	12
<b>Total</b>	<b>51</b>

#### Students

Doctoral	16
Master's	104
Honours	53
Undergraduates	324
<b>Total</b>	<b>497</b>

#### Research Fields and Staff

##### DR MAHMOUD ABDEL-GELIL

Senior Lecturer: Geomatics. Gravity data analysis, GPS, Geodesy and geophysics.

##### FRANCIS CARTER

Senior Lecturer: Architecture. Curriculum theory in relation to undergraduate built environment design programmes; theories of making, with reference to contemporary South African architecture; programming for new knowledge space.

##### ASSOCIATE PROFESSOR NICHOLAS COETZER

Architecture. Architectural design; contemporary architectural history and theory; digital technology.

##### ALBERTRUM CROWDER

Lecturer: Architecture. Specializes in the area of cultural heritage conservation. His research focuses on the inherent values that people associate with their environment and the possibility for this to help promote sustainable cultural heritage conservation and development.

##### KEVIN FELLINGHAM

Senior Lecturer: Architecture. Interdisciplinary research, practice and design.

##### DR MATTEO FRASCHINI

Senior Lecturer: BAS Programme

##### DR RAMESH GOVIND

Senior Lecturer: Geomatics Programme

##### CLINTON HINDES

Senior lecturer: Landscape Architecture. History and theory of landscape architectural design and its application to teaching and practice. Documenting the history of South African landscape architecture.

##### SIMON HULL

Lecturer: Geomatics. Digital photogrammetry for heritage documentation, fields of land tenure reform, disaster management using remote sensing and GIS, heritage documentation, and improving education.

##### FADLY ISAACS

Lecturer: Architecture. (Measuring) urban settlement quality, integrating strategic urban infrastructure investment.

##### TANIA KATZSCHNER

Lecturer: Planning. Education for sustainable development, sustainable urban systems, creating and nurturing educational systems that serve human needs while also protecting our resources for future generations, trans-disciplinarity and systems thinking.

##### MS TARNA KLITZNER

Part time Lecturer – MLA Programme

##### SIMONE LE GRANGE

Lecturer: Architecture. Architectural design, Academic Development Lecturer.

##### MIKE LOUW

Lecturer: Architecture. Sustainable architecture and urbanism, architectural history and materiality.

##### PROFESSOR IAIN LOW

Architecture. Space and transformation; critical thinking / practice and the 're-writing' of architectural type; post apartheid South African condition: urbanism, the 'new' public realm, contemporary dwelling and architectural pedagogy.

##### PROFESSOR JO NOERO

Architecture.

##### DR NANCY ODENDAAL

Senior Lecturer: Planning. Relationship between Information and Communication Technology and urban transformation, metropolitan planning, planning theory and infrastructural transitions in cities of the Global South. Commissioned research on planning and transformation, land use management and planning standards.

##### STELLA PAPANICOLAOU

Lecturer: Design, the tension between meaning and the production of space in architectural practice and education; developing tools for critical thinking to enhance the creative process in architectural education.

##### PROFESSOR EDGAR PIETERSE

Director: African Centre for Cities, and holder of a DST/NRF SARChI Research Chair. Promoting new approaches to urban development in South Africa and Africa, in collaboration with partners from the global South.

##### PROFESSOR GORDON PIRIE

Deputy Director: African Centre for Cities. Geographer, principal research field of transportation and travel.

##### MR JULIAN RAXWORTHY

Senior Lecturer – MLA Programme

##### DR TOM SANYA

Senior Lecturer: Architecture. Sustainable Habitat Innovations (SusHI), systems theory in sustainable architecture evaluation with particular focus on Africa. Sustainability evaluation tool (emerging from PhD). Design and making Epistemology – in Search of an Afro-centric perspective via the African Informal Settlement.

##### MS MELINDA SILVERMAN

Senior Lecturer – MArch Programme

##### DR GEORGE SITHOLE

Senior Lecturer: Laser altimetry, photogrammetry, 3D object reconstruction.

##### ASSOCIATE PROFESSOR JULIAN SMIT

Geomatics. Application of remote sensing, photogrammetry and geographic information systems for land and environmental management.

**ASSOCIATE PROFESSOR ALTA STEENKAMP**

Director: School of Architecture, Planning & Geomatics. History and theory of Southern African architecture and its relation to the global environment.

**ADJUNCT ASSOC PROF STEPHEN TOWNSEND**

Convenor – M Phil in Conservation of the Built Environment

**PROFESSOR VANESSA WATSON**

Planning. Planning theory; governance; housing; urbanization; large city planning.

**ASSOCIATE PROFESSOR JENNY WHITTALE**

Geomatics. Land tenure and cadastral systems, specialising in land for the urban poor and fiscal cadastral systems and reform.

**DR TANJA WINKLER**

Senior Lecturer: Planning. Current research interests include critically assessing "the voice of the poor" in urban governance and public decision making processes. Ongoing research on civil society, poverty, and inner city regeneration.

**Research Associates****EMERITUS PROFESSOR JULIAN COOKE**

Contemporary South African architecture.

**EMERITUS PROFESSOR DAVID DEWAR**

Former Deputy Dean of the Faculty of Engineering and the Built Environment; BP Chair of Planning; urban structure and form; place making; informal housing; housing policy; informal economic development; public space; regional planning and development.

**EMERITUS PROFESSOR LUCIEN LE GRANGE**

Urban Conservation Policy; Urban Design; Mission Settlements in South Africa; Documenting modern architecture in Cape Town. Contemporary Architecture – Theory and Practice.

**EMERITUS PROFESSOR FABIO TODESCHINI**

Architect, city planner, urban designer, heritage practitioner.

**EMERITUS PROFESSOR HEINZ RÜTHER**

Digital close range and aerial photogrammetry; precise engineering surveying; geographic information systems; visualisation and 3D modeling.

**EMERITUS ASSOCIATE PROFESSOR CHARLES MERRY**

Earth's gravity field; global positioning system; coordinate transformations.

**MR BARRIE GASSON**

Ecologically sustainable cities; regional planning and development.

**Contact Details**

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Geomatics: Tel: SA (21) 650-3577 and Fax:

SA (21) 650-3572

Webpage: <http://www.apg.uct.ac.za>

**Research Output****Authored books**

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- Simone, A. and Uzair Fauzan, A. 2013. Majority time: operations in the midst of Jakarta. *Sociological Review*, 61(S1): 109-123.
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## Peer-reviewed published conference proceedings

- Isaacs, F. 2013. Socio-spatial dialectics within Langa, the first black township in Cape Town, 1923-1960. In Y.O. Kim, H.T. Park and K.W. Seo (eds), *Proceeding of 9th International Space Syntax Symposium (SSS9)*, 2013, Seoul, Republic of Korea: Sejong University Press. ISBN 9788986177213.

## Creative Works

### Artistic works

- Farouk, I. 2013. Smaaklik: Permanent public artwork, produced for the City of Ghent and Africalia, located at Jenaplan De Kleurdoos.

Low, I. 2013. Digest of SA Architecture.

- Noero, M.F.J. 2013. Design exhibition work published in catalogue - Energetic Architecture. Commissioned by Published by Maxxi.

- Noero, M.F.J. 2013. Invited to give lecture at CAA world congress in Bangladesh - unable to deliver lecture because of political unrest in Bangladesh at the time. April 2013.

- Noero, M.F.J. 2013. Keynote lecture at Biennial Congress of Sri Lanka Institute of Architects. March 2013.

- Noero, M.F.J. 2013. Lecture - Alghero School of Architecture, Sardinia, Italy. March 2013.

- Noero, M.F.J. 2013. Public lecture - Limits of Architecture at Museum of Architecture, Munich. September 2013.

- Noero, M.F.J. 2013. Received award of merit for 2013 from the Cape Institute for Architecture for Extensions to St Cyprians School in Oranjezicht, Cape Town.

- Noero, M.F.J. 2013. Work published in catalogue - Afritecture - published by the Museum of Architecture, Munich.

## Exhibitions

- Noero, M.F.J. 2013. Exhibition of work - Alghero School of Architecture. Sardinia, Italy 01/03/2013 to 01/06/2013.
- Noero, M.F.J. 2013. Productive republic for the exhibitions. Maxxi National Museum of contemporary Art and Architecture in Rome 01/03/2013 to 01/11/2013.
- Noero, M.F.J. 2013. Work exhibited entitled 'Afritecture'. Museum of Architecture in Munich, Germany 01/09/2013 to 01/01/2014.

## Head of Department: Professor Alison E Lewis

## Departmental Profile

The vision of The Department of Chemical Engineering is to be "A Beacon in Education and Research", which we aim to fulfil through our combined undergraduate and postgraduate programmes. The undergraduate programme is accredited by the Engineering Council of South Africa, whilst the undergraduate and postgraduate programmes both have national and international recognition for their high quality graduates.

Our postgraduate programme is the largest academic research activity in Chemical Engineering in Africa and is based on a strong link between fundamental research and its application to the solution of industrial and applied problems.

The research programme is focussed around five University-accredited research groupings in Bioprocessing, Catalysis, Crystallization & Precipitation, Engineering Education and Minerals Processing. The department also has strong research interests in Environmental Process Engineering and Process Modelling. The Chemical Engineering Department also hosts the DST-NRF Centre of Excellence in Catalysis, the DST Hydrogen Catalysis Centre of Competence, the South African Minerals to Metals Research Institute (SAMRI), four DST/NRF SARChI chairs: Minerals Beneficiation, Bioprocess Engineering, Nano-Materials for Catalysis and Reaction Engineering, as well as the Anglo American Platinum Chair in Minerals Processing.

## Departmental Statistics

Professors	10
Associate Professors	3
Senior Lecturers	5
Lecturers (contract)	1
Assistant Lecturers (contract)	11
Research Staff (permanent)	14
Research Staff (contract)	3
Senior Research Scholar	1
Technical & Scientific Staff (permanent & Long-term Contract)	28
Technical & Support Staff (contract)	10
Administrative and Clerical Staff (permanent)	19
Administrative and Clerical Staff (contract)	10
<b>Total</b>	<b>115</b>

## Honorary Staff

Honorary Professor	1
Honorary Adjunct Professors	2
<b>Total</b>	<b>3</b>

## Students

Doctoral	57
Master's	80
BSc(Eng) including Aspect	521
<b>Total</b>	<b>658</b>

## Research Fields and Staff

### Academic staff and research fields

#### DR LAWRENCE BBOSA

Centre for Minerals Research - Communion, DEM modelling

#### MR PAUL BEPSWA

Centre for Minerals Research - Metal Accounting, Communion

#### DR MEGAN BECKER

Centre for Minerals Research - Process Mineralogy

#### MR WALTER BÖHRINGER

Centre for Catalysis Research - Acid catalysis

#### DR JENNIFER BROADHURST

Minerals to Metals Signature Theme - Environmental sustainability of mineral beneficiation processes

#### DR ROALD BROSIUS

Centre for Catalysis Research - Diesel selective and gasoline/kerosene selective catalytic synthetic fuel processes; noble metal promoted zeolite catalysts for

Fischer-Tropsch compatible hydrocracking catalysts; hierarchically and/or nano-structured zeolite catalysts for combined FT synthesis and fuels upgrading in micro-channel and continuously stirred tank reactors

#### PROFESSOR JENNI CASE

Centre for Research in Engineering Education - Student experience of learning in science and engineering

#### PROFESSOR MICHAEL CLAEYS

Centre for Catalysis Research - Director DST/NRF Centre of Excellence in Catalysis (c\*change), Fischer-Tropsch synthesis, in-situ catalyst characterization, nano-materials

#### DR OLAF CONRAD

Centre for Catalysis Research - Director HySA/Catalysis

#### DR KIRSTEN CORIN

Centre for Minerals Research - Flotation Chemistry

#### PROFESSOR DAVID DEGLON

Centre for Minerals Research - Flotation Cells, CFD Modelling, Metal Accounting

#### PROFESSOR MARK DRY

Centre for Catalysis Research – Fischer-Tropsch (FT) catalytic processes, production of synthesis gas

#### DR CARYN FENNER

Centre for Bioprocess Engineering Research - Production of fine chemicals and commodity bioproducts, product optimisation and induction; production of affordable, modern biopharmaceuticals and chemicals; production of industrial, development and optimisation of bio-analytical procedures

#### PROFESSOR JACK FLETCHER

Director of the Centre for Catalysis Research – Contract Director National Hydrogen Catalysts Competence Centre (HySA/Catalysis) - catalysis by noble metals, zeolite catalysed conversion of phenol and derivatives, wax hydrocracking, shape selectivity in zeolites and molecular sieves, hydrogen processors and fuel cells

#### PROFESSOR JEAN-PAUL FRANZIDIS

SA Research Chair in Minerals Beneficiation, Director of Minerals to Metals Signature Theme - Integrating and expanding capacity in minerals beneficiation research

#### DR INDRESAN GOVENDER

Centre for Minerals Research - Communion, DEM Modelling, PEPT

#### MR MARTIN HARRIS

Centre for Minerals Research - Flotation Circuit Modelling

#### PROFESSOR SUE HARRISON

SA Research Chair in Bioprocess Engineering, Director of the Centre for Bioprocess Engineering Research - Interaction of micro-organisms with the environment; microbial community dynamics in planktonic and sessile environments; biokinetics and metabolic modelling of biomass and bioproducts. The above is applied to the fields of: alkane biotechnology, biomansuafacture of pigments, enzymes and nutraceuticals, yeast handling, mineral bioleaching through heap and tank processes, Acid Rock Drainage (ARD) prevention, ARD remediation through sulphate reduction, wastewater bioprocessing, algal bioprocesses for bioenergy and fine chemicals, Bioprocess design and evaluation for sustainable process engineering

#### MR HILTON HEYDENRYCH

Crystallization & Precipitation Research Unit - Development of a systematic approach for the treatment of effluent water streams using multi-criteria evaluations and comparisons of simulated processes to develop new heuristic principles for the design of water treatment processes. Chemical engineering education curriculum design and the analysis of throughput issues

#### MR NABEEL HUSSAIN

Centre for Catalysis Research - Design and development of catalytic components and devices for low temperature fuel cells

#### DR ADENIYI ISAFIADE

Environmental and Process Systems Engineering - Process design and optimization

#### DR MADELYN JOHNSTONE-ROBERTSON

Centre for Bioprocess Engineering Research - Enzyme production, wastewater biorefineries, biopolymer production, integrated bioprocess development

#### DR PIETER LEVECQUE

Centre for Catalysis Research - Electrocatalysts for fuel cells and high throughput catalyst preparation

#### PROFESSOR ALISON LEWIS

Director of the Crystallization & Precipitation Research Unit - Industrial precipitation and crystallization, product and particle analysis; process control for optimised product quality; crystallization process development; aqueous chemistry modelling of speciation, thermodynamic equilibria, hydrodynamic and population balance modelling of precipitation systems; water treatment through crystallization, eutectic freeze crystallization

#### MR NIELS LÜCHTERS

Centre for Catalysis Research - High throughput experimentation, parallel preparation of heterogeneous catalysts, high throughput methodology for fuel processing research

#### DR AUBREY MAINZA

Centre for Minerals Research - Communion, Classification, CFD/DEM Modelling, PEPT

#### DR BELINDA MCFADZEAN

Centre for Minerals Research - Flotation Chemistry

#### DR ANDREW MCBRIDE

Centre for Minerals Research - Communion, CFD/DEM Modelling

#### PROFESSOR KLAUS MÖLLER

Process Modelling and Optimisation Group - Multiphase reactor modelling, separator modelling, integrated reaction – separation systems modelling, parameter estimation, modular process and flowsheet feasibility and optimisation. Centre for Catalysis Research – wax hydrocracking modelling, FT process modelling

#### PROFESSOR CYRIL O'CONNOR

Centre for Minerals Research - Flotation Chemistry

#### ASSOCIATE PROFESSOR JOCHEN PETERSEN

Centre for Bioprocess Engineering Research - Hydrometallurgy, especially heap (bio) leaching of low grade minerals, heap reactor characterisation and modelling, bio-leaching processes

#### ASSOCIATE PROFESSOR RANDHIR RAWATLAL

Reactor Engineering with focus on modelling and simulation, mass transfer modelling in the activation of alkanes, multiphase flow, population balances and applications of segregation and compartment models in flow reactors for minerals bio-leaching and polymerization

#### DR MARCOS RODRIGUEZ PASCUAL

Crystallization and Precipitation Research Unit - Design and implementation of reactors for crystallization and precipitation processes applying thermo - fluid dynamics and non-intrusive optical techniques

#### MRS JEANNETTE SWEET

Centre for Minerals Research - Communion, Flotation, Technology Transfer

#### DR SIEW TAI

Centre for Bioprocess Engineering Research - High-value bioproducts, vaccines and biopharmaceuticals; bioreactor design, cell culture in bioreactors; beer and wine fermentation; metabolic engineering, systems biology

#### PROFESSOR ERIC VAN STEEN

Centre for Catalysis Research/DST-NRF Centre of Excellence in Catalysis c\*change - Fischer-Tropsch synthesis, nano-materials, molecular modelling of heterogeneous catalytic systems, reaction kinetics

**MR ANDRIES VAN DER WESTHUIZEN**  
Centre for Minerals Research - Classification

**DR ROB VAN HILLE**  
Centre for Bioprocess Engineering Research - Mineral biotechnology, algal biotechnology, microbial ecology, carbon cycling, sulphide chemistry and bioremediation, acid mine drainage retention treatment, anaerobic digestion, bioenergy

**PROFESSOR HARRO VON BLOTTNITZ**  
Environmental and Process Systems Engineering - Industrial ecology especially Life Cycle Assessment, waste management and bioenergy, for sustainable development

**DR MARK WILLIAMSON**  
Process Modelling and Optimisation - Development and characterisation of novel sensors for use in combustion processes, computational fluid dynamic modelling of combustion systems and optimisation of heat transfer in ovens, furnaces and driers

**MRS JENNIFER WIESE**  
Centre for Minerals Research - Flotation Chemistry

#### Honorary staff and associates

**HONORARY PROFESSOR DEE BRADSHAW**  
Centre for Minerals Research - Flotation Chemistry

**HONORARY PROFESSOR JIM PETRIE**  
Environmental and Process Systems Engineering - Decision support systems, sustainable energy systems, industrial ecology

**HONORARY ADJUNCT PROFESSOR DAVID WILLIAM WRIGHT**  
Chemical Engineering Design and Engineering Education

#### Postdoctoral Fellows

**DR ABOYADE AKINWALE**  
Environmental and Process Systems Engineering - LCA of syngas from co-gasification

**DR MARIKE FAGAN**  
Centre for Bioprocess Engineering Research - Heap bioleaching studies using non-invasive techniques

**DR YOUSEF GHORBANI**  
Minerals to Metals - Heap leaching technology

**DR MELINDA GRIFFITHS**  
Centre for Bioprocess Engineering Research - Process improvements and economics of large-scale production of Spirulina and other micro-algae

**DR ROBERT HENKEL**  
Centre for Catalysis Research - Two-dimensional gas chromatography GCxGC-TOF, Magnometer

**DR ROB HUDDY**  
Centre for Bioprocess Engineering Research - Investigating the behaviour and ecology of mixed microbial communities in dynamic bioprocess environments

**DR RENE LARYEA-GOLDSMITH**  
Centre for Catalysis Research - Thermal conversion of biomass

**DR THANOS KOTSIOPoulos**  
Centre for Bioprocess Engineering Research - Liquid-Mineral Contacting for the Optimisation of Heap Leaching and Prevention of Acid Rock Drainage

**DR TOBI LOUW**  
Centre for Bioprocess Engineering Research - Multi-scale mathematical modeling of algae raceway ponds for optimal mass transfer and energy usage

**DR PETER MALATJI**  
Centre for Catalysis Research - Development of bimetallic precious metal catalysts for steam reforming of methane

**DR RUSHANAH MOHAMED**  
Centre for Catalysis Research - Membrane electrode assembly development for PEM fuel cell application

**DR QILING NAIDOO**  
Centre for Catalysis Research - Synthesis core-shell platinum group metal electrocatalysts by different approaches

**DR SUZANA SAVI**  
Centre for Bioprocess Engineering Research - Redox Biotransformation of n-Octane by Recombinant E. coli

**DR MAMOHALE MOHAJANE**  
Centre for Minerals Research - Collector mineral interactions within flotation

**DR DARAMY KALLON**  
Centre for Minerals Research - Comminution Research

**DR MAXILLIAN RICHTER**  
Centre for Minerals Research - DEM/PEPT

#### International Visitors

##### Centre for Minerals Research

**PROFESSOR MICHAEL NICOL, SCHOOL OF ENGINEERING AND INFORMATION TECHNOLOGY, MURDOCH UNIVERSITY, WESTERN AUSTRALIA**  
**PROFESSOR STEPHEN SIMUKANGA, VICE CHANCELLOR, UNIVERSITY OF ZAMBIA, ZAMBIA**  
**PROFESSOR LAURINDO DE SALLES LEAL FILHO, UNIVERSITY OF SAO PAULO, BRAZIL**  
**PROFESSOR SANDOVAL CARNEIRO JUNIOR, VALE INSTITUTE OF TECHNOLOGY, BRAZIL**  
**PROFESSOR ERIC FORSSBERG, LULEA UNIVERSITY, SWEDEN**  
**MISS SENNI UUSI-HALLILA, CONTROL ENGINEERING LABORATORY, FACULTY OF TECHNOLOGY, UNIVERSITY OF OULU, FINLAND**  
**MR DARIUS LELLINSKI, FLSHMIDT, UNITED STATES**  
**DR JEWETTE MASINJA, UNIVERSITY OF ZAMBIA**

##### Centre for Catalysis Research

**PROFESSOR NI MINGJIANG, DEPARTMENT OF ENERGY ENGINEERING, ZHENJIANG UNIVERSITY JAPAN**  
**PROFESSOR XUGUANG JIANG, DEPARTMENT OF ENERGY ENGINEERING, ZHENJIANG UNIVERSITY JAPAN**  
**MR JOHANN SCHNEIDER-AMMANN, SWISS FEDERAL INSTITUTE OF TECHNOLOGY, SWITZERLAND**  
**PROFESSOR GRAHAM HUTCHINGS, SCHOOL OF CHEMISTRY, CARDIFF UNIVERSITY, UNITED KINGDOM**  
**PROFESSOR HANS NIEMANTSVERDRIET, EINDHOVEN UNIVERSITY OF TECHNOLOGY, NETHERLANDS**  
**MICHAEL EIKERLING, SIMON FRASER UNIVERSITY, CANADA**  
**THOMAS SCHMIDT, PAUL SCHERRER INSTITUTE, SWITZERLAND**  
**GUENTHER SCHERER, PAUL SCHERRER INSTITUTE, SWITZERLAND**

##### Centre for Bioprocess Engineering Research

**PROFESSOR JILL BANFIELD, UNIVERSITY OF CALIFORNIA, BERKELEY, UNITED STATES**  
**PROFESSOR JAN CILLIERS, IMPERIAL COLLEGE LONDON, UNITED KINGDOM**  
**PROFESSOR KEVIN GALVIN, UNIVERSITY OF NEWCASTLE, AUSTRALIA**  
**PROFESSOR CHRIS HOWE, UNIVERSITY OF CAMBRIDGE, UNITED KINGDOM**  
**DR STEPHEN NEETHLING, IMPERIAL COLLEGE LONDON, UNITED KINGDOM**  
**PROFESSOR LYNN MACASKIE, UNIVERSITY OF BIRMINGHAM, UNITED KINGDOM**  
**DR ANGELA MURRAY, UNIVERSITY OF BIRMINGHAM, UNITED KINGDOM**  
**PROFESSOR LILIAN VELASQUEZ, UNIVERSIDAD**

**CATÓLICA DEL NORTE, CHILE**  
**PROFESSOR JOHN VILLADSEN, TECHNICAL UNIVERSITY OF DENMARK**  
**PROFESSOR HENK VILJOEN, UNIVERSITY OF NEBRASKA, UNITED STATES**

**Crystallization and Precipitation Research Unit**  
**PROFESSOR PATRICE NORTIER, GRENOBLE INP, PAGORA, SAINT MARTIN D'HERES, FRANCE**  
**ROB VANDERMEIJ AND BART DE GRAAF, EFC SEPARATIONS, THE NETHERLANDS**

**Minerals to Metals Initiative (MtM)**  
**A.PROFESSOR PHILLIP KIRSCH, MINERALS INDUSTRY SAFETY AND HEALTH CENTRE, SUSTAINABLE MINERALS INSTITUTE UNIVERSITY OF QUEENSLAND, AUSTRALIA**  
**PROFESSOR TAKASHI MINO, GRADUATE SCHOOL OF SUSTAINABILITY SCIENCE, UNIVERSITY OF TOKYO, JAPAN**  
**PROFESSOR MASAFUMI NAGAO, GRADUATE SCHOOL OF SUSTAINABILITY SCIENCE, UNIVERSITY OF TOKYO, JAPAN**  
**PROFESSOR MIKE NICOL, SCHOOL OF ENGINEERING AND INFORMATION TECHNOLOGY, MURDOCH UNIVERSITY, WESTERN AUSTRALIA**  
**PROFESSOR MARGIE SCOTT, WH BRYAN MINING AND GEOLOGY RESEARCH CENTRE, SUSTAINABLE MINERALS INSTITUTE, UNIVERSITY OF QUEENSLAND, AUSTRALIA**

#### Contact Details

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UCT main phone number: +27 21 650 9111  
UCT web site: <http://www.uct.ac.za>

#### Research Output

##### Authored books

Case, J.M. 2013. Researching Student Learning in Higher Education. A social realist approach. 153pp. Oxfordshire, UK: Routledge Taylor & Francis. ISBN 9780414662345.

##### Chapters in books

Griffiths, M. 2013. Microalgal cultivation reactor systems. In F. Bux (ed), Biotechnological applications of microalgae. Biodiesel and value-added products, pp. 51-75. Boca Raton, Florida: CRC Press, Taylor & Francis Group. ISBN 9781466515291.

Harrison, S.T.L., Richardson, C. and Griffiths, M. 2013. Analysis of microalgal biorefineries for bioenergy from an environmental and economic perspective focus on algal biodiesel. In F. Bux (ed), Biotechnological applications of microalgae. Biodiesel and value-added products, pp. 113-136. Boca Raton, Florida: CRC Press, Taylor & Francis Group. ISBN 9781466515291.

#### Articles in peer-reviewed journals

- Africa, C., van Hille, R.P. and Harrison, S.T.L. 2013. Attachment of acidithiobacillus ferrooxidans and leptospirillum ferriphilum cultured under varying conditions to pyrite, chalcopyrite, low-grade ore and quartz in a packed column reactor. *Applied Microbiology and Biotechnology*, 97: 1317-1324.
- Africa, C., van Hille, R.P., Sand, W. and Harrison, S.T.L. 2013. Investigation and in situ visualisation of interfacial interactions of thermophilic microorganisms with metal-sulphides in a simulated heap environment. *Minerals Engineering*, 48: 100-107.
- Appa, H., Deglon, D.A. and Meyer, C.J. 2013. Numerical modelling of hydrodynamics and gas dispersion in an autoclave. *Hydrometallurgy*, 131-132: 67-75.
- Apsey, G. and Lewis, A.E. 2013. Selenium impurity in sodium sulphate decahydrate formed by eutectic freeze crystallization of industrial waste brine. *Journal of the South African Institute of Mining and Metallurgy*, 113: 415-421.
- Azeez, O., Isafiade, A.J. and Fraser, D. 2013. Supply-based superstructure synthesis of heat and mass exchange networks. *Computers & Chemical Engineering*, 56: 184-201.
- Becker, M.E., Yorath, G.A., Ndlovu, B., Harris, M.C., Deglon, D.A. and Franzidis, J.-P. 2013. A rheological investigation of the behaviour of two Southern African platinum ores. *Minerals Engineering*, 49: 92-97.
- Bepswa, P.A. and Deglon, D.A. 2013. Numerical investigation of a heuristic methodology for designing precise metal accounting measurement networks. *Minerals Engineering*, 42: 50-61.
- Case, J.M., Marshall, D. and Grayson, D. 2013. Mind the gap: science and engineering education at the secondary-tertiary interface. *South African Journal of Science*, 109: 0113(5pp). DOI: 10.1590/sajs.2013/20120113.
- Chapman, N.A., Shackleton, N.J., Malysiak, V. and O'Connor, C.T. 2013. Comparative study of the use of HPGR and conventional wet and dry grinding methods on the flotation of base metal sulphides and PGMs. *Journal of the Southern African Institute of Mining and Metallurgy*, 113(5): 407-413.
- Chimbanga, T., Becker, M.E., Broadhurst, J.L., Harrison, S.T.L. and Franzidis, J.-P. 2013. A comparison of pyrrhotite rejection and passivation in two nickel ores. *Minerals Engineering*, 46-47: 38-44.
- Chonco, Z., Ferreira, A., Lodya, L., Claeys, M.C. and Van Steen, E.W.J. 2013. Comparing silver and copper as promoters in Fe-based Fischer-Tropsch catalysts using delafossite as a model compound. *Journal of Catalysis*, 307: 283-294.
- Chonco, Z., Lodya, L., Claeys, M.C. and Van Steen, E.W.J. 2013. Copper ferrites: a model for investigating the role of copper in the dynamic iron-based Fischer-Tropsch catalyst. *Journal of Catalysis*, 308: 363-373.
- Collier-Reed, B.I., Case, J.M. and Stott, A. 2013. The influence of podcasting on student learning: a case study across two courses. *European Journal of Engineering Education*, 38(3): 329-339.
- Corin, K.C., Mishra, J. and O'Connor, C.T. 2013. Investigating the role of pulp chemistry on the floatability of a CU-Ni sulfide ore. *International Journal of Mineral Processing*, 120: 8-14.
- Dey, S., Paul, G.M. and Pani, S. 2013. Flotation behaviour of weathered coal in mechanical and column flotation cell. *Powder Technology*, 246: 689-694.
- Fagan, M.A., Sederman, A.J., Harrison, S.T.L. and Johns, M.L. 2013. Phase distribution identification in the column leaching of low grade ores using MRI. *Minerals Engineering*, 48: 94-99.
- Fischer, N., Van Steen, E.W.J. and Claeys, M.C. 2013. Structure sensitivity of the Fischer-Tropsch activity and selectivity on alumina supported cobalt catalysts. *Journal of Catalysis*, 299: 67-80.
- Fuls, H.F. and Petersen, J. 2013. Evaluation of processing options for the treatment of zinc sulphide concentrates at Skorpion Zinc. *Journal of the South African Institute of Mining and Metallurgy*, 113: 423-434.
- Fung, W., Ledwaba, L., Modiba, N., Claeys, M.C. and Van Steen, E.W.J. 2013. Choosing a suitable support for CO<sub>3</sub>O<sub>4</sub> as an NH<sub>3</sub> oxidation catalyst. *Catalysis Science & Technology*, 3: 1905-1909.
- Gaylard, P., Randolph, N.G. and Wortley, C.M.G. 2013. Metal accounting in the platinum industry: How effective is it? *Journal of the Southern African Institute of Mining and Metallurgy*, 113: 203-212.
- Ghorbani, Y., Petersen, J., Becker, M.E., Mainza, A.N. and Franzidis, J.-P. 2013. Investigation and modelling of the progression of zinc leaching from large sphalerite ore particles. *Hydrometallurgy*, 131-132: 8-23.
- Ghorbani, Y., Mainza, A.N., Petersen, J., Becker, M.E., Franzidis, J.-P. and Kalala, J.T. 2013. Investigation of particles with high crack density produced by HPGR and its effect on the redistribution of the particle size fraction in heaps. *Minerals Engineering*, 43-44: 44-51.
- Ghorbani, Y., Becker, M.E., Petersen, J., Mainza, A.N. and Franzidis, J.-P. 2013. Investigation of the effect of mineralogy as rate-limiting factors in large particle leaching. *Minerals Engineering*, 52: 38-51.
- Govender, E., Bryan, C. and Harrison, S.T.L. 2013. Quantification of growth and colonisation of low grade sulphidic ores by acidophilic chemoautotrophs using a novel experimental system. *Minerals Engineering*, 48: 108-115.
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Case, J.M., Von Blottnitz, H., Fraser, D., Heydenrych, H. and Petersen, J. 2013. Thinking and practising curriculum: a new first year course in chemical engineering at UCT. In B. Collier-Reed (ed), *Proceedings of the Second Biennial Conference of the South African Society for Engineering Education (SASSE)*, 11-12 June 2013, Cape Town, South Africa. Cape Town: The South African Society for Engineering Education (SASSE). ISBN 9780620571234.

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Simunika, N., Broadhurst, J.L., Petersen, J., Harrison, S.T.L. and Franzidis, J.-P. 2013. Predicting the time-related generation of acid rock drainage from mine waste: a copper case study. In S. Winchester, F. Valenzuela and D. Mulligan (eds), *Proceedings of the 3rd International Seminar on Environmental Issues in Mining (Enviromine 2013)*, 4-6 December 2013, Santiago, Chile. Santiago, Chile: Gecamin. ISBN 9789569393044.

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## DEPARTMENT OF CIVIL ENGINEERING

### **Head of Department: Associate Professor Neil Armitage**

#### **Departmental Profile**

The Department of Civil Engineering currently has an establishment of 16 permanent full-time academic positions and 2 Research Officers, supported by a dedicated complement of 13 technical and administrative staff. It offers a four-year BSc (Civil Engineering) degree programme and several taught postgraduate programmes, as well as supervised research studies leading to Master's and Doctoral degrees. The current enrolment is about 424 undergraduate students and 226 postgraduates – giving a total of 650 students.

Postgraduate teaching and research is conducted within the framework of well-established research groups in the areas of Structural Engineering and Mechanics, Geotechnical Engineering, Concrete Materials and Technology, Hydraulic Engineering, Water Quality Engineering, Urban Water Management, Urban Engineering and Management, Transport Studies and GIS. Members of staff also interact with research groups in other departments, such as the Centre for Research in Computational and Applied Mechanics (CERECAM) and the Africa Centre for Cities (ACC). The Department has fruitful collaborative links with several local and overseas universities, and with local industry. Much of the work done by members of staff finds application in industry.

The high quality of the research undertaken by the Department is evidenced by the considerable number of peer-reviewed publications in ISI-accredited international journals produced by members of staff annually, and the international recognition that members of staff enjoy in their areas of research. Members actively participate on the committees of local professional bodies, provide expert advice to industry, and serve on the editorial and advisory boards of various international journals and conferences.

## **Departmental Statistics**

### **Permanent and Long-Term Contract Staff**

Professors	4
Associate Professors	8
Senior Lecturers	3
Lecturers	1
Research Officers	2
Technical Support Staff	6
Administrative Support Staff	7
<b>Total</b>	<b>31</b>

### **Emeritus and Honorary Staff**

Emeritus Associate Professors	5
Honorary Research Associates	3
<b>Total</b>	<b>8</b>

### **Students**

Doctoral	25
Master's and Diplomas	201
Undergraduate	424
<b>Total</b>	<b>650</b>

## **Research Fields and Staff**

### **Permanent and Long-Term Contract Staff**

#### **PROFESSOR MARK ALEXANDER**

Concrete durability and deterioration; concrete materials; concrete service life; sustainability of concrete construction; applications to structural design and construction.

#### **ASSOCIATE PROFESSOR NEIL ARMITAGE**

Urban water management including: Water Sensitive Urban Design (WSUD), Sustainable Drainage Systems (SuDS) and the provision of water services to informal settlements.

#### **ASSOCIATE PROFESSOR ROGER BEHRENS**

Activity-based travel analysis; local movement network configuration and management; non-motorised transportation; policy analysis in the fields of urban passenger transport; land use-transport interaction.

#### **ASSOCIATE PROFESSOR HANS BEUSHAUSEN**

Concrete materials; structural engineering; repair of concrete structures.

#### **DR KIRSTY CARDEN**

Urban water management; sustainability assessment; integrated approaches geared towards sustainable urban development and water sensitive cities.

**MS FARIIDAH CHEBET**  
Geotechnical engineering

**PROFESSOR GEORGE EKAMA**

Chemical and biological wastewater treatment; physical and biological process modelling.

**DR DENIS KALUMBA**

Geotechnical engineering: Ground Improvement, Waste Minimisation, Foundations/Soils Interaction, Electrokinetics, Geosynthetics, and Soil Remediation

**PROFESSOR PILATE MOYO**

Structural analysis and Design, Structural dynamics and vibration analysis-, Structural integrity assessment, Structural health monitoring and vibration testing.

**ASSOCIATE PROFESSOR ULRIKE RIVETT**

iCOMMS: Information for Community Oriented Municipal Services. Role of ICTs in water service delivery and management.

**MR HERRIE SCHALEKAMP**

Road-based public transport policy and regulation; institutional and operational reform processes in passenger transport systems; qualitative methods of investigation in the transport arena

**DR SEBASTIAN SKATULLA**

Multiscale Methods; Biomechanics; Electromechanics; Meshfree Methods; High-Performance Computing.

**ASSOCIATE PROFESSOR MARIANNE VANDERSCHUREN**

Assessment of urban transport systems; urban transport decision-making; transport policy.

**ASSOCIATE PROFESSOR MARK VAN RYNEVELD**

Urban Engineering; infrastructure planning and settlement planning; sanitation; capacity building/engineering education

**ASSOCIATE PROFESSOR KOBUS VAN ZYL**

Hydraulics; urban water management; water demand analysis; distribution networks.

**MS NICKY WOLMARANS**

Academic development; teaching and learning; mechanics of solids.

**PROFESSOR ALPHOSE ZINGONI**

Shell structures; space structures; structural mechanics; applications of group theory; finite element modelling; vibration and structural dynamics; structural analysis and design.

**ASSOCIATE PROFESSOR MARK ZUIDGEEST**

Pedestrian activity on highways; transport network design; location-allocation modelling; land-use transport

interaction models; transport-related social exclusion; climate change and transport; walkability assessment

**Honorary Research Associates**

**MS LISA KANE**

Transportation engineering and planning.

**PROFESSOR MANU SANTHANAM**

Concrete materials and technology; concrete diagnosis, service life design

**MR VERNON COLLIS**

Integrated structural design; sustainability solutions; concrete repair and rehabilitation

**Contact details**

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**Research Output**

**Chapters in books**

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Carden, K. and Armitage, N.P. 2013. Assessing urban water sustainability in South Africa - not just performance measurement. *Water SA*, 39(3): 345-350.

Cassa, A. and Van Zyl, J. 2013. Predicting the head-leakage slope of cracks in pipes subject to elastic deformations. *Journal of Water Supply Research and Technology-Aqua*, 62(4): 214-223.

Fisher-Jeffes, L. and Armitage, N.P. 2013. Charging for stormwater in South Africa. *Water SA*, 39(3): 429-436.

Githachuri, K. and Alexander, M.G. 2013. Durability performance potential and strength of blended Portland limestone cement concrete. *Cement & Concrete Composites*, 39: 115-121.

Legner, D., Wackerfu, J., Klinkel, S. and Wagner, W. 2013. An advanced finite element formulation for piezoelectric beam structures. *Computational Mechanics*, 52(6): 1331-1349.

Legner, D., Klinkel, S. and Wagner, W. 2013. An advanced finite element formulation for piezoelectric shell structures. *International Journal for Numerical Methods in Engineering*, 95(11): 901-927.

Muigai, R., Alexander, M.G. and Moyo, P. 2013. Cradle-to-gate environmental impacts of the concrete industry in South Africa. *Journal of the South African Institution of Civil Engineering*, 55(2): 2-7.

Nganga, G., Alexander, M.G. and Beushausen, H. 2013. Practical implementation of the durability index performance-based design approach. *Construction and Building Materials*, 45: 251-261.

Rivett, U.K., Champanis, M. and Wilson-Jones, T. 2013. Monitoring drinking water quality in South Africa: designing information systems for local needs. *Water SA*, 39(3): 409-414.

Salazar Ferro, P., Behrens, R. and Wilkinson, P.B. 2013. Hybrid urban public transport systems in developing countries: portents and prospects. *Transportation Research Part A - General*, 39(1): 121-132.

Sansour, C., Skatulla, S. and Hijaj, M. 2013. A shell theory with scale effects and higher order gradients. *International Journal of Solids and Structures*, 50: 2271-2280.

Schalekamp, H.V. and Behrens, R. 2013. Engaging the paratransit sector in Cape Town on public transport reform: Progress, process and risks. *Transportation Research Part A - General*, 39(1): 185-190.

Skatulla, S. and Sansour, C. 2013. A formulation of a cosserat-like continuum with multiple scale effects. *Computational Materials Science*, 67: 113-122.

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# DEPARTMENT OF CONSTRUCTION ECONOMICS AND MANAGEMENT

**Head of Department:**  
**Professor Keith Cattell**

## Departmental Profile

Research and allied scholarly work in the Department falls under two broad themes of property and construction. Five research groups examine issues related to infrastructure delivery, construction industry development, wellness in construction, emerging property markets, and facilities management. A number of cross cutting themes provide diversity and smaller research interest groups; these themes include sustainability, project management, human development, property markets and property valuations, procurement, entrepreneurship, and teaching and learning.

Strong research links exist with academic institutions in the United Kingdom, Australia, United States of America, Canada, Hong Kong, Central and East Africa, as well as with institutions within South Africa.

During 2013, papers were presented at key international conferences in Cape Town, New Delhi, Ghana, Reading and Brisbane. In addition, a number of papers were published in peer-reviewed local and international journals, frequently with international co-authorship, underlining the Department's international profile and collaborative research philosophy.

Nationally, the Department continues its engagement with local and international organisations. These include:

- The Association of South African Quantity Surveyors on the Standard System and Chapter Committees,
- The South African Council for the Quantity Surveying Profession as Council Members and on the Education Standards and Research Sub-Committee,
- The Royal Institution of Chartered Surveyors on the World Regional Board, and the Education Standards Board,
- The South African Facilities Management Association,
- The South African Property Owners Association,
- The Construction Industry Development Board, and
- The African Real Estate Society.

Proceedings of the Fifth International Conference on Structural Engineering, Mechanics and Computation (SEMC 2013), 2-4 September 2013, Cape Town, South Africa. The Netherlands: CRC Press/Balkema. ISBN 9781138000612.

Chebet, F., Kalumba, D. and Sobhee-Beetul, L. 2013. Investigating perforated plastic shopping bags as soil reinforcement material. In B. Indraratna; C. Rujikiatkamjorn and J. Vinod (eds), Proceedings of the International Conference on Ground Improvement and Ground Control: Transport Infrastructure Development and Natural Hazards Mitigation (ICGI 2012), 30 October - 2 November 2012, Wollongong, Australia. Singapore: Research Publishing. ISBN 9789810735616.

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Infrastructure Development and Natural Hazards Mitigation (ICGI 2012), 30 October - 2 November 2012, Wollongong, Australia. Singapore: Research Publishing. ISBN 9789810735616.

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Warren-Codrington, C. and Kalumba, D. 2013. Using the shear strength reduction method to assess the stability of retaining structures adjacent to excavations for the University of Cape Town's new engineering building. In A. Zingoni (ed), Proceedings of Research and Applications in Structural Engineering, Mechanics and Computation. Proceedings of the Fifth International Conference on Structural Engineering, Mechanics and Computation (SEMC 2013), 2-4 September 2013, Cape Town, South Africa. The Netherlands: CRC Press/Balkema. ISBN 9781138000612.

Wolmarans, N. 2013. Engineering design, why is it so difficult to teach and to learn? In B. Collier-Reed (ed), Proceedings of the Second Biennial Conference of the South African Society for Engineering Education (SASEE), 11-12 June 2013, Cape Town, South Africa. Cape Town: the South African Society for Engineering Education (SASEE). ISBN 9780620571234.

Research endeavours by individual staff have been good in terms of higher degree graduates, attracting research funding, and research outputs. The staff received research funding from a variety of sources in 2013, namely: the University Research Committee (URC), the National Research Foundation (NRF), and the Construction Industry Development Board (CIDB). In addition, the department boasts a "B2" NRF-rated researcher.

## Departmental Statistics

### Permanent and Long-term Contract Staff

Professors	2
Associate Professors	2
Senior Lecturers	8
Lecturer	-
Administrative and Clerical Staff	5
Departmental Assistant	1
<b>TOTAL</b>	<b>18</b>

### Students

Doctoral	5
Masters	96
Postgraduate Diploma	20
Honours	74
Undergraduate	385
<b>TOTAL</b>	<b>580</b>

### Research Fields and Staff

#### Permanent Staff

##### PROFESSOR KS CATELL

Head of Department: Value management; workplace facilities management; learning spaces; the impact of HIV/AIDS on the South African construction industry; corruption in the construction industry; and stress management for built environment professionals.

##### PROFESSOR PA BOWEN

Value management; the impact of HIV/AIDS on the South African construction industry; corruption in the construction industry; and stress management for built environment professionals.

##### ASSOCIATE PROFESSOR KA MICHELL

Facilities management as a social and community enterprise in low-income areas of cities; urban facilities management; work space planning and management in buildings; learning spaces.

##### ASSOCIATE PROFESSOR F VIRULY

Urban economics; property development; property feasibility studies; property and building cycles; property

and the macro economy; econometric forecasting of the commercial and residential property markets; institutions and the structure of property markets.

##### MRS E EDWARDES

Senior Lecturer: Education in construction studies; enhancement of skills required for construction studies.

##### MRS K EVANS

Senior Lecturer: Work with the African Centre for Cities Research Laboratory; innovative financing of medium to low-income housing from the perspective of end-users; working capital, bridging finance and wholesale finance.

##### MR I JAY

Senior Lecturer: Project Management – particularly in the area of project strategy and project portfolio (Programme) management. Application of value models to portfolio balancing, and enterprise wide project management structures and systems. Value Management – particular focus on client values, determination of project measures of success (success criteria) and modelling of client values.

##### MRS K LE JEUNE

Senior Lecturer: Gender related issues within the Built Environment professions; green buildings; service learning and application in construction education; social responsibility and construction education.

##### MR M MASSYN

Senior Lecturer: Skills and competencies of SME's within the construction industry; procurement systems used in housing delivery with particular emphasis on the PHP delivery system.

##### MR R MCGAFFIN

Senior Lecturer: The relationship between land economics and planning; property markets and value-capture; housing and affordable housing markets.

##### DR M MOOYA

Senior Lecturer: Informal/Low income property markets; property market processes; property valuation theory and practice; epistemology and methodology in property market research.

##### DR A WINDAPO

Senior Lecturer: Contractor performance and development studies; housing procurement and development studies; risk and quality management processes on construction projects; and health, safety and environmental issues.

### Contact Details

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### Research Output

#### Authored books

Windapo, A.O. 2013. Fundamentals of Construction Management. 182pp. Cape Town: bookboon.com. ISBN 9788740303629.

#### Chapters in books

McGaffin, R. and Wanjiku K., C. 2013. Defining markets: a set of transactions between actors. In H. Perold and P. Jooste (eds), Trading Places - Accessing Land in African Cities, pp. 21-46. Somerset West, South Africa: African Minds. ISBN 9781920489991.

#### Articles in peer-reviewed journals

Bowen, P.A., Cattell, K.S. and Edwards, P. 2013. Workplace stress experienced by quantity surveyors. *Acta Structilia*, 20(2): 1-29.

Bowen, P.A., Edwards, P. and Lingard, H. 2013. Workplace stress among construction professionals in South Africa: the role of harassment and discrimination. *Engineering, Construction and Architectural Management*, 20(6): 620-635.

Bowen, P.A., Edwards, P. and Lingard, H. 2013. Workplace stress experienced by construction professionals in South Africa. *Journal of Construction Engineering and Management-Asce*, 139(4): 393-403.

Bowen, P.A., Edwards, P., Lingard, H. and Cattell, K.S. 2013. Harassment and discrimination experienced by quantity surveyors in South Africa. *Acta Structilia*, 20(2): 50-77.

Bowen, P.A., Edwards, P., Simbayi, L.C. and Cattell, K.S. 2013. HIV/AIDS Interventions by construction firms in the Western Cape, South Africa: a thematic analysis of qualitative survey data. *The International Journal of Construction Management*, 13(4): 1-125.

Oyewobi, L., Windapo, A.O. and Cattell, K.S. 2013. Impact of business diversification on South African construction companies' corporate performance. *Journal of Financial Management of Property and Construction*, 18(2): 1-203.

Windapo, A.O. 2013. Relationship between degree of risk, cost and level of compliance to occupational health and safety regulations in construction. *The Australasian Journal of Construction Economics and Building*, 13(2): 67-82.

Windapo, A.O. and Cattell, K.S. 2013. The South African construction industry: perceptions of key challenges facing its performance, development and growth. *Journal of Construction in Developing Countries*, 18(2): 65-79.

Windapo, A.O. and Goulding, J. 2013. Value-based perspectives of stakeholders' building requirements in low cost and government subsidised housing projects in South Africa. *Construction Innovation*, 13(4): 424-444.

Windapo, A.O. and Jegede, O.P. 2013. A study of health, safety and environment (HSE) practices of Nigerian construction companies. *The Professional Builder, Journal of the Nigerian Institute of Building*, 4(1): 127.

#### Peer-reviewed published conference proceedings

Bowen, P.A., Edwards, P., Cattell, K.S. and Simbayi, L.C. 2013. HIV/AIDS interventions by construction firms - a mixed methods analysis of survey data. In P. Chynoweth (ed), *Proceedings of RICS COBRA 2013 - The Construction, Building and Real Estate Research Conference of the Royal Institute of Chartered Surveyors*, 10-12 September 2013, New Delhi, India. New Delhi, India: RICS. ISBN 9781783210305.

Edwardes, E. 2013. Financial impact of carbon emissions tax on construction costs. In K. Le Jeune and K. Michell (eds), *Proceedings of SACQSP Research Conference on "Green Vision 20/20" - Proceedings of the Cape Town 2013 6th Annual Research Conference*, 20-21 June 2013, Vineyard Hotel, Cape Town, South Africa. Cape Town: Department of Construction Economics and Management, University of Cape Town. ISBN 9780620568906.

Jay, C.I., Massyn, M.W., Viruly, F.M. and Le Jeune, K. 2013. Sustainability and value management. In K. Le Jeune and K. Michell (eds), *Proceedings of SACQSP Research Conference on "Green Vision 20/20" - Proceedings of the Cape Town 2013 6th Annual Research Conference*, 20-21 June 2013, Vineyard Hotel, Cape Town, South Africa. Cape Town: Department of Construction Economics and Management, University of Cape Town. ISBN 9780620568906.

Le Jeune, K., Nurick, S. and Roux, J. 2013. The business case for building green: using life cycle cost analysis to motivate for energy saving design. In K. Le Jeune and K. Michell (eds), *Proceedings of SACQSP Research*

Conference on "Green Vision 20/20" - Proceedings of the Cape Town 2013 6th Annual Research Conference, 20-21 June 2013, Vineyard Hotel, Cape Town, South Africa. Cape Town: Department of Construction Economics and Management, University of Cape Town. ISBN 9780620568906.

Nurick, S. and Cattell, K.S. 2013. An investigation into the mechanisms driving large property owning organisations to implement green building features. In K. Le Jeune and K. Michell (eds), Proceedings of SACQSP Research Conference on "Green Vision 20/20" - Proceedings of the Cape Town 2013 6th Annual Research Conference, 20-21 June 2013, Vineyard Hotel, Cape Town, South Africa. Cape Town: Department of Construction Economics and Management, University of Cape Town. ISBN 9780620568906.

Oyewobi, L., Windapo, A.O., Cattell, K.S. and Rotimi, J. 2013. A framework for identifying construction companies best practice: a panacea for corporate performance failure. In S. Kajewski, K. Manley and K. Hampson (eds), Proceedings of the 19th CIB World Building Congress 2013: Construction and Society, 5-9 May 2013, Brisbane, Australia. Australia: CIB conference. ISBN 9780987554208.

Oyewobi, L., Windapo, A.O., Cattell, K.S. and Rotimi, J. 2013. Impact of organisational structure and strategies on construction organisations' performance. In T.W. Yiu and V. Gonzalez (eds), Proceedings of 38th Australasian University Building Educators Association Conference, 20-22 November 2013, Auckland, New Zealand. Auckland, New Zealand: The University of Auckland Department of Civil and Environmental Engineering. ISBN 9780908689873.

Oyewobi, L., Windapo, A.O. and Rotimi, J. 2013. The effects of business environments on corporate strategies and performance of construction organisations. In S.D. Smith and D.D. Ahiaga-Dagbui (eds), Proceedings of the 29th Annual ARCOM Conference 2013, 2-4 September 2013, Reading, UK: ARCOM. ISBN 9780955239076.

Tucker, G., Windapo, A.O. and Cattell, K.S. 2013. Correlates between construction company size and corporate performance: an exploratory study. In S. Laryea and S.A. Agyepong (eds), Proceedings of West African Built Environment Research (WABER) Conference 2013, 12-14 August 2013, Accra, Ghana. Witwatersrand: West Africa Built Environment Research (WABER) Conference. ISBN 9780956606068.

Tucker, G., Windapo, A.O. and Cattell, K.S. 2013. Impact of construction firms' competitiveness on corporate performance: an exploratory study. In S. Kajewski, K. Manley and K. Hampson (eds), Proceedings of the 19th

CIB World Building Congress 2013: Construction and Society, 5-9 May 2013, Brisbane, Australia. Australia: CIB conference. ISBN 9780987554208.

Windapo, A.O., Cattell, K.S. and Oyewobi, L. 2013. Knowledge, attitude and perception of contractors on green building legislation requirements. In K. Le Jeune and K. Michell (eds), Proceedings of SACQSP Research Conference on "Green Vision 20/20" - Proceedings of the Cape Town 2013 6th Annual Research Conference, 20-21 June 2013, Vineyard Hotel, Cape Town, South Africa. Cape Town: Department of Construction Economics and Management, University of Cape Town. ISBN 9780620568906.

## DEPARTMENT OF MECHANICAL ENGINEERING

(Including the Blast Impact and Survivability Research Unit (BISRU), the Centre for Materials Engineering (CME), the Centre for Research in Computational and Applied Mechanics (CERECAM), the Energy Research Centre (ERC), and the SASOL Advanced Fuels Laboratory (SAFL)).

### Head of Department: Professor Robert Knutsen

#### Department Profile

The Department of Mechanical Engineering includes the following recognized research groupings: Blast Impact and Survivability Research Unit (BISRU), the Centre for Materials Engineering (CME), the Centre for Research in Computational and Applied Mechanics (CERECAM), the Energy Research Centre (ERC) and the SASOL Advanced Fuels Laboratory (SAFL). The research interests of BISRU cover all engineering aspects of blast and impact scenarios, including the impact/blast process, structural response and material characterisation of structural components, as well as human bio-mechanical response under impact conditions. Research in CME is directed at an understanding of the relationships between the production processes and structure, properties and performance of engineering materials. CERECAM focuses on mathematical modelling of complex material behaviour, simulation of processes of deformation and failure of engineering components and artefacts, development of stable and accurate computational solution techniques and computational fluid dynamics. The ERC researches

energy efficiency, energy modelling, climate change issues and sustainable energy. The SAFL is arguably the most sophisticated engines laboratory undertaking fuels research in the country. A number of smaller research groupings focus on areas such as advanced manufacturing, aeronautics, orthopaedics, composite materials engineering, computational fluid dynamics, engineering education, engineering management, fracture and fatigue, non-destructive testing and robotics.

#### Departmental Statistics

##### Permanent and long-term contract staff (excluding research officers)

Professors	5
Adjunct Professors	2
Emeritus Professor	2
Honorary Professor	1
Associate Professors	8
Senior Lecturers	8
Lecturers	2
Part-time Lecturer	2
Academic Development Lecturer	1
Teaching Assistants	10
Technical Support Staff	11
Administrative and Clerical Staff	4
Workshop Apprentices	5
<b>Total</b>	<b>61</b>

#### Students

Postdoctoral	3
PG Diploma	5
Doctoral	30
Occasional – Non degree UG	0
Occasional – Non degree PG	3
Master's	126
Honours	13
Undergraduate	602
<b>Total</b>	<b>782</b>

#### Research Fields and Staff

##### Permanent Staff

**ASSOCIATE PROFESSOR TUNDE BELLO-OCHENDE**  
Convective and numerical heat transfer; thermodynamic optimisation, renewable and complex energy system, constructal theory and design  
Tunde.Bello-Ochende@uct.ac.za

**ASSOCIATE PROFESSOR BRANDON COLLIER-REED**  
Director of the Centre for Research in Engineering Education (CREE); the sociocultural characterization of

the student experience; social aspects of technology; technological literacy of adolescents; podcasting in engineering education  
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##### MR TREVOR CLOETE

Senior Lecturer; BISRU, CERECAM; deformation and tearing of blast loaded metal plates; high strain rate plasticity; constitutive modeling  
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##### MR DIRK FINDEIS

Senior Lecturer; non-destructive testing; portable ESPI and shearography  
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##### DR SARAH GEORGE

Senior Lecturer; CME, physical metallurgy.  
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##### DR REUBEN GOVENDER

Senior Lecturer; BISRU; high strain rate material characterisation; composite materials; blast and impact loading of structures and materials  
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##### MR ERNESTO ISMAIL

Lecturer; BISRU, CERECAM; meshless methods, non-linear elasticity  
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##### PROFESSOR DORA KARAGIOZOVA

Honorary Professor; BISRU; analytical and computational analysis of dynamic systems  
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##### ASSOCIATE PROFESSOR FRANZ-JOSEF KAHLEN

Lean/advanced manufacturing; laser materials processing; laser diagnostics  
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##### DR BRUCE KLOOT

Academic Development Lecturer; sociology of education; higher education studies; foundation and extended curriculum programmes; student success and progression  
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Advanced manufacturing; micro/nano systems  
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##### PROFESSOR ROBERT KNUTSEN

Head of Department; Director, Centre for Materials Engineering; physical metallurgy; thermo-mechanical processing; texture; microstructure; microscopy  
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**ASSOCIATE PROFESSOR GENEVIEVE LANGDON**  
BISRU; CREE; blast response of structures and materials;  
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**ASSOCIATE PROFESSOR ARNAUD MALAN**  
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high strain rates; impact biomechanics  
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**PROFESSOR CHRIS REDELINGHUYSEN**  
Autonomously guided parafoils, airliners in formation  
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**MR PAUL SCHABERG**  
Lecturer, SASOL Advanced Fuel Lab, engines and fuels  
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**DR CORRINNE SHAW**  
Senior Lecturer; Engineering Management;  
management and engineering education, systems  
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**PROFESSOR ROBERT TAIT**  
Centre for Materials Engineering; fracture mechanics;  
fatigue; assessment of residual stresses in structural  
components; applied non-destructive testing  
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**DR GEORGE VICATOS**  
Senior Lecturer; heat transfer and refrigeration;  
combined absorption and compression refrigeration  
cycles; bioengineering prosthesis design  
George.Vicatos@uct.ac.za

**ASSOCIATE PROFESSOR CHRIS VON KLEMPERER**  
Composite materials; processing and modelling of  
composite materials and structures  
Chris.vonKlemperer@uct.ac.za

### **Contract Staff**

**MS TRACY BOOYSEN**  
Lecturer; Electro Mechanical engineering, robotics and  
agents  
Tracy.Booyen@uct.ac.za

**DR WIM FULS**  
Senior Lecturer; research specialisation in energy  
efficiency; power plant process flow modeling  
Wim.Fuls@uct.ac.za

**DR ANDREW MCBRIDE**  
Senior Research Officer: CERECAM and Applied  
Mechanics;  
Nonlinear continuum mechanics; plasticity; finite  
element method; granular systems  
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**PROFESSOR BERNHARD SONDEREGGER**  
Centre for Materials Engineering, creep, damage and  
mechanical behaviour of power plant materials  
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### **Adjunct Professor**

**PROFESSOR ANDY YATES**  
Adjunct Professor, SASOL Advanced Fuels Lab, engines  
and fuels  
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**PROFESSOR LOUIS JESTIN**  
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### **Emeritus Professors**

Professor Kevin Bennett  
Energy Research Centre; energy research  
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**PROFESSOR JASSON GRYZAGORIDIS**  
CERECAM; heat transfer and refrigeration; combined  
absorption and compression refrigeration cycles; optical  
techniques in non-destructive testing; holographic  
interferometry; ESPI; shearography; materials properties  
evaluation  
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### **Contract Research Staff**

**MR VICTOR BALDEN**  
Research Officer, BISRU; impact dynamics  
**MS ANYA BOYD**  
Assistant Research Officer, ERC; energy, environment  
and climate change

**MS L CHILOANE**  
Research Officer, ERC; energy efficiency, measurement  
and verification

**A DANE**  
Research Officer, ERC; energy, environment and climate  
change

**DR STEEVE CHUNG KIM YUEN**  
Research Officer, BISRU; structural dynamics, blast  
response, crashworthiness

**W ENGEL**  
Senior Research Officer, ERC; energy, environment and  
climate

**GC GARISEB**  
Energy Efficiency Engineer, ERC

**MR ANDREW HIBBERD**  
Energy Efficiency Engineer, ERC; measurement and  
verification

**MS ALISON HUGHES**  
Senior Research Officer, ERC; energy efficiency; energy  
modeling

**D KAPONGO**  
Energy Efficiency Engineer, ERC

**MR RICHARD LARMOUR**  
Research Officer, ERC; Measurement and verification

**MR THAPELO LETETE**  
Research Officer, ERC: climate change

**DR ANDREW MARQUARD**  
Senior Research Officer, ERC; energy and climate  
change team

**MS MASCHA MOORLACH**  
Energy Efficiency Engineer, ERC; measurement and  
verification

**MR ALFRED MOYO**  
Research Officer, ERC; energy & climate change group

**DR GISELA PRASAD**  
Chief Research Officer, ERC; energy, poverty and  
development

**DR SEBATAOLO RAHLAO**  
Researcher, ERC; energy, environment and climate  
change

**DR B RENNKAMP**  
Research Officer, ERC; energy and climate change

**MRS M SENATLA**  
Research Officer, energy systems analysis & planning

**DR DEBBIE SPARKS**  
Senior Research Officer, ERC; energy and climate  
change

**A STEWART**  
Senior Energy Efficiency Engineer, ERC

**MR AC STONE**  
Senior Research Officer, ERC; energy systems analysis,  
modelling

**DR M TORRES GUNFAUS**  
Chief Research Officer, ERC; climate change

**MR AJAY TRIKAM**  
Research Officer, ERC; energy efficiency; greenhouse  
gases; mitigation modeling

**PROFESSOR HARALD WINKLER**  
Director: ERC; climate change (economics, mitigation &  
policy) and environmental economics

**MS HOLLE WLOKAS**  
Assistant Research Officer, ERC; energy, poverty &  
development group

### **Postdoctoral Research Fellows**

**DR LABINTAN CONSTANT**  
Energy studies specialisation

**DR JULIEN GHIGHI**  
Materials engineering specialisation

**DR TAMARYN NAPP**  
Energy studies specialisation

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## Research Output

### Chapters in books

Collier-Reed, B.I., and Ingeman, Å. (2013). Phenomenography: from critical aspects to knowledge claim. In M. Tight and J. Huisman (eds), Theory and Method in Higher Education Research, Vol. 9, pp. 243-260. Emerald. ISBN 9781781906828.

Davydov, D., Javili, A., Steinmann, P. and McBride, A. (2013). A comparison of atomistic and surface enhanced continuum approaches at finite temperature. In H. Altenbach and N.F. Morozov (eds), Surface Effects in Solid Mechanics, pp. 43-57. Springer-Verlag. ISBN 9783642357831.

Moorlach, M.F.C. and Larmour, R. 2012. Awareness programmes in the residential sector. In X. Xia and J. Zhang (eds), Measurement & Verification Practices, pp. 281-290. South Africa: Media in Africa (Pty) Ltd. ISBN 9781620543668.

### Articles in peer-reviewed journals

Adewumi, O.O., Bello-Ochende, T. and Meyer, J.P. 2013. Constructal design of combined microchannel and micro pin fins for electronic cooling. International Journal of Heat and Mass Transfer, 66: 315-323.

Appa, H., Deglon, D.A. and Meyer, C.J. 2013. Numerical modelling of hydrodynamics and gas dispersion in an autoclave. Hydrometallurgy, 131-132: 67-75.

Becker, T., Mostafavi, M., Tait, R.B. and Marrow, T.J. 2012. An approach to calculate the J-integral by digital image correlation displacement field measurement. Fatigue & Fracture of Engineering Materials & Structures, 35: 971-984.

Bello-Ochende, T. 2013. Maximum flow access in heat exchangers, heat generating bodies and inanimate flow systems: constructal law and the emergence of shapes and structures in thermo-fluid mechanics comment on the emergence of design in pedestrian dynamics: locomotion, self-organization, walking paths and constructal law by Antonio F Miguel. Physics of Life Reviews, 10: 191-192.

Bizinos, N. and Redelinghuys, C. 2013. Tentative study of passenger comfort during formation flight within atmospheric turbulence. Journal of Aircraft, 50(3): 886-900.

Bock, B., Bell, A. and Floweday, G. 2013. Investigation into the influence of charge cooling and auto ignition chemistry on the greater knock resistance of ethanol over iso-octane. SAE International Journal of Fuels and Lubricants, 11: 10. DOI: 10.4271/2013-01-2615.

Collier-Reed, B.I. 2013. Considering two audiences when recording lectures as lecturecasts. The African Journal of Information Systems, 5(3): 71-79.

Collier-Reed, B.I. and Ingeman, Å. 2013. Phenomenography: from critical aspects to knowledge claim. International Perspectives on Higher Education Research, 9: 243-260.

Collier-Reed, B.I., Case, J.M. and Stott, A. 2013. The influence of podcasting on student learning: a case study across two courses. European Journal of Engineering Education, 38(3): 329-339.

Chung Kim Yuen, S., Altenhof, W., Opperman, C. and Nurick, G.N. 2013. Axial splitting of circular tubes by means of blast load. International Journal of Impact Engineering, 53: 17-28.

Chung Kim Yuen, S., Nurick, G.N., Brinckmann, H.B. and Blakemore, D. 2013. Response of cylindrical shells to lateral blast load. International Journal of Protective Structures, 4(3): 209-230.

Chung Kim Yuen, S., Nurick, G.N., Ranwaha, R. and Henchie, T. 2013. The response of circular plates to repeated uniform blast loads. Key Engineering Materials, 535-536: 44-47.

Durbach, I.N. and Davis, S.J. 2012. Decision support for selecting a shortlist of electricity-saving options: a modified SMAA approach. Orion: Journal of the Operations Research of South Africa, 28(2): 99-116.

George, S. and Knutsen, R.D. 2013. Evolution of the solidification microstructure of rheocast high purity aluminium. Solid State Phenomena, 192-193: 109-115.

Govender, R., Langdon, G.S., Nurick, G.N. and Cloete, T.J. 2013. Impact delamination testing of fibre reinforced polymers using Hopkinson pressure bars. Engineering Fracture Mechanics, 101: 80-90.

Heyns J.A., Oxtoby O.F., Malan A.G. and Harms T.M. 2013. Development of a compressive surface capturing formulation for modelling free-surface flow by using the volume-of-fluid approach. International Journal for Numerical Methods in Fluids, 71(6): 788-804.

Heyns J.A., Malan A.G., Oxtoby O.F. and Harms T.M. 2013. A weakly compressible free-surface flow solver for liquid-gas systems using the volume-of-fluid approach. Journal of Computational Physics, 240: 145-157.

Javili, A., McBride, A.T. and Steinmann, P. (2013). Thermomechanics of solids with lower-dimensional energetics: on the importance of surface, interface and curve structures at the nanoscale. A unifying review. Applied Mechanics Reviews, 65: 010802(31pp).

Javili, A., McBride, A.T. and Steinmann, P. (2013). Numerical modelling of thermomechanical solids with highly-conductive energetic interfaces. International Journal for Numerical Methods in Engineering, 93(5): 551-574.

Javili, A., McBride, A.T., Mergheim, J., Steinmann, P. and Schmidt, U. 2013. Micro-to-macro transitions for continua with surface structure at the microscale. International Journal of Solids and Structures, 50: 2561-2572.

Kajee, Y., Pelteret, J. and Reddy, B.D. 2013. The biomechanics of the human tongue. International Journal for Numerical Methods in Biomedical Engineering, 29: 492-514.

Kakogiannis, D.A., Chung Kim Yuen, S., Palanivelu, S., van Hemelrijck, D., van Paepengem, W., Wastiels, J., Vantomme, J. and Nurick, G.N. 2013. Response of pultruded composite tubes subjected to dynamic and impulsive axial loading. Composites Part B-Engineering, 55: 537-547.

Karagiozova, D., Langdon, G.S. and Nurick, G.N. 2013. Compaction of metal foam subjected to an impact by a low-density deformable projectile. International Journal of Impact Engineering, 62: 196-209.

Kuppuswamy, R., Bower, D. and March, P. (2013). Blend of sharpness and strength on a ball nose endmill geometry for high speed machining of Ti6Al4V. The International Journal of Advanced Manufacturing Technology, 2: 5345-5357.

Lamichhane, B.P., McBride, A.T. and Reddy, B.D. (2013). A finite element method for a three-field formulation based on biorthogonal systems. Computer Methods in Applied Mechanics and Engineering, 258: 109-117.

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## DEPARTMENT OF ELECTRICAL ENGINEERING

### Head of Department: Professor M Braae

#### Departmental Profile

The Department of Electrical Engineering has 25 permanent academic staff, 157 MSc. students and 77 PhD students. The research activities and projects are largely industrially based. The main funding sources are Eskom, Telkom, Siemens, De Beers, Sasol, Mintek, Anglo Platinum, Department of Trade and Industry, Dept of Science and Technology (DST), South African National Defence Force, and the NRF.

The Department has seen a growth in the number of undergraduate students over the past ten years, which is expected to result in higher postgraduate numbers. There are six large research groups in the Department, which attract 80% of the postgraduate students. These are:

- Broadband, Wireless, Communication, and Networks
- Electrical Machines, Drives and Power Electronics
- Image Processing and Vision Systems
- Control and Instrumentation
- Power Engineering
- Remote Sensing and Radar

### Departmental Statistics

#### Permanent and Long-term Contract Staff

Professors	6
Associate Professors	6
Adjunct Professor	1
Adjunct Associate Professor	1
Adjunct Senior Lecturer	1
Senior Lecturers	8
Lecturers	6
Research Staff	2
Senior Scholar	3
Senior Research Scholar	1
Technical Support Staff	7
Administrative Staff	6
<b>Total</b>	<b>41</b>
Emeritus Professors	5

#### Students

Doctoral	77
Masters	157
Undergraduates	758
<b>Total</b>	<b>992</b>

#### Research Fields and Staff

**PROFESSOR A. BAGHAI-WADJI**  
Electronic and Accelerated Computational Engineering

**PROFESSOR E.S. BOJE**  
Control Systems and Mechatronics

**PROFESSOR M. BRAAE**  
Multivariable control; mineral extraction control applications; computer-based education

**PROFESSOR C.T. GAUNT**  
Electricity delivery networks

**PROFESSOR M.R. INGGS**  
Radar remote sensing; synthetic aperture radar; software defined radio; parallel computing

**PROFESSOR P. PILLAY**  
Electrical machines and drives

**ASSOCIATE PROFESSOR S.P. CHOWDHURY**  
Renewable Energy, Distributed Generation and Grid Integration, Microgrids and Smartgrids, Energy Efficiency and Demand Side Management, Fuel Cells and Energy Storage, Electrical Drives, Power System Operation, Control and Stability

**ASSOCIATE PROFESSOR M. E. DLODLO**  
3G mobile and future communication systems

**ASSOCIATE PROFESSOR K. FOLLY**  
Power system stability and control

**ASSOCIATE PROFESSOR R.H. GESCHKE**  
Microwave Engineering

**ASSOCIATE PROFESSOR M.A. KHAN**  
Electrical Machines, Electric Drives and Wind Energy Systems

**ASSOCIATE PROFESSOR A.J. WILKINSON**  
Senior Lecturer; Signals and image processing; radar; SAR interferometry; tomography, Bayesian inference; inverse problems; RF power amplifiers

**ADJUNCT PROFESSOR P.J. CILLIERS**  
Geomagnetic and electric fields, ionospheric modelling, space weather impacts on technology

**ADJUNCT ASSOCIATE PROFESSOR M. MALENGRET**  
Power electronics; remote area power supplies and rural Electrification

**DR P.S. BARENDE**  
Senior Lecturer; Machines, Drives, Power Electronics and Condition Monitoring

**DR S. CHOWDHURY**  
Senior Lecturer, Power System Protection, Renewable Energy Systems and Distributed Generation, Microgrids and Smart grids

**DR O.E. FALOWO**  
Senior Lecturer, Communications

**MR S. GINSBERG**  
Senior Lecturer; Digital systems

**DR M. HANIF**  
Senior Lecturer, Power Electronics

**DR A. MISHRA**  
Senior Lecturer; Radar Signal Processing and Machine Learning

**DR A MURGU**  
Senior Lecturer, Telecommunications, Networks, IP and Network Reliability

**DR F.C. NICOLLS**  
Senior Lecturer; Image processing, signal processing and computer vision

**ADJUNCT SENIOR LECTURER, MR I. KHAN**  
Lecturer, High frequency power electronics, induction heating

**MRS K.E. AWODELE**  
Lecturer, Power System Reliability

**MR A. PATEL**  
Lecturer, Bio-Inspired Robotics

**MR M.S. TSOEU**  
Lecturer, Control and Instrumentation

**MS R.A. VERRINDER**  
Lecturer, Robotics, Control and Instrumentation

**DR S. WINBERG**  
Lecturer, High Performance Computing & Software Defined Radio

**MS R. SMIT**  
Academic Development Senior Lecturer, Engineering Education, Philosophy of Engineering and Technology

**DR R. HERMAN**  
Senior Research Officer, The modelling and assessment of uncertainty in power systems

**MR M.J.E. VENTURA**  
Senior Research Officer, Broadband communications & applications; digital systems

**DR A. VAN DER BYL**  
Research Officer, Image and signal processing and reconfigurable computing

### Honorary/Emeritus Professors

**PROFESSOR B.J. DOWNING**  
Microwave systems and circuits

**EMERITUS PROFESSOR G. DE JAGER**  
Image processing; machine vision and image compression

**EMERITUS PROFESSOR A. PETROIANU**  
Power system analysis; operation and control

**EMERITUS PROFESSOR K.M. REINECK**  
Antennas

**EMERITUS ASSOCIATE PROFESSOR J.R. GREENE**  
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### Research Output

#### Articles in peer-reviewed journals

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## FACULTY OF LAW

In the Faculty of Law we believe that teaching should be research-led and we are committed to excellence in research at all levels. As a result, we have excellent staff, both as teachers and researchers, and as leading authors in their subjects, working across all three departments of the faculty.



# DEAN'S REPORT

## PROFESSOR PAMELA SCHWIKKARD



OUR RESEARCH IS INTERNATIONALLY RECOGNISED FOR EXCELLENCE AND IS OF GREAT RELEVANCE TO THE NATIONAL AND INTERNATIONAL NEEDS OF OUR COUNTRY.

21<sup>st</sup>  
NRF-RATED RESEARCHERS

R11.31M  
VALUE OF RESEARCH CONTRACTS

395<sup>th</sup>  
REGISTERED POSTGRADUATES

The Faculty of Law's three departments – Commercial Law, Public Law and Private Law – are responsible for course offerings and research, and each hosts one or more specialised academic and research units. Our research is internationally recognised for excellence and is of great relevance to the national and international needs of our country.

The faculty now has a total of 21 researchers holding National Research Foundation (NRF) ratings and no doubt we will see many more in the years to follow.

A new benchmark on the research front was set in 2013. In addition to growing our journal outputs, members of the faculty authored or co-authored a number of books or chapters in books, and new editions of three seminal titles were released.

With guest visits, seminars, workshops, conferences and special lectures held at and by the faculty, we have engaged with the wider community to share research and ideas. We have been privileged to interact with key international and African scholars during the year, which the faculty benefited from in teaching, research and the opportunity to obtain concepts for future research endeavours. The Democratic Governance and Rights Research Unit hosted Judge Thomas Masuku from Swaziland, who spent six weeks in the faculty conducting research.

The Centre for Comparative Law in Africa held its first "Comparative Law Methodology Workshop" in late 2012. Forty

participants of the workshop were drawn in from various African law faculties as well as from further afield (Europe and the United States).

The centre, which was established in 2011, promotes the study of comparative law and draws on the strengths of comparative methodology to research the multifaceted field of law in Africa. The Centre for Law and the Society of the Department of Public Law co-hosted, together with two major centres of research on land and the environment in South Africa and the region, a conference on "The Land Divided: Land and South African society in 2013, in comparative perspective".

WE HAVE BEEN  
PRIVILEGED TO INTERACT  
WITH KEY INTERNATIONAL  
AND AFRICAN SCHOLARS  
DURING THE YEAR.



In December 2013, delegates from national and international governmental entities, the private sector, civil society and academia gathered for five days of inter-connected events in Cape Town. The combined "Third Global Congress on Intellectual Property (IP) and the Public Interest and the Open AIR Conference" was hosted by our IP Unit, which brought together leading experts on IP from around the world to discuss various issues under the theme "Refining the Positive Agenda: Global questions, local answers?" (see p162).

The faculty also hosted a tribute in the form of an Acta Juridica Conference, honouring former Chief Justice Pius Langa in January 2014.

Professor Evance Kalula, former director of the Institute of Development and Labour Law (IDLL), marked his departure from law with a talk titled "The Will to Live and Serve: Reflections on continuity and change in the Faculty of Law, 1992 to 2012". The current IDLL director and past head of commercial law, Professor Rochelle le Roux, presented her inaugural lecture, titled "Employment: A dodo, or simply living dangerously?"

Various members of staff received special recognition for their teaching and research. The American Society of Criminology awarded Professor Clifford Shearing the Thorsten Sellin & Sheldon and Eleanor Glueck

Award in recognition of his outstanding scholarship in criminology. Associate Professor Rashida Manjoo received the inaugural William McKinley Award for Good Governance from Albany Law School in recognition of her contribution to the protection of women's rights.

MEMBERS OF THE FACULTY  
REMAIN COMMITTED TO  
EXCELLENCE IN RESEARCH.



At the joint graduation ceremony for the faculties of health sciences and law held on 16 December 2013, constitutional law expert Professor Pierre De Vos, deputy dean of the Faculty of Law and Claude Leon Foundation Chair in Constitutional Governance, received the university's Social Responsiveness Award for 2013.

Lastly, Associate Professor Anne Pope, former chair of our Faculty Research Ethics Committee, has been appointed by the national Minister of Health, Dr Aaron Motsoaledi, as a member of the National Health Research Ethics Council.

The director of research and other members of the faculty remain committed to excellence in research.



## A YEAR OF HONOURS AND AWARDS

Professor Salvatore Mancuso, Chair of the Centre for Comparative Law in Africa (CCLA), has had a year of honours and awards. In 2013 he received a B3 rating from the National Research Foundation (NRF) and in early 2014 he embarked on a prestigious, NRF-funded collaborative project to map Somaliland customary law. The CCLA is collaborating with the Faculty of Law at the University of Hargeisa, Somaliland.

In April 2014, Professor Mancuso was also appointed one of two co-ordinators of the thematic working group on Justice and the Rule of Law at the Global Forum on Law Justice and Development (GFLJD). Among other things, thematic working groups develop collaborative research projects for GFLJD members to promote knowledge exchange and improve development outcomes in the field of law and justice.

On the publications front, the first quarter of 2014 saw the publication of the first edition of CCLA's new *Journal of Comparative Law in Africa* (JCLA), of which Professor Mancuso is the editor-in-chief, and in 2013 his book *Terra in Africa: Diritto Fondiario Eritreo* (Eritrean Land Law) (University of Trieste Press) was published. An updated edition to be published in English is planned for a later date. The inaugural edition of the JCLA features articles on various issues by contributors within and outside the African continent and aptly has as its debut article a keynote paper on *Legal Education in an Era of Globalisation and the Challenge of Development* by Professor Muna Ndulo, professor of law at Cornell Law School and director of the Institute for African Development at Cornell University.

Located in the UCT Faculty of Law, the CCLA addresses the need to devise contextually sound law and policy responses to pervasive developmental challenges facing Africa.

## SPOTLIGHT ON THE CUSTOMARY MARRIAGES ACT



The Chair in Customary Law, Professor Chuma Himonga, hosted a workshop in February 2014 to share and discuss the preliminary findings of a study on *The Operation of the Recognition of Customary Marriages Act (RCMA) and Rules of Intestate Succession in the Constitutional Court decision in Bhe v Magistrate Khayelitsha*. This study is being conducted in collaboration with Dr Elena Moore, a lecturer in Sociology, and the National Movement of Rural Women.

Six chapters of the preliminary report, highlighting some of the key issues that are problematic to the implementation of the RCMA and the rules of intestate succession, were presented by the researchers. A major output of this research is a book, the proposal of which has already been accepted by a prominent publisher.

## TWO ENDOWMENTS FOR RESEARCH AT CCLA

Research at the Centre for Comparative Law in Africa (CCLA) will benefit from two significant endowments launched at a UCT event in Lagos on 6 May 2014: the Olu Akinkugbe Business Law in Africa Fellowship and the TY Danjuma Fund for Law and Policy Development in Africa.

The Olu Akinkugbe Business Law in Africa Fellowship will bring visiting researchers from other African countries to the CCLA for a six-week visit, focused on producing a paper for publication on a topical aspect of business law in Africa. The inaugural fellow is expected to arrive in October 2014.

The US\$5 million TY Danjuma Fund for Law and Policy Development in Africa (TYD Fund), instituted by Theophilus Yakubu Danjuma, will support CCLA research, capacity building and research-dissemination events. The TYD Fund provides sustained support for research that is aimed at addressing African issues with African solutions in response to the ongoing changes in the economic, social and political landscape of the continent, including the growing global investment interest in the continent.

CCLA chair Professor Salvatore Mancuso said that, when it comes to its legal traditions, Africa is not always given an equal footing. "It is assumed that Europeans – westerners – can speak for Africa, given that African legal systems are seen as a simple heritage of the former colonial powers, despite a rich, peculiar and variegated African legal culture. This is because it is assumed that there is no law out of what has been transplanted during and after the colonial period." The fund will seek to change this by exploring new ways through which African countries can develop their legal systems to make them effective and responsive to contemporary developments on the continent and more broadly.

## TAKING ON FISHERIES CRIME



The Institute for Marine and Environmental Law (IMEL) in the Department of Public Law, together with the Marine Research Institute at UCT and Interpol's Project Scale, hosted a Fisheries Crime Symposium at the Faculty of Law in July 2013. The symposium brought together international, regional and domestic experts from academia and government for a one-day seminar to discuss the challenges and opportunities for improving fisheries compliance and enforcement.

The symposium preceded a two-day consultation on fisheries crime convened by the Department of Agriculture, Forestry and Fisheries in collaboration with the Interpol Environmental Crime Programme, through its Project Scale. One of the positive outcomes of the initiative is that IMEL, together with the Nelson Mandela Metropolitan University, received a generous grant from the Ministry of Fisheries in Norway to carry out this initiative – a three-year project commencing in 2014.

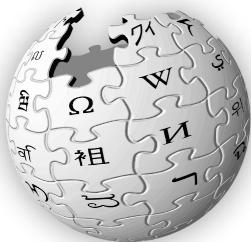
## NEW LAW JOURNALS LAUNCHED

Two new peer-reviewed journals, published by Juta, were launched last year. Both are currently being edited by members of the Department of Commercial Law at UCT.

The first is the *South African Journal of Intellectual Property Law* (IPLJ), the only South African journal to

focus solely in Intellectual Property law and policy issues, which is being edited by Lee-Ann Tong and Associate Professor Caroline Ncube. The second is the *Journal of Comparative Law in Africa*, whose editor-in-chief is Professor Salvatore Mancuso, Chair of the Centre for Comparative Law in Africa (CCLA).

The maiden issues of both journals appeared in 2013 and 2014 respectively.



## WIKIPEDIA SCHOOLS

A Swiss-South African co-operation between the University of Applied Sciences and Arts of Southern Switzerland (SUPSI) and UCT's Intellectual Property (IP) Unit, in partnership with Wikimedia Switzerland and the Africa Centre based in Cape Town, led to a new National Research Foundation-funded research project in 2013. The Wikipedia Primary School Project seeks to bridge a previously identified gap between existing Wikipedia content and the requirements for successfully completing the cycle of primary education in selected African countries. The project will analyse and evaluate existing content on Wikipedia and enrich it with new content relevant to primary education where necessary, as well as foster the development of translations.

## SHAW STEPS UP TO CHAIR

International scholar and justice expert Dr Mark Shaw has been nominated to take over the DST/NRF SARChI Chair in Security and Justice from Professor Clifford Shearing, whose term ends in 2014.

Dr Shaw, who is currently the Director: Crime, Communities and Conflict at STATT Consulting in Hong Kong, is noted as a scholar with an outstanding international profile. His research grapples with contemporary and highly relevant issues of security and justice – not just in South Africa, but on the African continent. He has published more than 16 manuscripts in international journals and written 26 books and 22 chapters in books.

## IP UNIT HOSTS PRESTIGIOUS GLOBAL CONFERENCE ON INTELLECTUAL PROPERTY



An unusual element of the "Open AIR Conference" was a dramatic representation of research results.

The Intellectual Property (IP) Unit in the Department of Commercial Law hosted one of the key annual global academic events in the area of IP in December 2013: "The Open African Innovation Research (Open AIR) Conference and Third Global Congress on IP and the Public Interest". Nearly 300 academics,

advocates, lawyers and government officials from 47 countries came to Cape Town for intense engagement on key public-interest intellectual property issues. Two path-breaking publications were also launched at the conference: *Innovation and Intellectual Property: Collaborative dynamics in Africa*, published by UCT Press, and its sister report, *Knowledge and Innovation in Africa: Scenarios for the future*.

According to IP Watch, an influential Geneva-based publication, the conference is a who's who of advocates in the access-to-knowledge and public-health fields who are interested in intellectual property issues.

"This event came at a crucial time when policymakers around the world acknowledge the need for more balanced and locally relevant IP laws that facilitate innovation and development, and respond appropriately to the challenges brought about by the digital age," said Dr Tobias Schonwetter, director of the IP Unit.

The IP Unit strives to add an African voice to the global debate on IP-related issues. It aims to create a leading IP programme in Africa that translates cutting-edge research into excellent teaching and increases the number of highly-skilled African IP experts. The unit also administers the Open African Innovation Research and Training (Open AIR) Network, one of Africa's largest IP networks, which seeks to investigate how IP regimes can be harnessed in Africa to facilitate innovation through collaboration – and to make processes more participatory, knowledge more accessible, and benefits more widely shared.

## DOCTORAL GRADUATIONS

### A. AFADAMEH-ADEYEMI (COMMERCIAL LAW)

Securing compliance with African economic integration treaties  
Supervised by Professor E. Kalula

### Y.A. AIYEDUN (PUBLIC LAW)

Fair trial and access to justice in South Africa: How traditional tribunals cater to the needs of rural female litigants  
Supervised by Professor T. Bennett

### E.M. FERGUS (COMMERCIAL LAW)

From Sidumo to Dunsmuir: the test for review of CCMA arbitration awards  
Supervised by Professor A. Rycroft

### B. GREENBAUM (CRIMINAL JUSTICE)

Compensation for victims of sexual violence in South Africa: a human rights approach to remedial criminal compensation provisions  
Supervised by Dr A. Barratt

### T.L. GUTUZA (COMMERCIAL LAW)

An analysis of the methods used in the South African domestic legislation and in double taxation treaties entered into by South Africa for the elimination of international double taxation  
Supervised by Professor R. Jooste and Mr W. Horak

### L. LEWIS (PUBLIC LAW)

The application and reconstruction of international law by domestic courts: an analytical framework for judicial mediation of a cosmopolitan and emancipatory international law  
Supervised by Professor T. Bennett

### W.K. MUTUMA (PUBLIC LAW)

Revisiting the classification of private military and security contractors under international humanitarian law  
Supervised by Professor D. Chirwa

## DEPARTMENT OF COMMERCIAL LAW

(Including the Institute of Development and Labour Law, the Centre for Comparative Law in Africa, the Shipping Law Unit and the Intellectual Property Unit)

### Head of Department: Professor Alan Rycroft

### Departmental Profile

The Department of Commercial Law is the biggest department in the Law Faculty in terms of both staff complement and student numbers. Several of its academic staff members hold doctorate degrees whilst a few others are currently working on their doctorate degrees. In addition, a number of academic staff members are working on new books or on new editions of established works. All of this enhances the department's scholarly achievements, as evidenced by the publications listed below. The Department now has three NRF rated researchers.

The Department has an increasing number of PhD and LLM by dissertation students and teaches most of the students who are taking the LLM by coursework and the Postgraduate Diplomas in Law.

In the LLB programme the Department teaches compulsory courses in Corporation Law and Commercial Transactions and offers optional courses to final year students. The Department also offers specialised commercial law courses to nearly 2600 students from other faculties.

There are four research and teaching units which form part of the Department: the Institute of Development and Labour Law, the Centre for Comparative Law in Africa, the Shipping Law unit and the Intellectual Property Unit.

### Departmental Statistics

#### Permanent and long-term contract staff

Honorary Professors	2
Adjunct Professors	6
Honorary Research Associate	1
Professors	7
Associate Professors	3
Emeritus Professors	2
Senior Lecturers	8
Lecturers	7
Teaching and Research Assistants	2
Administrative staff	4
<b>Total</b>	<b>42</b>

## **Students**

Other Faculties	2455
LLB	538
PG Diplomas	64
Doctor of Philosophy	16
Master of Philosophy	39
LLM By Dissertation	6
LLM By Coursework and Dissertation	154
<b>TOTAL</b>	<b>3272</b>

\* These figures reflect actual registrations for Commercial Law courses and LLB courses. Where a student registers for two Commercial Law /LLB courses he/she was counted twice.

## **Research Fields and Staff**

### **Professor and Head of Department**

**PROFESSOR A. RYCROFT**  
Labour Law; Dispute Resolution

### **Honorary Professors**

**PROFESSOR/JUDGE D.M. DAVIS**  
Capital Transfer and International Tax Law; Competition Law

JUDGE I. FARLAM

### **Professors**

**PROFESSOR P.S. BENJAMIN (PART-TIME)**  
Labour Law

**PROFESSOR R.D. JOOSTE**  
Revenue Law; Company Law

**PROFESSOR E.R. KALULA**  
International Comparative Labour Law; Labour Market Regulation; Social Security

**PROFESSOR R. LE ROUX**  
Labour Law, Sport Law

**PROFESSOR S. MANCUSO**  
Comparative Law

**PROFESSOR R.C. WILLIAMS (PART-TIME)**  
Revenue Law; Company Law

### **Emeritus Professor**

**EMERITUS PROFESSOR J. KINDERLERER**  
Biotechnology and IPL

### **Associate Professors**

**ASSOCIATE PROFESSOR G. BRADFIELD**  
Shipping Law, International Trade  
**ASSOCIATE PROFESSOR D. COLLIER**  
Labour Law; Electronic Law; Intellectual Property Law

**ASSOCIATE PROFESSOR T.S. EMSLIE SC (PART-TIME)**  
Revenue Law

### **Emeritus Associate Professor**

**EMERITUS ASSOCIATE PROFESSOR J. HOFMAN**

### **Honorary Research Associate**

**DR T. KRUGER**  
International Trade Law

### **Adjunct Professors**

**MS A. BOSMAN**  
**MR N. JERAM**  
**DR T. MADIMA**  
**MR W. SCHOLTZ**  
**MR E. SWANEPOEL**  
**PROF C.R. THOMPSON**

### **Senior Lecturers**

**DR W. AMIEN**  
Business Law, Muslim Law

**DR T.L. GUTUZA**  
Revenue Law; Capital Transfer and International Tax Law

**DR A. HUTCHISON**  
Business Law

**MS K. IDENSOHN**  
Company Law

**MS K. LEHMANN**  
Business Law; Global Economic Law; International Economic Law

**DR C. NCUBE**  
Business Law; Company Law; Intellectual Property Law

**MS L.-A. TONG**  
Intellectual Property Law

**MS J. YEATS**  
Business Law; Company Law

### **Lecturers**

**MR R. BRADSTREET**  
Company Law; Business Law, Intellectual Property Law  
**MS J. FRANCO**  
Business Law  
**DR E. FERGUS**  
Labour Law; Business Law

**MS L. NAIDOO**  
Business Law; Shipping Law

**MR M. NKOMO**  
Business Law; Intellectual Property Law

**MS H. STOOP**  
Business Law; Company Law

**MS A.L. TITUS**  
Business Law; Revenue Law

### **Administrators**

**MR C. ELISSAC**  
Administrative Officer  
LLB and Postgraduate Courses

**MR M. MBEBE**  
Administrative Assistant  
All Commerce Courses

**MS F. KHAN**  
Administrative Assistant  
Labour and Development Law

**MS S. VAN DER BROCK**  
Centre for Comparative Law in Africa

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## **INSTITUTE OF DEVELOPMENT AND LABOUR LAW**

### **Director: Professor R. le Roux**

### **Institute Profile**

The Institute of Development and Labour Law was established in 1996 through the merger of the Labour Law Unit and the Institute of Development Law. The Institute plays a leading role in development and labour law teaching and research. It is involved with training courses in South Africa and other countries in Southern Africa. It also regularly contributes to training programmes in other organisations and collaborates closely with other leading university centres and NGOs.

### **Research Fields and Staff**

#### **Professors**

**PROFESSOR E.R. KALULA**  
International and Comparative Labour Law; Labour Market Regulation; Social Security; Law and Regional Integration

**PROFESSOR R. LE ROUX**  
Labour Law

**PROFESSOR P. BENJAMIN**  
Collective Bargaining and Strike Law; Health and Safety; Minimum Labour Standards; Regulatory Framework

**ASSOCIATE PROFESSOR D. COLLIER**  
Labour Market Regulation, Inequality, Intellectual Property and Development

#### **Adjunct Professors**

**PROFESSOR C. THOMPSON**  
Collective Bargaining; International Labour Law

**DR T. MADIMA**  
Collective Bargaining

**MR C. NUPEN**  
Dispute Resolution; Social Dialogue

**MS T. ORLEYN**  
Dispute Resolution

**MR N. JERAM**  
Social Security

## **Administrative Staff**

MS F. KHAN

## **Researchers**

MR S. GODFREY

Senior Researcher, Labour and Enterprise Project  
Bargaining Councils; Industrial Sociology

MR J. THERON

Co-ordinator of the Labour and Enterprise Policy  
Research Group (LEP)  
Labour Rights; Small and Medium Enterprise

MS M. VISSER

Researcher

## **Honorary Research Associate**

PROFESSOR N. RUBIN

International Labour Standards; Law and Development

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## **CENTRE FOR COMPARATIVE LAW IN AFRICA**

### **Director: Dr A. Ordor**

#### **Centre profile**

The Centre for Comparative Law in Africa (CCLA) was established in 2011 to promote the study of comparative law and draw on the strengths of comparative methodology to research into the multifaceted field of law in Africa. The Centre presents an opportunity to develop a discipline that lends itself to optimal application in the pluralistic legal frameworks within which life is lived in Africa. In its mission to contribute to the development of comparative law in Africa, the strategy of the CCLA is to *establish* the field at UCT, build *capacity* in it across the continent through academic programmes, *apply* comparative law expertise in consultancies and *disseminate* new knowledge in comparative law in Africa through conferences, publications and professional networks. Its location within the Department of Commercial Law recognises the centrality of comparative law to on-going efforts at economic integration on the African continent. The CCLA offers an LLM and a postgraduate diploma in Comparative Law and conducts research on a variety of themes that apply comparative methodology. Currently the Centre is involved in a collaborative research project on mineral law and policy in three southern African countries (South Africa, Namibia and Zambia) under the UCT PERC Africa Knowledge Project as well as customary law development in Somaliland. The CCLA offers support for Africa-focused doctoral research and also undertakes consultancies from institutions in the public and private sectors.

#### **Professor and Chair**

PROFESSOR S. MANCUSO, LLB PALERMO PHD TRIESTE

#### **Administrator**

MS S. VAN DER BROCK

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## **SHIPPING LAW UNIT**

**Associate Professor and Head:  
Associate Professor G. Bradfield**

#### **Unit profile**

The Shipping Law Unit has been in operation since the beginning of 1993. The Unit was set up within the Department of Commercial Law to accommodate part-time and full-time studies in Shipping Law at higher postgraduate level, and to support the Maritime Law option offered to Final Level LLB students. The Shipping Law Unit provides postgraduate tuition and research in Admiralty law and practice and in all private law aspects of the law relating to the sea and ships. It serves as an information and advice centre to the shipping industry, and monitors developments in maritime law and policy in South Africa and abroad. The Unit co-operates closely with the Institute of Marine and Environmental Law which handles the public law elements of the Law of the Sea and related subjects.

#### **Visiting Teacher**

R. KNUTZEN, LLB CAPE TOWN BCL OXON

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## **INTELLECTUAL PROPERTY UNIT**

**Director: Dr T. Schönwetter**

#### **Unit profile**

The Intellectual Property Unit (IP Unit) was set up in 2007 as a centre for policy research and teaching in intellectual property law. Intellectual property is a key determinant of human development, economic growth and competitiveness; and intellectual property rules impact on various public policy areas including health, research and development, bio-diversity, clean technologies, food security, and education. Important issues range from the way in which we access and share knowledge to strategies how to commercialise inventions and avoid misappropriation. The IP Unit comprises Dr Tobias Schonwetter, A/Prof. Caroline Ncube and Ms Lee-Ann Tong, two administrators (Nan Warner and Phyllis Webb) as well as a varying number of soft-funded research collaborators, visiting scholars, fellows and visiting students from Africa, Europe and North America. The IP Unit seeks to add a credible African voice to the global debates concerning the link between intellectual property, innovation, development and public policy. The IP Unit offers PhD supervision, LLM and fellowship programmes, hosts regular stakeholder workshops and seminars and is involved in numerous national and international research projects. IP Unit members are involved in various national, regional and international networks and, the unit is the centre of two of the largest intellectual property networks on the African continent, namely the Open A.I.R. (African Innovation Research, [www.openair.org.za](http://www.openair.org.za)) network and Creative Commons Africa ([www.creativecommons.org](http://creativecommons.org)).

#### **Contact details**

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## **Research Output**

### **Authored books**

Mancuso, S. 2013. Terra in Africa. Diritto Fondiario Eritreo. 164pp. Trieste, Italy: EUT - Edizioni Universita di Trieste. ISBN 9788883035395.

## **Edited books**

Bosman, L. (ed) 2013. Arbitration in Africa: A Practitioner's Guide. 482pp. The Netherlands: Wolters Kluwer Law International. ISBN 9789041135209.

## **Chapters in books**

Amien, W. 2013. Reflections on the recognition of African customary marriages in South Africa: seeking insights for the recognition of Muslim marriages. In A. Claassens and D. Smythe (eds), Marriage, Land and Custom, pp. 357-384. Claremont, South Africa: Juta & Co. Ltd. ISBN 9781485101529.

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Nkomo, M. and Olmos, B. 2013. The MERCOSUR-SACU preferential trade agreement: a step forward in South-South relations? In A. Bosl, A. du Pisani, G. Erasmus, T. Hartzenberg and R. Sandrey (eds), Monitoring Regional Integration in Southern Africa, pp. 194-210. Stellenbosch, South Africa: Tralac: Trade Law Centre for Southern Africa. ISBN 9780981422190.

Ordor, A.O. and Oniekor O.O. 2013. Refashioning the finishing school of legal education in Nigeria. In C.G. Nnoma (ed), Law, Security and Development, pp. 21-41. Nigeria: Snaap Press Ltd. ISBN 9789789102709.

## **Articles in peer-reviewed journals**

Amien, W. 2013. Reflections on the recognition of African customary marriages in South Africa: seeking insights for the recognition of Muslim marriages. *Acta Juridica*, 1(2013): 357-384.

Badejogbin, O. 2013. Boko Haram: an enquiry into the socio-political context of Nigeria's counter-terrorism response. *Law, Democracy and Development*, 17: 226-252.

Bradstreet, R. 2013. Business rescue proves to be creditor-friendly: C.J. Claassen J's analysis of the new business rescue procedure in Oakdene Square Properties. *South African Law Journal*, 130(1): 44-52.

Bradstreet, R. 2013. United States v business method patents: trial by trial and error. *Journal of Intellectual Property Law and Practice*, 8(5): 374-382.

Brickhill, J., Corder, H.M., Davis, D. and Marcus, G. 2013. The administration of justice. *Annual Survey of South African Law*, 2011: 1-48.

Davis, D. 2013. The importance of reading - a rebutter to the jurisprudence of Anton Fagan. *South African Law Journal*, 130(1): 52-59.

Emslie, T.S. 2013. Tax judgements against responsible third parties. *The Taxpayer*, 45(62): 62.3-4.

Fergus, E. 2013. The reasonable employers resolve. *Industrial Law Journal*, 34: 2486-2498.

Hutchison, A.J. and Stoop, H. 2013. Misrepresentation in consumer insurance: the United Kingdom legislature opts for a 'reasonable consumer' standard. *South African Law Journal*, 130(4): 705-721.

Hutchison, A.J. 2013. Reciprocity in contract Law. *Stellenbosch Law Review*, 24(1): 3-30.

Jooste, R.D. 2013. Commentary on Tax Law Case developments. *Income Tax Reporter*, 7(2013): 1-8.

Jooste, R.D. 2013. Companies & close corporations. *Juta Quarterly Review*, JQR Companies & Close Corporations, (April to June 2013 (2)): online.

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Kruger, T. and Mallentjer, M. 2013. Het kind dat een voldongen feit is: noot onder tribunal de premire instance de Bruxelles du 18 Decembre 2012. 2(2013): 99-104.

Kruger, T. 2013. Over het toepassingsgebied van het herkomstlandbeginsel in het spanningsveld tussen het vrij verkeer en het IPR. *Tijdschrift voor Belgisch Handelsrecht*, 5(2013): 410-419.

Le Roux, R. 2013. A social economy and sustainability: is there potential for an interface? *Obiter*, 34(3): 506-521.

Lehmann, K.H. 2011. Fishing in protected waters: balancing customary rights and conservation imperatives. *The South African Journal of Environmental Law and Law Policy*, 18(2): 77-93.

Ncube, C.B. 2013. Harnessing intellectual property for development: some thoughts on an appropriate theoretical framework. *Potchefstroom se Elektroniese Regsblad/Potchefstroom Electronic Law Journal*, 16(4): 370-396.

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Nkomo, M. 2013. Rwanda's new intellectual property law and compulsory licensing for export under the WTO: not quite a panacea. *African Journal of International and Comparative Law/ Revue Africaine de Droit International et Compare*, 21(2): 279-294.

Nkomo, M. 2013. South Africa's proposed intellectual property law: the need for improved regional cooperation. *Comparative and International Law Journal of Southern Africa*, XLVI 46(2): 257-272.

Rycroft, A.J. 2013. Settlement and the Law. *South African Law Journal*, 130: 187-209.

Rycroft, A.J. 2013. The legal regulation of strike misconduct: the Kapesi decisions. *Industrial Law Journal*, 34: 859-870.

Stoop, H.H. 2013. Towards greener companies - sustainability and the social and ethics committee. *Stellenbosch Law Review*, 24(3): 562-582.

# **DEPARTMENT OF PRIVATE LAW**

## **Head of Department: Professor Tjakie Naudé**

### **Departmental Profile**

The Department of Private Law has seven NRF-rated researchers. The Department continued to maintain its strong research record during the period of review. Members of the Department maintained a high rate of publication, which included a number of international publications. Research highlights of 2013 are set out below.

First, several members of the Department presented papers at local and international conferences. For example, Professor Helen Scott presented a paper entitled 'Error and Uncertainty in the South African Law of Enrichment' at a seminar on comparative unjust enrichment organised by the Paul-André Crépeau Centre for Private and Comparative Law, at McGill University in Montreal, Canada. Professor Scott also presented one of two papers at a seminar held at Edinburgh University in January 2014 under the aegis of the Edinburgh Centre for Private Law entitled 'New Directions in Unjustified Enrichment: Learning from South Africa'. Her paper, 'Rationalising the South African Law of Enrichment', sought to present the thesis of her book *Unjust Enrichment in South African Law* (further details below) to the international enrichment community, situating the project in its wider theoretical and comparative context.

Second, Professor Hanri Mostert organised a colloquium on expropriation law in the Netherlands, under the joint auspices of UCT and the Groningen Centre for Law and Governance. The colloquium took place from 26-28 September at the University of Groningen and attracted 22 experts in this field of law from all over the world. Countries represented at the colloquium include South Africa, the Netherlands, the United States of America, Canada, the United Kingdom, Israel, Poland, Italy, Germany, Australia and Ireland. A grant from the Programme for the Enhancement of Research Capacity (PERC) assisted with making possible the attendance of additional South African scholars. The theme of the colloquium was 'Rethinking the Public Interest in Expropriation Law' and it focused on six broad topics in the field of expropriation, topics which are of significance not only for purposes of South African law but also for many other jurisdictions. The colloquium was very successful, and a follow-up

gathering is planned in Rome next year from 25-28 September. The papers presented at this year's colloquium are to be published in a book edited by Prof Mostert and Prof Leon Verstappen (University of Groningen) entitled *Rethinking the Public Interest Requirement in Expropriation Law*.

Third, on 16-17 January 2014, the UCT Law Faculty hosted a conference to celebrate the life and work of the late former Chief Justice Pius Langa, and event organised by Dr Alistair Price of this Department and Adv Michael Bishop of the Cape Bar and Legal Resources Centre. Twenty papers were presented by distinguished South African and international academics addressing a variety of themes in Justice Langa's judgments and other writings, including transformative constitutionalism, equality, customary law, the value of dissent, state liability, contract and the Constitution, privacy, and the relationship between the judiciary and other political actors. Personal addresses were delivered by Justice Albie Sachs, Adv Marumo Moerane SC, and Acting Chief Justice Dikgang Moseneke. A selection of the papers and addresses will be published in the 2015 edition of *Acta Juridica* – the annual law journal of the UCT Law Faculty – in order to memorialise Justice Langa's immense contribution to South Africa's constitutional democracy during a crucial period in our legal and political history.

Finally, Professor Helen Scott's monograph, *Unjust Enrichment in South African Law: Rethinking Enrichment by Transfer* (Hart, Oxford/Oregon) was published in 2013. The same year also saw the publication *Iniuria and the Common Law* (Hart, Oxford/Oregon), an edited collection of essays (which Prof Scott edited with Dr Eric Descheemaeker).

## Departmental Statistics

### Permanent and long-term contract staff

Emeritus Professor	2
Professors	7
Associate Professors	2
Senior Lecturers	3
Lecturers	1
Admin and Clerical Staff	2
<b>Total</b>	<b>18</b>

### Students

LLB	569
Masters	7
PhD	14
<b>Total</b>	<b>590</b>

## Research Fields and Staff

### Professor and Head of Department

#### PROFESSOR T. NAUDÉ

Law of Contract; Consumer Protection

### Professors

#### PROFESSOR A.J. BARNARD-NAUDÉ

Jurisprudence; Legal Theory

#### PROFESSOR A.G. FAGAN

Law of Delict; Jurisprudence; Constitutional Theory

#### PROFESSOR C. HIMONGA

African Customary Law

#### PROFESSOR D.B. HUTCHISON

Law of Contract; Law of Delict

#### PROFESSOR H. MOSTERT

Law of Property; Land Law; Mineral and Petroleum Law

#### PROFESSOR H. SCOTT

Unjustified Enrichment; Law of Delict; Legal History

### Emeritus Professors

#### EMERITUS PROFESSOR S.B. BURMAN

Socio-Legal Studies

#### EMERITUS PROFESSOR W. DE VOS SC

Unjustified Enrichment; Legal History

#### EMERITUS PROFESSOR I. LEEMAN

Copyright Law

### Honorary Research Associate

#### PROFESSOR F. DU BOIS

University of Leicester, England

Law of Delict; Legal Theory

#### ASSOCIATE PROFESSOR M. HEWETT

South African and European Legal History

### Distinguished visitors

#### PROFESSOR R. EVANS-JONES

University of Aberdeen, Scotland

Unjustified Enrichment; Legal History

### Associate Professors

#### ASSOCIATE PROFESSOR M. PALEKER

Law of Succession; Civil Procedure

### ASSOCIATE PROFESSOR A. POPE

Law of Property; Bio-ethics; Customary Law; Family Law

### Senior Lecturers

#### DR A. BARRATT

Law of Persons and Marriage; Legal History; Intellectual Property Law

#### DR L. GREENBAUM

Legal Education; Legal Writing.

#### DR A. PRICE

Law of Delict; Jurisprudence

### Lecturer

#### MR J. JONKER

Legal theory

### Contract Staff

#### MS F. OSMAN

Law of Succession; African Customary Law

#### MR N. SIBANDA

Research Co-ordinator

### Administrators

#### MRS. N. CAMPBELL

Administrative Officer

LLB Intermediate/Final Year

#### MRS. F. MOHAMED

Senior Secretary

LLB Preliminary Undergraduate/Postgraduate/LLM Courses

### Contact Details

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### Research Output

#### Authored books

Paleker, M. 2013. The Law of South Africa. Civil Procedure: Lower Courts. 367pp. 3<sup>rd</sup> edition. Durban: LexisNexis. ISBN 9780409058147.

Scott, H. 2013. Unjust Enrichment in South African Law. Rethinking Enrichment by Transfer. 221pp. United Kingdom: Hart Publishing. ISBN 9781849462235.

### Edited books

Descheemaeker, D and Scott, H. (eds). 2013. *Iniuria and the Common Law*. 240 pp. United Kingdom: Hart Publishing. ISBN 9781849465038.

Reid, E. and Visser, D.P. (eds). 2013. *Private Law and Human Rights. Bringing Rights Home in Scotland and South Africa*. 513pp. United Kingdom: Edinburgh University Press. ISBN 9780748684175.

### Chapters in books

Barnard-Naudé, A.J. 2013. The politics of private law: sexual minority freedom in South Africa and Scotland. In E. Reid and D. Visser (eds), *Private Law and Human Rights. Bringing Rights Home in Scotland and South Africa*, pp. 37-80. United Kingdom: Edinburgh University Press. ISBN 9780748684175.

Descheemaeker, E. and Scott, H. 2013. *Iniuria and the common law*. In E. Descheemaeker and H. Scott (eds), *Proceedings of Iniuria and the Common Law*, 9-10 September 2011, Oxford. United Kingdom: Hart Publishing. ISBN 9781849465038.

Du Bois, F.G. 2013. Harassment: a wrong without a right? In E. Descheemaeker and H. Scott (eds), *Proceedings of Iniuria and the Common Law*, 9-10 September 2011, Oxford. United Kingdom: Hart Publishing. ISBN 9781849465038.

Fagan, A. 2013. The right to personal security. In E. Reid and D. Visser (eds), *Private Law and Human Rights. Bringing Rights Home in Scotland and South Africa*, pp. 130-155. United Kingdom: Edinburgh University Press. ISBN 9780748684175.

Fagan, A. 2013. The gist of defamation in South African law. In E. Descheemaeker and H. Scott (eds), *Proceedings of Iniuria and the Common Law*, 9-10 September 2011, Oxford. United Kingdom: Hart Publishing. ISBN 9781849465038.

Himonga, C. and Pope, A. 2013. *Mayelane v Ngwenyama and minister for home affairs: a reflection on wider implications*. In A. Claassens and D. Smythe (eds), *Marriage, Land and Custom*, pp. 318-338. Claremont, South Africa: Juta & Co. Ltd. ISBN 9781485101529.

Hutchison, D.B. 2013. JC de Wet's contribution to the development of the law of mistake in contract. In J. Du Plessis and G. Lubbe (eds), *A Man of Principle. The Life and Legacy of JC De Wet*, pp. 190-216. Claremont, CPT: Juta Law. ISBN 9781485100751.

Laing, S. and Visser, D.P. 2013. Principles, policy and practice: human rights and the law of contract. In E.

Reid and D. Visser (eds), *Private Law and Human Rights. Bringing Rights Home in Scotland and South Africa*, pp. 330-360. United Kingdom: Edinburgh University Press. ISBN 9780748684175.

Mostert, H. 2013. Nuisance. In E. Reid and D. Visser (eds), *Private Law and Human Rights. Bringing Rights Home in Scotland and South Africa*, pp. 256-293. United Kingdom: Edinburgh University Press. ISBN 9780748684175.

Naudé, T. 2013. The typology of breach of contract: JC de Wet's contribution in comparative perspective. In J. Du Plessis and G. Lubbe (eds), *A Man of Principle. The Life and Legacy of JC De Wet*, pp. 270-301. Claremont, CPT: Juta Law. ISBN 9781485100751.

Reid, E. and Visser, D.P. 2013. Introduction. In E. Reid and D. Visser (eds), *Private Law and Human Rights. Bringing Rights Home in Scotland and South Africa*, pp. 1-11. United Kingdom: Edinburgh University Press. ISBN 9780748684175.

Scott, H. 2013. Pits and pruners: culpa and social practice in digest 9.2. In A. Burrows, D. Johnston and R. Zimmerman (eds), *Judge and Jurist: Essays in Memory of Lord Rodger of Earlsferry*, pp. 251-264. Great Britain: Oxford University Press. ISBN 9780199677344.

Scott, H. 2013. Contumelia and the South African law of defamation. In E. Descheemaeker and H. Scott (eds), *Proceedings of Iniuria and the Common Law*, 9-10 September 2011, Oxford. United Kingdom: Hart Publishing. ISBN 9781849465038.

#### Articles in peer-reviewed journals

Bangeni, A. and Greenbaum, L. 2013. An analysis of the textual practices of undergraduate and postgraduate novice writers in law. *Per Linguam: A Journal of Language Learning*, 29(2): 72-84.

Barnard-Naudé, A.J. 2013. "For Michelman, on the contrary": republican constitutionalism, post-apartheid jurisgenesis and O'Regan J's dissent in minister of home affairs v Fourie. *Stellenbosch Law Review*, 24(2): 342-358.

Barnard-Naudé, A.J. 2013. Of Dorothy's dog, 'poststructural' fairy tales...and the real: power, poverty and the general principles of the South African law of contract. *South African Journal on Human Rights*, 29: 467-480.

Barnard-Naudé, A.J. 2013. 'The greatest enemy of authority'- Arendt, Honig and the authority of post-apartheid jurisprudence. *No Foundations: An Interdisciplinary Journal of Law and Justice*, 10: 120-137.

Barratt, A. 2013. 'Whatever I acquire will be mine and mine alone': marital agreements not to share in constitutional South Africa. *South African Law Journal*, 130: 688-704.

De Jager, J. 2013. Addressing xenophobia in the equality courts of South Africa. *Refugee*, 28(2): 107-116.

Dennison, B. 2013. The resonance of Christian political conceptions within international humanitarian law. *Uganda's Paper Series: On International Humanitarian Law*, 1(1): 157-172.

Fick, S.J. 2013. Valid consent to objectifying treatment should be allowed. *Southern African Public Law*. 28: 346-382.

Greenberg, J., Smith, D. and Pope, A. 2013. Stem cells on South African shores: proposed guidelines for comprehensive informed consent. *SAMJ South African Medical Journal*, 103(1): 6.

Himonga, C. and Pope, A. 2013. *Mayelane v Ngwenya and minister for home affairs: a reflection on wider implications*. *Acta Juridica*, 1(2013): 318-338.

Himonga, C., Taylor, M. and Pope, A. 2013. Reflections on judicial views of Ubuntu. *Potchefstroomse Elektroniese Regsblad/ Potchefstroom Electronic Law Journal*, 16(5): 372-429.

Himonga, C. 2013. The right to health in an African cultural context: the role of Ubuntu in the realization of the right to health with special reference to South Africa. *Journal of African Law*, 57(2): 165-195.

Milius, D. 2013. 'Information aid' and the dissemination of innovation. *Global Policy*, 4(1): 122-124.

Ozdemir, V., Badr, K.F., Dove, E.S., Endrenyi, L., Geraci, C.J., Hotez, P.J., Milius, D., Neves-Pereira, M., Pang, T., Rotimi, C.N., Sabra, R., Sarkissian, C.N., Srivastava, S., Tims, H., Zgheib, N. and Kickbusch, I. 2013. Crowd-funded micro-grants for genomics and "big data": an actionable idea connecting small (artisan) science, infrastructure science, and citizen philanthropy. *Integrative Biology*, 17(4): 161-172.

Price, A.M. 2013. The evolution of the rule of law. *South African Law Journal*, 130(4): 649-661.

Scott, H. 2013. Killing and causing death in Roman law. *Law Quarterly Review*, 129: 101-122.

Scott, H. 2013. South Africa. *Restitution Law Review*, 21: 204-212.

Scott, H. 2013. Unjustified enrichment. *Annual Survey of South African Law*, 2011: 1257-1260.

Wilke, J.M. 2013. The right to privacy and drug-testing in sport in South Africa: could the New Zealand case of *Cropp v judicial committee* provide some guidance? *Obiter*, 34(1): 49-63.

## DEPARTMENT OF PUBLIC LAW

(Including the Centre of Criminology; Institute of Marine and Environmental Law; Democratic Governance and Rights Unit; Law, Centre for Law and Society; and Refugee Rights Unit)

### Head of Department: Professor D.M. Chirwa

#### Departmental Profile

The Department of Public Law now has 9 NRF rated researchers and continues to produce high level research in various areas, including constitutional law and human rights, international law, environmental law, refugee law, criminal law, criminal procedure and evidence, land rights and policing. During the course of 2013, members of the Department were involved in the production of five books and four edited books. In addition a large number of book chapters and journal articles were published.

The four research units attached to the Department – the Centre of Criminology, the Institute of Marine and Environmental Law, the Democratic Governance and Rights Unit, and the Centre for Law and Society – continued to make a substantial contribution to research output, policy involvement and outreach activities on a wide range of issues of legal and social importance.

#### Departmental Statistics

#### Permanent and long-term contract staff

Professors	14
Associate Professors	3
Senior lecturers	3
Lecturers	3
Administrative	2
Teaching Assistants	5
<b>Total</b>	<b>30</b>

#### Honorary staff

Research Associates	1
Honorary Professors	2
Emeritus Professors	2

#### Students

LLB	538
LLM – Coursework and Dissertation	63
LLM (by dissertation)	6
LLM Exchange Programme	1
MPhil	29
Postgraduate Diploma	8
PhD	39
<b>Total</b>	<b>684</b>

\* These figures reflect actual registrations for Public Law courses and LLB courses. Where a student registers for two Public Law/LLB courses he/she was counted twice.

#### Research Fields and Staff

##### Professor and Head of Department

###### PROFESSOR D.M. CHIRWA

International Human Rights; the Rights of the Child; Domestic implementation of Human Rights; Administrative Law; Social and Economic Rights

##### Professors

###### PROFESSOR T.W. BENNETT

African customary law; land rights; public and private international law

###### PROFESSOR J. BURCHELL

Criminal Law; Personality Rights

###### PROFESSOR H. CHEADLE

Labour Law; Human Rights; Constitutional Litigation; Legal Drafting

###### PROFESSOR H.M. CORDER

Administrative Law; the Judicial Process

PROFESSOR P. DE VOS, CLAUDE LEON FOUNDATION CHAIR IN CONSTITUTIONAL GOVERNANCE  
Constitutional Law; Current issues in Constitutional Law; Governing under Constitution

###### PROFESSOR W. DE VOS

Criminal Procedure; Law of Evidence; Constitutional aspects of Procedure; Class Actions

**PROFESSOR L.A. FERIS**  
Environmental law; Human rights, Liability; Biodiversity; Climate Change; Trade and Environment

**PROFESSOR J.I. GLAZIEWSKI**  
Environmental Law; Energy Law, Antarctic, Marine Pollution Law

**PROFESSOR C.M. MURRAY**  
Constitutional Law including Co-operative Government, Parliament, Intergovernmental Relations, Local Government, Constitution Making, and Comparative Constitutional Law

**PROFESSOR A.R. PATERSON**  
Environmental Law; Biodiversity; Protected Areas; Environmental Fiscal Reform

**PROFESSOR P.J. SCHWIKKARD**  
Evidence, Criminal Procedure

**PROFESSOR C. SHEARING**  
Governance of Security; Environmental Security

**PROFESSOR E. VAN DER SPUY**  
Policing (public); International Assistance to Policing in Transition; Security Sector Reform; Police Reform; Peace-keeping

### **Associate Professors**

**ASSOCIATE PROFESSOR R. CALLAND**  
Accountable Government; Access to Information; Whistle Blowing Legislation; Constitutional Law; Public Ethics

**ASSOCIATE PROFESSOR D. SMYTHE**  
Law and Society (particularly the use of interdisciplinary research methods); Criminal Justice Policy; Human Rights; Violence against Women

### **Emeritus Professors**

**PROFESSOR D.J. DEVINE**  
International Law of the Sea; General Principles of International Law; Regional Integration

**PROFESSOR D. VAN ZYL SMIT**  
Criminal Law

### **Honorary Professors**

**PROFESSOR J. DUGARD**  
ADVOCATE W. TRENGOVE

### **Honorary Research Associates**

**JUSTICE L.W.H. ACKERMANN**  
Emeritus Justice of the Constitutional Court

### **Senior Lecturers**

**MS C.H. POWELL**  
Constitutional Law; International Law; International Criminal law

**MS K. PHELPS**  
Constitutional Criminal Adjudication; Punishment; the Principle of Legality and Sexual Offences

**MS J. BERG**  
Governance of Security; Plural Policing; Policing Accountability

### **Lecturers**

**MS M.C. DU PLESSIS**  
Social Security Law and Governance; Workers' Compensation

**MS S. LUTCHMAN**  
Evidence; International Law; Rights of the Child

**DR H. WOOLAYER**  
International Law, International Criminal Law

### **Contract Staff**

**ASSOCIATE PROFESSOR R. MANJOO**  
Women's Human Rights; Violence against Women; Culture, Religion, Tradition and Human Rights

**MS M. VON BROEMSEN**  
Law and Poverty; Human Rights and Legal Empowerment of the Poor; the Interrelationship between the Informal Economy; Alleviation of Poverty and Law

**MS L. KOHN**  
Constitutional Law; Administrative Law

### **Administrative Staff**

**MS D. MWAMBALA**  
Administrative Officer

**MS R. FRANCKE**  
Senior Secretary

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## **CENTRE OF CRIMINOLOGY**

### **Director: Professor C. Shearing**

### **Centre Profile**

The Centre is a niche research unit within the Faculty of Law at the University of Cape Town. Our research and analysis in 2013 was organised around three principal foci, namely, developments in policing; developments in penal policy and the emergence of new environmental risks and responses to them. A uniting theme is the concern to ensure that the programmes contribute to both theory development and to policy development and implementation.

The Centre's research programme builds on established areas within Criminology and established strengths within the Centre of Criminology and is stretching the boundaries of Criminology in ways that will enable it to recognise and respond to the changing international and local risk landscapes.

Research on policing at the Centre of Criminology is concerned both with public police and private policing developments in South Africa and in transitional contexts, particularly in Africa.

### **Centre Statistics**

#### **Permanent and long-term contract staff**

Professors	2
Senior Lecturer	1
Administrative Staff	2
Research Staff	4
Honorary Research Associates	3
<b>Total</b>	<b>12</b>

### **Research Fields and Staff**

#### **Permanent Staff**

**PROFESSOR C. SHEARING**  
Governance of Physical and Environmental Security

**PROFESSOR E. VAN DER SPUY**  
Policing (public); Police Reform; Peace-keeping and police: History of criminal justice reform

**MS. J. BERG, SENIOR LECTURER,**  
Governance of Security; Plural Policing; Policing Accountability

### **Honorary Research Associates**

**MR C. CULLINAN**  
Director, EnAct International, Practising Environmental Attorney

**DR DEON NEL, WWF (SA)**  
**ASSOCIATE PROFESSOR J. FROESTAD**  
Institute of Administration and Organization Theory, University of Bergen

### **Research Staff**

**MS E. ATKINS (INFORMATION MANAGER)**  
Multi-media Electronic Resource Library

**MR T. HERBSTEIN**  
Environmental Security Programme

### **Administrative Staff**

**MS V. TOLENI**  
Administrative Assistant

**MS T. HUME**  
Finance Administrator

### **Postdoctoral Fellow**

**DR G. SUPER**  
Prisons and Crime in South Africa

**DR L. PASQUINI**  
Environmental Security

### **Contact Details**

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Fax: +27 21 6503790  
Web: [www.criminology.uct.ac.za](http://www.criminology.uct.ac.za)

# INSTITUTE OF MARINE AND ENVIRONMENTAL LAW

**Director: Professor A.R. Paterson**

## Institute Profile

The Institute of Marine and Environmental Law undertakes research, teaching and consultancy in the fields of marine and environmental law both at the international level and in the context of Southern Africa. It also participates in multi-disciplinary projects in collaboration with other specialists in marine and environmental subjects. 2013 again saw members of the Institute continuing with research in several specialist areas, with one of the highlights being the publication of Professor Glazewski's loose leaf edition of *Environmental Law in South Africa*, to which several members of the Institute contributed chapters. Professor Glazewski also published a chapter on the legal and regulatory aspects of carbon capture and storage. Professor Loretta Feris continued with her research examining the right to sanitation in both international law and domestic law. She presented several papers emerging from this project at domestic and international conferences and published papers and book chapters on traditional fishing rights, water and sanitation rights. Professor Paterson continued with his research in the area of protected areas law and governance which saw him being appointed lead author of the IUCN Environmental Law Centre's Protected Areas Law and Governance Project. His research in this area led to the publication of several papers and chapters on conservation and land reform, transboundary protected areas and indigenous peoples' rights to natural resources in protected areas. Ms Micha Young, who joined the Institute as a lecturer at the beginning of 2013 to build the Institute's marine research component following the sad death of Professor Gibson in 2012, immediately contributed substantively to the Institute's research profile through the publication of an article on the law and policy framework governing subsistence fishers in South Africa. In addition to the above, the Institute hosted several research workshops in 2013 which included: the Environmental Law Association's Postgraduate Research Conference; a workshop on South Africa's new national planning legislation; and a Transnational Fisheries Crime Symposium in collaboration with MARE, INTERPOL and Norwegian counterparts.

## Institute Statistics

### Permanent and Long-term Contract Staff

Professors	3
Associate Professors	0
Emeritus Professor	1
Lecturers	1
Honorary Research Associate	2
Administrative and Clerical Staff	1
<b>Total</b>	<b>8</b>

### Students

Doctoral	8
Masters	39
Postgraduate Diploma	4
LLB – Final Year	14
Non-Law students	15
<b>Total</b>	<b>80</b>

### Research Fields and Staff

#### Permanent Staff

##### PROFESSOR L.A. FERIS

Environmental law; human rights and environment; trade and environment; sanitation biodiversity; liability.

##### PROFESSOR J.I. GLAZEWSKI

Environmental law; energy law; Antarctic; marine pollution law

##### PROFESSOR A.R. PATERSON

Environmental law; biodiversity; protected areas; environmental fiscal reform

##### MS M.A. YOUNG

International law of the sea; marine law; environmental law

#### Emeritus Professor

##### PROFESSOR D.J. DEVINE

Law of the sea; international law

#### Honorary Research Associate

##### DR J. HALL

Role of the judiciary in environmental governance

##### DR E.V. WITBOOI

Law of the sea; marine fisheries

#### Administrative Assistant

##### MS P. MURPHY

## Contact Details

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## DEMOCRATIC GOVERNANCE & RIGHTS UNIT

### Director: Associate Professor R. Calland

#### Unit Profile

Based in the Department of Public Law at the University of Cape Town, the DGRU's mission is to advance the principles and practice of constitutional democracy in Africa. Recognising the gap between the promise of constitutionalism and the reality of daily life for the majority of Africans, the DGRU aims to stimulate fresh thinking on the intersection between rights and transformative governance. In collaboration with others, the DGRU supports the process of law and policy reform, and informs public debate, through inter-disciplinary research and advocacy.

The vision for the future is that in ten years' time, the DGRU will have a strong international reputation as a place where bold new ideas are born and then turned into working practice, providing a stimulating environment for policy-makers, academic thinkers and students alike, and an intellectual bridge between Europe and Africa on some of the most significant public law issues that face modern societies everywhere.

#### Unit Statistics

Associate Professors	1
Permanent researchers	2
Programme Manager	1
Administrator	1
<b>Total</b>	<b>5</b>

### Research Fields and Staff

#### Permanent and Contract Staff

##### ASSOCIATE PROFESSOR R. CALLAND

Transparency Law & Policy, the Right of Access to Information, Whistle Blowing, Public Ethics, Political and Economic Governance, Constitutional Law, Multi-stakeholder Processes

## MS T. MASENGU

Refugee Law, Women's Rights and the impact of the Protocol to the African Charter on the Rights of Women in Africa on Democracy and Governance

## MR C. OXTORY

Judicial Appointments, Judicial Ethics, Human Rights, Anti-terrorism Law and Practice in Southern and Eastern Africa and the 2010 World Cup

## Administrative Staff

### MS V. KARTH

Programme and Financial Management; Website Management, Marketing & PR

### MS C. PILLAY

General office administration, web development

## Contact details

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## CENTRE FOR LAW AND SOCIETY

### Director: Associate Professor D. Smythe

#### Centre Profile

The Centre for Law and Society (CLS) [formerly the Law, Race and Gender Research Unit (LRG)] was established in 1993. CLS's founding mission was to provide legal decision-makers with an understanding of the ways in which the history and social context of South Africa inform the creation, application and interpretation of our laws. Its first project was to provide training and support to judicial officers as courts faced the challenge of transforming their structures and jurisprudence in line with constitutional and democratic values after 1994. CLS trained over a thousand judicial officers, developing materials on issues including HIV, sexual offences, domestic violence, race and racism, and judicial ethics.

With a primary focus on producing excellent empirical studies of law in context, based on participatory methodologies and collaborative partnerships, CLS is committed to sound research underpinning evidence-based advocacy on critical legal and social issues. In recent years we have expanded our areas of focus, retaining the emphasis on participation, knowledge-sharing,

and capacity-building as central tenets of our Centre's scholarly approach. In 2009 the Rural Women's Action Research Programme (RWAR) was established within the Centre, with the objective of challenging government policies and laws that undermine the citizenship rights of the 18 million people living within them and set the former homelands apart from the rest of South Africa as zones of chiefly sovereignty. We are committed to foregrounding the understandings, initiatives and expertise of people living in rural areas in informing law and policy. To this end we support rural leaders to make direct submissions to parliament and engage directly in policy debates. We engage in ongoing conversations with our rural partners in order to develop joint strategies for change. We have made a significant contribution to shifting academic discourse in the area of rural power relations and citizenship rights and in creating a space for community-based groups and organisations to challenge the government's approach to land reform, traditional courts and the elevation of chiefly interests at the expense of the citizenship rights of ordinary people. Our work has also contributed to extensive media coverage and political debate about these issues, and we have provided extensive research and conceptual support in relation to a number of cases in the Constitutional Court.

CLS runs the website Custom Contested ([www.customcontested.co.za](http://www.customcontested.co.za)), a one-stop website that provides news, information and analysis on laws and policies affecting custom, tradition and citizenship rights, exploring what is at stake for ordinary South Africans. In addition, we maintain an institutional website for CLS ([www.cls.uct.ac.za](http://www.cls.uct.ac.za)) on which, inter alia, all of our materials are available. In 2014 we launched a postgraduate Programme in Criminology, Law and Society, in partnership with the Centre for Criminology, to train the next generation of scholars concerned with issues of law and society in Africa.

## Permanent and Contract Staff

Associate Professor	1
Chief Researcher/Associate Professor	1
Senior Researchers	3
Researchers	7
Research Assistants	6
Administrators	2
Research Associates	5
<b>Total</b>	<b>25</b>

## Research Fields and Staff

### Permanent Staff

#### ASSOCIATE PROFESSOR D. SMYTHE – DIRECTOR OF THE CENTRE FOR LAW AND SOCIETY

Law and society, criminal justice policy, women and law, violence against women, interdisciplinary research methods

#### DR A. CLAASSENS – CHIEF RESEARCHER AND RWAR PROGRAMME DIRECTOR

Land rights, customary law, law and society, rural women's rights in respect of land and marriage, property and power relations, citizenship and governance

#### MR B. BOYLE – SENIOR RESEARCHER (RWAR)

Mining in former homeland areas, corruption, political participation

#### DR M. BUTHELEZI – SENIOR RESEARCHER (RWAR)

Traditional leadership and governance, traditional dispute resolution, negotiating identities in transforming societies

#### MS M. VON BROEMBSEN – SENIOR RESEARCHER/SENIOR LECTURER

Economic justice, law and development

#### MS M. DE SOUZA – RESEARCHER (RWAR)

Traditional leadership and governance, customary marriage

#### MS F. EBERHARD – PHD CANDIDATE AND CONTRACT RESEARCHER (RWAR)

Mining in former the homelands, property rights and power relations

#### MS D. JEFTHAS – RESEARCHER

Gender-based violence, transitions to higher education, legal education, identity

#### MS N. LUWAYA – RESEARCHER (RWAR)

Women's land rights, participatory research practices, land rights, traditional dispute resolution

#### MS B. MATLALA – RESEARCHER (RWAR)

Participatory action research; terms of community partnerships, land rights with a specific focus on women's land rights, citizen participation in development

#### MS T. THIPE – RESEARCHER (RWAR)

Traditional leadership and governance, traditional dispute resolution, gender studies

#### MS. T. WEINBERG – RESEARCHER (RWAR)

Land rights, including women's land rights, customary

tenure in historical perspective, land restitution and communal tenure.

### Research Associates

#### MR M. JARA

#### MS N. GASA

#### PROF C. LUND

#### DR S. MNISI WEEKS

#### DR R. KINGWILL

### Research Assistants

#### MS L. KHAN

#### MR O. KOLAWOLE

#### MR J. LORENZEN

#### MS M. MUTLOANE

#### MR D. O' REGAN

#### MS T. PAIN

### Administrators

#### MS J. THOMAS (FINANCIAL MANAGER)

#### MS S. WRIGHT (ADMINISTRATION)

### Contact Details

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## REFUGEE RIGHTS UNIT

### Unit Director: Ms. F Khan

### Unit Profile

The Refugee Rights Unit was founded in 1998 as a Project within the UCT Law Clinic, aimed at providing legal support services to the growing number of refugees and asylum seekers in South Africa. It has since evolved into a fully independent Unit, with four main components: the Unit's Refugee Law Clinic provides direct legal services to thousands of refugees and asylum seekers in the Western Cape each year; the Unit conducts applied research in refugee law and related topics; it teaches refugee law to undergraduate law and masters' students within the Department of Public Law; and, it undertakes a significant amount of targeted advocacy and training of government officials, the judiciary, civil society partners and refugee communities.

The close relationship between the Refugee Law Clinic's practice the Unit's teaching of Refugee and Immigration Law courses to LLB and LLM students, and the Unit's research is a unique aspect of the Unit's work. The Refugee Law Clinic provides the Unit with a close link to the practical application of refugee law in South Africa and therefore directly informs and supports the Unit's teaching activities and research outputs. Students often engage with the most current issues facing refugees and asylum seekers in South Africa, including those involved in the strategic litigations undertaken by the Refugee Law Clinic. Students are also encouraged to volunteer at the Refugee Law Clinic in order to gain practical experience and fulfil community service requirements. The Unit's teaching component includes the direct supervision of undergraduate and graduate level research work in the field of refugee and immigration law.

The Working Paper Series, ([http://www.refugeerights.uct.ac.za/research/working\\_papers/](http://www.refugeerights.uct.ac.za/research/working_papers/)) publishes the research reports of the Refugee Rights Unit, occasional papers of the Unit members and versions of some of the papers presented by the Refugee Rights Unit members. A key focus of the Working Papers is the promotion of the rights of refugees in South Africa and the global South.

The Refugee Rights Unit remains not only committed to directly assisting refugees and asylum seekers but also in teaching and engaging in research which can be used to promote and further the law in this area and as an advocacy tool in the future.

### Unit Staff

#### Director

#### MS F. KHAN

#### Research Associates

#### MS T. SCHREIER

#### MS L. DE LA HUNT

#### Unit Attorneys and Researchers

#### MR J. CHAPMAN

#### MR J. DE JAGER

#### MS M. SCHOEMAN

#### Unit Candidate Attorneys

#### MR P. W. MFUBU

#### MS J. LIEDERMAN

#### A.S. PEZI

#### N.H. WILLIE

## **Administrator**

J. SENA TORRES

## **Contact Details**

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## **Research output**

### **Authored books**

Bennett, T.W. and Strug, J. 2013. Introduction to International Law. 423pp. Cape Town: Juta Law. ISBN 9781485100065.

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# FACULTY OF HEALTH SCIENCES

During 2013, the Faculty of Health Sciences significantly grew its research enterprise while effecting change at the highest level with a new dean and a new deputy dean for research. They are custodians of a faculty that has placed UCT in 53<sup>rd</sup> position among "clinical, pre-clinical and health" universities globally in the 2013/2014 *Times Higher Education* World University Rankings.

## DEAN'S REPORT PROFESSOR WIM DE VILLIERS



OUR ONGOING CHALLENGE IS TO MAINTAIN AND IMPROVE THE HIGH QUALITY OF OUR RESEARCH WHILE BUILDING RELEVANT COLLABORATIONS AND GROWING OUR INCOME TO FUND NOT ONLY RELEVANT STUDIES BUT THE INFRASTRUCTURE TO SUPPORT THEM EFFICIENTLY.

109<sup>+</sup>  
NRF-RATED RESEARCHERS

R557.95M  
VALUE OF RESEARCH CONTRACTS

1 691<sup>+</sup>  
REGISTERED POSTGRADUATES

The Faculty of Health Sciences makes a vital contribution to UCT's research income. We signed 747 research contracts in 2013, valued at just under R558 million. This is a 42% increase from 2012 and represents 57% of the university's income. The faculty receives income from a wide range of national and foreign funders, and it has been encouraging to witness the recent partnering of local medical research funders with major international bodies to support health sciences research in South Africa. The faculty's research publication output also continued to grow.

These publications arise from all our departments and the numerous research groups spread across them, many promoting interdisciplinarity through cross-departmental interaction. Twenty-four of these groupings are accredited by the University Research Committee (out of UCT's total of 73), the most recent accreditations being the Lung Infection and Immunity Unit and the HIV Mental Health Research Unit. Eight of these are South African Medical Research Council (MRC) units, which, in alignment with MRC goals, focus increasingly on the health priorities of the country. The MRC also awarded four merit awards to UCT Health Sciences academics in 2013 (see p168).

These are not the only recent awards garnered by faculty academics. Professor Valerie Mizrahi, director of the Institute of Infectious Disease and Molecular Medicine (IDM), was awarded the prestigious Christophe Mérieux

Prize in 2013 for infectious disease research in developing countries (see p168). Professor Tim Noakes, director of the UCT/MRC Research Unit for Exercise Science and Sports Medicine, received a Lifetime Achievement Award at the National Business Awards in acknowledgement of his expertise in the field of exercise research. Professor Brian Rayner, head of the Division of Nephrology/Hypertension, won the respected 2014 World Hypertension League Award for Notable Achievement in Hypertension, while Professor Karen Sliwa, director of the Hatter Institute for Cardiovascular Research, received the Paul Morawitz Award for her research into cardiovascular prevention, heart failure and the pathophysiology of cardiomyopathy (see p167).

Evidence that our researchers are continuing to perform at a high level is also apparent from the 2014 National Research Foundation (NRF) ratings. During this cycle, the faculty grew its NRF A-, B- and C-category ratings to yield a total of 109 rated researchers, which includes the 17 that are held by young researchers in the Y category. UCT increased its number of prestigious A ratings to 35, with health sciences receiving our 12th coveted A rating in Emeritus Professor Robin Wood, director of the Desmond Tutu HIV Centre (see p166).

The faculty was home to 119 postdoctoral research fellows during 2013, more than a third of UCT's 318. This is an increase of 20 fellows from 2012, again reflecting the growth of the research portfolio in health sciences. Between them, our postdoctoral fellows received 188 fellowships, valued at over R22 million. A further reflection of UCT's efforts to foster successful health researchers is the growth of its Emerging Researcher Programme. During 2013, 150 of the faculty's academics participated in the programme, compared to six in the first year of the programme 10 years ago. This capacity-building initiative provides research development grants, workshops and mentoring to emerging researchers, strengthening their profiles and preparing them for future research leadership.

In 2013, the faculty was home to around 2 000 postgraduate students, roughly a quarter of UCT's total. PhD candidates made up 360 of these, with 88 honours students and a large contingent of 1 243 master's students. We also housed 38 occasional postgraduate students and 247 studying for postgraduate diplomas. The faculty is committed to fostering the growth of human research capacity and our postgraduate training is in keeping with national priorities, supporting the South African government's target of 1 000 new PhD enrolments in health sciences by 2022. A total of 539 of our health sciences postgraduate students received, between them, 809 scholarships, to the value of

R37 million. During two graduation ceremonies, we awarded 70 honours, 181 master's and 53 PhD degrees, as well as 163 postgraduate diplomas, across a wide range of disciplines. This is the highest number of postgraduate degrees and diplomas ever awarded in one academic year by the faculty.

Participation in health research is also encouraged at the undergraduate level, where we hope to inspire students to contribute to knowledge generation and develop research skills. The annual Health Sciences Undergraduate Research Day again successfully engaged students in October 2013. One hundred undergraduate students from across the faculty took part. Twelve oral presentations were delivered, and 25 posters presented. These were selected for inclusion by a committee of senior staff members and subsequently judged by a panel of clinical science, basic science, health and rehabilitation and public health academics.

## FOLLOWING THE SUCCESS OF THE PAST YEAR, AND THE INVIGORATION OF CHANGES IN LEADERSHIP AND NEW INITIATIVES, WE EXPECT OUR RESEARCH ENTERPRISE TO CONTINUE TO DELIVER BIGGER AND BETTER ADVANCES IN SCIENCE AND HEALTH.



Two exciting faculty initiatives that kicked off in 2013 are the Cancer Research Initiative and the UCT Clinical Research Centre (CRC). The aim of the Cancer Research Initiative is to promote translational cancer research by encouraging greater collaboration among basic, clinical, rehabilitative and public health researchers and building research capacity. Early work on the initiative has included conducting a cancer situational analysis, discussions with internal and external role players, cancer seminars and work towards development of a strategic plan. The CRC, on the other hand, aims to provide expertise and support for the design, development, management, analysis and publication of high-quality clinical trials and other studies. This will include support for activities such as project

## A-RATING FOR HIV/AIDS PIONEER



Emeritus Professor Robin Wood, director of the Desmond Tutu HIV Research Centre at UCT, was awarded a National Research Foundation (NRF) A2-rating in the 2013 round of ratings, pegging him as a world leader in his field, and bringing the faculty's tally of A-rated scientists to 12.

Professor Wood first came across "slim disease" as a doctor in Zambia in the early 1980s, before the human immunodeficiency virus (HIV) had been identified, or anyone knew that acquired immunodeficiency Syndrome (AIDS) was the result. He had no idea it would one day become a global pandemic – and that it would shape his career and research.

That body of work, nearly two decades of pioneering HIV/AIDS research, has earned the Oxford-trained specialist physician and infectious-disease expert many accolades and honours, culminating in his NRF A-rating.

Among his many achievements has been developing the first community HIV clinic in Gugulethu in 2002, which led to the development of national HIV protocols, implemented in 2004.

Professor Wood says he would like to turn his focus now towards tuberculosis (TB) and the very high rates of TB infection, particularly among South Africa's children, as well as the intersection of TB and HIV. What has perhaps been lost in the HIV/AIDS landscape, he says, is that "TB is an unmitigated disaster. There is more TB in Cape Town than in Canada, the US, France and Germany put together. And it's getting consistently worse. We need a new approach to understanding TB transmission."

management, regulatory submissions, quality assurance and data management. Support is cross-faculty and initial activity has included presentations and site visits to groups actively engaging in clinical research, facility development, pilot project support, and development of standard operating procedures, guidelines and training material.

Pilot work of both the Cancer Research Initiative and the CRC were funded through the UCT research incentive scheme. The faculty released a call in April 2013 for proposals for novel projects to incentivise research and five awards were granted. The other three were the creation of an evidence-based medicine research support unit, the establishment of a microbiome research platform and the development of a discipline-independent clinical information and experimental data portal.

A second faculty funding initiative, funded by a Vice-Chancellor's Strategic Award, was the Top Soft-Funded Academic and Research Staff (SFARS) scheme. In this initiative, merit-based awards were offered to SFARS in recognition of the significant role played by this component of our staff. Applications were competitive, with review by an independent committee, and were judged in two categories. In the Associate Professor/Professor category, awards were given to Professor Linda-Gail Bekker (Desmond Tutu HIV Centre), Associate Professor Crick Lund (Department of Psychiatry and Mental Health), Associate Professor Helen McIlroy (Division of Clinical Pharmacology) and Associate Professor Landon Myer (School of Public Health and Family Medicine). In the Lecturer/Senior Lecturer category, these accolades were garnered by Dr Chris Colvin (School of Public Health and Family Medicine) and Associate Professor Thomas Scriba (South African Tuberculosis Vaccine Initiative).

As 2014 progresses, the Faculty of Health Sciences is actively working to support the rapid growth in its research activity and output with enabling infrastructure, administration and governance. We are conducting an analysis of the costs and benefits of research in the faculty to understand better the complex and inter-related sources of income and output so that these can best be supported in the future. We are also striving to broaden our funding base and engage with both local and international funders to understand how our mutual interest in health betterment can be realised optimally.

Following the success of the past year, and the invigoration of changes in leadership and new initiatives, we expect our research enterprise to continue to deliver bigger and better advances in science and health.

## SALT OF SUCCESS

Specialist nephrologist Professor Brian Rayner received an award from the World Hypertension League in 2014 for Notable Achievement in Hypertension, a prestigious international accolade that recognises his research in salt-sensitive hypertension.

"This gives new recognition to our unit and research work on the international stage," said Professor Rayner, who is head of the Division of Nephrology/Hypertension in the Department of Medicine at UCT/Groote Schuur Hospital and president of the South African Hypertension Society.

A UCT alumnus, Professor Rayner is renowned for his ground-breaking work on the genetics underlying salt-sensitive hypertension in black and coloured

South Africans. A unique gene – thought to have originated among the San people – has been linked to this. It makes these population groups more susceptible to strokes and heart disease, as they don't excrete salt effectively.

### RENNED FOR HIS GROUND-BREAKING WORK ON THE GENETICS UNDERLYING SALT-SENSITIVE HYPERTENSION.



A clinician-scientist, Professor Rayner has been researching the mechanics of hypertension for the past 15 years. He received his PhD in December 2013.

## TOP AWARD FOR HEART SPECIALIST



ONE OF A RARE BREED OF CARDIOLOGISTS IN SOUTH AFRICA.

Professor Karen Sliwa, director of the Hatter Institute, received the prestigious Paul Morawitz Award in Germany in April 2013 for her exceptional research in cardiovascular prevention, heart failure and the pathophysiology of cardiomyopathy.

The annual award is the highest recognition for exceptional cardiovascular research for German-speaking countries (including Austria, Switzerland and Germany) and can be given to scientists, cardiologists, cardiothoracic surgeons or paediatric cardiologists.

Professor Sliwa trained as a physician in Berlin, Germany, and worked subsequently at the University

of the Witwatersrand, where she was the director of the Soweto Cardiovascular Research Unit. In 2010, she was appointed professor of cardiovascular research and director of the Hatter Institute for Cardiovascular Research at UCT.

Professor Sliwa, an National Research Foundation (NRF) B2-rated researcher, is one of a rare breed of cardiologists in South Africa in that she is both clinically active and trained in fundamental molecular laboratory methods, combining laboratory and epidemiological skills. She has widely published in both local and international journals and books of various topics related to cardiovascular medicine.

She is skilled in applying basic research methods to clinical problems and then devising novel and appropriate therapy. A major example is her work on heart failure of previously unknown origin occurring in African women around the time of childbirth (post-partum cardiomyopathy). By studying a laboratory rodent model, she and Professor Denise Hilfiker-Kleiner from Hannover, Germany, established the molecular mechanism of the disease and devised a hormonal cure with bromocriptine.

The Hatter Institute falls within the Department of Medicine and is part of the Medical Research Council's Inter-University Cape Heart Group, which comprises three groups from UCT and two from the University of Stellenbosch. The unit strives to facilitate national and international research collaborations to consolidate and expand existing efforts to combat the most serious cardiovascular threats to health, and to improve overall prosperity in the region.



## MRC STARS

UCT scientists featured prominently in the Medical Research Council's (MRC) merit award ceremony in November 2013, with "the highest honour in medical research in the country" being conferred on four high-profile academics.

Pictured left, clockwise from top, are Emeritus Professor Eric Bateman, former director of the UCT Lung Institute, who received a lifetime achievement award in the form of the MRC's platinum medal and Professor Keertan Dheda, head of the Division of Pulmonology, who was awarded a gold medal. Associate Professor Graeme Meintjes of the Department of Medicine and Professor Kelly Chibale, from the Department of Chemistry and director of the Drug Discovery and Development Centre (H3-D), based in the Institute of Infectious Disease and Molecular Medicine (IDM), were acknowledged with the MRC Young Scientist Award (silver medal).

## THE BAREFOOT FACTS

A review published by UCT researchers from the MRC/UCT Research Unit for Exercise Science & Sports Medicine (ESSM) in the online *British Journal of Sports Medicine* in 2013, found a remarkable lack of evidence to support the benefits of barefoot running for injury prevention and performance.



According to lead author and master's student Nicholas Tam, barefoot running has become a popular topic of interest. However, the UCT article debates the current scientific evidence for and against barefoot running. What is noted is that often injuries encountered when wearing shoes (usually occurring in the knee) may be exchanged for different types of injuries (stress fractures in and around the ankle). "Those seeking a miracle cure for running-related injuries should note that barefoot running may not be the sole answer and that benefits of barefoot running may require an accommodation period and may not be immediate," says Tam.

## GRAND PRIX

Professor Valerie Mizrahi, director of the Institute of Infectious Disease and Molecular Medicine (IDM), has been awarded the coveted Grand Prix Christophe Mérieux by the Institut de France in Paris for her tuberculosis (TB) research and her ability to mentor young researchers.

The €500,000 award (over R6 million), made by the Institute's Academy of Sciences, is a highly prestigious international accolade and was presented to Professor Mizrahi at a ceremony in Paris on 5 June 2013.

Paying tribute to Professor Mizrahi's research, Pascale Cossart, a member of the Academy of Sciences, said: "What characterises Valerie Mizrahi's work is not only her excellent research on *Mycobacterium* TB and TB, but also her very active involvement in the TB community in South Africa, on the African continent, and internationally."

The Academy of Sciences, which makes awards to the most meritorious scientists and promising research projects, also lauded Mizrahi for her special qualities in mentoring students, particularly those engaged in TB research.

Professor Mizrahi plans to use most of the prize money to hire senior researchers, who are able to bring new skills to the laboratory that she runs with IDM colleague Dr Digby Warner, particularly in chemical biology and bioinformatics. She also plans to purchase laboratory equipment to provide opportunities for students from the laboratory to travel abroad for specialised training.

# DOCTORAL GRADUATIONS

## D.H. AKENA (PSYCHIATRY AND MENTAL HEALTH)

Screening for depression among HIV-positive patients in a primary health care HIV setting in Uganda  
Supervised by Professor D. Stein and Professor J. Joska

## V. ALLEN (CLINICAL LABORATORY SCIENCES)

The development of a point-of-care diagnostic test for tuberculosis  
Supervised by Professor M. Nicol and Dr L. Ah Tow

## D.A. AUGER (HUMAN BIOLOGY)

3D cine DENSE MRI: ventricular segmentation and myocardial strain analysis  
Supervised by Associate Professor E. Meintjes and Dr B.S. Spottiswoode

## R. BAATJIES (PUBLIC HEALTH AND FAMILY MEDICINE)

The study of occupational risk factors and interventions for baker's allergy and asthma among supermarket bakery workers  
Supervised by Professor M. Jeethay, Professor D. Heederik and Dr T. Meijster

## L.T. BELL (CLINICAL LABORATORY SCIENCES)

High throughput proteomic analysis of Mycobacterium tuberculosis associated Immune Reconstitution Inflammatory Syndrome (TB-IRIS)  
Supervised by Professor J. Blackburn

## F.G. BELTRAMI (HUMAN BIOLOGY)

Beyond the VO<sub>2</sub>max plateau: a new approach for measuring maximal oxygen uptake  
Supervised by Professor T. Noakes and Professor P.D. Wagner

## B.M. BEREZOWSKI (SURGERY)

The pathological outcomes related to symptomatic impacted third molars and follicles as found in a private practice in South Africa  
Supervised by Professor D. Khan and Professor V. Phillips

## S.R. BRUIJNS (SURGERY)

From anxiety to haemorrhage: describing the physiological effects that confound the prognostic inferences of vital signs in injury  
Supervised by Professor L. Wallis and Dr H.R. Guly

## N.C. BURNHAMS (PUBLIC HEALTH AND FAMILY MEDICINE)

The effectiveness of an evidence-based workplace substance abuse and substance-related HIV prevention programme within a service industry  
Supervised by Professor L. London and Professor C. Parry

## E. CHIGUTSA (MEDICINE)

Population pharmacokinetics and pharmacokinetic-pharmacodynamic modeling of antitubercular drugs  
Supervised by Associate Professor H. McIlroy and Professor C. Kirkpatrick

## N.S. DAMBUZA (MEDICINE)

Antimalarial activity and pharmacokinetic properties of new chemical entities  
Supervised by Associate Professor P. Smith, Dr L. Wiesner and Professor K. Chibale

## M.-A. DAVIES (PUBLIC HEALTH AND FAMILY MEDICINE)

Outcomes and effectiveness of antiretroviral therapy for HIV-infected children in South African treatment cohorts  
Supervised by Associate Professor A. Boule and Associate Professor B. Eley

## A. DEFFUR (MEDICINE)

The transcriptomic landscape of HIV-TB  
Supervised by Associate Professor N. Mulder, Professor B. Mayosi and Professor R. Wilkinson

## M.E. ENGEL (MEDICINE)

A study of determinants and prevalence of rheumatic heart disease in Cape Town  
Supervised by Professor B. Mayosi

## C. FROYD (HUMAN BIOLOGY)

Central and peripheral regulation of performance  
Supervised by Professor T. Noakes and Professor G.Y. Millet

## G.A. GABRIELS (MEDICINE)

The investigation and assessment of nutritional and traditional supplement products for content validity, contamination and adulteration  
Supervised by Professor M. Lambert and Associate Professor P. Smith

## A. GEVERS (PSYCHIATRY AND MENTAL HEALTH)

An exploration of the nature of contemporary adolescents' intimate relationships  
Supervised by Associate Professor C. Mathews and Professor R. Jewkes

## L.K. GRACE (MEDICINE)

The relationship between Alzheimer's disease, inflammation, the APOE genotype and neuronal integrity  
Supervised by Associate Professor M. Combrinck and Professor L. Kellaway

## A.R. HORN (PAEDIATRICS AND CHILD HEALTH)

Early prediction of hypoxic ischaemic encephalopathy in newborn infants in a resource-limited setting  
Supervised by Professor G. Swingler, Associate Professor L. Myer and Professor N. Robertson

## R. HURDAYAL (CLINICAL LABORATORY SCIENCES)

Deletion of IL-4 receptor alpha on dendritic cells renders BALB/c mice hypersusceptible to Leishmania major infection  
Supervised by Professor F. Brombacher and Dr N. Nieuwenhuizen

## J. JAYAKUMAR (CLINICAL LABORATORY SCIENCES)

The role of IL-4 receptor alpha in chronic allergic airway disease (AAD)  
Supervised by Professor F. Brombacher and Dr N. Nieuwenhuizen

## Y.T. JOFFE (HUMAN BIOLOGY)

Dietary fat modulates the relationship between polymorphisms in the TNFA and IL-6 genes, and obesity and serum lipid concentrations in black and white South African women  
Supervised by Dr J. Goedecke, Professor M. Collins and Dr L. van der Merwe

## E.L. KAMPIRA (CLINICAL LABORATORY SCIENCES)

Pharmacogenetics of stavudine: role of genetic variation in mitochondrial DNA and polymerase gamma among adult Malawian HIV/AIDS patients  
Supervised by Associate Professor C. Dandara and Professor J. Kumwenda

## B. KLEEMANN (HUMAN BIOLOGY)

St. John's Wort photomedicine for melanoma  
Supervised by Dr L. Davids

## T.R. LINDSAY (HUMAN BIOLOGY)

Influences on the nonlinear dynamics of human running stride time series  
Supervised by Professor T. Noakes and Professor S. McGregor

## G.M. LONDON (MEDICINE)

Isolation, characterization and efficacy studies of RNA aptamers against HIV-1 subtype C envelope pseudotyped virus  
Supervised by Dr M. Khati and Professor B. Mayosi

## H. MAHOMED (PUBLIC HEALTH AND FAMILY MEDICINE)

The incidence of tuberculosis in adolescents in the context of proposed TB vaccine trials  
Supervised by Professor R. Ehrlich and Professor G. Hussey

## T.N.C. MANN (HUMAN BIOLOGY)

Post-exercise oxygen consumption and heart rate recovery as possible measures of the homeostatic stress of an exercise bout  
Supervised by Professor M. Lambert and Dr R. Lamberts

## G.T.M. MASHABELA (CLINICAL LABORATORY SCIENCES)

Characterization of a unique sulfoxide synthase found in pathogenic trypanosomes  
Supervised by Associate Professor D. Gammon and Emeritus Associate Professor D.J. Steenkamp

## M. MATEJCIC (CLINICAL LABORATORY SCIENCES)

Identification of genetic polymorphisms associated with oesophageal squamous cell carcinoma risk in South Africa  
Supervised by Professor I. Parker

## S. MOYO (PAEDIATRICS AND CHILD HEALTH)

Optimal tuberculosis case-finding methodologies for field trials of new tuberculosis vaccines in young children  
Supervised by Professor G. Hussey and Associate Professor M. Hatherill

## H.H. NDLOVU (CLINICAL LABORATORY SCIENCES)

Investigating the role of CD28 costimulation and IL-4/IL-13 responsive myeloid and lymphoid cells during helminth infections in mice  
Supervised by Professor F. Brombacher and Dr W. Horsnell

## A. NOFEMELA (CLINICAL LABORATORY SCIENCES)

Characterization of genotypic and phenotypic properties of transmitted human immunodeficiency virus type 1 variants circulating in Mbeya Tanzania  
Supervised by Professor C. Williamson and Dr Z. Woodman

## D.B. OJJI (MEDICINE)

Biomarkers of ventricular remodelling in African hypertensives  
Supervised by Professor K. Sliwa-Hahnle and Associate Professor S. Lecour

## R.E. PARKER (PSYCHIATRY AND MENTAL HEALTH)

Pain in HIV/AIDS: characteristics, contributing factors and the effects of a six-week peer-led exercise and education intervention  
Supervised by Professor D. Stein and Professor J. Jelsma

## N. PEER (MEDICINE)

Cardiovascular disease risk factors in the urban black population of Cape Town  
Supervised by Professor N. Levitt and Professor K. Steyn

## J.P. PERES (HUMAN BIOLOGY)

The role and regulation of the T-box transcription factor, TBX3, in melanoma progression  
Supervised by Associate Professor S. Prince and Dr S. Mowla

**J.G. PETER (MEDICINE)**

Approaches to the diagnosis of smear-negative and sputum scarce TB in South Africa  
Supervised by Professor K. Dheda

**N. PETON (CLINICAL LABORATORY SCIENCES)**

Development of an Activity-Based Protein Profiling (ABPP) array-based platform for quantitative analysis of kinase inhibitor selectivity  
Supervised by Professor J. Blackburn

**J.D. PILLAY (HUMAN BIOLOGY)**

Steps that count! The use of pedometry for physical activity and health promotion in South Africa  
Supervised by Professor V. Lambert and Dr T. Kolbe-Alexander

**P.J. RANDALL (CLINICAL LABORATORY SCIENCES)**

Neurons are new host cells for Mycobacterium tuberculosis  
Supervised by Associate Professor M. Jacobs, Dr N.J. Hsu and Professor L.A. Kellaway

**B.L. RAYNER (MEDICINE)**

Investigation of the ethnic differences and genetics of salt sensitivity and salt sensitive hypertension in South Africa  
Supervised by Professor R. Ramesar

**R. SARKAR (CLINICAL LABORATORY SCIENCES)**

The innate immune response to mycobacterium tuberculosis is dependent on strain lineage and on the host population  
Supervised by Professor M. Nicol and Professor R.J. Wilkinson

**C.J. SAUNDERS (HUMAN BIOLOGY)**

Extracellular matrix gene sequence variant analyses and Achilles tendinopathy  
Supervised by Professor M. Collins and Dr A.V. September

**S.-K. SHARP (SURGERY)**

The in vivo characterisation of a C-domain specific ACE inhibitor  
Supervised by Dr N. Davies, Professor E. Sturrock and Associate Professor T. Franz

**L.C. SMITH (CLINICAL LABORATORY SCIENCES)**

The role of CD4+T cells in host protective responses against cutaneous leishmaniasis using genome-wide transcriptomics  
Supervised by Professor F. Brombacher and Dr A. Schwegmann

**E.A. STERN (PUBLIC HEALTH AND FAMILY MEDICINE)**

Reappraising men's sexual behaviours and gendered attitudes from the sexual-history narratives of South African men and women in a time of HIV/AIDS

Supervised by Associate Professor D. Cooper and Professor R. Buikema

**A.O. TIAMIYU (NEÉ INYANG) (HUMAN BIOLOGY)**

Design and evaluation of a novel meniscal prosthesis for the knee  
Supervised by Professor K. Vaughan

**V. TIMMERMAN (MEDICINE)**

The effect of antiretroviral treatment on HIV associated tuberculosis incidence and outcomes in the Free State Province, South Africa  
Supervised by Dr L. Fairall and Professor M.O. Bachmann

**J.J. VAN DER WATT (MEDICINE)**

HIV- associated sensory neuropathy in an African cohort; a longitudinal study of risk factors predisposing to antiretroviral induced painful neuropathy  
Supervised by Associate Professor J.M. Heckman, Professor R. Wilkinson and Professor C. Dandara

**A. VIRA (CLINICAL LABORATORY SCIENCES)**

Role of M3 muscarinic receptor in regulation of immunity to infectious pathogens  
Supervised by Professor F. Brombacher and Dr W. Horsnell

**S.M. WANSLEBEN (HUMAN BIOLOGY)**

The role of the transcription factor TBX2 in breast cancer and melanoma and its regulation in the UV-induced DNA damage pathway  
Supervised by Associate Professor S. Prince

# PATENTS

**Filed applications**

Blackburn, J.M., Dheda, K.U.J., Young-Gqamana, B.L. Method for diagnosing tuberculosis in a urine sample. Provisional Patent Application Britain 1314873.9.

Brijjal, Y., John, L.R., Sivarasu, S. Hand Exoskeleton. PCT Patent Application PCT/PCT/IB2013/059809.

Collins, M.R., September, A.V. Oligonucleotides and Methods for Determining a Predisposition to Soft Tissue Injuries. PCT Patent Application PCT/PCT/IB2013/050083.

Habte, H.H., Mall, A.H.S., Peacocke, J. Microbicide. Provisional Patent Application South Africa 2013/04910.

Harris, H.C., Tiamiyu, A.O.J., Vaughan, C.L. Knee meniscus prosthesis. Provisional Patent Application South Africa 2013/02102.

Hitzeroth, I.I., Maclean, J.M., Rybicki, E.P., Williamson, A-L. Expression of Proteins in Plants. Divisional Patent Application United States 13/753,196.

Howells, M.F. Stabilising Kit. Provisional Patent Application Britain 1318310.8.

Jacobs, M., Jardine, M.A. Tricyclic Derivatives. PCT Patent Application PCT/PCT/IB2013/060403.

Masson, L., Passmore, J.S. Method for diagnosing sexually transmitted infections and bacterial vaginosis in women. Provisional Patent Application Britain 1319264.6.

Mfolozi, S. Apparatus for Estimating Post-Mortem Interval of a Corpse. National Phase Patent Application South Africa 2013/01019.

Mishra, A.K., Montsi, T.S. Imaging an Internal Volume of a Subject Body. Provisional Patent Application Britain 1322092.6.

Patnaik, S., Sivarasu, S. Anatomical Support Facilitating Medical Imaging of the Hip, Leg and Knee. Provisional Patent Application Britain 1319689.4.

**Granted applications**

Campbell, W.E., Folb, P.I., Matsabisa, M., Smith, P. Treatment of Parasitic Infections in Humans and Animals. National Phase Patent Application United States 11/718,690.

Acharya, K.R., Sturrock, E.D. Crystal Structure of an Angiotensin-Converting Enzyme (ACE) and Uses Thereof. Divisional Patent Application United States 12/714,149.

Bourn, W., Gray, C.M., Karim, S.A., Van Harmelen, J.H., Williamson, C. HIV-1 Subtype Isolate Regulatory/Accessory Genes, and Modifications and Derivatives Thereof. National Phase Patent Application Europe 02802345.5.

Burger, I.H. Method for Compensating for Respiratory Motion in Magnetic Resonance Imaging. National Phase Patent Application South Africa 2012/06353.

Burger, I.H. Method for Compensating for Respiratory Motion in Magnetic Resonance Imaging. National Phase Patent Application United States 13/580,640.

Campbell, W.E., Folb, P.I., Matsabisa, M., Smith, P. Treatment of Parasitic Infections in Humans and Animals. National Phase Patent Application United States 11/718,690.

Chibale, K., Nchinda, A.T., Sturrock, E.D. Angiotensin I-Converting Enzyme (ACE) Inhibitors. National Phase Patent Application Canada 2,609,811.

Chibale, K., Nchinda, A.T., Sturrock, E.D. Angiotensin I-Converting Enzyme (ACE) Inhibitors. National Phase Patent Application Canada 2,609,812.

Dheda, K.U.J. Method and Device for Diagnosing Tuberculosis. National Phase Patent Application South Africa 2011/04416.

Hitzeroth, I.I., Maclean, J.M., Rybicki, E.P., Williamson, A-L. Expression of Proteins in Plants. National Phase Patent Application China 200680014202.5.

Hitzeroth, I.I., Maclean, J.M., Rybicki, E.P., Williamson, A-L. Expression of Proteins in Plants. National Phase Patent Application United States 11/912,912.

Hunter, R., Kaschula, C.H., Parker, M.I. Organosulfur Compounds, a Method of Making Organosulfur Compounds and their Use for Inhibiting the Growth of Tumor Cells. National Phase Patent Application United States 13/057,960.

Lazarus, J.M., Williams, J. Manually Operable Positioning Device with Locking Facility. Complete Patent Application South Africa 2012/08745.

Mfolozi, S. Apparatus for Estimating Post-Mortem Interval of a Corpse. National Phase Patent Application South Africa 2013/01019.

Rybicki, E.P., Tanzer, F.L. Expression System Incorporating a Capsid Promoter Sequence as an Enhancer of a Cytomegalovirus Promoter. National Phase Patent Application ARIPO AP/P/2008/004476.

Rybicki, E.P., Tanzer, F.L. Expression System Incorporating a Capsid Promoter Sequence as an Enhancer. National Phase Patent Application United States 12/084,728.

## DEPARTMENT OF ANAESTHESIA

**Head of Department:**  
**Professor JLC Swanevelder**

**Second Chair: Professor RA Dyer**

### Departmental Profile

#### Clinical research:

The Professor and Head of Department of Anaesthesia, Justiaan LC Swanevelder, has signaled a new era of cardiovascular research in the Department. Professor Swanevelder is an international expert in the field of Transoesophageal (TOE) and Transthoracic (TTE) Echocardiography, and has played a central role in the development of this field, and formal guidelines for practice and accreditation in the United Kingdom. He is a prominent member of the European Association of Cardio-thoracic Anaesthesia (EACTA). His initial contribution has involved a paper on a suggested time course for accreditation in South Africa, as well as several case reports and an editorial on the subject. Several important collaborations have been established during 2013, and research initiatives established, involving teaching and research on TTE and TOE by visiting experts (Professors E Sloth, Denmark, A Dennis, Australia and J Ender, Leipzig), with a view to training and studies in both intraoperative and point of care echocardiography. Numerous courses have been conducted on various aspects of medical ultrasound, and considerable outreach has involved Universities around the country. An HREC approved study will shortly be conducted on the value of ultrasound in medical student volunteers. Professor Swanevelder has also established a new laboratory research post. The first incumbent, Dr Nkanyiso Hadebe, is involved in his PhD project on cardiac pre-conditioning, which has a laboratory and a clinical component. He is collaborating with Professors S Lecour and Karen Sliwa in the Hatter Institute of Cardiovascular Research.

The Red Cross Hospital operating theatre complex continued to create an environment conducive to

research, and this was evidenced by the publication of several instructive case reports, and several MMed dissertations. These include a completed pharmacokinetic study of the antimicrobial agent cefazolin during cardiopulmonary bypass. The Department of Pharmacology has developed an assay for cefazolin, which should facilitate several further important clinical trials. Important projects in thromboelastography (TEG) are ongoing, and Dr Owen Hodges is in the process of writing up his PhD on the use of TEG during burns surgery. Valuable guidelines have been published for pain management and sedation in children. A further study on the noninvasive measurement of haemoglobin in paediatrics, is nearly complete.

Obstetric Anaesthesia remains an important area of investigation. Ongoing projects involve spinal anaesthesia in preeclamptic parturients. As part of this investigation, collaboration was initiated with the Department of Anaesthesia of the University of Washington. This aspect of the study will examine the population characteristics of the adrenaline  $\beta_2$ -haplotype in preeclamptic women. Two MMed mini-dissertations are in progress in this regard. An abstract was presented on stroke volume responsiveness in preeclampsia at the Obstetric Anaesthetists' Association Annual Meeting in Bournemouth in May 2013. During the visit of Professor AT Dennis, from the University of Melbourne, data was collected on transthoracic echocardiography in pregnant women. Four abstracts will be presented at the Obstetric Anaesthetists' Association and Society of Obstetric Anaesthetists and Perinatology meetings in May 2014, including findings in patients with severe preeclampsia, and HIV positive women. The latter project is the subject of an MMed dissertation. During a further visit from Professor C Ortner from Seattle, a study was performed on acid base balance in preeclampsia; the data served as the basis for a further MMed dissertation. The leader of this research group, Professor RA Dyer, has been B-2 NRF rated, on the basis of completed research in the period of review from 2004-2011.

The Department is an active research site for the international, multicentre POISE-2 trial of aspirin and clonidine for perioperative protection of high risk patients against perioperative myocardial events, and has recruited the second highest number of patients in South Africa. The South African principal investigator is Professor B Biccard, from the Department of Anaesthesia, UKZN. The local site was initially set up by Prof M James. The lead author is Dr A Myburgh, with Dr O Porrill as co-investigator in 2013.

#### Airway research:

2013 saw considerable advances in the Difficult Airway Facility, under the leadership of Dr R Hofmeyr. Dr D Wilson, of Guy's Hospital in London, collaborated with

our Difficult Airway research group, and conducted original clinical research on the newly devised supraglottic device, the 3gLM, and in addition devised a laboratory vomiting model using cadavers, in order to compare the function of various supraglottic airways with respect to protection against passive regurgitation and active vomiting. This work is to be presented at the SASA 2014 Congress.

#### Fluid research:

After the withdrawal of the hydroxyethyl starches as perioperative resuscitation fluids following recent well-publicized research papers, the Department became involved in an advisory capacity in composing an evidence-based letter, in conjunction with other SA universities, recommending the reinstatement of the HES 130.4 solution for perioperative use. This was successful. There is ongoing research with the University College Hospital in London in connection with the identification of the ideal crystalloid anion.

#### Critical Care:

In the field of septic shock, two projects are in progress. The first involves high dose Vitamin C in the management of haemodynamic failure, and the second relates to markers of oxidative stress in this condition. Part of the latter theme has already been presented at the World Congress of Critical Care, and won an award. In the interests of improved quality assurance, an MMed project has addressed the important issue of ICU handoffs. This has improved patient care and will be the subject of two publications. A further study on semi-closed loop control of blood glucose is planned after a pilot study in 2013. An international collaborative study is in progress on the attitudes of physicians to the withdrawal of therapy.

#### Laboratory Research:

The Department was involved in several areas of research in 2013. There are ongoing studies on coagulation, and an animal study of coagulation in a porcine model of acute liver failure, in collaboration with University College London. Further ongoing studies include the use of TEG to examine coagulation in HIV parturients, and in patients undergoing renal biopsy. The acquisition of the thromboelastometry device (ROTEM), will allow for more accurate diagnosis of causes of coagulation abnormalities. Lizel Immelman, our senior medical technologist, has been appointed to a permanent post and is performing an important research administrative role over and above her role in teaching and individual projects. She plays an important role in teaching of the coagulation process and instruction on the use and utility of TEG and ROTEM devices, which are based on viscoelastic changes during the clotting process.

Our Department is also collaborating with the Department of Cardiothoracic Surgery and Strait Access

Technologies, and supporting innovative cardiovascular research on new heart valve procedures in animal models in the Christiaan Barnard Building.

The Department is co-supervising Mauritz van den Berg for his Master's Degree research on new muscle relaxants, magnesium and a novel reversal agent (Sugammadex) in a rat model, in collaboration with Emeritus Professor Laurie Kellaway of the Department of Human Biology.

#### Collaboration:

Once again, junior consultants and registrars were encouraged to participate in research activities wherever possible, and scientific writing skills were also improved in this way.

Interdisciplinary collaboration at UCT is strong, and includes the Departments of Cardiothoracic Surgery, Obstetrics and Gynaecology, Neonatology, Paediatrics, Critical Care, the Hatter Institute of Cardiovascular Research, and the partly UCT- owned Strait Access Technologies (Biomedical Engineering).

National collaboration has been strengthened, in particular with UKZN, where a study has been planned on biomarkers and echocardiography in patients with severe preeclampsia. A systematic review of the available evidence in this regard, was published in collaboration with UKZN.

International collaboration continues, and is constantly expanding. The Department collaborates with the University of Aarhus, Denmark, the University of Melbourne, the University College London Hospitals, the University of Leipzig, the University of Toronto, Stanford University, Rikshospitalet in Oslo, the University of Washington, and Glenfield Hospital/University Hospitals Leicester. In the field of echocardiography, important collaborations have been established with Professors E Sloth (Denmark), A Dennis (Australia), J Ender (Leipzig) and Andrew Roscoe (Toronto). In thoracic surgery, Professor Peter Slinger of Toronto is a world leader and collaborator with the Department. In the area of the difficult airway, new ties have been established with Dr D Miller of Guy's and St Thomas' Hospital in London, and Dr Ellen O'Sullivan (President of the Irish College of Anaesthetists) of Dublin. Ongoing laboratory collaboration continues with Dr Monty Mythen of UCLH.

## Divisional Statistics

### Permanent and long-term contract staff

Professors	2
Associate Professors	1
Emeritus Professors	2
Specialists	41
Affiliated Consultants	1
Medical Officers	6
Technologists	7
Administrative and Support staff	6
<b>Total</b>	<b>66</b>

### Students

Doctoral	2
Master's	47
Registrars	47
Undergraduate 4th and 5th year MBCHB	377
<b>Total</b>	<b>473</b>

### Research Fields and Staff

#### SWANEVELDER, JLC.

The value of transoesophageal and transthoracic echocardiography on cardiovascular patients in the perioperative period(see above); introducing TTE into undergraduate medical training and curriculum. Laboratory work: muscle relaxants and reversal agents, intralipid and myocardial pre-conditioning.

#### HADEBE N, SWANEVELDER J.

Cardiac pre-conditioning.

#### VAN DEN BERG M, JAMES M, SWANEVELDER J.

New muscle relaxants, magnesium and novel reversal agent, Sugammadex.

#### MILLER M, JAMES MF, IMMELMAN L.

Coagulation studies using thromboelastography and thromboelastometry.

#### JOUBERT IA, PIERCY J, MILLER M.

Septic shock, ICU Quality Assurance, liver failure model.

#### DYER RA, VAN DYK D, REED AR, ARACHE M, VORSTER A, K TIMMERMAN, M RADEMEYER, SWANEVELDER J.

#### Obstetric anaesthesia:

Cardiac output studies during spinal anaesthesia in patients with preeclampsia; effects of fluid loading and vasopressors; the genetics of preeclampsia; effects of vasopressors on cord gases; spinal anaesthesia in the obese parturient; transoesophageal and transthoracic echocardiography.

#### THOMAS J.

Management of burns in children; pain management in children; Case reports; Fluid management in children; Noninvasive haemoglobin measurement; Pharmacokinetics of antimicrobial agents during cardiopulmonary bypass; Paediatric burns: Coagulation studies; Evaluation of the need for psychosocial services for paediatric burn patients at the RCWMCH.

#### HODGES O, THOMAS J.

Coagulation in patients with paediatric burns.

#### SWANEVELDER J, MYBURGH A, NEJTHARDT M, ROODT F, CLOETE E.

Transoesophageal echocardiography in cardiac anaesthesia; Point of care TTE; Medical student education in ultrasound.

#### MYBURGH A, JAMES MF.

POISE-2 trial

#### LLEWELLYN R.

Drug errors in anaesthesia.

#### ROODT F, DE VAAL A, HOFMEYR R.

Airway research.

#### Contact Details

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robert.dyer@uct.ac.za

#### Research output

##### Chapters in books

Dyer, R.A. and Schoeman, L.K. 2013. Fetal distress. In Y. Ginosar, F. Reynolds, S. Halpern and C.P. Weiner (eds), *Anesthesia and the Fetus*, pp. 315-324. West Sussex, UK: Blackwell Publishing Ltd. ISBN 9781444337075.

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# DEPARTMENT OF CLINICAL LABORATORY SCIENCES

## DIVISION OF ANATOMICAL PATHOLOGY

### Head of Division: Professor Dhiren Govender

The Division of Anatomical Pathology has both diagnostic and academic components. The diagnostic laboratories form part of the National Health Laboratory Service (N HLS) complex at Groote Schuur (GSH) and Red Cross War Memorial Children's (RCWMCH) hospitals.

The Diagnostic laboratories are at both sites and provide a diagnostic histopathology, cytopathology and autopsy services to GSH and RCWMCH, the academic hospital complex and associated hospitals and clinics in the Western Cape. The division also serves as a public and private tertiary referral and consultation centre for Anatomical Pathology.

These service commitments drive most of the research programmes that are patient and disease orientated. The Research laboratory had 1 PhD, 4 MSc (2 graduated in 2013), 15 MMed students and 1 elective student during the reporting period. Two additional PhD students registered during 2013. The Division has been involved in a range of research activities using a variety of techniques and continues to broaden its research base. The main research focus is in the field of molecular pathology pertaining to diseases that are common in South Africa and the Western Cape – these include various cancers, in particular those affecting disadvantaged population groups. The major research focus since the establishment of the divisional research laboratory has been breast cancer, gastrointestinal cancer and lymphoma. Cancer research includes studies related to the use of matrix-assisted laser desorption/ionization time of flight mass spectrometry (MALDI-TOF-MS) to identify proteins and peptides in formalin fixed paraffin embedded cancer tissue. In addition, we are also investigating the use of MALDI imaging mass spectrometry to identify proteomic patterns and their distribution directly in tissue. Other research areas include tuberculosis, cardiomyopathy and foetal-alcohol syndrome.

The Division successfully presented the Young Pathologist seminar at the Laboratory Medicine Congress held at the Cape Town International Convention Centre in July 2013. Divisional staff were part of the organising committee for this Congress.

### Collaborative Research

The Division has active collaborations internationally with the United States and continues to establish collaborations with other Academic Pathology departments in Africa. We have an established joint breast cancer research project with the Aga Khan University in Nairobi, jointly funded by the NRF and Kenya. We are exploring similar collaborations with the Pathology department at the Muhammadi University of Health and Allied Sciences in Dar es Salaam. A joint project with the University of Botswana was established in 2013 and a student from Botswana is registered for a PhD in the Division.

There are internal collaborations with the departments of Surgery, Medicine, Cardiology, Obstetrics and Gynaecology, Radiation Oncology, Human Biology, Human Genetics, Forensic Medicine and Medical Biochemistry.

### Divisional Statistics

#### Permanent and Long-term Contract Staff on UCT Establishment

Professor (HoD)	1
Chief Scientific Officer	1
Administrative and Clerical Staff	1
<b>Total</b>	<b>3</b>

#### Joint Academic Staff on NHLS Establishment

Associate Professor	2
Senior Lecturer	3
Lecturer	3
Assistant Lecturers (registrars)	11
<b>Total</b>	<b>19</b>

### Honorary Staff

Honorary Senior Lecturer	1
<b>Total</b>	<b>1</b>

#### Grant funded staff on UCT Establishment

Medical Technologist	1
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### Students

PhD	3
Master's (MMed)	13
Master's (MSc)	2
Master's (MPhil)	2
Undergraduate (MBChB) Year 2	224
Undergraduate (MBChB) Year 3	221
Undergraduate (MBChB) Year 5 (Gynaecology)	212
Allied Health Sciences	160
Intercalated course	5
Elective students	1
<b>Total</b>	<b>843</b>

### Research fields and staff

#### PROFESSOR DHIRENDRA GOVENDER

Pathobiology of cancers, especially breast cancer, gastrointestinal tract cancers and lymphoma.

#### A/PROFESSOR RICHARD NAIDOO

Molecular pathology and biomarkers in cancer.

#### A/PROFESSOR HELEN WAINWRIGHT

Foetal, perinatal & neonatal pathology, placental pathology, respiratory pathology including TB, cardiac pathology including cardiomyopathy and liver disease.

#### DR MAUREEN DUFFIELD

Neuropathology, renal pathology and electron microscopy.

#### DR MICHAEL LOCKETZ

Gastrointestinal tract pathology.

#### DR SHUMANI MALAKA

Breast, gynaecological and thyroid gland pathology.

#### DR KOMALA PILLAY

Paediatric pathology, lymphoma and fine needle aspiration cytology.

#### DR RAVEENDRA SOOKHAYI

Lymphoma and Soft tissue sarcoma

#### DR HUE-TSI WU

Gynaecological pathology

### Distinguished visitors

DR MARTINA VETTER – UNIVERSITY OF KLINIKUM HALLE GERMANY

PROF LOTHAR BOHM – TYGERBERG HOSPITAL

DR REBECCA FOLKERTH – BOSTON USA

DR CHRIS WALKER – DAVIES LABORATORY, CAPE TOWN

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## DIVISION OF CHEMICAL PATHOLOGY

(Including the Chemical Pathology sections of Groote Schuur Hospital and Red Cross War Memorial Children's Hospital)

### Head of Division: Professor David Marais

### Divisional Profile

The Division of Chemical Pathology comprises both academic and diagnostic sections. The academic section is located in the Faculty of Health Sciences and the diagnostic laboratories are based in NHLS core laboratories at Groote Schuur Hospital and Red Cross Children's Hospital. These laboratories offer a diagnostic service to both adult and paediatric patients attending the Groote Schuur and Red Cross Children's Hospitals. Members of staff participate in ward rounds and clinical meetings, especially with the Division of Endocrinology, Porphyria service and the Lipid Clinic. The Division has a strong interest in the investigation of metabolic disorders, of inherited or acquired nature; with an historical tradition of basic science research. Teaching includes undergraduate (MBChB) and postgraduate courses (MMed, MSc and PhD). The Division also contributes to the teaching in the Division of Medical Biochemistry, Human Biology and Department of Molecular Cell Biology in the Faculty of Science.

Recent research activities covered the molecular genetics of inherited metabolic disorders, and mitochondrial myopathies. The division now also researches dyslipoproteinaemias and disorders of lipid metabolism at a biochemical and genetic level. Individual researchers have established international collaborations. There is also interaction with the University of Stellenbosch division of chemical pathology. The Division hosted supernumerary staff from neighbouring SADC countries (Malawi, Nigeria, Zambia) for the purpose of postgraduate training as it is regarded as one of the premier Chemical Pathology academic units in Africa. Training courses in laboratory methods and laboratory management have been offered. The active academic programme includes CPD-accredited weekly journal clubs, seminars and clinical 'grand rounds'. The division also hosts international guest lecturers under the auspices of the Visiting Lecturer's fund.

The Research Laboratories and expertise have attracted junior and senior colleagues from other specialties and institutions who have been keen to interact with

colleagues. Such interaction includes the Department of Medicine (Prof. Bongani Mayosi), and Division of Medical Biochemistry (Prof. Peter Meissner); the Department of Chemical Pathology at the University of Stellenbosch (Prof. Rajiv Erasmus). International links include work on PCSK9 with the University of Nantes (Prof. G Lambert).

## Highlights

### DART

Direct Analysis in Real Time (DART) chromatography is a new development coupled to time of flight mass spectrometry that will revolutionise investigation of small to middle molecules in health and disease. Funding was finally found through the National Lottery Board to diagnose lipid and other metabolic disorders in the country. The system, apparently the first in the country, was acquired through Chemetrix Pty which included an Agilent HPLC and mass spectrometer.

### ABI 310 Sequencer

This machine was donated by the University of Western Australia as they have advanced to modern technology and the machine can still provide excellent service in the investigation of genetic causes of metabolic disease. It will be set in operation in the near future.

## Divisional Statistics

### Permanent and Long-term Contract Staff

Professors	1
Emeritus Professors	2
Honorary Professors	3
Medical Natural Scientists	3
Medical Specialists	4
Lecturers	1
Administrative and Secretarial Staff	1
Scientific Officer	1
Technical Officer	1
Departmental Assistants	2
<b>Total</b>	<b>19</b>

### Students

Doctoral	1
Master's	2
M Med Chemical Pathology	2
M Med Clinical Pathology	3
Undergraduate	210
<b>Total</b>	<b>237</b>

## Research Fields and Staff

### Permanent Staff

#### DR HELEEN VREEDE

Senior Specialist; oversees routine laboratory service at GSH; method development; information technology expertise is provided nationally.

#### DR GEORGE VAN DER WATT

Specialist overseeing the routine chemical pathology laboratory and inherited metabolic disease diagnostic service at Red Cross Hospital with an additional interest in chemical pathology of HIV/AIDS, undergraduate and postgraduate teaching, and paediatric biochemistry.

#### DR FIERDOZ OMAR

Dr Omar oversees the routine diagnostic and molecular laboratory service at Groote Schuur Hospital. Dr Omar is in charge of the undergraduate teaching portfolio and is responsible for postgraduate teaching. She has a special interest in the role of cell-free DNA in prenatal sex determination. Dr Omar also takes care of the clinical pathology registrar teaching programme.

#### DR PHILIP FORTGENS

Dr Fortgens is responsible for various aspects of the routine diagnostics laboratory service at Groote Schuur Hospital, as well as a variety of enzyme assays helpful in the diagnosis of inherited metabolic diseases. He has a further interest in the molecular diagnosis of porphyria and contributes to undergraduate and postgraduate teaching.

#### DR JUDY A. KING

Medical Scientist (Principal) and Senior Lecturer. She oversees the radioimmunoassay laboratory (diagnostic and research) in the NHLS laboratory service at Groote Schuur Hospital, performs clinical diagnostic reviewing, registrar training and undergraduate and postgraduate teaching. She supervises postgraduate students with dissertations and clinical biochemistry projects.

#### DR PATRICIA OWEN

Dr Owen, a principal medical scientist has continued contributing to the Division after retirement with ongoing interests in inherited metabolic disease including complement C5 and C6 deficiencies, cystinosis, glutaric aciduria type 1 and new born screening. Postgraduate teaching is also undertaken.

#### MR DAVID WOOLLEY

Mr Woolley maintains the core laboratory and dedicates most of his time to the Pathology Learning Centre with his expertise in website design.

#### MS FELICITY LEISEGANG

Senior medical scientist contributing to studies on the molecular genetics of galactosaemia, spinal muscular atrophy, cystic fibrosis and limb-girdle muscular dystrophy. She is also involved in PCR studies of tuberculosis, genetic screening in general and postgraduate teaching.

#### DR J MCCARTHY

Medical Scientist. The chief interest currently is diagnostic and other investigations relating to therapy in homozygous familial hypercholesterolaemia using fibroblast cultures.

#### Dr Dee Blackhurst

Lecturer. The interest in lipid peroxidation has extended work to members of other divisions in this faculty as well as to collaborations with the health science faculty of the University of Stellenbosch. There is increasing interest in HDL metabolism and to document this by non-denaturing electrophoresis. Additionally, paraxonase activity and myeloperoxidase activities are being assayed.

#### PROF. DAVID MARAIS

Prof. Marais has a continued interest in severe dyslipidaemias and their genetic causes, including familial hypercholesterolaemia, dysbetalipoproteinaemia and lipoprotein lipase deficiency. Additional interests are in lipoprotein particle size, disturbances of fatty acid metabolism and sterol biosynthesis, especially Smith Lemli Opitz syndrome. Assistance in these projects is received from Ms G Solomon, Ms B Ratanjee and Mr A Mohamed. A joint project has been undertaken with Prof J Parkington of the Division of Archaeology in nutrition with a special emphasis on n- fatty acids.

#### PROF. HOWARD HENDERSON

Prof Henderson, retired from active research in metabolic disorders, is assisting with diagnosis of inborn errors of metabolism at the Red Cross Children's War Memorial Hospital laboratory.

#### Emeritus Professors

#### PROFESSOR E HARLEY

#### Honorary Professors

Professor Ishwarlal Jialal; Honorary Professor of Chemical Pathology and Medicine, University of Cape Town; Robert E. Stowell Endowed Chair in Experimental Pathology, Director of the Laboratory for Atherosclerosis and Metabolic Research, and Professor of Internal Medicine, Division of Endocrinology, Clinical Nutrition and Vascular Medicine, at the University of California, Davis, Medical Center.

Professor Tahir S Pillay formerly head of chemical pathology at this university, he joined the University of Kwazulu Natal. He was recently appointed as head of Chemical Pathology at Pretoria University.

Professor DB Sacks. A UCT graduate who worked in Chemical Pathology in 1981 before emigrating to the United States. He qualified as an internist and recently joined the National Institutes of Health, Department of Laboratory Medicine, Bethesda, MD, USA.

## Distinguished visitors

MR NICK DESMOND-SMITH (29 JULY 2013). CHEMETRIX, DART MACHINE.

DR SEBASTIAN BROECKER (29 JULY 2013). CHEMETRIX, DART MACHINE.

MR DAVID KOK (29 JULY 2013). CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

MS LORNA MARSHALL (29 JULY 2013). CAPE PENINSULA UNIVERSITY OF TECHNOLOGY

MR STEVE MCDONALD (20 AUGUST 2013) ACUMEN LABORATORY SOLUTIONS

PROF. JOHAN KUYL (20 SEPTEMBER 2013) CHEMICAL PATHOLOGY, UNIVERSITY OF FREE STATE HEALTH SCIENCE FACULTY.

DR MAGDALENA TURZNIECKA (20 SEPTEMBER 2013) CHEMICAL PATHOLOGY, UNIVERSITY OF KWAZULU NATAL.

PROF. NICKY OOSTHUIZEN (20 SEPTEMBER 2013) CHEMICAL PATHOLOGY, UNIVERSITY OF PRETORIA

DR JOCELYN NAICKER (20 SEPTEMBER 2013) CHEMICAL PATHOLOGY, UNIVERSITY OF WITWATERSRAND.

PROF R ERASMUS (20 SEPTEMBER 2013) CHEMICAL PATHOLOGY, TYGERBERG HOSPITAL.

DR CHANTAL DECHASTELLIER (09 SEPTEMBER 2013), CIML, FRANCE. PROTEA PROJECT.

DR J VERCHOOR (21 NOVEMBER 2013) UNIVERSITY OF PRETORIA.

DR I LEMMER (29 NOVEMBER 2013) UNIVERSITY OF PRETORIA,

DR ALAN DENNIS (02 DECEMBER 2013) TORONTO CANADA, ELIZA METHODS

## Contact Details

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## COMPUTATIONAL BIOLOGY GROUP

**Head of Group:**  
**Associate Professor Nicola Mulder**

### Group Profile

The University of Cape Town Computational Biology (CBIO) Group is the centre of Bioinformatics activities at the university. It was originally set up as a Node of the National Bioinformatics Network, which aimed to develop capacity in bioinformatics in South Africa, and to perform world-class bioinformatics research. The CBIO Group is located within the Institute of Infectious Disease and Molecular Medicine (IDM) in the Health Science Faculty, and integrates researchers interested in bioinformatics at the university. The mission of the UCT Computational Biology Group is to become an exceptional, internationally recognized research and training center, addressing the challenges of bioinformatics capacity development in South Africa.

The group performs bioinformatics research and provides training and services in the discipline. Research focuses on infectious diseases from both the host and pathogen perspectives, particularly for TB and viral diseases. CBIO uses data mining and systems biology approaches to study the molecular biology and evolution of bacterial and viral pathogens and their interaction with their hosts. Through involvement in H3ABioNet, a pan African bioinformatics network for H3Africa, and the Human Heredity and Health in Africa (H3Africa) initiative, research has also focused on population genetics and GWA studies and the development of new algorithms to analyze the genetics of admixed populations.

CBIO has a large network of connections with other bioinformatics groups in Africa through the African Society for Bioinformatics and Computational Biology and H3ABioNet. The group also has close ties with the African Institute for Mathematical Sciences (AIMS) by supervising student essays.

### Divisional Statistics

ASSOCIATE PROF NICOLA MULDER (HEAD OF GROUP)  
DR DARREN MARTIN (SENIOR LECTURER)  
AYTON MEINJIES (SOFTWARE DEVELOPER)  
GERRIT BOTHA (SOFTWARE DEVELOPER)  
CASHIFA KARRIEM (ADMINISTRATOR)

### Students

Postdoctoral fellows	4
Doctoral	8
Master's	6
Honours	2
Undergraduate	0
<b>Total</b>	<b>20</b>

### Contact details

Physical address: UCT Computational Biology Group, Room N1.05, Werner Beit North Building Basement, Institute of Infectious Disease and Molecular Medicine, Anzio Rd, Observatory

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## DIVISION OF FORENSIC MEDICINE AND TOXICOLOGY

(Including the Gender, Health and Justice Research Unit)

### Head of Division: Professor L.J. Martin

### Divisional Profile

A large component of operational activity of the Division of Forensic Medicine is that of service delivery. The academic staff are on the joint staff establishment of the University of Cape Town and the WCG: Health; Forensic Pathology Service. This is a fairly new programme of the WCG: Health, established in April 2006, when the responsibility of "mortuary services" was transferred to the Province from SAPS. We are responsible for the medico-legal investigation of death of all persons who die within the Metropol, an area comprising approximately 4,5 million persons, stretching from Atlantis on the West Coast, the Peninsula, the City, to everything south of the N2 up to, but not including, Khayelitsha. Our clinical services are based at Salt River Mortuary and we perform approximately 3500 autopsies per annum.

The Division now has a dedicated research laboratory in the Falmouth Building. We provide a clinical

teaching neuropathology laboratory with a specialist neuropathologist. The Division has limited research activities due to our heavy investigative service load, but this is slowly increasing with our new M Phil offering in Biomedical Forensic Sciences.

There are active collaborations with the departments of Anatomical Pathology, Surgery, Obstetrics and Gynaecology, Human Genetics, Paediatrics and Psychiatry; and EMS and the Law Faculty.

A range of activities related to the role of Forensic Medicine in public policy and health promotion are being pursued. These relate specifically to violence against women and children, the role of drugs and toxins in deaths, and firearm injuries. We provide input into the Provincial Injury Mortality Surveillance System (PIMSS).

### Divisional Statistics

### Permanent and Long-term Contract Staff

Head: Clinical Department/Professor	1
Head: Clinical Unit	1
Specialists	8
Senior Lecturer / Course Convener	1
Chief Medical Technologist	1
Medical Technologist	1
Administrative and clerical	5
Laboratory Assistant	1
<b>Total</b>	<b>19</b>

### Students

Master's (M Med)	6
Biomedical Forensic Science (M Phil)	22
Undergraduate (MBChB) - Year 5	177
Undergraduate (LLB) - Final year	40
Special Study Module – Year 2	10
<b>Total</b>	<b>255</b>

### Research Fields and Staff

#### Permanent Staff

##### PROFESSOR L.J. MARTIN

Head of Clinical Department & Professor: Management protocols for rape survivors; domestic homicide; monitoring implementation of rape law reforms; domestic violence guidelines for the health sector; epidemiology of female murder; aortic disease; indicators for the Lodox Statscan in children; age estimations for children using Lodox statscans; National study of female and children homicide in South Africa; Child Death Reviews.

#### DR G.M. KIRK

Head of Clinical Unit & Senior Lecturer: Sudden deaths in sport; firearm injuries; death notification; drug-related deaths; forensic histopathology; history of forensic medicine.

#### DR Y.Y. VAN DER HEYDE

Senior Specialist & Senior Lecturer: The effects of prenatal alcohol exposure; paediatric mortality; animal bites in children; early adolescent suicide, child homicide including child abuse; sudden unexpected death in childhood including SIDS.

#### DR L. LIEBENBERG

Senior Specialist & Senior Lecturer: Firearm fatalities and final judicial outcome; aortic disease project; mast cell Trypsinase; case studies – curious deaths; atherosclerotic disease prevalence in the Cape Town population; Lodox X-ray application in the forensic setup.

#### DR M. HEYNS

Senior Lecturer: Forensic Science; Educational Research; Gross Anatomy; Entomology; Blunt force trauma to the skull

#### DR I.J. MOLEFE

Specialist and Lecturer: A 10 year retrospective study of epidemiology and analysis of injury patterns of femicide and rape homicide in Cape Town: A follow-up study.

#### DR S. MAISTRY

Specialist and Lecturer: Deaths on Table Mountain: A retrospective analysis 2000-2011.

#### DR S. MFOLOZI

Specialist and Lecturer: Development of the NecroChronometer: determining the post-mortem interval using a combination of three methods and location-specific weather information.

#### DR E.B. AFONSO

Identifying trends and risk factors for deaths in police custody in the Cape Town Metropole, 1999-2008.

#### DR A KHAN

SNP genotypes and skin tone variation in Pregnancy related maternal deaths at Salt River Forensic Pathology Laboratory (SRFPL). A 5 year retrospective study of the epidemiological data and spectrum of pathology and disease in all pregnancy related deaths at SRFPL irrespective of the cause of death.

#### DR I.H. ALLI

Forensic Pathologist: Combatting human trafficking; motor vehicle injuries sustained at various speeds; deaths from explosions; review of rape victims in a single Thutuzela Centre over a 5 year period. Research study: Grading the degree of difficulty of post-mortems.

## Distinguished visitors

Professor Klaus Püschel, Head of the Institute of Legal Medicine at Universitätsklinikum, Hamburg-Eppendorf, Germany visited the Division of Forensic Medicine on 28 February 2013.

## Contact Details

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## GENDER, HEALTH AND JUSTICE RESEARCH UNIT

### Acting Director: Dr Kelley Moult (2013)

#### Director: Associate Professor Lillian Artz

#### Unit Profile

The mission of this Unit is to improve service provision to victims of violence against women in South Africa through research, advocacy and education. Drawing together established researchers with a strong record of social-action research in disciplines including law, criminology, forensic sciences and pathology, gynaecology, and psychology, this Unit is the first of its kind in South Africa to respond to the pressing need for research and interventions that cross disciplines in support of our efforts to address the alarmingly high levels of violence against women in this country. The Unit fulfils its mission by conducting rigorous evidence-based research into:

- South African women's experiences of sexual and gender-based violence;
- The responses of women, their communities and the criminal justice, health, and welfare systems to violence against women;
- The intersections and disjunctions between health and criminal justice responses to violence against women;
- The developmental context in which violence occurs, and the role of violence in perpetuating women's under-development;
- The implementation difficulties of translating 'law on paper' into 'law in practice' in health, criminal justice and medico-legal settings;
- The development of indicators for monitoring the implementation of progressive legislation and

compliance by criminal justice and health sector personnel with statutory duties;

- Risk factors and women's pathways to crime and experiences and impacts of female incarceration;
- International and local models of best practice for addressing violence against women.

The Gender, Health and Justice Research Unit was awarded the University of Cape Town's Social Responsiveness Award for 2009.

#### Divisional Statistics

#### Unit Staff

Research Staff	7
Associate Research Staff	2
Interns	9
Administrative	1
Total	14

#### Research Fields and Staff

##### ASSOCIATE PROFESSOR LILLIAN ARTZ

Feminist legal theory; women and law reform; sexual offences; domestic violence; research ethics; the medical management of female survivors of violence; incarcerated women; prison reform and torture.

##### DR KELLEY MOULT

Feminist criminology; gender-based violence and policy; domestic homicide; forensics, the intersection of traditional and western justice systems, research methods.

##### YONINA HOFFMAN-WANDERER

International and comparative law; women's socio-economic rights; religious and cultural rights; incarcerated women; sentencing.

##### KATE ASCHMAN

Policing and law enforcement; sexual offences and HIV; human rights; gender-based violence and incarcerated women.

##### TALIA MEER

Gender-based violence, women's rights, LGBTI rights, access to justice, rural development, and political ecology

##### TSITSI MPOFU-MKETWA

Women's empowerment, rural development, urban poverty, social justice and social inclusion.

##### CARMEN CORRAL-BULNES

Gender-based violence, incarceration, women's mental

health, domestic homicide and aggressive behaviour in intimate relationships.

#### Research Associates

##### PROFESSOR JEANNE FLAVIN (FULBRIGHT SCHOLAR – FORDHAM UNIVERSITY)

The impact of the criminal justice system on women; social and civil rights of women; reproductive rights.

##### HELENE COMBRINCK (UNIVERSITY OF THE WESTERN CAPE)

Disability law and policy, domestic violence and disability.

#### Administration

##### MILICENT KEEN

#### Interns

##### LOUISE CARMODY (FACULTY OF LAW, UCT)

##### CHLOË MCGRATH (DEPARTMENT OF CRIMINAL JUSTICE, UCT)

##### KATERIINA MATILLA (JOHNS HOPKINS UNIVERSITY)

##### EMILY COLPITTS (DALHOUSIE UNIVERSITY)

##### DAPHNE D'CRUZ (UNIVERSITY OF MONTREAL)

##### GINA SCHULZ (UNIVERSITY OF MICHIGAN)

##### NIDA ABBASSI (UNIVERSITY OF MICHIGAN)

##### LORNA MORRIS (UNIVERSITY OF NORTH CAROLINA – CHAPEL HILL)

##### HAEKYUNG HUM (GOVERNMENT OF SOUTH KOREA)

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## DIVISION OF HAEMATOLOGY AND UCT LEUKAEMIA UNIT

### Head of Division: Professor Nicolas Novitzky

#### Divisional Profile

#### Diagnostic Services

The Division of Haematology at Groote Schuur Hospital is a complex unit with multi-disciplinary activities that include outpatient clinics, admission beds as well as diagnostic and research laboratories. The clinical services are organised under the umbrella of the Department of Internal Medicine, while the laboratory diagnostic sections are under the broader organisation of the Department of Clinical & Laboratory Sciences and National Health Laboratory Service (N HLS).

The laboratory continues to offer comprehensive diagnostic testing for the diagnosis and management of all haematological malignancies. It also offers diagnostic services for a Comprehensive Haemophilia Centre, as well as to a number of tertiary / quaternary programs. This laboratory also acts as a tertiary referral centre for local hospitals and outlying clinics of the Western Cape, as well as for referral samples from the Eastern Cape. The routine diagnostic and molecular haematology laboratories were again successfully accredited by SANAS. Dr Wilhelm van Schalkwyk has been appointed as the Haematology pathologists at Red Cross Hospital and took over from Dr Margie Shuttleworth who retired last year.

#### Teaching and Training

The department remains a primary teaching and training site for medical technologists, technicians, undergraduate medical students of the University of Cape Town and registrars in Haematopathology and Clinical Haematology. Currently there are five haematology pathology registrars one Clinical Pathology and Clinical Haematology registrar who are enrolled in the UCT postgraduate program.

Dr Karen Shires continues to provide training in the molecular haematology course for haematology registrars and technologists together with Ms Iva Shankland. Dr Karen Shires and Ms Iva Shankland have provided PCR and DNA lectures/practicals for Anatomical Pathology registrars. Dr Karen Shires is part of a team who have developed the Molecular Forensic MSc course. She is the Forensic Genetics course convener.

Dr Shaheen Mowla is involved in the following Undergraduate Teaching: MBChB Intercalated Molecular Medicine course: Basic cell structure and function; Cell Cycle; Cell Stress responses and cell death mechanisms; Restriction Enzymes and Electrophoresis; MBChB Semester 2: Histology of the skin; MBChB Semester 3: Histopathology of the skin.

### Haematology Research Projects

#### DR KAREN SHIRES

Novel diagnostic, prognostic and MRD assays for haematological malignancies; cancer testis expression in Multiple Myeloma.

#### PROF NICOLAS NOVITZKY

Immunomodulation of stem cells for transplantation.

#### DR SHAHEEN MOWLA

Molecular Biology of Cancer; Burkitt's lymphoma and HIV; Role of activation-induced cytidine deaminase in cancer; miRNA in cancer

#### DR L A DU PISANI

Malaria diagnosis, Western Cape, managed and the outcome.

#### DR JESSICA OPIE

HIV-Associated Burkitt Lymphoma and Antiretroviral Therapy; HIV-Associated Hodgkin Lymphoma.

### Divisional Statistics

#### Permanent and Long-term Contract Staff:

Professor	1
Clinical Service	
Senior Specialists	2
Clinical Registrars	2
Senior House Officers	2
Chief Professional Nurse	2
Administrative and clerical staff	3
Diagnostic Service	
Senior Pathologist	1
Pathologists	2
Pathologist part-time	1
Scientist	1
Pathology Registrars	5
Laboratory Manager	1
Medical Technologists	14
Student Medical Technologists	3
Technicians	4
UCT Leukaemia Unit	
Scientist	1
Research Officer	1
Research Technologist	1

Clinical Research Co-Ordinator	1
Administrative and clerical staff	1
Laboratory assistants (medical school)	2

### Students

Doctoral	1
Master's	7
Honours	1
MMed	1
Mphil	1
<b>Total</b>	<b>11</b>

### Research Fields and Staff

#### Professor Nicolas Novitzky

Haematopoietic stem cell biology; clonogenic assays; haematopoietic stem cell transplantation; immune reconstitution; haematological malignancies

Dr Cecile du Toit  
Haematopoietic stem cell transplantation; haematological malignancies; haemophilia

Dr Estelle Verburgh  
Haemophilia; thrombophilia; stem cell transplantation

Dr Jessica Opie  
Molecular biology of neoplasia: chronic myelogenous leukaemia; coagulation abnormalities

Dr Karen Shires  
Molecular biology and diagnostics

Dr Shaheen Mowla  
Minimal residual disease and flow cytometry.

Mrs Rygana Abdulla  
Cellular biology of neoplasia; clonogenic assays

### Contact Details

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## DIVISION OF HUMAN GENETICS

Including the MRC/UCT Human Genetics Research Unit and  
CANSA's National Colorectal Cancer Research Consortium

### Head of Division: Professor Raj S. Ramesar

### Divisional Profile

The Division is unusual in that it conducts its business through three interacting 'institutions':

- an extensive clinical service through the Provincial Government of the Western Cape;
- its laboratory diagnostic services through the National Health Laboratory Services, and
- Its academic (research and teaching) activities through the University.

The UCT/MRC Human Genetics Research Unit was created while the Human Genome Project was underway. The mandate for this Unit was (i) primarily one of capacity development in the field of Genetics and Genomics, (ii) understanding the relevance of developments in genetics and genomics, as they may be applicable to South Africans, and (iii) the translation of research to the clinical environment.

An emphasis of this Unit is the investment in understanding the rich Human Diversity on our continent and relating this to disease and health. In this regard there has been a head-on engagement with state of the art high-throughput genetic studies of indigenous southern African population populations, which has resulted in the empowerment and capacity development of South African researchers in large scale data handling and analysis. The Division is also involved in several Human, Hereditary and Health Africa projects in networks spanning the continent ([www.h3africa.org](http://www.h3africa.org)), and which are funded by the National Institutes of Health (USA) and the Wellcome Trust (UK).

A further investment has been in taking genetics to the 'clinical' high street. A measure of relevance and success of the Unit in this regard, is its attraction to other mainstream clinical practitioners e.g. from the disciplines of Gastroenterology, Nephrology, Internal Medicine, Psychiatry, Surgery, and Dentistry (UWC) who are completing PhDs in Genetics, in this Unit. A substantial effort has been made into introducing genetics/genomics into the undergraduate MBChB curriculum and to specialist groups.

### Divisional Statistics

#### UCT Staff

Professors	2
Emeritus Professors	1
Associate Professor	1
Research Staff	7
Chief Scientific Officer	1
Administrative and Secretarial Staff	2
Departmental Assistants	1

Part Time Staff	4
PGWC Personnel	4
PGWC/UCT Personnel	3
NHLS Personnel	11
Honorary Staff	4
<b>Total</b>	<b>26</b>

#### Students

Postdoctoral fellows	4
PhD	15
Master's	12
Honours	8
<b>Total</b>	<b>39</b>

### Research Fields and Staff

#### PROFESSOR RAJ S. RAMESAR (UCT/PGWC)

Head of Division and Personal Chair  
Director: MRC Human Genetics Research Unit  
Chairman: NGO The Africa Genome Education Institute  
Principal Investigator: Genetics of Bipolar Disorder; Genetics of Retinal Degenerative Disorders; Molecular Genetics of Complex Disorders; Pharmacogenetics – Adverse Drug Reactions in Cancers

#### PROFESSOR JACQUIE GREENBERG (UCT)

Principal Investigator: Genetics of Neurological Disorders; Genetics of Neuromuscular Disorders  
Co-Principal Investigator: Genetics of Retinal Degenerative Disorders

#### EMERITUS PROFESSOR PETER BEIGHTON

Principal Investigator: Genetics Connective Tissue Disorders

#### HONORARY PROFESSOR WILMOT JAMES

#### HONORARY PROFESSOR MATTHEW WOOD

Co-investigator: Genetics of Neurological Disorders

## Honorary Senior Lecturers

DR LEON JEDEIKIN  
DR SALLY ZIEFF

### ASSOCIATE PROFESSOR AMBROISE WONKAM (UCT)

Principal Investigator: Phenotypic correlation of sickle cell anemia to genotypic variations; Genetics of Deafness

### ASSOCIATE PROFESSOR COLLET DANDARA (UCT)

Principal Investigator: Pharmacogenomics

### DR KAREN FIEGGEN (PGWC / UCT)

Senior Specialist: Principal Investigator: X-linked Mental Retardation; Bardet-Biedl Syndrome

### MRS. THERESA RUPPELT (N HLS)

Laboratory Manager: Cytogenetics

## Contact Details

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Division of Human Genetics, Department of Clinical Laboratory Sciences, Level 3, Werner and Beit North Building; Institute for Infectious Diseases and Molecular Medicine, Faculty of Health Sciences, University of Cape Town, 7925, Observatory  
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## DIVISION OF IMMUNOLOGY

### Head of Division: Professor Clive Gray, PhD.

#### Divisional Profile

The Division of Immunology is involved with a range of activities from identifying the basic mechanisms of immunity in infectious disease to immunology diagnostic testing in the National Health Laboratory Services (N HLS) at Groote Schuur Hospital. The vision statement for the Division of Immunology is "Driving Science to promote World Health" and a detailed strategic document outlining the next 5-10 years has been formulated. Part of the mission is to formulate and introduce Immunology as a curriculum subject for MBChB undergraduate students. In 2013, an 8-lecture course was introduced to the 1<sup>st</sup> year undergraduate students in semester 2 covering the basics of molecular and clinical immunology. Numerous staff are also either Full or Associate members of the Institute of Infectious Disease and Molecular Medicine (IDM) and there is a very integrated relationship between the Division of Immunology and the IDM

Basic Research: The DOI houses the UCT/MRC Unit on Immunology of Infectious Diseases, an Allergy Section and the SARCHi chair on 'Immunology of infectious diseases in Africa'. The Division has an internationally recognized expertise in generating transgenic mice, for use in a wide range of immunological studies applicable to communicable and non-communicable diseases. These have been used to make important advances in diseases, such as Tuberculosis, Bilharzia, African Trypanosomiasis, Candidiasis and cutaneous Leishmaniasis and have contributed significantly to identifying fundamental cellular and molecular immunological mechanisms. Together with international and national collaborations, these animal tools contribute to many advances in Immunology and other fields. Basic research in the Allergy Section has focused on the role of IL-4 and IL-13 in allergy as well as the application of novel assays to identify sensitivity profiles. There are very close ties with the South African component of the International Centre for Genetic Engineering and Biotechnology, providing a very strong genomics thrust to the Division.

Translational Research: There is also a strong clinical immunology emphasis in the Division, specifically in HIV and TB immunology where studies are underway to understand adaptive and innate immune responses during acute HIV infection and in infants exposed to HIV in utero and upon receiving different childhood vaccinations. Successfully funded grants have been garnered from the Canadian Institute of Health Research and the South African Department of Science and Technology for investigating the link between breastfeeding practices and newborn infant immune activation status, which may mitigate EPI responses. Understanding the link between HIV-induced inflammation and autoimmunity, where peripheral tolerance has been broken, is also a new direction within the Division.

N HLS activities: The combined functions of the Laboratory for Tissue Immunology (LTI) and the Clinical Immunology and Allergy Laboratory are responsible for providing N HLS activities. The LTI is responsible for HLA class I and class II typing for solid organ and bone marrow/stem cell matching. The Laboratory also performs cross-matching and pre-formed antibody testing for renal transplantation. The LTI is accredited with the European Federation of Immunogenetics (EFI) and is the only such accredited laboratory in South Africa. The Clinical Immunology and Allergy Laboratory performs routine diagnostic testing for autoantibodies and different allergies. The DOI plays a leading role in the Immunology Expert Committee, which has formulated a new workload model for immunology services within the N HLS. The major task for the Expert Committee over the next year will be to formulate a national immunology curriculum so that immunology can become a registered medical specialist discipline.

Teaching: The Division has an active teaching component in the medical undergraduate syllabus and provides cutting edge lectures on the basics of the immune system and integrates immunology concepts and principals with the case studies and problem based learning approach by the Health Sciences Faculty. More advanced courses are offered at the post-graduate level through the Honours in Infectious Disease and Immunology programme and the short semester Research Immunology Course for postgraduate students. The Division also holds workshop on infectious disease and immunology and specifically train students from other countries in Africa on advanced immunology related techniques and cutting-edge science.

International Links: There are very strong links between staff in the Division with international collaborators on all continents in both basic and applied research.

## Divisional Statistics

### Permanent & Long Term Contract Staff (UCT/N HLS)

Professors	2
Associate Professors	1
Lecturers	2
Research Staff	7
Technical Staff	6
Technical Support Staff	5
Administrative Staff	2
<b>Total</b>	<b>25</b>

## Students

Postdoctoral research fellows	12
Doctoral	19
Master's	10
Honours	5
<b>Total</b>	<b>46</b>

## Research Fields and Staff

### Academic Staff

#### PROFESSOR CLIVE GRAY, PHD

Professor of Immunology  
Werner Beit Chair and HODv Immunology, Joint UCT/N HLS  
Full member of the IDM and member of Exco; B rating by NRF; Research Profile: Immunology of HIV infection and antigen-specific T cell responses during acute infection.

#### PROFESSOR FRANK BROMBACHER, PHD

Professor of Immunology  
UCT Fellow; SARCHi Chair, Director of an MRC Unit; ICGEB Coordinator & Group leader, Member of IDM; A1-rating by NRF; Research profile: Immunology of infectious diseases, including Tuberculosis, African Trypanosomiasis, Leishmaniasis, Bilharzia and other Helminth infections.

#### A/PROFESSOR MUAZZAM JACOBS, PHD

NHLS Medical Scientist and UCT A/Professor; Full member of the IDM. Research profile: Understanding host pathogen interaction and associated immune mechanisms that bring about protection against tuberculosis infection.

#### DR WILLIAM HORSNELL PHD

Senior Lecturer. Associate member of IDM. C2 NRF rating. Convener of IDI Honours postgraduate degree. Research profile: Immunity to helminth infections. Maternal and co-infection immunity. Acetylchoine signalling in the immune system.

#### DR HEATHER JASPN MD, PHD, FAAP

Senior Lecturer. Associate member of the IDM. Research Profile: Investigating immune activation, T cell immunity and susceptibility to HIV in infants.

## Visiting Professors

### PROF GUIDO FERRARI

Professor, Duke University Medical Center, Durham, North Carolina, USA

Identifying CD8+ T cell activation, functional profile, and memory differentiation during acute HIV infection and role in determining HIV escape mutants.

Identifying epitope targeted by ADCC-mediated Antibody responses and their role in protection from infection.

### PROF JIM ALEXANDER

Strathclyde University, Scotland

## Postdoctoral Fellows

### DR LYCIAS ZEMBE

Understanding CD8+ T cell recognition patterns in HIV infection

### DR SURAJ PARIHAR

Dr Reto Guler  
Investigate using 4 different pathogens, i.e. Listeria monocytogenes, mycobacteria tuberculosis, mycobacteria bovis BCG, and Leishmania major

### DR ROANNE KEETON

TB Immunology

**DR FRANK KIRSTEIN:**  
Investigation of immune responses in different mouse models of allergic asthma"

**DR TIROYAONE BROMBACHER**  
Neuro-immunological effects of *Nippostrongylus brasiliensis* on cognitive function.

**DR ROANNE KEETON:**  
The role of TNFR signalling in pulmonary tuberculosis

**DR JENNIFER CLAIRE HOVING**  
Asthma and Allergy

#### Distinguished Visitors

HARUKAZU SUZUKI, RIKEN INSTITUTE-JAPAN  
DANIEL BARBER, MAX PLANCK, GERMANY  
MARTIN BACHMANN, CYTOS, SWITZERLAND  
CLAUDIA JAKUBZIC, VIRGINIA, USA  
MATTIAS SVENSSON, KAROLINSKA INSTITUTE, SWEDEN  
BENJAMIN MARSLAND, ETH ZURICH,  
SWITZERLAND  
GORDON BROWN, UNIV ABERDEEN, UK  
LUISA MARTINEZ, POMARES UNIV NOTTINGHAM, UK  
JIM ALEXANDER, UNIV STRATHCLYDE, UK  
ANDREW MCDONALD, UNIV EDINBURGH, UK  
ABHAY SATOSKAR, OHIO STATE UNIVERSITY, USA  
MICHAEL PEPPER, UNIVERSITY OF PRETORIA, SA  
JOHANNA SPAANS, UNIVERSITY OF OTTAWA  
STEFAN MAGEZ, VRIJE UNIVERSITY, BELGIUM  
BLANKA VIDAN-JERAS, SLOVENIA  
DEBRA ROSA, CSIR  
GOTFRIED ALBER, UNIV OF LEIPZIG, GERMANY  
MUSA MHLANGA, CSIR, PRETORIA  
THOMAS HEUNIG, UNIVERSITY WUERZBURG,  
GERMANY  
BERNHARD RYFFEL, UNIVERSITY OF ORLEANS,  
FRANCE  
S. BARTH, UNIV. FRAEUEHOFER, GERMANY

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## DIVISION OF MEDICAL BIOCHEMISTRY

### Head of Division: Professor Peter Meissner

#### Divisional Research Profile

The Division of Medical Biochemistry is a preclinical, basic science division in the UCT Faculty of Health Sciences and is associated, either wholly or partly, with a number of advanced research entities. Some such entities are laboratory research groups contained entirely within Division, while some have certain components or personnel falling within the Division, affiliated to other Institutes or Departmental groupings.

Specifically: The Division incorporates the MRC/UCT Research Group for Receptor Biology (co-directed by A/Prof Arieh Katz and Dr Colleen Flanagan, ex-UCT now at WITS, and Prof Bob Millar, Senior Scholar in our Division); the UCT Structural Biology Research Group (directed by Prof Trevor Sewell); members of the Institute of Infectious Disease and Molecular Medicine (IIDMM) at UCT (Profs Sturrock, Blackburn, Meissner, Parker, Katz and Leaner); and the International Centre for Genetic Engineering and Biotechnology (ICGEB) (Prof Iqbal Parker).

Through 2013 there were 47 research postgraduate students registered for either Master's or PhD (53 in 2012), and a further 9 Honours students were based wholly in Medical Biochemistry for the duration of their research projects (April – November) (11 in 2012). The Division graduated 3 PhD and 6 MSc students during the course of 2013 (4 PhD and 2 MSc during 2012). Together with various scientific and academic staff our postgraduate students and 22 postdoctoral fellows (20 in 2012) continued to form the basis of a vibrant and on-going research thrust and culture in the Division, forming the core of our Divisional research strategy – out of which flows a contemporary and effective approach to teaching at both under- and post-graduate levels. During 2013 the Division and its' affiliates published 69 papers in ISI accredited science journals, and 4 non-accredited journal articles. Research activities of the Division cover seven major areas:

1. GnRH receptors, signalling, structure – function and as a target for development of therapeutics for treatment of reproductive cancers (Katz & Millar labs);
2. Molecular mechanisms of cervical cancer and oesophageal cancer development and progression (Leaner, Hendricks and Parker labs)
3. Identification and characterisation of anticancer drugs in natural products (Hendricks lab);
4. Angiotensin converting enzyme (ACE) structure activity relationships and development of

ACE inhibitors (drug design) for treatment of hypertension, congestive heart failure, myocardial infarction and renal disease (Sturrock lab);

5. Application of functional proteomics for diagnostics, drug and vaccine development for infectious disease and cancers (Blackburn lab).
6. Diagnostic, structure and function studies in the porphyrias and haem biosynthesis (Meissner lab – currently sited and staffed in the Dept. of Medicine)
7. Structural basis for differential regulation of glutamine synthetase in humans and the malaria parasite, structural studies on the nitrilase family of enzymes in the context of cancer, mycothiol synthetic pathway in *Mycobacterium tuberculosis* (Sewell lab- currently located on UCT upper campus)

Physical space for the Structural biology research Unit and the Porphyria labs remain a problem.

Research staff members, fellows, postgrad students participated in many local and international conferences during the year. Our Division considers such travel essential and worthwhile in that they give rise to new collaborations and maintenance of established collaborations and lab research visits.

#### Divisional Statistics

Professors	5
Professor (emeritus) appointed as Senior Scholar	1
Professors on establishment but working in affiliated Institutions	1
Associate Professors	3
Senior-Lecturers	0
Technical Support Staff	4
Departmental Assistants	3
Administrative Staff	1
<b>Total</b>	<b>18</b>

#### Honorary Staff

Honorary Professor	1
Honorary Associate Professor	1
Honorary Senior Lecturers	2
Honorary Research Associate	1
<b>Total</b>	<b>5</b>

#### Students & Fellows

Postdoctoral fellows	22
Research students:	
Doctoral	30
Master's	17
Honours	9
Undergraduate students	626
<b>Total</b>	<b>704</b>

## Research fields and staff

### Professors:

J M BLACKBURN, BSC (HONS) DPHIL  
Oxon (South African Research Chair)  
Proteomics and genomics for diagnostics, drug and vaccine development for infectious disease and cancers

P N MEISSNER, BSC(MED)(HONS)  
PhD Cape Town (Fellow of UCT)  
Haem biosynthesis, disorders of porphyrin metabolism

E D STURROCK, BSC (MED)(HONS) PHD CAPE TOWN  
Angiotensin converting enzyme (ACE) structure activity relationships and drug design related to ACE inhibitors for treatment of hypertension, congestive heart failure, myocardial infarction and renal disease

B T SEWELL, MSC WITWATERSRAND, PHD LONDON.  
Structural biology related to regulation of glutamine synthetase in humans and the malaria parasite, nitrilases in the context of cancer, mycothiol synthetic pathway in *Mycobacterium tuberculosis*)

A A KATZ, PHD REHOVOT  
Gonadotropin-Releasing Hormone (GnRH) receptors: function regulation and ligand receptor interactions; role of cyclooxygenases and prostaglandins in cervical cancer and uterine pathologies

R P MILLAR PHD, FRCPATH (CHEM), FRSE (LIFE FELLOW OF UCT)  
Endocrine receptor and molecular biology

### Professors (working in affiliated Institutes):

M I PARKER, BSC(HONS) PHD CAPE TOWN (MASSAF  
(based in the International Centre for Genetic Engineering and Biotechnology – ICGEB, Cape Town)  
Cellular and molecular biology of cancer; Regulation of gene expression in cancer

### Associate Professor:

DENVER HENDRICKS, BSC(HONS) PHD CAPE TOWN  
Molecular biology of oesophageal cancer and development of novel chemotherapeutic drugs

VIRNA LEANER, BSC(HONS) PHD CAPE TOWN  
Molecular mechanisms associated with the development and treatment of cervical cancer

CYNTHIA SIKAKANA, BS WESLEYAN PHD  
WISCONSIN-MADISON  
Medical education, Metabolism of xenobiotics

**Honorary Professor**

C. SEOIGHE, PHD DUBLIN  
W-D SCHUBERT, PHD BERLIN

**Honorary Associate Professor**

LUIZ ZERBINI, MSC PHD SÃO PAULO BRAZIL

**Emeritus Associate Professor:**

L R THILO, MSC UNIVERSITY OF PRETORIA DR RER NAT  
Heidelberg

**Honorary Senior Lecturers:**

HENRY JABBOUR, PHD SYDNEY  
G protein – coupled receptors in reproductive biology and HIV

COLLEEN FLANAGAN, PHD CAPE TOWN  
Cyclooxygenases in gynaecological cancers

**Honorary Research Associate:**

ARVIND VARSANI, PHD CAPE TOWN.  
KURT SALES, PHD CAPE TOWN.

**Postdoctoral fellows:**

PAULINE VAN DER WATT  
ANDREW JM NEL  
PUTUMA GQAMANA  
BRANDY YOUNG  
KATE HADLEY  
YABING WANG  
ARON ABERA  
VICTOR FRANCIS  
ROSS ANDERSON  
CLAIRE NEWTON  
JACQUELINE BRACHER  
JEREMY WOODWARD  
ALBERT ABRIE  
SERAH KIMANI  
LISELOTTE ANGUS  
REBECCA TADOKERA  
BEVERLEY VAN ROOYEN  
ROBERT NDORIA THUKU  
JOSEPH RAINMONDO  
AFOLKE AROWOLO  
SIKIRU JIMOH  
SANKAR RAMACHANDRAN

**Chief scientific officer:**

SYLVA SCHWAGER, MSC  
Proteolytic processing of membrane proteins

**Research Officer:**

GEORGIA SCHÄFER (KATZ/MILLAR LAB, IIDMM)

**Contact Details**

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E-mail (Head): Peter.Meissner@uct.ac.za

**MEDICAL MICROBIOLOGY****Head of Division:  
Professor Mark Nicol****Divisional Profile**

The Division of Medical Microbiology ([www.medmicro.uct.ac.za](http://www.medmicro.uct.ac.za)) encompasses a tertiary diagnostic microbiology service, provided by the National Health Laboratory Service, Groote Schuur Hospital and an active research programme based at the Health Sciences Campus.

We aim to conduct research that is relevant to the needs of diagnostic microbiology services and focused on important infectious diseases in South Africa. This includes work on childhood febrile illness (pneumonia, meningitis and diarrhoea), the origin and evolution of the human microbiome in early childhood, the development and assessment of novel diagnostics for tuberculosis, the epidemiology of drug-resistant tuberculosis as well as the transmission and molecular epidemiology of drug resistant pathogens within our hospitals.

The Division is the academic home of the highly regarded Molecular Microbiology Research Unit ([www.mrc.ac.za/mycobacteriology/mycobacteriology](http://www.mrc.ac.za/mycobacteriology/mycobacteriology)) headed by Professor Valerie Mizrahi and Dr Digby Warner which aims to develop and apply genetic tools for the identification, validation and characterisation of novel drug targets and vaccine candidates for tuberculosis. The Division is also the home of Professor Gregory Hussey who leads the 'Vaccines for Africa' Initiative ([www.vacfa.com](http://www.vacfa.com)) which is a partnership of concerned individuals and organizations who have come together with the expressed purpose of increasing awareness of and promoting uptake of vaccines on the African continent. Two Wellcome Trust Fellows (Dr Helen Cox, Intermediate Fellow and Dr Mamadou Kaba, Research Training Fellow) are based in the Division.

The Division has been successful in attracting substantial research funding from the Wellcome Trust, EDCTP, National Institutes of Health, Carnegie Foundation, Howard Hughes Medical Institute and Bill and Melinda Gates Foundation in recent years. 2013 was a successful year for research in the Division, with the award of two Wellcome Trust Fellowships and 30 publications, including publications in high impact journals.

The composition of the Division is complex with staff drawn from the University of Cape Town, Groote Schuur Hospital and the National Health Laboratory Service and National Institute for Communicable Diseases. This mix of pathologists, scientists and students offers the opportunity for creative, cross-disciplinary research.

**Divisional Statistics****Permanent and Long-term Contract Staff**

Professors	3
Senior Lecturers	4
Lecturers	2
Clinical Research Officer	1
Research Assistant	3
Senior Research Officer	2
Administrative and Clerical Staff	1
Project Manager	1
Lab Manager	1
Data Management staff	3
Clinical staff	4
Technologists	2
Technical Support Staff	1
<b>Total</b>	<b>28</b>

**Honorary Staff**

Honorary Lecturers	2
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**Students**

Postdoctoral	3
Registrars	3
Doctoral	8
Master's	6
Undergraduates (Sem 3,4 and 5)	429
<b>Total</b>	<b>446</b>

**Research Fields and Staff****Permanent Staff****PROFESSOR MARK P NICOL**

Development and evaluating point-of-care tests for tuberculosis; the strain biology of *Mycobacterium tuberculosis*; the origin and evolution of the human microbiome in early childhood and its impact on respiratory illness.

**PROFESSOR GREGORY HUSSEY**

Understanding the dynamics of TB infection and disease in adolescents; the epidemiology of TB in infants and young children; evaluation of new TB vaccines

**PROFESSOR VALERIE MIZRAHI AND DR DIGBY WARNER**

Investigate fundamental aspects of the metabolism and physiology of *Mycobacterium tuberculosis* of relevance to tuberculosis drug discovery and drug resistance

**DR C BAMFORD**

Laboratory detection of multi-resistant organisms; molecular epidemiology of hospital acquired infections; rational use of antibiotics and surveillance of antimicrobial resistance; appropriate use of microbiological investigations; microbiological diagnosis of tuberculosis

**DR LOURENS ROBBERT**

Enhanced surveillance for shiga toxicigenic *Escherichia coli* in stool specimens from the Western Cape.

**DR CLINTON MOODLEY**

Carbapenemase Surveillance

**Registrars, Joint Appointments****DR SINDILE NTULI**

DR CHAD CENTNER

DR HAFAH TOOTLA

**Honorary Staff****A/PROFESSOR DAVID LEWIS**

- Gonococcal resistance
- STI surveillance
- Men's sexual health

**DR JOHN SIMPSON**

Laboratory diagnosis of tuberculosis and identification of drug-resistance

## Fixed-term appointment staff

### DR HELEN COX (WELLCOME TRUST INTERMEDIATE FELLOW)

A systems approach to evaluating prospects for the control of drug-resistant tuberculosis in Khayelitsha, South Africa

### DR WIDAAD ZEMANAY

Evaluation of novel diagnostic methods for tuberculosis in adults and children; evaluation of the impact of novel TB diagnostics on patient outcomes

### DR LEMESE AH TOW EDRIES

- The evaluation of inter-seasonal house dust microbiota in the Western Cape, South Africa
- Molecular detection of *Helicobacter pylori* in stool of apparently healthy children, the Drakenstein sub-district, South Africa

### DR LINDY DICKSON-HALL

Linkage to Care for drug resistant TB patients following Xpert implementation in SA.

## Postdoctoral fellows

### DR ELOISE DU TOIT

Household dust microbial burden and the development of recurrent wheezing in children in the Western Cape: a cohort study

### DR MAMADOU KABA

- The faecal microbial community and its association with wheezing illness in young Children – The Drakenstein Child Lung Health Study, South Africa
- Phenotypic and genomic study of the antibiotic resistome in a paediatric population, Drakenstein sub-district, South Africa
- Dynamics of faecal bacterial populations in early infancy as determined by massively parallel sequencing
- Epidemiology of extended spectrum beta-lactamase and carbapenemase-producing bacteria in apparently healthy children, South Africa

### DR VERONICA ALLEN

Sequencing and identifying rifampicin discordant results from Gene Xpert

## Contact Details

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# DIVISION OF MEDICAL VIROLOGY

## Head of Division: Professor Carolyn Williamson

### Divisional Profile

The Division of Medical Virology contributes to the diagnosis, treatment, prevention and eradication of viral diseases in South Africa through a diagnostic laboratory service together with a dynamic research programme.

Research within the Division focuses on Human Immunodeficiency Virus (HIV), Human Papillomavirus (HPV), virus discovery and vaccinology, and is largely performed within the Institute of Infectious Diseases and Molecular Medicine. The division has contributed to research on HIV prevention, transmission and pathogenesis (including research on broadly cross-neutralizing antibodies; HIV superinfection; the impact of mucosal inflammation and other sexually transmitted co-infections on HIV transmission risk; and HIV vaccine and microbicide development); and HPV natural history in South Africa and next generation sequencing discovery of novel HPVs. There has also been research on BCG and poxviruses as vaccine vectors. The division hosts one NRF Research Chair (Professor Anna-Lise Williamson, Vaccinology).

The Virology Diagnostic Laboratory is a SANAS accreditation facility within the National Health Laboratory Service, and is located at Groote Schuur Hospital (GSH). It provides a comprehensive service to both GSH and Red Cross Children's Hospital, and serves as a regional reference centre providing a clinical and diagnostic service to local teaching hospitals and surrounding public health clinics.

The division contributes to undergraduate teaching and plays a major role in post-graduate training and currently hosts 31 post-graduate students (registered for, MMed, MSc, PhD or Postdoc degrees).

### Special awards / honours / promotions

- Carolyn Williamson was accepted as a Fellow of UCT
- Diana Hardie was promoted to Associate Professor
- Gerald Chege was promoted to Senior Research Officer
- Shaun Barnabas was awarded MRC National Health Scholars Program Scholarship for Clinical Research 2014
- Shaun Barnabas was awarded Fogarty Training Fellowship 2013

- Colin Anthony was awarded a Fogarty Postdoctoral Fellowship 2013
- Tracy Mering was awarded a Carnegie Postdoctoral Fellowship 2013
- Gama Bandawe, Ruby Bunjun, Shivan Chetty and Kristy Opperman were awarded Carnegie PhD scholarships
- Ruby Bunjun and Gama Bandawe were awarded prestigious CAPT (Canada-Africa Prevention Trials Network) Academic Scholarship awards for 2013
- Colin Anthony received a Clinical Infectious Diseases Research Initiative (CIDRI) equipment award for a Bio Rad QX200 droplet digital PCR (ddPCR) system
- Ruby Bunjun and Kristy Offerman won third prizes for the oral presentation and poster presentation respectively at the Faculty Postgraduate Research Day

### Distinguished visitors

- Prof Robin Shattock, Imperial College London, UK
- Prof Francesca Chiodi, Karolinska Institute, Stockholm, Sweden
- Prof Tom Hope, Northwestern University, Chicago, USA
- Dr Kelly Arnold, MIT, USA
- Dr Andy Redd, NAID

### Divisional Statistics

#### Permanent and Long-term Contract Staff

Professors	4
Academic	13
Research and Technical Support Staff	13
Administrative and Clerical Staff	3
<b>Total</b>	<b>34</b>

### Honorary Staff

Honorary Senior Lecturer	1
Honorary Research Associate	1

### Students

MMed	3
Postdoctoral	8
PhD	13
M.Sc.	6

## Research Staff and Fields

### Emeritus Professor

#### PROFESSOR KEITH DUMBELL

### Academic Staff

#### PROFESSOR CAROLYN WILLIAMSON (NHL/NHS)

HIV diversity and pathogenesis; HIV-1 vaccine development – Head of Division.

#### PROFESSOR ANNA-LISE WILLIAMSON (NHL/NHS)

Human Papillomavirus; Poxviruses, Vaccinology, Microbiomics, Viromics

#### ASSOCIATE PROFESSOR DIANA HARDIE (NHL/NHS)

Viral infections in the immuno-compromised host; Molecular biology of Hepatitis B Virus – Head Diagnostic Virology Laboratory.

#### ASSOCIATE PROFESSOR JO-ANN PASSMORE (NHL/NHS)

HIV prevention and pathogenesis; HPV clinical disease and immunology, mucosal STIs.

#### DR WENDY BURGERS

HIV Immunology and Pathogenesis

#### DR ROS CHAPMAN

HIV Vaccines

#### DR NICOLA DOUGLASS

HIV Vaccines / poxviruses

#### DR GERALD CHEGE

HIV Vaccines

#### DR MARVIN HSIAO (NHL/NHS)

Clinical Virology, cytomegalovirus and molecular diagnostics

#### DR. STEPHEN KORSMAN (NHL/NHS)

Clinical Virology, Hepatitis B, molecular diagnostics and outreach

#### DR ZIZIPHO MBULAWA (NHL/NHS)

Human Papillomavirus

#### DR CATHERINE RIOU

HIV Immunology and Pathogenesis

#### Dr Heidi SMUTS (NICD/NHL/NHS)

Hepatitis C; Novel respiratory viruses.

#### DR ZIYAAD VALLEY-OMAR (NICD/NHL/NHS)

Molecular Epidemiology

## Honorary Staff

**DR ERICA ANDERSEN-NISSEN**  
Research Associate

**DR TIM TUCKER**  
Senior Lecturer; HIV.

## Research Staff

**MELISSA-ROSE ABRAHAMS**  
HIV Diversity and Pathogenesis.

**CRAIG ADAMS**  
HIV Vaccines.

**BRUCE ALLAN**  
Human papillomavirus.

**DESIREE BOWERS**  
HIV Vaccines.

**SHIREEN GALANT**  
HIV Vaccines.

**HOYAM GAMIELDIEN**  
Mucosal HIV/STI infections.

**JINNY MARAIS**  
HIV Diversity and Pathogenesis.

**TRACEY MULLER**  
HIV Immunology and Pathogenesis.

**NONKULULEKO NDABAMBI**  
HIV Diversity and Pathogenesis.

**CECILIA RADEMEYER**  
HIV Diversity and Pathogenesis.

**DEBBIE STEWART**  
HIV Diversity and Pathogenesis/Project co-ordinator  
and GLP archivist

**DANIEL SHEWARD**  
HIV Diversity and Pathogenesis.

**RUWAYHIDA THEBUS**  
HIV Diversity and Pathogenesis.

## Postdoctoral Fellows

**DR COLIN ANTHONY**  
HIV Diversity and Pathogenesis

**SHAMEEM JAUMDALLY**  
Mucosal HIV/STI Infections

**DR TRACY MEIRING**  
Microbiomics and Viromics

**DR COBUS OLIVIER**  
Mucosal HIV/STI Infections

**DR PHILIPPE SELHORST**  
HIV Diversity and Pathogenesis.

**DR LINDI ROBERTS**  
Mucosal HIV/STI Infections

**DR ANDREIA SOARES**  
HIV Immunology and Pathogenesis

**DR NATALIE STRICKLAND**  
HIV Immunology and Pathogenesis

## Administrative Staff

**NYAMEKA MHLONYELWA-MONA**  
Divisional Secretary

**SUSAN LANFEAR**  
PA to Prof Anna-Lise Williamson

**KATHRYN NORMAN**  
PA to A/Prof Jo-Ann Passmore and Dr Wendy Burgers

## Contact Details

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# DEPARTMENT OF CLINICAL LABORATORY SCIENCES

## Research output

### Chapters in books

Artz, L.M. and Smythe, D.L. 2013. South African law and policies supporting victims' rights. In R. Peacock (ed), *Victimology in South Africa*, pp. 47-76. 2<sup>nd</sup> edition. Pretoria, RSA: Van Schaik Publishers. ISBN 9780627030208.

Artz, L.M. 2013. The troublesome gender: (re)considering gender-based violence. In R. Peacock (ed), *Victimology in South Africa*, pp. 147-159. 2<sup>nd</sup> edition. Pretoria, RSA: Van Schaik Publishers. ISBN 9780627030208.

Bruwer, Z. and Ramesar, R.S. 2013. Lynch syndrome: genetic counselling of at-risk individuals and families. In M. Vogelsang (ed), *DNA Alterations in Lynch Syndrome. Advances in Molecular Diagnosis and Genetic Counselling*, 195pp. Netherlands: Springer. ISBN 9789400765962.

Duarte, J., Serufuri, J.-M.S., Mulder, N.J. and Blackburn, J. 2013. Protein function microarrays: design, use and bioinformatics analysis in cancer biomarker discovery and quantitation. In X. Wang (ed), *Bioinformatics of Human Proteomics*, pp. 39-74. London: Dordrecht: Springer. ISBN 9789400758100.

Flavin, J. and Artz, L.M. 2013. Understanding women, gender, and crime. In C.M. Renzetti, S.L. Miller and A.R. Gover (eds), *Routledge International Handbook of Crime and Gender Studies*, pp 9-31. United Kingdom: Routledge. ISBN 9780415782166.

Jacobs, M. and Ryffel, B. 2013. Role of TNF in host resistance to tuberculosis infection: membrane TNF is sufficient to control infection. In M. Zierhut, F. Paulsen, J. Niederkorn and U. Schraermeyer (eds), *Innate Immunity and the Eye*, pp.116-138. Nepal: Jaypee Brothers Medical Publishers. ISBN 9789350903094.

### Articles in peer-reviewed journals

Abdullah, S., Enrico, N. and Dunn, R.N. 2012. Posterior vertebral column resection for severe spinal deformities. *SA Orthopaedic Journal*, 11(4): 21-24.

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Abrahams, N., Mathews, S., Martin, L.J., Lombard, C. and Jewkes, R. 2013. Intimate partner femicide in South Africa in 1999 and 2009. *Plos Medicine*, 10(4): e1001412.

Akinola, R., Mazandu, G.K. and Mulder, N.J. 2013. A systems level comparison of *Mycobacterium tuberculosis*, *mycobacterium leprae* and *mycobacterium smegmatis* based on functional interaction network analysis. *Journal of Bacteriology and Parasitology*, 4: 1-11.

Alleyne-Mike, K., Mohammed, K., Van Wijk, A.L. and Botha, F.C.J. 2013. 7 lymphoma. *International Journal of Case Reports and Images*, 4(12): 714-718.

Allie, N., Grivennikov, S.I., Keeton, R., Hsu, N., Bourigault, M.L., Court, N., Fremond, C., Yeremeev, V., Shebzukhov, Y., Ryffel, B., Nedospasov, S., Quesniaux, V. and Jacobs, M. 2013. Prominent role for T-cell derived tumour necrosis factor for sustained control of *mycobacterium tuberculosis* infection. *Scientific Reports*, 3: 1809.

Ambele, M., Sewell, B.T., Cummings, F.R., Smith, P.J. and Egan, T.J. 2013. Synthetic hemozoin ( $\beta$ -hematin) crystals nucleate at the surface of neutral lipid droplets that control their sizes. *Crystal Growth & Design*, 13: 4442-4452.

Anderson, J.S., Novak, A., Sukosd, Z., Golden, M., Arunapuram, P., Edvardsson, I. and Hein, J. 2013. Quantifying variances in comparative RNA secondary structure prediction. *BMC Bioinformatics*, 14: 149(13pp). DOI: 10.1186/1471-2105-14-149.

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- Ballo, R., Greenberg, J. and Kidson, S.H. 2013. A new class of stem cells in South Africa: iPS cells. *SAMJ South African Medical Journal*, 103(1): 16-17.
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# DEPARTMENT OF HEALTH AND REHABILITATION SCIENCES

**Head of Department:  
Associate Professor Shajila Singh**

## Departmental Profile

The Department of Health and Rehabilitation Sciences is a multi-professional Department, and offers undergraduate and postgraduate programmes in Audiology, Speech and Language Pathology, Occupational Therapy, and Physiotherapy. The Department also offers Postgraduate Diplomas, Master's and PhD programmes in Disability Studies and Nursing. The Department is characterised by diverse research interests. Much research is related to poverty and inequality, with a particular focus on disability and social inclusion. There is a strong engagement in research regarding health-related quality of life and the International Classification of Functioning and Disability. The Department also home to professional-specific clinical research in physiotherapy, occupational therapy, communication sciences and disorders and nursing. The Department has also developed expertise in clinical education research, to enhance student learning at undergraduate and postgraduate levels.

## Departmental Statistics

### Permanent and long-term contract staff

Professor	2
Associate Professor	9
Senior Lecturer	11
Lecturer	15
Clinical Educator	26
Technical and Support Staff	2
Administrative and Clerical Staff	9
<b>Total</b>	<b>74</b>

## Students

Doctoral	13
Master's	128
Postgraduate Diplomas	77
Undergraduate	704
<b>Total</b>	<b>922</b>

## Research Fields and Staff

### Permanent staff

#### PROFESSOR S.L. AMOSUN

Non-communicable diseases; disability prevention and health promotion

#### MS HELEN BUCHANAN

Evidence-based practice; hand therapy; measurement instruments; rehabilitation in physical health; clinical reasoning and reflection

#### DR THERESA BURGESS

Muscle damage and endurance exercise; clinical sports physiotherapy; bioethics

#### MS LIZAHH CLOETE

Foetal Alcohol Spectrum Disorders; community development & occupational therapy in primary health care

#### ASSOCIATE PROFESSOR SHEILA CLOW

Midwifery; women's health care; intrapartum care; mentorship

#### ASSOCIATE PROFESSOR SINEGUGU DUMA

Interplay between HIV and gender-based violence; sexual assault; and curriculum development

#### ASSOCIATE PROFESSOR EVE DUNCAN

Poverty, occupation & psychiatric disability; disability inclusion through participatory development in deep rural communities

#### MS EILEEN DU PLOOY

Occupation based work practice; palliative care

#### MS GILLIAN FERGUSON

HIV; paediatric motor assessment and rehabilitation

#### MS NICKI FOUCHE

Lived experiences in the care of patients in the Intensive Care Units

#### ASSOCIATE PROFESSOR ROSHAN GALVAAN

Occupation-based community development practice; occupational justice; occupational choice; youth; OT curriculum and human rights

#### MS PAM GRETCHEL

Best paediatric occupational therapy practice

#### DR MICHEAL HARTY

Augmentative and Alternative Communication (AAC) and family-centred intervention practices

**MS CANDICE HENDRICKS**  
Rehabilitation of sports-related orthopaedic and neuromusculoskeletal conditions

**PROFESSOR JENNIFER JELNSMA**  
Function in children with HIV/AIDS; health related quality of life; living conditions of people with disabilities; use of the ICF

**ASSOCIATE PROFESSOR HARSHA KATHARD**  
Communication impairment; disability and service delivery

**DR UNA KYRIACOS**  
Role of biosciences in clinical nursing education; ophthalmic nursing; preparation of nurse educators

**ASSOCIATE PROFESSOR THERESA LORENZO**  
Disability rights and equity for youth and women; community based rehabilitation

**MS SORAYA MAART**  
Incontinence and sexual dysfunction amongst sexually abused persons; HIV and community empowerment

**MS SHAMILA MANIE**  
Intensive Care Unit management; cardio-pulmonary rehabilitation, TB

**ASSOCIATE PROFESSOR PAT MAYERS**  
Mental health; support and training for primary health care providers/clinical nurse practitioners with special to HIV and ARV rollout; primary care practice teams

**MR DOUGLAS NEWMAN**  
LGBTI health

**MS VIVIENNE NORMAN**  
Paediatric dysphagia and early intervention

**DR MICHELLE PASCOE**  
Speech, language and literacy difficulties in school-aged children

**MS LUCRETIA PETERSEN**  
Ototoxicity; otoacoustic emissions

**MS ROMY PARKER**  
Pain in HIV

**DR LEBOGANG RAMMA**  
Noise and public health

**ASSOCIATE PROFESSOR ELELWANI RAMUGONDO**  
Promoting childhood play in context; play, learning & development outcomes for children on anti-retroviral treatment; the politics of human occupation

**MS CHRISTINE ROGERS**  
Vestibular assessment and management

**ASSOCIATE PROFESSOR SHAJILA SINGH**  
Dysphagia; motor speech disorders; ethics; HIV/AIDS  
Ms Amshuda Sonday  
Inclusive education; profound multiple intellectual disability and quality of life

#### Clinical Educator Staff

**MRS FATEMAH CAMROODIEN-SURVE**  
Early childhood intervention; parent training

**MRS NAILA EDRIES**  
Occupational health and wellness; promoting behaviour change; musculoskeletal injury management; evaluation and feedback methods to drive learning

**MRS MADRI ENGELBRECHT**  
Disability and employment

**MRS FADIA GAMIELDIEN**  
Health professionals' attitudes towards mental health service users; disability, diversity and social change

**MRS FAHMIDA HARRIS**  
The impact of physical activity on quality of life of persons with mental illness

**MS JANE LE ROUX**  
Evaluating the effectiveness of The Shine Program for literacy development in grade 2 and 3 learners

**MR MARC NAIDOO**  
Clinical education models and strategies; rehabilitation in neuro patients; soccer injury prevention at school level

**MRS ELRIETHA OLIVIER**  
Cochlear implants; bimodal fitting and FM use; balance disorders in cochlear implant recipients

**MRS LAURA RUSSELL**  
Traumatic brain injury care pathways after discharge; assessment of aphasia in South African languages

**MRS CELESTE SAMUELS**  
Right hemisphere communication disorders intervention and referral pathways; cerebral palsy and communication

**MRS DES SCOTT**  
Group teaching in clinical practice; paediatric clinical practice

**MRS HEATHER TALBERG**  
Clinical education best practice models and guidelines; developing professional and reflective practitioners

**MS FREDA WALTERS**  
Fluency, community based rehabilitation; clinical education

#### Contact Details

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#### Research Output

##### Edited books

Lorenzo, T., Ned, L. and Cois, A. (eds) 2013. Disability Catalyst Africa: Youth, Disability and Rural Communities. Facing the Challenges of Change. Series Number 3. 96pp. Cape Town: Disability Innovations Africa. ISBN 9780987020321.

##### Chapters in books

McKenzie, J. 2013. Including students with intellectual disability in higher education: implications for curriculum. In C. Ohajunwa and J. McKenzie (eds), Disability Catalyst Africa - Series No. 4: Beyond "if" to "how": Disability Inclusion in Higher Education, pp. 24-35. Cape Town: Disability Innovations Africa. ISBN 9780987020938.

McKenzie, J. and Ohajunwa, C. 2013. Introduction. In C. Ohajunwa and J. McKenzie (eds), Disability Catalyst Africa - Series No. 4: Beyond "if" to "how": Disability Inclusion in Higher Education, pp. 11-23. Cape Town: Disability Innovations Africa. ISBN 9780987020938.

Richardson, P.R. and Duncan, M. 2013. A context for mental health research in occupational therapy. In E. Cara and A. MacRae (eds), Psychosocial Occupational therapy: An Evolving Practice, pp. 61-96. 3rd edition. IRL: Delmar, Cengage Learning, ISBN 9781111318307.

#### Articles in peer-reviewed journals

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and autonomy among adult survivors of stroke in Ghana. *African Health Sciences*, 13(1): 24-31.

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Cobbing, S.C., Chetty, V.C., Hanass-Hancock, J.H., Jelsma, J.M., Myezwa, H.M. and Nixon, S. 2013. Position paper: the essential role of physiotherapists in providing rehabilitation services to people living with HIV in South Africa. *South African Journal of Physiotherapy*, 69(1): 22-25.

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Fagan, J.J., Lentin, R. and Quail, G.S. 2013. International practice of laryngectomy rehabilitation interventions: a perspective from South Africa. *Current Opinion in Otolaryngology & Head and Neck Surgery*, 21: 199-204.

Ferguson, G., Jelsma, D.J., Jelsma, J.M. and Engelsman, B.C.M.E. 2013. The efficacy of two task-orientated interventions for children with developmental coordination disorder: neuromotor task training Wii Fit training. *Research in Developmental Disabilities*, 34: 2449-2461.

Gonasillan, A., Bornman, J. and Harty, M. 2013. Vocabulary used by ethno-linguistically diverse South African toddlers: a parent report using the language development survey. *South African Journal of Communication Disorders*, 60: 10-15.

Hendricks, C. and Phillips, J. 2013. Prevalence and incidence rate of injuries in runners at a local athletic club in Cape Town. *South African Journal of Physiotherapy*, 69(3): 1-5.

Hendricks, S. and Sarembock, M. 2013. Attitudes and behaviours of top-level junior rugby union coaches towards the coaching of proper contact technique in the tackle - a pilot study. *South African Journal of Sport Medicine*, 25(1): 8-11.

Isaacs Dollie, W., Duma, S.E. and Mayers, P.M. 2013. Registered nurses' role in diagnosing childhood tuberculosis in South Africa. *African Journal of Nursing and Midwifery*, 15(1): 42-53.

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Mathews, S., Abrahams, N. and Jewkes, R. 2013. Exploring mental health adjustment of children post sexual assault in South Africa. *Journal of Child Sexual Abuse*, 22(6): 639-657.

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Taljaard, D.L., Leishman, N.F. and Eikelboom, R. 2013. Personal listening devices and the prevention of noise induced hearing loss in children: the cheers for ears pilot program. *Noise & Health*, 15(65): 261-268.

Unger, M., Jelsma, J.M. and Stark, C.S. 2013. Effect of a trunk-targeted intervention using vibration on posture and gait in children with spastic type cerebral palsy: a randomised control trial. *Developmental Neurorehabilitation*, 16(2): 79-88.

### Peer-reviewed published conference proceedings

Jelsma, J.M. and Maart, S. 2013. What additional domains if any, would increase the explanatory power of the EQ-5D? In J. Busschbach (ed), *Proceedings of 29th Scientific Plenary Meeting of the EuroQol Group*, 13-15 September 2012, The Netherlands. The Netherlands: EuroQol Group Executive Office. ISBN 9789081442558.

Kyriacos, U. 2013. Standardising early warning vital signs monitoring and reporting in South Africa. *Proceedings of Annual Nursing Education Conference*, 2-4 September 2013, Gauteng. Pretoria: Fundisa. ISBN 9780620571098.

## DEPARTMENT OF HUMAN BIOLOGY

### Head of Department: Professor Lauriston Kellaway

### Departmental Profile

The Department of Human Biology (HUB) includes Anatomy; Biokinetics; Biological Anthropology; Biomedical Engineering and Medical Imaging; Cell Biology; Exercise Science; Healthcare Technology Management; Human Nutrition and Dietetics; Neurosciences; Physiology and Sport and Exercise Medicine.

The Division of Anatomy sent Professor Graham Louw and Dr Geney Gunston as delegates to the Anatomical Association of Southern Africa conference in Durban in April, and students and staff were also part of the 17<sup>th</sup> Reach to Recovery International Breast Cancer Support Conference and the UCT Human Biology and Clinical Laboratory Sciences Research Day. MSc student Kyle Paulsen won best post presentation at the Research Day. Devin Finaughty and Carrie Clarke attended the International Association for Craniofacial Identification in Kruger Park in August. Two MSc students (Rip da Silva and Kerri v.d.Berg) graduated in 2013. Professor Morris completed the second half of his Fulbright Visiting Scholarship at the Ohio State University in June but attended the American Association of Physical Anthropology meetings in Knoxville before his return. His recently published book 'Missing and Murdered' was awarded the 2013 WW Howells Brook Prize by the American Association of Anthropologists and he returned to the USA in November to attend the award ceremony in Chicago.

Postgraduate students and faculty of the Division of Biomedical Engineering attended and presented papers the Annual Scientific Meeting and Exhibition of the International Society for Magnetic Resonance in Medicine (ISMRM) in Salt Lake City, the Annual Meeting of the Organization for Human Brain Mapping (OHBM) in Seattle, and at the 1st ASME/FDA Frontiers in Medical Devices conference in Washington, all in the United States. Another BME PhD student attended the 2nd Cardiff International Symposium on Magnetic Resonance Spectroscopy in September 2013. Dr Sivarasu was presented with 'Young scientist award' for best oral presentation during the 18<sup>th</sup> International Leprosy congress held at Brussels, Belgium, September 2013. Dr Sivarasu's research was also highlighted on the ANN7 TV channel in an interview and was featured in the BBC Health Check programme aired in May

2013. Mladen Poluta has been involved in a number of key initiatives (global, regional, national and local) focusing on innovation of medical devices and in-vitro diagnostics as well as contributing to the work of the CSIR Infrastructure Unit Support System (IUSS) project developing norms and standards for healthcare delivery in South Africa.

The Division of Physiology had a particular active year for conferences and sent both staff and student delegates to the Neurological Association of South Africa in Stellenbosch in March, the Society for Neuroscientists of Africa in Rabat Morocco in June, the Biological Psychiatry conference in Kwa-Zulu Natal in August, and the Society for Neuroscience in San Diego USA in November. Jacqueline Dimetalis was an invited speaker at the Morocco conference.

Cell Biologist Professor Sharon Prince was invited to present talks at the Federal University of Ceará in Fortaleza and at the Biomedical Sciences Institute in Rio de Janeiro in Brazil. Reyna Deeya Ballim represented South Africa at the 5<sup>th</sup> HOPE meeting in Tokyo Japan where she was awarded first prize for her poster presentation. Several staff and students attended local conferences of the Physiological Society of Southern Africa, the South African Society for Human Genetics and the Neurology Association of South Africa, and the UCT Clinical Laboratory Science and Human Biology postgraduate Research Day. Britta Kleemann won 2<sup>nd</sup> prize for her presentation in the Physiological Society and Lauren Watson and Danielle Smith received prizes for the oral and poster presentations at the Neurology Association. Lester Davids was selected as a group member to launch the inaugural African Cancer Leader's Institute and Professor Kidson together with Professor Greenberg of Genetics created a website as part of the Stem Cell Initiative. Lester Davids' student Shelley Ma was awarded a prestigious Fulbright Student Fellowship which she will take up in Washington in 2014. Dirk Lang was guest lecturer in the Honours programme at Rhodes University and the Confocal & Light Microscope Facility in HUB hosted a highly successful workshop as part of the 8<sup>th</sup> meeting of the International Proteolysis Society. Natasha Hardcastle was sponsored by Zeiss(SA) to present at the Microscopy Society meeting at Wits University.

The UCT/MRC Research Unit for Exercise Science and Sports Medicine is based at the Sports Science Institute of South Africa (SSISA). Because Prof Noakes will be retiring at the end of 2014, Prof Vicki Lambert was appointed as Acting Director in 2013. The Unit has four main research areas, namely, Health and well-being; Exercise in the management of chronic disease; Injuries and medical conditions associated with sport and exercise; and Exercise performance. During 2013, funding for research projects was received from

UCT, MRC, NRF, Training Human Resources Industry Programme (THRIP), Discovery Health and other industry partners. Within the academic staff, there are 14 NRF-rated staff. Prof Noakes has the highest rating, namely, A1. A total of 59 research articles were published by staff and students in various relevant ISI-rated journals during 2013, and 25 students graduated during 2013 (10 Honours students, 6 MSc students, 7 PhD students, 1 MPhil (Biokinetics) and 1 MPhil (Sport and Exercise Medicine). Several staff and students were recipients of awards during 2013. Of the staff, Prof Noakes was one of the City Press' 100 World Class South Africans, under the category of Changemakers and crusaders. Dr Julia Goedecke received the Society for Endocrinology and Diabetes in South Africa (SEMDSA) Endocrinology award for the best original research paper published in 2013. Of the postdoctoral students, Dr Jordan Santos Concejero was awarded the Young Investigator Award travel grant by the European College of Sports Science to attend the European Conference of Sports Science in Barcelona, Spain. One of our MSc students, Ms Shameemah Abrahams was awarded the prestigious Master's DST Fellowship Women in Science Award 2013. Finally, Prof Mike Lambert launched the Athlete Monitoring and Assessment Software (AMAS) which will be very useful in SSISA's High Performance Centre.

The Division of Nutrition and Dietetics staff was consulted regularly on various nutrition issues by the public, lay media, communities, clinical colleagues as well as industry. Dr J Harbron was appointed by the National Department of Health: Nutrition Directorate to facilitate the development of the "Responsive feeding" guideline of the new paediatric Food Based Dietary Guidelines. This culminated in a publication in the SA Journal of Clinical Nutrition with Dr Harbron being primary author and three other division staff, Sharmilah Booley, Baheya Najaar and Cath Day being the co-authors. Assoc/Prof Senekal continues to serve as expert nutrition research, media liaison and project advisor to the Discovery Vitality team.

## Departmental Statistics

### Permanent and long-term contract staff

Professors (1 Discovery)	13
Associate Professors (1 MRC)	6
Senior Lecturers (1 MRC)	15
Lecturers (including part-time)	19
Postdoctoral and Research Staff	32
Technical and Support Staff	24
Admin and Clerical Staff	15
<b>Total</b>	<b>124</b>

### Students

Doctoral	51
Master's	113
M Phil	28
Honours	52
PG Diploma	16
Undergraduate	1589
<b>Total</b>	<b>1849</b>

### Research Fields and Staff

#### PROFESSOR LAURISTON KELLAWAY

Head of Department; Models of neuroinflammation, stress and brain function, *in vivo* and *in vitro* visual cortical mechanisms

#### PROFESSOR MALCOLM COLLINS

RUESSM: Chief Specialist Scientist, MRC; Biochemistry; Molecular biology; Genetics – applied to performance and injuries

#### PROFESSOR WAYNE DERMAN

RUESSM: Sport and Exercise Medicine Co-director, Clinical Sport and Exercise Medicine Research Group, Co-Convenor: MPhil (Sport and Exercise Medicine). Skeletal muscle dysfunction in chronic disease; exercise training in chronic disease

#### PROFESSOR TANIA DOUGLAS

Director of the MRC/UCT Medical Imaging Research Unit (MIRU); biomedical engineering, image processing

#### PROFESSOR SUE KIDSON

Developmental biology; melanocytes and hypopigmentary disorders; eye development and glaucoma

#### PROFESSOR MIKE LAMBERT

RUESSM: Exercise training and recovery; Science applied to rugby, Coordinator of the Ex Sci Hons Course

#### PROFESSOR ESTELLE V. LAMBERT

RUESSM: Physical activity epidemiology and chronic diseases of lifestyle; obesity and chronic disease

#### PROFESSOR GRAHAM J. LOUW

Human growth; medical education; skeletal analysis

#### PROFESSOR ALAN G. MORRIS

Human evolution; forensic anthropology, skeletal biology of early peoples in southern Africa; history of physical anthropology

#### PROFESSOR TIMOTHY D. NOAKES

Discovery Health Chair of Exercise and Sports Science and Director of UCT/MRC Research and Exercise

### Medicine Research Unit

RUESSM: Regulation of exercise performance; sports medicine

#### PROFESSOR VIVIENNE RUSSELL

Neurophysiology: Development, stress, exercise and vulnerability to neuronal injury; Attention deficit hyperactivity disorder; Depression

#### PROFESSOR MARTIN P. SCHWELLNUS

RUESSM: Sport and Exercise Medicine, Convenor of the MPhil (Sport and Exercise Medicine) programme

#### ASSOCIATE PROFESSOR ANDREW BOSCH

RUESSM: Fuel substrate metabolism, exercise training

#### ASSOCIATE PROFESSOR DIRK M. LANG

Nervous system development; axon growth and regeneration

#### ASSOCIATE PROFESSOR ERNESTA MEINTJES

MIRU: NRF chair; magnetic resonance imaging

#### ASSOCIATE PROFESSOR EDWARD OJUKA

RUESSM: glucose disposal in muscle

#### ASSOCIATE PROFESSOR SHARON PRINCE

The cell and molecular biology of cancer and the identification of novel targets for anti-cancer drugs, with special focus on the T-box transcription factors Tbx2 and Tbx3.

#### ASSOCIATE PROFESSOR MARJANNE SENEKAL

Head: Division of Human Nutrition, Weight management and health interventions, dietary assessment, nutritional genomics

#### DR COLIN ANDREW

MIRU: Senior Lecturer (part-time); Biomedical signal processing

#### MS ELMI BADENHORST

Lecturer; medical education, under-preparedness and academic performance

#### MS SHARMILAH BOOLEY

Lecturer; Division of Human Nutrition; Nutrition, HIV/AIDS and quality of life; nutrition related behaviour change interventions for prevention and management of chronic diseases of lifestyle (school and work-place based)

#### DR KISHOR BUGARITH

Senior Lecturer; physiology, neurobiology of stress, neurobiology of food intake

#### MS DINAH CURLING

Lecturer (part-time) Division of Human Nutrition

#### DR LESTER M. DAVIDS

Senior Lecturer; redox and antioxidant biology; skin cancer, pigmentary disorders of the skin, vitiligo, hair follicle biology

#### MS ZARINA EBRAHIM

Clinical Educator (part-time); Division of Human Nutrition

#### DR JACQUI FRIEDLING

Lecturer; skeletal biology; physical anthropology, forensic anthropology

#### DR JULIA H. GOEDECKE

RUESSM: Specialist Scientist, MRC; Obesity in relation to disease risk; Exercise metabolism and sports nutrition

#### DR GENEY GUNSTON

Senior Lecturer; gross anatomy; clinical anatomy; medical education

#### DR ASFREE GWANYANYA

Senior Lecturer; cardiac pathophysiology, hypertrophy, ion channels

#### DR JANETTA HARBRON

Senior Lecturer; Division of Human Nutrition; Obesity and other CDL intervention, Nutritional genomics; Sports nutrition.

#### MS FIONA HERRMANN

Clinical Educator (part-time); Division of Human Nutrition, risks for obesity development in SA communities, nutrition in palliative oncology

Dr Lauren Hill

Lecturer; Division of Human Nutrition, clinical dietetics; critical care, nutrition in surgical gastroenterology, gastrointestinal dysfunction, parenteral and enteral nutrition, oxidative stress and antioxidants

#### MS FATIMA HOOPEN

Clinical Educator (part-time); Division of Human Nutrition

#### DR MARCIN JANKIEWICZ

MIRU: Lecturer. Cape Universities Brain Imaging Centre: Magnetic Resonance Imaging

#### DR LESTER JOHN

MIRU: Senior Lecturer and Software Specialist; Electromyography, Electroencephalography, Brain-Computer Interfacing, Medical Electronics & Devices

#### DR TRACY KOLBE-ALEXANDER

RUESSM: Senior Lecturer, Physical activity and health; Co-ordinator of the BSc (Hons) Biokinetics and MPhil (Biokinetics) courses

**MS BAHEYNA NAJAAR**

Lecturer, Division of Human Nutrition, community nutrition, infant and young child feeding

**MR MLADEN POLUTA**

Senior Lecturer; Director: Healthcare Technology Management

**DR DELVA SHAMLEY**

Senior Lecturer; upper limb morbidity in breast cancer, molecular effects of adjuvant therapies in cancer

**DR CHARLES P. SLATER**

Senior Lecturer; anatomy, medical education

**MR STEF STEINER**

Lecturer; biomechanics

**DR SUDESH SIVARASU**

Lecturer, biomechanics, biomechatronics, medical devices & rehabilitation engineering

**DR LIZ VAN DER MERWE**

Senior Lecturer; ocular development and regeneration, vascular biology, pancreatic islet regeneration, 3-D microscopic image reconstruction.

**DR WILLEM VAN DER MERWE**

RUESSM: Senior honorary lecturer: Sports orthopaedic research

**DR CHRISTOPHER WARTON**

Senior Lecturer; medical education, teaching materials, MRI analysis and cerebellar structure

**Postdoctoral Fellows/Scientific and Research Officers, Research Associates****DR AMAAL ABRAHAMS**

Cell Biology: Research Officer. Role and regulation of the T-box transcription factor TBX3 during the cell cycle

**DR YUMNA ALBERTUS-KAJEE**

RUESSM: Research Officer. Electromyography in the prevention of chronic disease in patients, and neuromuscular adaptations to exercise in athletes, commercial research.

**DR ALI ALHAMUD**

MIRU: Postdoctoral Fellow; magnetic resonance imaging

**DR REYNA DEEYA BALLIM**

Cell Biology: Postdoctoral Fellow. The identification of target genes of the transcription factor TBX2 which mediate its pro-proliferative activities in cancer and the elucidation of its crystal structure with a view to designing drugs that inhibit TBX2's oncogenic function

**DR ROBEA BALLO**

Cell Biology and genetics: Genetics of vitiligo.

**DR IAN BURGER**

MIRU: Postdoctoral Fellow; magnetic resonance imaging

**MS SUSAN COOPER**

Microscopy Unit: Technical Officer

**DR KYLIE DE JAGER**

MIRU: Postdoctoral Fellow; automated microscopy; medical devices

**DR JACQUELINE DIMATELIS**

Physiology: Postdoctoral Fellow. Neurophysiology: Development, stress, exercise and vulnerability to neuronal injury; Attention deficit hyperactivity disorder; Depression

**DR CATHERINE DRAPER**

RUESSM: Senior Research Officer. Social science aspects of physical activity as a means of health promotion and disease prevention. Development and evaluation of promotion programmes. Physical activity in early childhood.

**DR JANINE GRAY**

RUESSM: Honorary lecturer. Cricket research – research coordinator for Cricket South Africa

**DR MARTHA HOLMES**

MIRU: Postdoctoral Fellow, neuroimaging

**MR DAVID KARPUL**

RUESSM: Research Officer: Biomechanics research, Manager of the Biomechanics Lab., electronics

**DR DHESHNIE KESWELL**

RUESSM: Postdoctoral Fellow: Molecular and cellular aspects of obesity and type 2 diabetes

**DR TERTIUS KOHN**

RUESSM: Senior Research Officer. Skeletal muscle biochemistry of exercise adaptation, muscle fatigue and weakness

**MR SRIRAM KRISHNAN**

Development of a light microscope for automated identification of TB bacilli in ZN stained sputum smears

**DR JACOLENE KROFF**

RUESSM: Senior Research Officer: Manages, runs and supervises all research conducted in the Metabolic Lab.

**DR WENDY KRÖGER**

Postdoctoral fellow in cell biology: The molecular mechanisms by which the T-box transcription factor TBX3 contributes to tumourigenesis.

**DR AMOD KULKARNI**

Postdoctoral Fellow (Claude Leon Foundation). In vitro and in vivo neuro-pharmacokinetics and neuropharmacodynamics of natural neuroprotective agents.

**DR ROBERT LAMBERTS**

RUESSM: Senior Research Officer (UCT)/Head of Orthopaedic Research (SUN), Predicting and monitoring performance, Thermoregulation, Biomechanics, Orthopaedics Cerebral Palsy and HIV

**DR BARAK MORGAN**

MIRU: Behavioural, physiological and neuroimaging studies in affective neuroscience

**DR LISA MICKLESFIELD**

RUESSM: Senior Researcher/Honorary Research Fellow (Wits University). Bone health and physical activity

**Ms Mweete Nglazi**

RUESSM: Research Officer. Epidemiology and biostatistics

**DR MICHAEL POSTHUMUS**

RUESSM: Senior Research Officer. Genetics – applied to performance and injuries, Sports orthopaedic research

**DR DALE RAE**

RUESSM: Senior Research Officer: Circadian rhythms and performance; Commercial research division manager

**DR LAURIE RAUCH**

RUESSM: Research Officer: Brain activity and cognitive stress

**DR FRANCES ROBERSTON**

MIRU: Postdoctoral Fellow; magnetic resonance imaging

**DR ELSKE SCHABORT**

RUESSM: Research Officer: Brain regulation of exercise; Commercial research

**DR JORDAN SANTOS CONCEJERO**

RUESSM: Postdoctoral Fellow: Exercise physiology; Brain oxygenation during exercise

**DR ALISON V. SEPTEMBER**

RUESSM: Senior Research Officer. Molecular human genetics

**DR JAMES SMITH**

RUESSM: Research Officer: Diet, health, metabolism and exercise performance

**DR JEROEN SWART**

RUESSM: Honorary Research Associate. Sports medicine

**DR ROSS TUCKER**

RUESSM: Senior Research Officer: Central Governor research, Exercise training; Commercial Research division co-management

**MRS HENDRIENA VICTOR**

RUESSM: Senior Scientific Officer: HPLC analysis, Laboratory support

**Contact Details**

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**Research output****Articles in peer-reviewed journals**

Abrahams, Y., Laguette, M.J., Prince, S. and Collins, M. 2013. Polymorphisms within the COL5A1 3'-UTR that alters mRNA structure and the MIR608 gene are associated with achilles tendinopathy. *Annals of Human Genetics*, 77: 204-214.

Aliwaini, S., Swarts, A.J., Blanckenberg, A., Mapolie, S.F. and Prince, S. 2013. A novel binuclear palladacycle complex inhibits melanoma growth in vitro and in vivo through apoptosis and autophagy. *Biochemical Pharmacology*, 86: 1650-1663.

An, R., Patel, D., Segal, D. and Sturm, R. 2013. Eating better for less: a national discount program for healthy food purchases in South Africa. *American Journal of Health Behavior*, 37(1): 56-61.

Badenhorst, E.S. and Kapp, R. 2013. Negotiation of learning and identity among first-year medical students. *Teaching in Higher Education*, 18(5): 465-476.

Ballo, R., Greenberg, J. and Kidson, S.H. 2013. A new class of stem cells in South Africa: iPS cells. *SAMJ South African Medical Journal*, 103(1): 16-17.

Boonzaier, J., Van der Merwe, E.L., Bennett, N. and Kotze, S.H. 2013. A comparative histochemical study of the distribution of mucins in the gastrointestinal tracts of three insectivorous mammals. *Acta Histochemica*, 115(6): 549-556.

- Boonzaier, J., Van der Merwe, E.L., Bennett, N. and Kotze, S.H. 2013. Comparative gastrointestinal morphology of three small mammalian insectivores: *Acomys spinosissimus* (Rodentia), *Crocidura cyanea* (Eulipotyphla), and *Amblysomus hottentotus* (Afrosoricida). *Journal of Morphology*, 274: 615-626.
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- Cuzen, N., Andrew, C., Thomas, K., Stein, D.J. and Fein, G. 2013. Absence of P300 reduction in South African treatment-naïve adolescents with alcohol dependence. *Alcoholism-Clinical and Experimental Research*, 37(1): 40-48.
- Dendere, R., Osibote, O., Krishnan, S. and Douglas, T.S. 2013. Comparison of image fusion and focus function-based techniques for autofocusing in fluorescence microscopy for tuberculosis screening. *International Journal of Medical Engineering and Informatics*, 5(2): 177-177.
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- Domingo, R., Sturrock, E.D. and Collins, M. 2013. ACE activity and endurance performance during the South African ironman triathlons. *International Journal of Sports Medicine*, 34: 402-408.
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- El Khoury, L., Posthumus, M., Collins, M., Handley, C.J., Cook, J. and Raleigh, S.M. 2013. Polymorphic variation within the ADAMTS2, ADAMTS2, ADAMTS5, ADAM12 and TIMP2 genes and the risk of Achilles tendon pathology: a genetic association study. *Journal of Science and Medicine in Sport*, 16: 493-498.
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- Faulenbach, M.V., Wright, L.A., Lorenzo, C., Utzschneider, K.M., Goedecke, J.H., Fujimoto, W.Y., Boyko, E.J., McNeely, M.J., Leonetti, D.L., Haffner, S.M. and Kahn, S.E. 2013. Impact of differences in glucose tolerance on the prevalence of a negative insulinogenic index. *Journal of Diabetes and its Complications*, 27: 158-161.
- Fein, G., Greenstein, D., Cardenas, V., Cuzen, N., Fouche, J., Ferrett, H., Thomas, K. and Stein, D.J. 2013. Cortical and subcortical volumes in adolescents with alcohol dependence but without substance or psychiatric comorbidities. *Psychiatry Research-Neuroimaging*, 214: 1-8.
- Froyd, C., Beltrami, F., Jensen, J. and Noakes, T.D. 2013. Potentiation increases peak twitch torque by enhancing rates of torque development and relaxation. *Journal of Human Kinetics*, 38: 83-94.
- Froyd, C., Millet, G.Y. and Noakes, T.D. 2013. The development of peripheral fatigue and short-term recovery during self-paced high-intensity exercise. *Journal of Physiology*, 591(5): 1339-1346.
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- Goedecke, J.H., Micklesfield, L.K., Levitt, N., Lambert, E.V., West, S., Maartens, G. and Dave, J.A. 2013. Effect of different antiretroviral drug regimens on body fat distribution of HIV-infected South African women. *AIDS Research and Human Retroviruses*, 29(3): 557-563.
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- Ives-Deliperi, V., Howells, F., Stein, D.J., Meintjes, E.M. and Horn, N. 2013. The effects of mindfulness-based cognitive therapy in patients with bipolar disorder: a controlled functional MRI investigation. *Journal of Affective Disorders*, 150: 1152-1157.
- Jacobs, K.L., Mash, B., Draper, C.E., Forbes, J. and Lambert, E.V. 2013. Evaluation of a school-based Hayes, P., Adams, K., Dave, J.A. and Goedecke, J.H. 2013. Ethnic-specific associations between abdominal and gluteal fat distribution and the metabolic complications of obesity: implications for the use of liposuction. *Plastic Surgery: An International Journal*, 2013: 796359(14pp). DOI: 10.5171/2013.796359.
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- Hendricks, S., Roode, B., Matthews, B. and Lambert, M.I. 2013. Defensive strategies in rugby union. *Perceptual and Motor Skills*, 117(1): 65-87.
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- Hill, L.T. 2013. Gut dysfunction in the critically ill - mechanisms and clinical implications. *Southern African Journal of Critical Care*, 29(1): 11-15.
- Hoare, J., Westgarth-Taylor, J., Fouche, J., Combrinck, M.I., Spottiswoode, B., Stein, D.J. and Joska, J. 2013. Relationship between apolipoprotein E4 genotype and white matter integrity in HIV-positive young adults in South Africa. *European Archives of Psychiatry and Clinical Neuroscience*, 263: 189-195.
- Howells, F.M., Ives-Deliperi, V.L., Horn, N. and Stein, D.J. 2013. Increased thalamic phospholipid concentration evident in bipolar I disorder. *Progress in Neuropsychopharmacology & Biological Psychiatry*, 41: 1-5.
- Ives-Deliperi, V., Butler, J.T. and Meintjes, E.M. 2013. Functional MRI language mapping in pre-surgical epilepsy patients: findings from a series of patients in the epilepsy unit at Mediclinic Constantiaberg. *SAMJ South African Medical Journal*, 103(8): 563-567.

- nutrition and physical activity programme for grade 4 learners in the Western Cape province. *South African Family Practice*, 55(4): 391-397.
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## DEPARTMENT OF MEDICINE

**Head of Department:**  
**Professor B.M. Mayosi**

### Departmental Profile

The Department of Medicine is a large clinical department which plays a leading role in medical education and research, and provides clinical services to the communities of the Western Cape and, in the case of our highly specialised services, to patients throughout southern Africa. The Department consists of 21 clinical and service divisions, 11 major research units, and four affiliated departments of medicine at GF Jooste, New Somerset, II Military, and Victoria hospitals ([www.medicine.uct.ac.za](http://www.medicine.uct.ac.za)). Each day, members of the department treat an average of 2,000 patients in our clinics, admit about 100 patients to our hospital services and perform over 210 medical procedures. The department offers a number of highly specialised services that are unique nationally such as allergology, bone marrow, heart, kidney, and liver transplantation, cardiac electrophysiology, endobronchial ultrasound guided bronchoscopy, and double balloon enteroscopy for visualisation of the small bowel.

There approximately 80 registrars who are training in the department, 20 of whom are from other countries such as Botswana, Ghana, Kenya, Libya, Malawi, Namibia, Swaziland, Tanzania, Uganda, Zambia, and

Zimbabwe. The department produces formularies and guidelines that are used in most health facilities in South Africa, such as the *South African Medical Formulary* and *Primary Care* 101.

### Departmental Statistics

#### Permanent and Long-term Contract Staff

Professors	10
Associate Professors	7
Senior Lecturers/ Lecturers Full-time	27
Administrative and clerical staff	100
<b>Total</b>	<b>144</b>

#### Honorary Staff

Honorary Professors	15
Emeritus Professors	11
Honorary Associate Professors	3
Honorary Senior Lecturers	42
Honorary Research Associates	11
<b>Total</b>	<b>82</b>

#### Students

Doctoral	51
Master's	13
Undergraduates	1015
<b>Total</b>	<b>1079</b>

#### Research Fields and Staff

See *Divisions and Research Units within the Department*

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## DIVISION OF CLINICAL IMMUNOLOGY

**Head of Division:**  
**Associate Professor S.R. Ress**

### Divisional Profile

The Division of Clinical Immunology undertakes a multi-disciplinary activity that includes teaching of undergraduate and post-graduate students, a clinical service involving evaluation of immune function in patients with suspected immune deficiency, and a translational research programme focussed on immunology of autoimmunity, HIV and TB.

*Undergraduate teaching* involves lectures in immunology to semester 3-5, 4th year, & 6<sup>th</sup> year medical student. *Postgraduate teaching* includes registrar teaching, 4 and 5 pm faculty of health science talks, and journal clubs. Research projects include immune pathogenesis of TB & autoimmunity.

Service delivery comprises in-and out-patient consultations. These entail an assessment of immune status in patients with suspected immune deficiency and autoimmune disorders. Research and Development (R&D) translational research involves the application of basic science advances and their implementation in innovative, clinically applicable diagnostic assays and assays for monitoring of disease activity. In the past clinical assessments were directly linked to specialized immune functional assays required for the comprehensive evaluation of immune status, performed by this unit. Several of these tests were discontinued with the formation of the NHLS who have been unable to offer all the required specialised, tertiary, complex immune assays which are labour intensive (unlike high throughput, routine assays which is their main focus). The interest, expertise and necessary facilities to undertake this function are all available in the department of medicine. There is an urgent need to re-establish essential, specialized tertiary tests that are required both for optimal care of patients, and for the maintenance of the required academic standard of a world class institute.

### Divisional Statistics

#### Permanent and Long-term Contract Staff

Associate Professors	1
Technical Support Staff	1
<b>Total</b>	<b>2</b>

## Research Fields and Staff

**ASSOCIATE PROFESSOR STANLEY RESS**  
Immunology of tuberculosis; Autoimmunity

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## DIVISION OF CLINICAL PHARMACOLOGY

**Head of Division:**  
**Professor Gary Maartens**

### Divisional Profile

The major research thrusts of the division are focused on drugs for malaria, tuberculosis and HIV. The research in these fields is broad and encompasses drug discovery, pharmacokinetics, pharmacodynamics, pharmacogenomics, clinical trials, adverse drug reactions, and pharmacoeconomic evaluation. The analytical laboratory plays a key research role with small animal models for drug discovery and in patient samples for drug concentrations. A large multicentre malaria clinical research group headed by Prof Karen Barnes is at the forefront of translational malaria research in Africa. The analytical laboratory has recently been awarded funding from NIH as an International Pharmacology Specialty Laboratory. Prof Helen McIlroy heads our clinical pharmacokinetic group, which conducts a series of studies evaluating pharmacokinetic-pharmacodynamic relationships of anti-tuberculosis drugs, antiretroviral drugs, and the interaction between them in adults and children with funding. We have a pharmacometric laboratory headed by Dr Paolo Denti to perform these complex analyses. Professor Gary Maartens runs a broad research programme focused on the clinical pharmacology of HIV and tuberculosis.

## Divisional Statistics

### Permanent and long term contract staff

Professors	2
Associate Professors	2
Senior Lecturer	2
Senior Research Officer	3
Medical Research Officer	2
Registrars	4
Research Fellow	1
Technical Support	14
Database Manager	2
Quality Assurance Manager	1
Information Pharmacist	5
Editor SAMF	1
Clinical Trial Monitors	1
Administrative and Clerical Staff	7
Departmental Assistance	1
<b>TOTAL</b>	<b>47</b>

### Honorary staff

Honorary professor	2
Honorary Lecturers	1
Honorary Research Associates	1
<b>Total</b>	<b>4</b>

### Postgraduate students

Postdoctoral research fellows	3
Doctoral	11
Master's	4
Honours	5
<b>Total</b>	<b>23</b>

### Research Fields and Staff

#### BARNES, KI.

Malaria: antimalarial therapy – drug development (including Phase 1 and First-in-human studies), operational and policy research. Antimicrobial pharmacokinetic studies to inform optimal dosing in vulnerable populations

#### BLOCKMAN, M.

Rational and cost-effective prescribing of medicines; drug utilisation review; adverse drug reaction monitoring; drug policy and regulation; human research ethics.

#### COHEN, K.

Antiretroviral pharmacokinetics, adverse drug reactions, and effectiveness; HIV and non-communicable diseases; anti-tuberculosis drug-induced liver injury.

#### DENTI, P

Pharmacokinetic modelling of pharmacokinetics and pharmacodynamics of antiretrovirals, anti-tuberculosis, and anti-malarials.

#### GABRIELS, G.

Nutritional and traditional supplements product content validity, contamination and adulteration; drugs in sport.

#### MAARTENS, G.

Adherence-resistance relationships in antiretroviral therapy; treatment algorithms for HIV-associated tuberculosis; tuberculosis preventive therapy for people living with HIV; pharmacoeconomic evaluation of antiretroviral therapy; pharmacogenomics and adverse drug reactions of antiretrovirals; HIV and non-communicable diseases.

#### MCILLERON, H.

Pharmacokinetic-pharmacodynamic relationships of anti-tuberculosis and antiretroviral drugs; pharmacogenomics; population pharmacokinetics; drug interactions between antiretrovirals and anti-tuberculosis drugs.

#### SMITH, PJ.

Pharmacokinetics of anti-tuberculosis and antiretroviral drugs; in vitro antimalarial assays, toxicology, drug development

#### WIESNER, L.

Pharmacokinetics and Pharmacodynamics of new antimalarial and anti-TB compounds in small animal models. Bioanalytics of clinical pharmacokinetic studies

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## DIVISION OF ENDOCRINOLOGY AND DIABETIC MEDICINE

### Head of Division: Professor N.S. Levitt

### Divisional Profile

The Division provides an inpatient and outpatient clinical service and sub-speciality training in adult endocrinology and diabetes. It has close clinical links with Paediatric Endocrinology and Diabetes, Reproductive Endocrinology and Chemical pathology.

### Research

The Division is involved in a wide range of research activities, interacts with a number of international and local collaborators and is a member of the recently established Chronic Disease Initiative for Africa. The primary areas of research are:

- *Metabolic consequences of antiretroviral therapy in HIV+ patients and:* A number of cross-sectional and longitudinal studies examine the metabolic consequences of HAART are still in progress. These have been funded by the World Diabetes Foundation and Department of Health.
- *Burden of disease:* The contribution of diabetes and other chronic diseases to the overall burden of disease pattern in the South African context is been studied in collaboration with Dr Debbie Bradshaw, BOD Group, MRC and Professor Karen Hofman from the University of Witwatersrand.
- *Phenotype of patients presenting with diabetic ketoacidosis in Cape Town.* This study aim to describe the phenotype and type of diabetes in people presenting with diabetic ketoacidosis in Cape Town ; to develop standardized strategies for the safe withdrawal of insulin and prediction models to aid in identifying patients that may not require lifelong insulin.
- *Understanding the epidemiology and health system impact of the overlap between infectious and non-communicable diseases in low- and middle-income countries.* These studies are being undertaken in collaboration with the Institute of Infectious Diseases and Molecular Medicine, School of Public Health and Family Medicine, and other international members of a Worldwide University Network grant.

- *Obesity:* In collaboration with the Department of Human Biology, a number of studies are in progress. These examine the mechanisms underlying the aetiology of obesity and insulin sensitivity in black and white African women.

- *Addison's Disease:* Cardiovascular risk factors in Addison's disease has been investigated in collaboration with the University of Gothenberg. The impact of glucocorticoid receptor polymorphisms on cardiovascular risk factors has been assessed in Addison's disease.

- *Health Systems Research:* The Division collaborates in projects being conducted by the Chronic Diseases Initiative for Africa. These include: a pragmatic cluster randomised trial of an integrated guideline for the management of diabetes and other chronic diseases in the Eden/Overberg primary care setting,, a randomised controlled trial to evaluate the effectiveness of a group diabetic education programme using motivational interviewing in underserved communities; the development of a resource package for primary health care providers and community health workers to enable them to offer brief counselling on lifestyle, evaluation of the roles of community health workers in non communicable disease care in the primary care setting and a randomised trial of the use of mobile phone technology to enhance adherence in people with hypertension.

- *Diabetes in the older person* In collaboration with the Division of Geriatrics, this study aims to develop a self-Management care program for Older People with Type 2 diabetes attending Community Health Centres in Cape Town.

### Divisional Statistics

### Permanent and Long-term Contract Staff

Professor	1
Professor (visiting )	1
Senior Lecturers	2
Senior Registrar in Training	1
Medical Officer (sessional)	1
Diabetes Specialist Nurse	2
Administrative and Clerical Staff	1
<b>Total</b>	<b>8</b>

### Research Fields and Staff

#### PROFESSOR N S LEVITT

Diabetes and hypertension health systems research, diabetes burden of disease, mechanisms underlying the metabolic sequelae of obesity, metabolic consequences

of HAART and the interaction between tuberculosis and diabetes

#### PROFESSOR K STEYN

Hypertension health systems research, burden of chronic disease and smoking in pregnancy

#### DR I L ROSS

National registry for Study of Addison's Disease and polyglandular autoimmune syndrome

#### DR J DAVE

Metabolic consequences of antiretroviral therapy

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## HATTER INSTITUTE FOR CARDIOLOGY RESEARCH

#### Director: Prof. Karen Sliwa-Hähnle

#### Institute Profile

Under the directorship of Professor Karen Sliwa, the Hatter Institute for Cardiovascular Research in Africa (HICRA) has been expanded to encompass more clinical research. Our focus is (1) to investigate cardiac disease interlinked with pregnancy (Cardiac Disease and Maternity Group); (2) to undertake African population studies with a focus on translational research (Heart of Africa studies); (3) to develop awareness projects linked to health education in South Africa and Africa (HEDU-Africa), (4) to study the mechanisms of protecting the heart against insults such as lack of blood flow (Cardiac Protection Group) and (5) the genetic basis of cardiomyopathy and other forms of heart disease (Cardiovascular Genetics Group).

Our major goal is to deliver first-class internationally competitive research on the pathogenesis, treatment and prevention of heart disease in Africa. We have set ourselves the goal of taking a dual approach to heart disease research; at the molecular-cellular level and at the population epidemiological level.

Our vision is to facilitate national and international collaborations in its fields of expertise. In order to achieve research excellence we strive to produce work that is published in high impact factor journals and is of relevance to the society in which we live.

HICRA trains a number of Honours, Master's and PhD students in cardio-protection, cardiac signalling, cardiovascular genetics, acute heart failure, pulmonary arterial hypertension and translational preventative research. Several students from other African countries, including Nigeria, Tanzania and Cameroon, are currently undertaking PhD training under the supervision of Professor Karen Sliwa.

#### Research Collaborative initiatives

##### Local collaborations

PROF ZILLA, DR DAVIES, CARDIOVASCULAR RESEARCH UNIT, UNIVERSITY OF CAPE TOWN  
PROF DAVID MARAIS, DR BLACKHURST, LIPID LABORATORY, UNIVERSITY OF CAPE TOWN  
DR ROISIN KELLY, HUMAN BIOLOGY DEPARTMENT, UNIVERSITY OF CAPE TOWN  
PROF JUSTIAAN SWANEVELDER, DEPARTMENT OF ANAESTHESIA, UNIVERSITY OF CAPE TOWN  
DR TONY LACHMANN, DEPT OBSTETRICS & GYNAECOLOGY, UNIVERSITY OF CAPE TOWN  
DR CATHERINE ELLIOT, DEPT OBSTETRICS & GYNAECOLOGY, UNIVERSITY OF CAPE TOWN  
DR JOHN ANTHONY, DEPT OBSTETRICS & GYNAECOLOGY, UNIVERSITY OF CAPE TOWN  
DR FRIEDRICH THIENEMANN, INSTITUTE OF INFECTIOUS DISEASE & MOLECULAR MEDICINE, UNIVERSITY OF CAPE TOWN AND INTEGRAFRICA  
PROF AMANDA LOCHNER, PROF FAADIEL ESSOP, PROF FLORIAN BAUER, UNIVERSITY OF STELLENBOSCH

##### Collaborations in Africa

PROF ALBERTINO DAMASCENO, EDUARDO MONDANE UNIVERSITY, MAPUTO, MOZAMBIQUE  
PROF ANA MOCUMBI, NATIONAL INSTITUTE OF HEALTH, MAPUTO, MOZAMBIQUE  
PROF CHARLES MONDO, MAKAREE UNIVERSITY, KAMPALA, UGANDA  
PROF GERALD YONGA, NAIROBI, KENYA  
PROF E. OGOLA, NAIROBI, KENYA  
DR R. MVUNGI, DAR ES SALAM, TANZANIA  
PROF MAHMOUD SANI, KANO UNIVERSITY, KANO, NIGERIA  
DR O. OGAH, LAGOS, NIGERIA  
DR D. OJJII, ABUJA, NIGERIA  
PROF AMAM MBAKWEM, LAGOS, NIGERIA

##### International collaborators include:

PROF BERNARD GERSH, PROF LORI BLAUWET, MAYO CLINIC, ROCHESTER, USA  
PROF D YELLON, HATTER INSTITUTE, UNIVERSITY

#### College London:

PROF SIMON STEWART, BAKER IDI MELBOURNE AUSTRALIA;  
PROF DENISE HILFIKER-KLEINER, UNIVERSITY OF HANNOVER, GERMANY;  
PROF MICHAEL BOEHM, UNIVERSITY OF SAARLAND, GERMANY;  
PROF SALIM YUSUF, MCMASTER UNIVERSITY, ALBERTA, CANADA  
PROF MARCELO IRITI, UNIVERSITY OF MILAN, ITALY  
PROF ANNE JONASSEN, UNIVERSITY OF BERGEN, NORWAY  
PROF RICHARD JAMES, UNIVERSITY OF GENEVA, SWITZERLAND  
PROF LUC ROCHELLE, UNIVERSITY OF BURGUNDY, FRANCE  
PROF MICHAEL SACK, NATIONAL HEALTH INSTITUTE, NEW BETHESDA, USA  
PROF HUGH WATKINS AND DR MARTIN FARRALL, DEPARTMENT OF CARDIOVASCULAR MEDICINE, UNIVERSITY OF OXFORD, UK  
PROF BERNARD KEAVNEY AND PROFESSOR PETER AVERY, INSTITUTE FOR LIFE, UNIVERSITY OF NEWCASTLE-UPON-TYNE, UK  
PROF PETER SCHWARTZ, UNIVERSITY OF PAVIA, ITALY  
DR DEBO ADEYEMO, HOWARD UNIVERSITY, WASHINGTON DC, USA  
DR GUILLAUME PARE, MCMASTER UNIVERSITY, HAMILTON, ONTARIO, CANADA  
PROF JIM DALE, UNIVERSITY OF MEMPHIS, USA  
PROF JONATHAN CARAPETIS, MENZIES SCHOOL OF HEALTH RESEARCH, DARWIN, AUSTRALIA  
PROF ABRAHAM HAILEAMILAK, UNIVERSITY OF JIMMA, ETHIOPIA  
DR GANESAN KARTHIKEYAN, ALL INDIA INSTITUTE OF MEDICAL SCIENCE, DELHI, INDIA  
PROF LUIZA GUILERME, UNIVERSITY OF SAO PAULO, SAO PAULO, BRAZIL  
PROF MASSIMILIANO GNECCI, UNIVERSITY OF PAVIA, ITALY

#### Institute Statistics

##### Permanent and Long-term Contract Staff

Director/Professor	1
Emeritus Professor	1
Associate Professor	1
Clinical Staff	2
Senior Lecturers	2
Senior Researcher	1
Research Staff	6
Laboratory Assistants	2
Administrative and Clerical Staff	1
<b>Total</b>	<b>16</b>

#### Honorary Staff

Honorary Professors	4
<b>Total</b>	<b>4</b>

#### Students

Postdoctoral research fellows	1
Doctoral	11
Master's	3
<b>Total</b>	<b>15</b>

#### Research Fields and Staff

PROF KAREN SLIWA-HÄHNLE (CARDIAC DISEASE IN MATERNITY AND HEART OF AFRICA STUDIES)  
Cardiac disease in pregnancy and heart failure.

EMERITUS PROFESSOR LIONEL OPIE (ISCHAEMIA)  
Delineation of cellular and molecular mechanisms promoting cardiac protection

PROFESSOR BONGANI MAYOSI (GENETICS GROUP LEADER)  
Epidemiology, genetics, and treatment of non-ischaemic heart disease

ASSOCIATE PROFESSOR SANDRINE LECOUR (CARDIOPROTECTION GROUP LEADER)  
Delineation of cellular and molecular mechanisms promoting cardiac protection with special reference to Tumour Necrosis Factor alpha

MS TASNEEM ADAM  
The anti-aging molecules sirtuins and their role in cardioprotection

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# THE ALBERTINA AND WALTER SISULU INSTITUTE OF AGEING IN AFRICA/ DIVISION OF GERIATRIC MEDICINE

**Head of Division of Geriatric Medicine:**  
**Professor M Combrinck**

**Head of Institute of Ageing in Africa:**  
**Dr S. Kalula**

## Institute Profile

The Albertina and Walter Sisulu Institute of Ageing in Africa (IAA) is a Cross-Disciplinary Group. The IAA represents a coalescence of institute – wide disciplines with a focus on ageing: specifically Geriatric Medicine; Geriatric Neurology; Geriatric Neuropsychology and Old Age Psychiatry. The International Longevity Centre–South Africa is incorporated in the Institute. The vision of the IAA is to be an academic, clinical, research and policy centre of excellence and relevance in Africa. Its mission is to facilitate the delivery of the highest standard of inter-disciplinary, in-context training for health and allied professionals and evidence-based clinical and social care for older people, whilst undertaking appropriate research and audit upon which policy and planning for older persons may be based. The mission is achieved through interdisciplinary partnerships and teamwork, and human resources development within current legal, ethical and financial constraints. The IAA is a leader in the area of research on ageing in sub-Saharan Africa, and enjoys international recognition and acclaim.

## Institute Statistics

### Permanent and Long-term Contract Staff

Associate Professor	3
Senior Lecturers	3
Senior Scientific Officer	0
Medical registrars	1
Administrative and Clerical Staff	1
<b>Total</b>	<b>8</b>

### Honorary Staff

Visiting Researcher	1
Senior Lecturer	3
<b>Total</b>	<b>4</b>

## Students

Doctoral	2
Master's	6
<b>Total</b>	<b>8</b>

## Research Fields and Staff

### DR SEBASTIANA KALULA

Epidemiology of dementia; falls; quality of care.

### DR LINDA DE VILLIERS

Stroke risk factors and rehabilitation; post-discharge stroke community care.

### PROFESSOR MARC COMBRINCK

neuro-inflammation and mechanisms of neuro-degeneration with specific reference to cognitive impairment in the elderly and in HIV-associated encephalopathy.

### DR KEVIN G.F. THOMAS

Senior Lecturer, Department of Psychology: geriatric neuropsychology; dementia; impact of stress on memory; impact of life stressors on age-related cognitive decline.

### ASSOCIATE PROFESSOR JOHN A. JOSKA

Senior Lecturer, Division of Neuropsychiatry, Department of Psychiatry and Mental Health: neurocognitive disorders in HIV infection.

## Contact Details

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# DIVISION OF NEPHROLOGY AND HYPERTENSION

**Heads of Division: Associate Professor B.L. Rayner**

## Divisional Profile

Currently the new division offers a wide range of clinical services including chronic and acute dialysis, renal transplantation, assessment and treatment of a broad range of kidney disease and resistant hypertension, 24 blood pressure monitoring renal biopsies, prevention of chronic kidney, and cardiovascular risk assessment. The unit is supported by a dedicated team of transplant surgeons. Treatment is offered to both private and indigent patients. It also offers outreach programmes to Khayelitsha Community Health Centre and GF Jooste Hospital locally, and to George Hospital, the Northern and Eastern Cape.

There is active training programme for senior registrars in Nephrology and the unit is currently training 6 nephrology fellows. The division supports the Department of Medicine training of medical students, specialist physicians, professions' allied to medicine, renal technologists and the nephrology course for nurses.

The main academic research activities of the division relate to:

1. Vitamin D and outcomes in SLE
2. systemic lupus erythematosus (SLE) registry
3. genetics of salt sensitive hypertension
4. diabetic nephropathy and treatment of type 2 diabetes
5. classification, genetics, prevalence and treatment of HIV associated nephropathy
6. renal anaemia
7. HIV associated nephropathy and chronic diseases of lifestyle
8. Tenofovir nephrotoxicity
9. physiological treatment of hypertension in indigenous people
10. ethical consideration for dialysis rationing
11. prevalence and outcome of AKI
12. assessment of adherence to anti-hypertensive treatment through drug monitoring
13. Mesangiocapillary glomerulonephritis
14. CAPD registry
15. Association of the use of TIK with hypertension and CKD
16. Epidemiology of membranous nephropathy
17. Renal denervation for resistant hypertension
18. Renal denervation for hypertension in transplant patients

19. Comparison of FGF23 blood levels in CKD patients on HD. Could differences in levels explain the vascular calcification preponderance in non-blacks?
20. Myocardial imaging in HD patients
21. Rapidly progressive glomerulonephritis
22. Diagnosis of Renal Tb in HIV+ve patients
23. Assessment of AV fistulas using MRI scanning

## Divisional Statistics

### Permanent and Long-term Contract Staff and students

Associate Professors	2
Senior Lecturers	3
Emeritus Professor	1
Senior registrar	6
Part-time consultant	0
Medical officers	3
Medical registrars	3
PhD Students	0
M Phil Students	3
<b>Total</b>	<b>18</b>

## Research Fields and Staff

### ASSOCIATE PROFESSOR C.R. SWANEPOEL

HIV the kidney, renal anaemia, SLE, FGF-23 and renal bone disease, myocardial imaging in dialysis patients

### DR Z BARDAY

Kidney transplantation, renal denervation in kidney transplant patients

### DR IKE OKPECHI

Lupus registry; mesangiocapillary GN, CAPD registry, Rapidly progressive GN

### DR WEARNE

HIV and kidney, tenofovir nephrotoxicity, CAPD registry, HIV and diseases of lifestyle, TB and the kidney

### ASSOCIATE PROFESSOR BRIAN RAYNER

Ethical considerations for dialysis rationing, acute renal failure, Physiological treatment of hypertension, TIK, hypertension and CKD, Therapeutic drug monitoring in hypertension, Renal denervation in resistant hypertension, Salt sensitive hypertension, Diabetic nephropathy, MRI scanning and AV fistulas

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## DIVISION OF LIPIDOLOGY

### Head of Division: Dr D. Blom

#### Divisional Profile

Lipidology at UCT is currently spread over two Departments. The Department of Medicine houses the Division of Lipidology (Head: Dr D. Blom) while the Lipid Laboratory is located within the Division of Chemical Pathology (Head: Professor A.D. Marais) in the Department of Clinical Laboratory Sciences. The two components of Lipidology co-operate very closely in the investigation and management of patients. The Division of Lipidology in the Department of Medicine performs the following functions within the limits of funding, staff and facilities: expert clinical consultation, clinical research including drug development studies with the pharmaceutical industry, and ultrasonography for assessment of carotid intima media thickness. The Lipid laboratory provides specialized diagnostic investigations including determination of lipoprotein particle size by non-denaturing gradient gel electrophoresis, ultracentrifugation and analysis of VLDL composition for the diagnosis of dysbetaipoproteinaemia and genotyping to detect mutations in the LDL-receptor, apolipoproteinE and lipoprotein lipase. More specialized investigations such as measurement of 7-dehydrocholesterol for the diagnosis of Smith-Lemli-Opitz syndrome, measurement of plant sterols for the diagnosis of sitosterolaemia, cell culture and analysis of other genes are performed as required. The staff, service and research are funded chiefly by contract research. The Lipid Laboratory receives limited support from the Medical Research Council. The clinical research describes the severe dyslipidaemias occurring in the public health sector of the province but includes some referrals from the private sector and academic institutions in the country. Pharmaceutical studies investigate novel lipid modifying agents in severe hypercholesterolaemia, management of severe hypertriglyceridaemia, novel anti-diabetic therapies and studies of cardiovascular outcome with novel agents.

## Divisional Statistics

### Permanent and Long-term Contract Staff

Consultants	1
Medical Officers	2
Nursing sisters	3
Contract Dietitian	1
Sonographers	1
Laboratory Technologists	1
Technical Support Staff	1
Administrative Staff	1
<b>Total</b>	<b>11</b>

#### Students

Master's	1
<b>Total</b>	<b>1</b>

#### Research Fields and Staff

AD MARAIS, DJ BLOM, BC BRICE, KH WOLMARANS, G SOLOMON, RJ JOOSTE

Severe dyslipidaemias including Familial Hypercholesterolaemia, Dysbetaipoproteinaemia, chylomicronaemia.

KH WOLMARANS, Z BEHARDIEN, DJ BLOM, AD MARAIS  
Carotid intima-media thickness in dyslipidaemic patients

DJ BLOM, G SOLOMON, BD RATANJEE, AD MARAIS  
Dysbetaipoproteinaemia. Lipodystrophy.

DJ BLOM, KH WOLMARANS, BC BRICE, RJ JOOSTE, R TAYLOR, AD MARAIS.

Anti-sense oligonucleotides for limiting LDL production in homozygous familial hypercholesterolaemia and refractory heterozygous familial hypercholesterolaemia

DJ BLOM, BC BRICE, KH WOLMARANS, RJ JOOSTE, R TAYLOR

Microsomal triglyceride protein inhibition in homozygous familial hypercholesterolaemia

DJ BLOM, BC BRICE, KH WOLMARANS, RJ JOOSTE, R TAYLOR

PCSK-9 inhibition for the management of severe hypercholesterolaemia

DJ BLOM IN COLLABORATION WITH J DAVE OF THE DIVISION OF ENDOCRINOLOGY AND DIABETIC MEDICINE

Lipid metabolism in patients with HIV infection receiving antiretroviral therapy

## DJ BLOM IN COLLABORATION WITH J DAVE OF THE DIVISION OF ENDOCRINOLOGY AND DIABETIC MEDICINE

Glucocorticoid receptor polymorphisms in patients with Addison's disease

DM BLACKHURST, AD MARAIS.

Anti-oxidant effects of wine.

AD MARAIS, BC BRICE, KH WOLMARANS, DJ BLOM, BD RATANJEE IN COLLABORATION WITH PROF G LAMBERT,

Heart Research Institute, Sydney, Australia. Plasma PCSK9 levels in familial hypercholesterolaemia.

#### Contact Details

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## DIVISION OF NEUROLOGY

### Head of Division: Associate Professor Alan Bryer

#### Divisional Profile

We operate a general clinical neurology service at Groote Schuur Hospital. This provides a comprehensive range of clinical activities, including in-patient, consultative, and emergency services. Additionally, there is a clinical neurophysiology laboratory and a dedicated acute stroke unit, as well as specialised clinics for stroke, myasthenia gravis, HIV neurology, neuro-genetic disorders, dystonia, and epilepsy.

#### Areas of research include:

**Stroke:** Clinical and laboratory based research projects are focussed on causes of stroke in young persons. A longitudinal study of HIV-associated stroke to evaluate the underlying biological mechanisms (specifically endothelial dysfunction and ultrasonographic vascular phenotypes) was commenced in 2010 and continues to date. Our unit is developing an in-service training program for health care workers involved in stroke care in under-resourced settings. The pilot module has been completed and tested for efficacy with favourable result and currently funds are being secured to produce the remaining 9 modules.

**Myasthenia gravis (MG):** Clinical and Laboratory-based research projects are focussing on improving therapeutic strategies and increasing understanding of disease pathogenesis. These include the following:

1. Dr C Freeman was awarded a MMed (Psych) for the dissertation: Psychiatric manifestations in thymomatous vs. non-thymomatous MG patients. Prof Heckmann was the principal supervisor.
2. Ms J Auret was awarded MSc (Cell Biol) for her work in examining the effect which standard MG therapies have on DAF (CD55) expression and the implications for MG subjects. Principal investigator: Prof Heckmann was the principal supervisor.
3. TGF $\beta$  polymorphisms and their association with extraocular muscle damage in MG are being studied; Dr M Nel (MRC award) and Dr R Rautenbach (Discovery award).

**HIV/AIDS:** Clinical and Laboratory-based research projects have been established to investigate the risk factors for developing neuropathy complications in HIV-infected subjects.

1. Dr J van der Watt, was awarded a PhD for the thesis entitled: HIV-associated sensory neuropathy in an African cohort; a longitudinal study of risk factors predisposing to antiretroviral induced painful neuropathy. Aspects of this work was recently published in *BMC Infect Dis* February 2014.
2. Dr C Centner was awarded a MSc (Medicine) for his work on Pyridoxine and NAT-2 genotypes as risk factors for TB-HIV-associated neuropathy. The work was published in the *IJTBLD* January 2014.

**Dementia:** Prof Marc Combrinck, NRF Chair in Clinical Neurosciences, Divisions of Neurology and Geriatric Medicine.

#### Research projects:

1. The role of systemic inflammation and the apolipoprotein E gene in human immunodeficiency virus-associated cognitive impairment (MSc Med student, Dr Elana van Brakel, thesis completed and to be submitted February 2014).
2. The association between physical neurological signs and cognitive impairment in young adults with newly diagnosed Human Immunodeficiency Virus infection (MSc student, Dr Harshadh Jeena).
3. The relationship between psychosocial stress, high cortisol, apolipoprotein E4, hippocampal volume and Alzheimer's disease ( Ms Katharine James, graduated PhD Dec 2013 ).
4. The relationships between inflammation, neuronal loss, the apolipoprotein E genotype and cognition in community-dwelling older persons in the Cape

metropole ( Ms Laurian Grace graduated PhD Dec 2013).

- 5 A prospective, observational cohort study of tuberculous meningitis in adults in Cape Town (study completed, manuscript in preparation. Dr Kathleen Bateman, neurologist).
- 6 The relationships between Vitamin B12, folate, homocysteine, apoE gene and cognition in older South Africans. Dr Ilhaam Mohamed, MSc Med student, thesis completed and to be submitted Feb 2014.
- 7 The role Von Willebrandt Factor and its cleaving enzyme ADAMTS13 in HIV associated stroke. Dr Sameera Allie, MSc Med passed with distinction June 2013. Manuscript in preparation
- 8 A folder review of cases of motor neurone disease seen at Groote Schuur Hospital 2005 to 2010. Dr Amina Daude, MMed part 3, thesis completed to be submitted 2014)

**Epilepsy:** The Neurology Unit plans to construct a web-based distance neurophysiology course for training in electroencephalography (EEG). To this end, approximately R500,000-00 has been raised to date from the World Federation of Neurology, the International League Against Epilepsy and the Neurological Association of South Africa. It is anticipated that the majority of sub-Saharan career neurology registrars will enroll for the 6-month course and that the programme will be up and running by January 2014 and will be tested for efficacy.

**Multi-media teaching:** The use of clinical encounter simulations is currently being developed by Dr Lee-Pan in collaboration with Dr Rachel Weiss.

## Divisional statistics

### Permanent and Long-term Contract Staff

Associate Professors (Full-time)	2
Senior Lecturers (Full-time)	3
Lecturers (Part-time)	1
<b>Total</b>	<b>6</b>

### Postgraduate Students

MSc Med	8
PhD	3
M. Med	3
<b>Total</b>	<b>14</b>

### Grants:

**MRC SELF-INITIATED GRANT 2013-2015 (PROF COMBRINCK)**  
NRF research Chair in Clinical Neurosciences (Prof M Combrinck)  
UCT top-up grant (Prof Heckmann)  
Post-internship MRC fellowship (M Nel)  
Discovery fellowships (R Rautenbach; C Albertyn)

### Research Fields and Staff

**ASSOCIATE PROFESSOR A. BRYER**  
Cerebrovascular Disease; neuro-genetics.

**ASSOCIATE PROFESSOR J. HECKMANN**  
Myasthenia gravis; HIV neurological disease, HIV neuropathy, neuro-immunology; neuro-genetics.

**DR E. LEE PAN**  
Health systems information technology; multi-media teaching.

**DR I TUCKER**  
Epilepsy.

**DR BATEMAN**  
Infectious Disease Neurology, TBM, HIV peripheral nervous disease, Stroke

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# DEPARTMENT OF MEDICINE

### Research output

#### Authored books

Sliwa, K. and Anthony, J. 2013. Cardiac Drugs in Pregnancy. 131pp. London: Springer. ISBN 9781447154716.

#### Edited books

Maartens, G., Cotton, M., Wilson, D., Venter, W.D., Meyers, T. and Bekker, L. (eds) 2012. Handbook of HIV medicine. 644pp. 3<sup>rd</sup> edition. South Africa: Oxford University Press Southern Africa (Pty) Ltd. ISBN 9780199053667.

Opie, L.H. and Gersh, B. (eds) 2013. Drugs for the Heart. 573pp. 8<sup>th</sup> edition. USA: Elsevier Saunders. ISBN 978145573224.

#### Chapters in books

Duarte, J., Serufuri, J.-M.S., Mulder, N.J. and Blackburn, J. 2013. Protein function microarrays: design, use and bioinformatics analysis in cancer biomarker discovery and quantitation. In X. Wang (ed), Bioinformatics of Human Proteomics, pp. 39-74. London: Dordrecht: Springer. ISBN 9789400758100.

Fox, K., White, H.D., Gersh, B. and Opie, L.H. 2013. Antithrombotic agents: platelet inhibitors, acute anticoagulants, fibrinolytics and chronic anticoagulants. In L. Opie and B. Gersh (eds), Drugs for the Heart, 8<sup>th</sup> edition, pp. 332-397. USA: Elsevier Saunders. ISBN 978145573224.

Gersh, B. and Opie, L.H. 2013. Which therapy for which condition? In L. Opie and B. Gersh (eds), Drugs for the Heart, 8<sup>th</sup> edition, pp. 463-541. USA: Elsevier Saunders. ISBN 978145573224.

Goto, A. and Opie, L.H. 2013. Lipid-modifying and Antiatherosclerotic drugs. In L. Opie and B. Gersh (eds), Drugs for the Heart, 8<sup>th</sup> edition, pp. 398-435. USA: Elsevier Saunders. ISBN 978145573224.

Maartens, G. 2012. Adverse drug interaction. In M. W.J. Strachan, S.K. Sharma and J.A.A. Hunter (eds), Davidson's 100 Clinical Cases, 2<sup>nd</sup> edition, pp. 374pp. China, Churchill Livingstone Elsevier. ISBN 9780702044595.

Nattel, S., Gersh, B. and Opie, L.H. 2013. Antiarrhythmic drugs and strategies. In L. Opie and B. Gersh (eds),

Drugs for the Heart, 8<sup>th</sup> edition, pp. 272-331. USA: Elsevier Saunders. ISBN 978145573224.

Opie, L.H., Krum, H., Victor, R.G. and Kaplan, N. 2013. Antihypertensive therapies. In L. Opie and B. Gersh (eds), Drugs for the Heart, 8<sup>th</sup> edition, pp. 224-271. USA: Elsevier Saunders. ISBN 978145573224.

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- DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY**
- Head of Department: Professor Lynette Denny**
- Departmental Profile**
- Our Mission Statement**
- To provide high quality care to all women seeking our services
  - To foster a climate of intellectual enquiry
  - To pursue excellence in research at every level of care
  - To help create a world-class African University
- Research is predominantly clinical and largely aligned with our four sub-specialist areas: feto-maternal medicine, gynaecological oncology, reproductive medicine and urogynaecology. Research is conducted at all levels of care and comprises participation in large, international, collaborative trials, cutting edge national research projects, self-initiated local and collaborative studies, as well as smaller individual projects. Several important clinical data bases have been established which provide valuable information in maternal medicine, gynaecology and reproductive medicine. In addition, our Undergraduate Teaching Unit is actively engaged in education research. Research supervision is provided at the level of MMed and MPhil dissertations and PhD theses to registrars, sub-specialist trainees and staff.
- Obtaining an MMed has become a compulsory requirement by the HPCSA for specialist registration, which has greatly increased the need for research supervisors. Our Department has 25 funded registrars in specialist training and 13 supernumerary registrars (all self funded), the majority of whom are non-South African from Malawi, Botswana, Uganda and Zimbabwe.
- Staff and students**
- Permanent and long-term contract staff**
- |                                     |           |
|-------------------------------------|-----------|
| Professors                          | 3         |
| Associate Professors (full time)    | 1         |
| Chief Specialist and Level 2 Head   | 1         |
| Adjunctive Professors (all retired) | 3         |
| Senior Lecturers                    | 15        |
| Lecturers (including part-time)     | 30        |
| Senior Scholar                      | 1         |
| Subspecialist trainees (full time)  | 4         |
| Subspecialist trainees (part time)  | 3         |
| Postdoctoral and Research Staff     | 20        |
| Technical and Support Staff         | 3         |
| Admin and Clerical Staff            | 7         |
| <b>Total</b>                        | <b>91</b> |
- Students**
- |               |            |
|---------------|------------|
| Doctoral      | 2          |
| Master's      | 35         |
| Undergraduate | 775        |
| <b>Total</b>  | <b>812</b> |
- Research fields and staff**
- PROFESSOR LYNETTE DENNY**  
Cervical cancer: prevention in low-resource settings; natural history; precursors in HIV positive women. Other gynaecological cancers: management of endometrial, ovarian cancer and advanced vulval cancer. HPV: prevalence, types; vaccination, DNA typing.
- PROFESSOR SUSAN FAWCUS**  
Maternal mortality; Perinatal mortality; Intrapartum asphyxia; Magnesium supplementation in pregnancy; Better Birthing Initiative. Calcium and pre-eclampsia trial, co-investigator Associate Professor John Anthony.

Obstetric haemorrhage pilot project. Multicentre collaborative study. Co-investigator Associate Professor J Anthony.

#### PROFESSOR ZEPHNE VAN DER SPUY

Contraceptive and interceptive development; Polycystic ovary syndrome; Reproductive failure; Endocrine dysfunction in pregnancy; Menopause; Nutrition and reproductive health; Genetics of benign gynaecological conditions.

#### ASSOCIATE PROFESSOR JOHN ANTHONY

Thrombophilia; Eclampsia; Bioethics.

#### PROFESSOR SILKE DYER

Infertility: health-services in low-resource settings, psychosocial consequences, quality of life, HIV.

#### ASSOCIATE PROFESSOR PETRUS STEYN

Fertility Regulation and Reproductive Health, Development of Sexuality Education.

#### ASSOCIATE PROFESSOR ATHOL KENT

Medical education: Reproducible assessment procedures.

#### DR SAADIQA ALLIE

Obstetric hysterectomy; Teenage pregnancy.

#### DR ANNE HORAK

High risk obstetrics; Fetal cardiac abnormalities.

#### DR STEPHEN JEFFERY

Refractory overactive bladder syndrome: treatment, epidemiology; HIV and obstetric pelvic floor trauma; surgical repair of posterior compartment prolapse; interdisciplinary patient care;

#### DR LYNELLE KENNETH

IUCD in HIV pos women

#### DR MUSHI MATJILA

Fetal Anomalies: Antenatal Pyelectasis; Reproductive endocrinology in normal and abnormal pregnancies. PhD thesis (in process): "The role of Kisspeptin and cognate receptor GPR 54 in placenta".

#### DR NOMONDE MBATANI

Uterine sarcomas: outcome of treatment; Treatment outcome and complications of gynaecological malignancy.

#### DR VANESSA PERROT

Medical education.

#### DR GREG PETRO

Clinical epidemiology; Haemorrhage and transfusion in the obstetric patient; Termination of pregnancy.

#### DR LINDA ROGERS

Vulval cancer, MRI Imaging in endometrial and cervical cancer, optimal management of early stage cervical cancer, outcome of ovarian cancer in developing countries.

#### DR LEANN SCHOEMAN

High-risk obstetrics; Audit of clinical obstetric management; cardiac disease in pregnancy.

#### DR VALENTIN STEFAN

Haemorrhage and transfusion in the obstetric patient.

#### DR CHANTAL STEWART

Fetal medicine; Women's expectations of and attitudes to fetal anomaly scans; Preterm labour; Ultrasound screening for risk of pregnancy complications.

#### DR HETTA VAN ZYL

Pre-eclampsia, eclampsia and complications; High risk obstetrics; Laparoscopic surgery; Caesarian section: prevalence and outcome.

#### DR LINDA WALMSLEY

Infertility: Quality of life, HIV

#### Sub-speciality trainees

##### DR DOMINIC RICHARDS: GYNAECOLOGICAL ONCOLOGY

##### DR KAMENDRAN GOVENDER: GYNAECOLOGICAL ONCOLOGY

##### DR CATHERINE ELLIOTT: MATERNAL AND FETAL MEDICINE

##### DR TEBOGO DEO: REPRODUCTIVE MEDICINE (PART-TIME)

##### DR NURU NKINTO: REPRODUCTIVE MEDICINE (PART-TIME)

##### DR L WALMSLEY: REPRODUCTIVE MEDICINE

#### Registered PhD Students

##### DR MALIKA PATEL

##### DR RAKIYA SAIDU

#### TEACHING

#### Undergraduate

In 2013 there were 1229 students registered in the Faculty of Health Sciences over the 6 years of the MBChB course. The Department of Obstetrics & Gynaecology was responsible for tuition in Years 3, 4, 5 and 6 in both Obstetrics and Gynaecology.

Thus during 2013 approximately 800 students were taught by the O&G Department.

#### Visitors

PROF WULF UTIAN, PROF STEVE LINDOW, PROF PHIL STEER, PROF CHARLES WRIGHT AND PROF RAFIQUE PARKER

#### Contact details

Professor Lynette Denny  
Head: Department Obstetrics & Gynaecology  
H45 Old Main Building, Groote Schuur Hospital,  
Observatory 7925  
Tel: 27 21 404 4485 (secretary Jill Artlett) (w)  
Fax: 27 21 448 6921  
Email: lynette.denny@uct.ac.za

#### Research output

#### Authored books

Sliwa, K. and Anthony, J. 2013. Cardiac drugs in Pregnancy. 131pp. London: Springer. ISBN 9781447154716.

#### Chapters in books

Zweizig, S., Huges, S.H., Denny, L.A. and Cain, J. 2013. End-of-life care. In J. Berek and N. Hacker (eds), Principles and Practice of Gynecology Oncology, 6<sup>th</sup> edition, pp. 1052-1064. USA: Lippincott Williams & Wilkins. ISBN 9781451176599.

#### Articles in peer-reviewed journals

Adefuye, P.O., Broutet, N., De Sanjose, S. and Denny, L.A. 2013. Trials and projects on cervical cancer and human papillomavirus prevention in sub-Saharan Africa. Vaccine, 31S: F53-F59.

Al-Khan, A., Bulmer, J.N., Chantraine, F., Chen, C.P., Chen, Q., Collins, S., Cotechini, T., Fitzgerald, J.S., He, M., Holland, O., Hung, T., Illsley, N., Ino, K., Iwaki, T., Kanayama, N., Kaneki, E., Katabuchi, H., Kobayashi, Y., Kondo, A., Masuzaki, H., Matjila, M., Miura, K., Mori, A., Murthi, P., Nagahashi, K., Nie, G., Ohba, T., Sood, R., Sugimura, M., Takizawa, T., Usui, H., Velicky, P. and Lash, G. 2013. IFPA meeting 2012 Workshop Report III: trophoblast deportation, gestational trophoblastic disease, placental insufficiency and fetal growth restriction, trophoblast over-invasion and accreta-related pathologies, placental thrombosis and fibrinolysis. Placenta, 27: S11-S16.

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Davey, D.A. 2013. Alzheimer's disease, dementia, mild cognitive impairment and the menopause: a 'window of opportunity'? Women's Health, 9(3): 279-290.

Davey, D.A. 2013. HRT: Some unresolved clinical issues in breast cancer, endometrial cancer and premature ovarian insufficiency. Women's Health, 9(1): 59-67.

Davey, D.A. 2013. Menopausal hormone therapy post WHI: a window of opportunity? O & G Forum Obstetrics & Gynaecology Forum, 23(4): 21-24.

De Vuyst, H., Alemany, L., Lacey, C., Chibwesha, C.J., Banura, C., Denny, L.A. and Parham, G. 2013. The burden of human papillomavirus infections and related diseases in sub-Saharan Africa. Vaccine, 31S: F32-F46.

Denny, L.A. 2013. Staging of ovarian cancer: time to subdivide more? Journal of Gynecologic Oncology, 24(4): 293-294.

Denny, L.A. and Kim, J. 2013. European cost-effectiveness analysis of cervical screening strategies for women not vaccinated for HPV: in many scenarios primary HPV screening is preferable to primary cytology screening in women aged over 30 years. Evidence Based Nursing, 16(1): 8-9.

Denny, L.A., Hendricks, B.T., Gordon, C., Thomas, F., Hezareh, M., Dobbelaere, K., Durand, C., Herve, C. and Descamps, D. 2013. Safety and immunogenicity of the HPV-16/18 AS04-adjuvanted vaccine in HIV-positive women in South Africa: a partially-blind randomised placebo-controlled study. *Vaccine*, 31: 5745-5753.

Denny, L.A., Sankaranarayanan, R., De Vuyst, H., Kim, J., Adefuye, P.O., Alemany, L., Adewole, I.F., Awolude, O.A., Parham, G., De Sanjose, S. and Bosch, F.X. 2013. Recommendations for cervical cancer prevention in sub-Saharan Africa. *Vaccine*, 31S: F73-F74.

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Fawcus, S. 2013. A review of uterine rupture and maternal mortality from this cause in South Africa, 2008-2010. *O & G Forum Obstetrics & Gynaecology Forum*, 23(3): 15-19.

Fawcus, S. and Moodley, J. 2013. Alert for maternal deaths due to obstetric haemorrhage. *O & G Forum Obstetrics & Gynaecology Forum*, 23(3): 33-34.

Fawcus, S. and Moodley, J. 2013. Postpartum haemorrhage associated with caesarean section and caesarean hysterectomy. *Best Practice & Research in Clinical Obstetrics & Gynaecology*, 27: 233-249.

Jacobson, B.F., Louw, S., Buller, H.R., Mer, M., De Jong, P.R., Rowji, P., Schapkaitz, E., Adler, D., Beeton, A., Hsu, H., Wessels, P.F. and Haas, S. 2013. Venous thromboembolism: prophylactic and therapeutic practice guideline. *SAMJ South African Medical Journal*, 103(4): 260-267.

Kennedy, D. 2013. Techniques for caesarean section - a re-appraisal. *Obstetrics and Gynaecology Forum*, 23(4): 14-19.

Kent, A. 2013. Genome sequencing for obstetricians & gynaecologists. *O & G Forum Obstetrics & Gynaecology Forum*, 23(4): 7-10.

Kingham, T.P., Alatise, O.L., Vanderpuye, V., Casper, C., Abantanga, F.A., Kamara, T.B., Olopade, O.I., Habeebu, M., Abdulkareem, F.B. and Denny, L.A. 2013. Treatment of cancer in sub-Saharan Africa. *Lancet Oncology*, 14(4): e158-e167.

Matjila, M., Millar, R.P., Van Der Spuy, Z.M. and Katz, A.A. 2013. The differential expression of Kiss 1, MMP9 and angiogenic regulators across the feto-maternal

interface of healthy human pregnancies: implications for trophoblast invasion and vessel development. *PLoS One*, 8(5): e63574.

Moodley, I., Tathiah, N., Mubaiwa, V. and Denny, L.A. 2013. High uptake of Gardasil vaccine among 9 - 12 year old schoolgirls participating in an HPV vaccination demonstration project in KwaZulu-Natal, South Africa. *SAMJ South African Medical Journal*, 103(5): 318-321.

Morhason-Bello, I., Odedina, F., Rebbeck, R., Harford, J., Dangou, J., Denny, L.A. and Adewole, I.F. 2013. Challenges and opportunities in cancer control in Africa: a perspective from the African Organisation for research and training in cancer. *Lancet Oncology*, 14(4): e142-e151.

Sankaranarayanan, R., Anorlu, R., Sangwa-Lugom, G. and Denny, L.A. 2013. Infrastructure requirements for human papillomavirus vaccination and cervical cancer screening in sub-Saharan Africa. *Vaccine*, 31S: F47-F52.

Stewart, C. 2013. Challenges in the management of twin pregnancy discordant for abnormality. *Obstetrics and Gynaecology Forum*, 22: 7-11.

Steyn, P.S. and Goldstuck, N. 2013. Postpartum Contraception. *Obstetrics and Gynaecology Forum*, 23(1): 9-13.

Tathiah, N., Moodley, I., Mubaiwa, V., Denny, L.A. and Taylor, M. 2013. South Africa's nutritional transition: overweight, obesity, underweight and stunting in female primary school learners in rural KwaZulu-Natal, South Africa. *SAMJ South African Medical Journal*, 103(10): 718-723.

Thomas, V., Knight, R., Haswell, S., Lindow, S. and Van Der Spuy, Z.M. 2013. Maternal hair selenium levels as a possible long-term nutritional indicator of recurrent pregnancy loss. *BMC Women's Health*, 13: 40(6pp).

Van Der Spuy, Z.M. 2013. Millennium development goal 5b - new challenges. *O & G Forum Obstetrics & Gynaecology Forum*, 23(4): 3.

## DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH

**Professor and Head of Department:**  
**Professor Heather Zar**

### General Paediatrics

- Emergency Unit
- Inpatient unit

### Subspecialties:

- Adolescent Medicine
- Allergy
- Cardiology
- Critical Care
- Endocrine
- GIT
- Haematology/Oncology
- Infectious Diseases
- Neonatology
- Nephrology
- Neurodevelopment
- Neurology
- Pulmonology
- Rheumatology

### Affiliated Disciplines

- Allied Health Sciences
- Dietetics
- Child & Adolescent Psychiatry
- Child Health Unit
- Children's Institute
- Dermatology
- Nuclear Medicine
- Paediatric Anaesthesia
- Palliative Care
- Paediatric Pathology
- Paediatric Radiology
- Paediatric Surgery
- Poisons Centre
- South African Tuberculosis Vaccine Initiative (SATVI)-IIDMM

## Departmental Statistics

### Permanent and long-term contract staff

Professors	3
Associate Professors	10
Emeritus Professors	3
Emeritus Associate Professors	6
Honorary Senior Lecturers	12
Honorary Lecturers	2
Senior Lecturers (full time)	31
Lecturers (full time)	3
Senior Lecturers (part time)	7
Lecturers (part-time)	8
Research Staff	71
Administrative and clerical staff	16
<b>Total</b>	<b>172</b>

### Students

Doctoral	12
Master's	45
- MPhil	39
PG Diploma (Child Nurse Practice)	34
Undergraduate	563
<b>Total</b>	<b>693</b>

### Research Fields and Staff

#### J. AHRENS

Experience of the pandemic (H1N1) influenza A at Red Cross Hospital ICU in 2009; Analysis of referrals to the Paediatric ICU, Red Cross children's Hospital, over 6 months in 2008

#### A.C. ARGENT

Respiratory mechanics in croup; respiratory mechanics and endotracheal suctioning; electrical impedance tomography and respiratory disease in the PICU; care practices and inter-personal relationships in ICU; quality of care and safety in the PICU; management of traumatic brain injury in PICU; HIV in the PICU; fluids in the critically ill; prevention of nosocomial infections including ventilator associated pneumonia and central line sepsis; viral infections in the PICU; cardiomyopathy / myocarditis in children; ethical issues in resource allocation in the PICU; severe sepsis and septic shock; "Pathways to care" for critically ill children; training and simulation training for healthcare workers working with critically ill or injured children.

#### H. BARLOW

Nurses and Care.

#### C. BONACONSA

Paediatric stabilization in critical care; ethnography

#### H. BUYS

Ambulatory, emergency and outreach care; paediatric HIV disease and nutrition; diarrhoeal disease.

#### M. CARRIHILL

Type 1 diabetes in the South African youth; Neonatal screening programmes; Disorders of sex development.

#### M COETZEE

Improvement science in clinical paediatrics; models of paediatric nursing care; participative approaches – post-graduate curriculum development and clinical practice development

#### G COMITIS

Kawasaki disease; Myocarditis / dilated cardiomyopathy; Cardiac CT angiography; Post-operative outcomes in AVSD repairs, systemic to pulmonary shunts, Tetralogy repairs; Cardiac MRI (in future); Interventional catheterizations especially aortic coarctation and pulmonary artery stenting; Electrophysiology studies and ablations; Transvenous pacemakers

#### ML COOKE

General paediatrics and gastroenterology

#### A. DAVIDSON

HIV-related malignancy; Brain tumours; the impact of ethnicity on ALL outcomes; Stem Cell Transplantation for Immunodeficiency.

#### C. DAVIS

Paediatric critical care, nurse to nurse communication and the action research methodology

#### R. DE DECKER

The 22q11.2 deletion syndrome; Warfarin: implementation and impact; Genetic associations of congenital heart disease.

#### R. DE LACY

Cystic fibrosis; gastroenterology.

#### S. DELPORT

Abnormalities of growth; abnormal pubertal development; advances in diabetes care.

#### R. DIEDERICKS

Emergency paediatrics; Infectious Diseases.

#### K. DONALD

Developmental disabilities as they manifest and are managed in resource limited settings such as South Africa (including Cerebral palsy, Autism, Intellectual disability, genetic syndromes). Specific interests include the preventable causes of neurodisability such as alcohol and methamphetamine exposure, organophosphate poisoning and the neurological and neurocognitive complications of HIV.

#### R. DUNKLEY

Learning from mortality; improving flow and bed management in the hospital to cope with the Surge season

#### B.S. ELEY

Primary immune deficiency disorders; paediatric tuberculosis; paediatric HIV/AIDS; paediatric infectious disease.

#### P. GAJJAR

Renal disease; paediatric organ transplantation especially infectious complications; paediatric hypertension including Takayasu's Arteritis; acute renal failure and peritoneal dialysis; paediatric HIV nephropathy; adolescent medicine.

#### E. GODDARD

Paediatric liver disease; transplantation in children; immunology; paediatric infectious disease; paediatric gastroenterology and nutrition.

#### C. GRAY

Food allergies and eczema

#### M. HARRISON

Preterm outcomes; Neonatal respiratory disease; Hypoxic Ischaemic Encephalopathy.

#### M. HENDRICKS

Clinical Outcomes in children with rhabdomyosarcoma at Red Cross Children's Hospital.

#### M.K. HENDRICKS

Public health nutrition; children's rights; community child health

#### I. HENDRY

Post-graduate education; clinical nursing research and forensic nursing

#### L. HENLEY

Research ethics

#### J. HEWITSON

Resource allocation and cardiovascular disease; Trisomy 21 and cardiovascular disease; surgical management of patients with a single ventricle.

#### A. HORN

Epidemiology; assessment and management of Hypoxic Ischaemic Encephalopathy.

#### Y. JOOLAY

Neonatology

#### M. KIBEL

Child Health generally (Community Paediatrics), and Childhood TB

#### S.M. KROON

Mother-to-child transmission of HIV; Human Milk Banking

#### A. LEONARD

Implementation research (evidence based practice and improvement research)

#### M. LEVIN

Genotypic and phenotypic features of allergic Xhosa children; Prevalence and associations of food allergy in unselected children in Cape Town and in the Eastern Cape; relationship between food allergy and atopic dermatitis; the impact of demographic, environmental, nutritional and infectious influences on the expression of allergy and atopy within the Drakenstein birth-cohort study; allergy and atopy in children with Vernal Keratoconjunctivitis; communication issues in management of asthma and allergy in indigenous people in South Africa.

#### J. LAWRENSON

Developing standards for echocardiographic screening of individuals to detect subclinical rheumatic heart disease; Thoracopagus conjoined twins; Cardiovascular disease in patients with HIV disease.

#### L. LINLEY

Kangaroo mother care; HIE and the effect of head cooling; ethical issues in neonatal care.

#### M. MCCULLOCH

Acute kidney injury especially in PICU setting; Acute Peritoneal dialysis in Children and Infants; Fluid management in Emergency and PICU settings; Transplantation(Renal, Liver and Cardiac) as well as Development of Paediatric Transplantation programmes and Young Adult Transition; Long-term follow-up of steroid withdrawal in transplantation; Takayasu's arteritis; Atypical hemolytic uremic syndrome; Training of African Fellows in PICU/Nephrology and Challenges faced on return home.

#### G. MOLLER

Neonatal jaundice

#### B. MORROW

Paediatric respiratory infections; nosocomial infections in the PICU; distribution of ventilation in children with and without lung disease; respiratory mechanics; cystic fibrosis; resource allocation in PICU; paediatric cardiopulmonary physiotherapy.

#### R. MULOIWA

Pertussis in children hospitalised with Lower Respiratory Tract Infection (LRTI).

# DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH

## AFFILIATED DISCIPLINES:

### ALLIED HEALTH SCIENCES

#### Unit Representative: Sameer Rahim

#### Department Structure:

#### Manager [Head of Unit] of Allied Health Professionals: Dr T Blake

#### HOD of each department:

- Dietetics: Shihama Cader
- Occupational Therapy: Mereille Pursad
- Physiotherapy: Sameer Rahim
- Audiology: Colleen Cox
- Social Worker: Andre Pieters
- Speech Therapy: Lezanne LeRoux

#### Unit Profile

The Unit of Associated Paediatric Disciplines is multi-disciplinary, including all the paediatric therapy professions of Physiotherapy, Occupational Therapy, Dietetics/Nutrition, Speech Therapy, Audiology and Social Work. The Division undertakes undergraduate and postgraduate teaching and training in all aspects of paediatric care, both acute and chronic. The Division is active in conducting research in Paediatric fields, often collaborating with members of other Divisions. The individual departments also run departmental weekly and monthly CPD programs accredited by UCT.

#### Unit Statistics

##### Students

Master's	3
Total	3

#### S. NAIDOO

Aeroallergen sensitisation and the prevalence of asthma, allergic rhinitis, and eczema in children with Vernal Keratoconjunctivitis.

#### A. NDONDO

Hydatid disease of the spine; epilepsies in childhood; neurometabolic disorders; the ketogenic diet in the African context; Rett syndrome; optimal management of refractory status; non-polio enterovirus infections; childhood stroke.

#### P. NOURSE

Peritoneal dialysis; glomerulonephritis including HIV.

#### J. NUTTALL

Infants, children and adolescents with HIV infection and HIV/TB co-infection including early infant diagnosis; performance of HIV rapid tests in young children; drug dosing and pharmacokinetics; treatment failure and drug resistance. Antimicrobial stewardship.

#### R. PETERSEN

CEREBRAL PALSY.

#### M.S. RABAN

Neonatology

#### V. RAMANJAM

Phenotype, neuroimaging and neurocognitive characteristics of children with neurofibromatosis type 1; DAX1 mutation; investigating the prevalence, comorbidities and responses to different forms of medical therapy for children and adolescents with ADHD.

#### M. RICHARDS

General and Developmental medicine

#### G. RIORDAN

Paediatric epilepsy; ADHD; mitochondrial disease; juvenile Huntington's disease

#### B. ROSSOUW

Cardiac critical care: dilated cardiomyopathy in RCWMCH PICU; ALCAPA in RCWMCH PICU

#### P. ROUX

Early Childhood Development and psycho-social aspects of care for children and adolescents with HIV/AIDS.

#### S. SALIE

Sepsis, HIV and fluid resuscitation.

#### B. SCHLEGEL

Tuberous sclerosis.

#### C. SCOTT

Paediatric Systemic Lupus Erythematosus; Juvenile Idiopathic Arthritis; Fibrodysplasia Ossificans

Progressiva; HIV Arthropathy; Juvenile Dermatomyositis and Childrens Rights

#### A. SPITAELS

Paediatric endocrinology, metabolism and diabetes; social circumstances, diabetes control, intersex.

#### G. SWINGLER

Systemic literature reviews.

#### C. THOMSON

Follow-up of the high risk infant; HIE and the effect of head cooling

#### L. TOOKE

Neonatal research especially congenital infections, HIV and the care of the VLBW.

#### A. (NIKI) VAN NIEKERK

Neonatology and Neonatal cardiology.

#### A VAN EYSEN

Pharmacogenomics in patients treated at Red Cross Hospital with Acute Lymphoblastic Leukaemia; the use of flow cytometry in evaluating minimal residual disease in B Lineage Acute Lymphoblastic Leukaemia at Red Cross Hospital. (In conjunction with Dr W Van Schalkwyk of the NHLS)

#### A. VANKER

Indoor air pollution and tobacco smoke exposure and the effects on lung health. Determinants of childhood pneumonia.

#### K. WALKER

Sydenham's chorea: post streptococcal movement disorders. Point of care INR testing. Cardiac management of Duchenne's Muscular Dystrophy. HIV encephalopathy and HIV associated neurocognitive deficits in children. Use of Methylphenidate and management of ADHD in HIV.

#### K. WEBB

Paediatric rheumatology and immunology

#### A.T. WESTWOOD

Coordination of health services; quality of health care; Epidemiology, diagnosis and management of cystic fibrosis in South Africa; management of acute diarrhoea; causes of death among children; epidemiology of chronic illness in South Africa; health systems for children with long-term health conditions; policy perspectives on children with long term health conditions.

#### P. WICOMB

Medical Education

#### J. WILMSHURST

Spinal muscular atrophy; limb girdle muscular dystrophy; peripheral neuropathies; congenital myopathies; complex epilepsies in childhood; role of video telemetry in paediatric neurology practice; neurofibromatosis; paediatric spinal pathologies; neuroradiological diagnostic and prognostic indicators of TBM, neurological manifestations of HIV; rare neuromuscular disorders; tuberous sclerosis; ketogenic diet in epilepsy; child neurology training in Africa; child neurology service capacity in Africa; guidelines for management of epilepsy disorders (for the ILAE).

#### M. ZAMPOLI

Childhood respiratory infections; HIV-associated lung disease; Cystic fibrosis; respiratory manifestations of neuromuscular disease and Sleep medicine.

#### H. ZAR

Childhood TB (specifically new diagnostic strategies), childhood pneumonia, HIV-associated lung disease; childhood asthma. Drakenstein child lung health study, a birth cohort study to investigate the antenatal and early life determinants of child health

#### Contact Details

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Research coordinator: Geanine Hopley @ 021-6860086  
Email: [geanine.hopley@uct.ac.za](mailto:geanine.hopley@uct.ac.za)

## **Permanent and long-term contract staff (PGWC)**

Permanent staff (Full time)	34
Permanent staff (Part time)	2
Community service	5
<b>Total</b>	<b>41</b>
Undergraduate students	168
Elective registered via UCT	2
Post graduate students (nursing and allied health)	114
<b>Total</b>	<b>284</b>

## **Research Fields and Staff**

### **LEZANNE LE ROUX (SPEECH THERAPY)**

The Nature of Feeding and Swallowing Difficulties in the Paediatric Cerebral Palsy Population Who Have Had Videofluoroscopic Swallow Studies. (Completing in 2014)

### **SHAFEEQAH NANA (SPEECH THERAPY)**

Master's in Early Communication Intervention (course work)- Univ of Pretoria (commenced 2014)

### **Physiotherapy**

The epidemiology of children with Cerebral Palsy attending the physiotherapy department and the Western Province Cerebral Palsy Association (WPCA) Cerebral Palsy (CP) Clinic at Red Cross War Memorial Children's Hospital over three months.

### **DES SCOTT (PHYSIOTHERAPY)**

MSc Physiotherapy: The association between Health Related Quality of Life, Health Condition and Function in South African children. A pilot study.

### **JANIINE VERSTRAEETE (PHYSIOTHERAPY)**

MSc Physiotherapy: Development of an English Health Related Quality of Life measure, for children under the age of 6, to be completed by proxy

### **LIESELLOTTE CORTEN (PHYSIOTHERAPY PHD STUDENT)**

The use of Assisted Autogenic Drainage in children with acute respiratory disease in a developing country.

### **SHIHAAM CADER [IN COLLABORATION WITH EDWARD KIJA FROM NEUROLOGY]**

Bone metabolism abnormalities in children with Epilepsy at Red Cross War Memorial Children's Hospital, Capetown South Africa.(commence 2014)

## **DEPARTMENT OF CHILD AND ADOLESCENT PSYCHIATRY**

**Head of Clinical Unit: Dr Wendy Vogel  
Academic Lead: Prof Petrus de Vries**

### **Unit Profile**

The Division of Child & Adolescent Psychiatry (DCAP), is based at 46 Sawkins Road, Rondebosch, and is part of the Department of Psychiatry and Mental Health. Clinical services are rendered as part of Red Cross War Memorial Children's Hospital. As such, DCAP therefore works in close collaboration between the departments of Psychiatry and Paediatrics. The clinical services are offered by four main teams: an Outpatient Team, a Consultation-Liaison Team, an Infant Mental Health Team and by the Therapeutic Learning Centre (TLC), an in-patient unit for children under 13 years. The Division is very active in training across disciplines, ranging from medical students, psychiatric registrars (M.Med) to advanced nursing students and clinical psychology interns. The Division offers a two-year M. Phil. (Child and Adolescent Psychiatry) degree, which leads to registration with the HPCSA as a sub-specialist in Child and Adolescent Psychiatry. In addition, staff members in the Division supervise candidates for postgraduate degrees such as Master's and Doctoral degrees.

### **Research at DCAP is organised around five main themes:**

- a) Centre for Autism in Africa – an interdisciplinary, interfaculty research group with interest in building a research base for research about autism in Africa. Activities include tool development, translation, validation, training and involvement with NPO sector. (Steering Group: Prof Petrus de Vries, Dr Wendy Vogel, Dr Kirsty Donald, Prof Colleen Adnams, Dr Susan Malcolm-Smith, Dr Colleen O'Ryan, Dr Nokuthula Shabalala, Michelle Hoogenhout)
- b) Adolescent Health Research Unit – a UCT-accredited research unit with specific focus on health and health promotion in adolescents. Activities include a large-scale community education programme to reduce risk behaviours and intimate partner violence in 12-14 year olds in the Western Cape Province (Director: Prof Petrus de Vries; Co-director: A/Prof Cathy Mathews)
- c) Tuberous Sclerosis Complex Research Programme – an international research programme, specifically focusing on molecularly targeted treatments of TSC and the neuropsychiatry of TSC. Recent activities included development and validation of a checklist for the neuropsychiatric manifestations of the disorder (Head: Prof Petrus de Vries).

- d) Infant Mental Health Programme – A developmental research programme of parent-infant mental health work focusing on mentalisation and mentalisation-based interventions for high-risk families (Head: A/Prof Astrid Berg)
- e) DCAP Research Development Programme – a staff research development programme. Activities include research development workshops, writing workshops and research capacity building in existing staff (Lead: Prof Petrus de Vries)

### **Unit Statistics**

#### **Joint staff**

Professor	1
Associate Professor	1
Senior Lecturers	6
Emeritus Professor	1
Honorary staff	3
Administrative staff	0.5
<b>Total</b>	<b>12.5</b>

**Permanent provincial staff = 26**

**Trainee staff (junior registrars, senior registrars, intern psychologists) = 8**

### **Registered Students supervised by DCAP staff in 2013**

-MSc (Neurosci)	1
M.Med	2
M.Phil	3
Other	2
<b>Total</b>	<b>8</b>

### **Contact Details**

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Please refer to the Psychiatry and Mental Health Research Report for publications by members of the Division of Child and Adolescent Psychiatry.

## **DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH**

### **AFFILIATED DISCIPLINES:**

### **CHILD HEALTH UNIT**

#### **Director: Rotating Acting Head**

### **Unit Profile**

The Child Health Unit's mission is to contribute to promoting equity in child health. The core business of the Unit is directed at children's public health and community-oriented child health promotion, protection, care and rehabilitation.

The target of the Unit's endeavours is those areas, which have a strong children's public health and interdisciplinary focus, viz. child development and disability, community nutrition, infectious diseases and health policy and service development. The Unit has close links with the Children's Institute.

### **Unit Statistics**

### **Permanent and long-term contract staff**

Associate Professor (part-time)	1
Emeritus Professor (part-time)	2
Specialist	2
Sub-specialist trainees	2
Senior Lecturers (part-time)	4
Lecturers	2
Administrative staff	1
<b>Total</b>	<b>14</b>

### **Research Fields and Staff**

#### **J. SHEA**

Health promotion and education; the adaptation and piloting of a behavioural intervention to support HIV+ women in the core domains of health, mental health, parenting and HIV prevention for use by non-governmental organizations; an assessment of the feasibility of intervention trials on tuberculosis prevention in schools in the Western Cape Province; development of a certificate course in clinical research.

## CHILDREN'S INSTITUTE

**Director:**  
**Associate Prof. Shanaaz Mathews**

### Institute Profile

The Children's Institute aims to contribute knowledge and understanding to promotion of policies which govern improvement of child well-being, and fulfillment of the rights of all South Africa's children, with special emphasis on children rendered vulnerable by a range of difficult circumstances. It addresses the needs and rights of South Africa's children through policy research, advocacy and education and other academic activities that contribute to improvement in the policy analysis, formulation, implementation and evaluation processes.

### Institute Statistics

#### Permanent and long-term contract staff

Professors	1
Senior Lecturers (Snr Researchers)	5
Lecturers (Researchers)	1
PASS (Administrative)	4
PASS (Scientific and Technical)	4
<b>Total</b>	<b>15</b>

#### Students

PhD	2
Master's	2
<b>Total</b>	<b>4</b>

#### Research Fields and Staff

##### ASSOCIATE PROFESSOR SHANAAZ MATHews

Director; Children & violence, child protection, child abuse, gender policy, gender-based violence, evidence-based programming.

##### LIZETTE BERRY

Senior researcher; Child socio-economic rights indicators; child poverty.

##### DR ARIANE DE LANNOY

Senior researcher; Youth and youth identity in rapidly changing, urban environments; Perceptions of opportunity structure; Education, identity and educational decision-making.

##### KATHARINE HALL

Senior researcher; social policy; Child poverty and inequality; social grants; households and mobility; indicators

##### LUCY JAMIESON

Senior advocacy co-ordinator; Child rights; participatory democracy; governance; law reform & policy development; child protection.

##### HELEN MEINTJES

Senior Researcher; HIV/AIDS & children; alternative care; social policy; children's participation; media

##### DR TENDAI NHENGA-CHAKARISA

Senior researcher; International law; human rights law; child rights; child labour; applying international children's rights law in African cultural contexts; curriculum design & legal drafting.

##### PAULA PROUDLOCK

Programme manager; Child rights; legislative review; law reform; democracy & governance; socio-economic rights for children.

##### WINNIE SAMBU

Researcher; Malnutrition; food security; urban environments; poverty

#### Contact Details

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## PAEDIATRIC ANAESTHESIA

**Head of Unit:**  
**Associate Professor Jenny Thomas**

#### Unit profile

The Unit of Paediatric Anaesthesia, a division of the Department of Anaesthesia, University of Cape Town and School of Child and Adolescent Health, is responsible for the provision of anaesthesia for all children, infants and adolescents undergoing surgery or procedures at the Red Cross War Memorial Children's Hospital and Maitland Cottage Children's Home. This department also provides acute, chronic and palliative care services for the children at this hospital as well as providing input into paediatric intensive care services. The Paediatric Pain Team is a multidisciplinary group of practitioners - some with funded positions, others whom are volunteers - which is anaesthesia-directed and nurse driven. These include SRN Angeline Schrikker (nurse practitioner in

pain) and a number of other volunteers which include child and family psychotherapists, aroma therapists, music and art therapists. These all work to provide an integrated approach to pain management. Radiotherapy and oncology services are provided at both GSH and RCWMCH when their need arises this should be formalised to provide a more sustainable service.

#### Unit Profile

#### Permanent staff

Head of clinical unit	1
Specialists	7
Registrars	5
<b>Total</b>	<b>13</b>

#### Research fields and staff

##### PROFESSOR JENNY THOMAS

Acute and chronic pain management, palliative care, analgesia and sedation, burns, conjoined twins' anaesthesia, general paediatric surgery, cardiothoracic anaesthesia, perioperative behaviour disorders, and perioperative morbidity and mortality.

##### DR GRAEME WILSON

Paediatric pharmacology, total intravenous techniques in children, target-controlled anaesthesia, cardiothoracic anaesthesia.

##### DR REBECCA GARY

Transfusion medicine, vascular access, premature infants, ultrasound applications, cardiac, general paediatric surgery, burns and paediatric simulation.

##### DR KARMEN KEMP

Cardiac anaesthesia, childhood malignancies, teaching. Dr Kemp is in charge of registrar activities.

##### DR KOTIE BESTER

Ultrasound and echocardiography applications in paediatric anaesthesia, modalities for analgesia and sedation, interventional radiology and MRI. Dr Bester also has an interest in perioperative morbidity and mortality.

#### Contact Details

Paediatric Anaesthesia

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Ms Williams - Melissa.williams@uct.ac.za

## PAEDIATRIC DERMATOLOGY

**Head of Unit: Dr Carol Hlela**

#### Unit profile

Dr Carol Hlela is the Head of Paediatric Dermatology at Red Cross Hospital and managing of Adult inpatients and outpatients with varied skin conditions. She is the division's only consultant that runs the clinical service and is assisted by dermatology registrars from Groote Schuur Hospital for two clinics a week and also two sisters of Red Cross Hospital.

#### Current Studies

She completed conducting a clinical trial at Red Cross entitled: Accessible and Affordable Moisturizers for Atopic Eczema, the 3AM Atopic Eczema Study. The aim of which is to find easily accessible moisturizers with a view to replace the standard of care regime. The intention of which is to empower patients and reduce the dependence on the health sector for moisturisers. She is also currently conducting her own research in the following areas:

1. Prevalence of HTLV-1 infection amongst blood donors in South Africa. Carol Hlela, Wendy Sykes, Marion Vermeulen, Edward Murphy. A collaborative project with the South African National Blood Services (SANBS).
2. Epidemiology of HTLV-1 infection in South Africa, the forgotten epidemic. Carol Hlela, Maia Lesosky, Diane Hardie, Ravi Moodley, Edward Murphy. A project conducted in partnership with the national health services laboratory (NHLs).
3. Formulating a National Multicentre Registry of Infective Dermatitis Associated with HTLV-1 (IDH), a collaborative project with the South African Dermatology Society of SA.

#### Student Supervision

1. Filipe Ferreira de Almeida Rego, PhD student – Africa Centre, KwaZulu Natal Project title: Analysis of HTLV-1 integration sites (IS), proviral load and mutations in pX ORF-I and ORF-II and infective dermatitis associated with HTLV-1 (IDH) development.
2. Nomthandazo Ngcobo, MMED student – Dermatology Department, KwaZulu Natal Project title: Prevalence of steven-johnson syndrome / transient epidermal necrosis (SJS/TEN) in HIV in South Africa, a literature review.
3. Kate Webb, PhD student- Paediatric Rheumatology department, University of Cape Town, Project title: Sweet's syndrome as a possible autoinflammatory disorder in children.

- Nonhlanhla Lunjani: Department of Dermatology. University of Cape Town. Project title: Mechanisms of Eczema and Allergy Development in Xhosa children
- Felix Dube, PhD student-Microbiology Department, University of Cape Town. Project title: Human T-cell lymphotropic virus type 1 (HTLV-1) -associated infective dermatitis (IDH) and the risk of adult T cell leukaemia/lymphoma (ATLL)

#### **Project collaborations are with:**

Prof Mike Levin from the Department of Allergy, University of Cape Town and the Switzerland based group of investigators including Drs. Akdis, Schmid-Grendelmeier and Weibel working on the research project entitled- Mechanisms of the Development of Allergy (SOS-ALL), which will aim to generate novel knowledge on the origin of the epidemic of IgE-associated allergic diseases, particularly mechanisms of initiation of allergy to propose early diagnosis, prevention and targets for therapy.

## **PAEDIATRIC NUCLEAR MEDICINE**

### **Head of Unit: Dr A. Brink**

#### **Unit profile**

The Paediatric Nuclear Medicine Service is part of the Department of Paediatric and Child Health. It provides the Nuclear Medicine investigations and therapy for all neonates and children being treated in facilities associated with UCT and supports State and Private Health Care facilities in the Western Cape and other provinces which do not have a dedicated Paediatric Nuclear Medicine Service. In addition, staff actively participate in the Division of Nuclear Medicine at Groote Schuur Hospital.

Registrars from a number of institutions spend time at the Children's Hospital as part of their training, as do radiography students from Groote Schuur Hospital. Other activities include participation in International Congresses and the College of Nuclear Physicians.

#### **Unit Statistics**

#### **Permanent and long term contract staff**

Senior specialist	1
Part-time specialist / Emeritus Associate Professor	1
<b>Total</b>	<b>2</b>

#### **Students**

Registrars	1
<b>Total</b>	<b>1</b>

#### **Research fields**

Renal scintigraphy, "milk" scans in gastro-intestinal motility disorders, limb perfusion in children with vascular compromise due to infection or burns, PET/CT applications in children, and brain perfusion scintigraphy.

#### **Contact Details**

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## **PAEDIATRIC PATHOLOGY**

### **Head of Histopathology Unit: Dr K. Pillay**

#### **Unit profile**

The Unit of Paediatric Pathology is primarily an NHLS laboratory service unit to Red Cross Children's Hospital and provides paediatric and neonatal services to other Western Cape Health Care Institutions. The pathology service functions as an amalgam of three sub units comprising: Anatomical Pathology, Chemical Pathology and Haematology. Undergraduate teaching activities are largely undertaken through equivalent disciplines at Groote Schuur Hospital and the Medical School of the University of Cape Town to medical and physiotherapy students. Postgraduate teaching is undertaken to MPhil (Paediatric Pathology), MMed (in all the pathology disciplines), and MSc and PhD students at UCT. Research activities are related to laboratory aspects of child health and molecular mechanisms underlying paediatric disease. Research also undertaken through collaborative projects with clinical colleagues, mainly in paediatrics and paediatric surgery.

#### **Unit Statistics**

#### **Permanent and long-term contract staff**

Senior Lecturers	3
NHLS Staff	40
<b>Total</b>	<b>43</b>

#### **Students**

Registrars	3
<b>Total</b>	<b>3</b>

#### **Research Fields and Staff**

##### **DR WILLIE VAN SCHALKWYK**

Molecular genetics of paediatric leukaemias and neuroblastomas; paediatric myelodysplastic syndromes; haemophagocytic lymphohistiocytosis.

##### **DR KOMALA PILLAY**

Pathology of skeletal muscle; brain tumours; lymphomas.

Dr George van der Watt  
Inherited metabolic disorders.

#### **CONTACT DETAILS**

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## **PAEDIATRIC RADIOLOGY**

### **Head of Unit: Dr. T. Kilborn**

#### **Unit profile**

A clinical radiology department providing imaging to all divisions in the School, performing a total of approximately 40,000 examinations per annum. Imaging modalities include plain-film radiography, computed and digital radiography, digital fluoroscopy, ultrasound (including Doppler), computerised tomography (CT), magnetic resonance imaging (MRI), angiography and interventional radiology. The Division conducts a Postgraduate teaching program for three registrars registered for the M.Med (Diagnostic Radiology) at

the University of Cape Town on an ongoing rotational basis and for one registrar registered at the University of Stellenbosch. An undergraduate lecture series in paediatric radiology is provided at 5th year level. Training in paediatric sonography is conducted for B.Tech (Ultrasound) students of the Cape Peninsula University of Technology.

In addition, the Division offers an annual Paediatric Radiology Fellowship, providing further training in the discipline for qualified radiologists. Fellows are registered for the University's Postgraduate Diploma in Paediatric Radiology.

#### **Unit Statistics**

#### **Permanent and Long-term Contract Staff**

Lecturers	3
Radiographers and Aux. Staff	30
<b>Total</b>	<b>33</b>

#### **Students**

PhD	0
Registrars/Master's	4
Fellow	1
<b>Total</b>	<b>5</b>

#### **Research Fields and Staff**

##### **T. KILBORN**

Oncology, Neuro-imaging, HIV and TB, Pulmonary Imaging, Gastrointestinal,

##### **N. WIESELTHALER**

Neuro-imaging; Orthopaedic imaging; Interventional Radiology

##### **E. BANDERKER**

Cardiac and Chest imaging, Orthopaedics, Imaging in Trauma

#### **Contact Details**

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## PAEDIATRIC SURGERY

### Head of Unit: Prof. A. Numanoglu

#### Unit profile

The department functions as a tertiary and quaternary health care centre for paediatric surgery for the University of Cape Town and the Red Cross War Memorial Children's Hospital. The department is a national/international centre for postgraduate paediatric surgical career development and is accredited with the HPCSA.

An extensive surgical outreach programme is in existence primarily to improve the surgical care of children at secondary and primary health care levels. The division is regarded as a national centre for minimally invasive surgery, surgical skills training, organ transplantation, specialized hepatobiliary surgery, oncology and burn care in children and for the separation of conjoined twins.

Research is being conducted in the department into a wide variety of aspects of paediatric surgical practice including gastrointestinal surgery, minimal invasive surgery, surgical skills training, trauma care and prevention, liver and renal transplantation, renovascular hypertension, burn therapy, pain assessment and management, conjoined twins and common diseases of Africa including tuberculosis and HIV/AIDS.

#### Unit Statistics

##### Permanent and long-term contract staff

Professor	2
Emeritus Professor	3
Adjunct Professor	1
Head of Clinical Unit	1
Senior Lecturers	2
Career Paediatric Surgical Registrars	3
African Fellowship Training Programme	1
Karl Storz Fellowship Programme	1
Research Technologists / Social Worker	2
Administrative staff	2
Total	18

##### Students

Master's	4
Undergraduate	168
Total	172

## Research Fields and Staff

### PROFESSOR A. NUMANOGLU

Minimal invasive surgery; transplantation; HIV/AIDS and diseases of the gastro-intestinal tract; teaching with technology; web based outreach; neonatal surgery

### S. COX

The child sexual assault 'epidemic'; burns; surgical aspects of necrotising enterocolitis and other childhood general surgical conditions; surgical oncology

### PROFESSOR A.B. VAN AS

Traumatology; child accident prevention; vascular injuries

### PROFESSOR A.J.W. MILLAR

Biliary atresia, choledochal cysts, liver transplantation, renovascular hypertension, non-transplant surgery for short bowel syndrome, oesophageal replacement with colon, hepatoblastoma, bilateral Wilms' tumour, surgical management of intestinal failure

### EMERITUS PROFESSOR H. -RODE

Burn and nutrition research; short bowel syndrome; HIV/AIDS; oncology and trauma.

### ADJUNCT PROFESSOR R.A. BROWN

Gastrointestinal surgery; surgical endoscopy; constipation and gastro-intestinal polyposis.

### DR R. ALBERTYN

Paediatric pain; rehabilitation and HIV/AIDS; web-based education

### J. RAAD

Manometry and gastro-enterology.

## Contact Details

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## POISONS CENTRE

### Head of Unit: Dr C. Roberts

#### Unit profile

The Poisons Information Centre maintains and distributes the AfriTox poisons information database designed to help clinicians in Southern Africa treat poisoned adults and children. All types of potentially toxic substances are included with a particular accent on local South African trade names and natural toxins. The treatment protocols are tailored for the South African situation. AfriTox is used at over 35 treatment centres countrywide and by both the other Poisons Centres, to underpin poisons advice given to health workers and the public. It is also distributed to centres in Botswana, Kenya, Mozambique, Nigeria and Zimbabwe. AfriTox is also used by doctors on smart phones, laptops and PCs.

The Poisons Emergency Telephone line is answered by the staff of the Poisons Information Centre during office hours on weekdays, and after hours in the Emergency Department of the hospital, using the AfriTox database.

The Centre collects data on all children seen at Red Cross Children's Hospital with known or suspected poisoning and on all calls received during working hours on the Poisons Emergency line.

## Unit Statistics

### Permanent and Sessional Staff

Medical officers	2
Pharmacists	2
Total	4

## Research Fields and Staff

All staff members are involved in data collection

Dr Kate Balme is responsible for case data on poisoning.

## Contact Details

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## SOUTH AFRICAN TUBERCULOSIS VACCINE INITIATIVE (SATVI)

### Head of Unit: Professor Willem Hanekom

#### Unit profile

SATVI's vision is "A World Without TB", while our mission is "Innovative And High-Quality TB Vaccine Research In Africa, To Impact The Global Epidemic". To achieve its mission, SATVI has been testing 7 new TB vaccine candidates in 15 completed or ongoing clinical trials. SATVI also addresses other critical clinical, epidemiological, immunological and human genetic questions in TB vaccine development. A large focus of this research is on identification of markers in blood to indicate whether a person is at risk of developing, or protected against, TB disease (correlates or risk or of protection).

SATVI is the largest dedicated TB vaccine research group on the African continent, with an annual budget of ~R70 million. Its success is evident from manuscripts published in high impact journals, funding support from multiple international funding agencies, invited presentations at international conferences and representation on multiple international policy bodies.

SATVI also has an active postgraduate academic training programme, with a total of 13 postdoctoral, doctoral and master's students.

Particular highlights from 2013 included publication of the results of the first efficacy trial of a new TB vaccine, MVA85A, in nearly 50 years. The group was also awarded two new grants to the value of R 37.4m and R 47.7m from the Bill and Melinda Gates Foundation to identify correlates of risk of TB disease.

## Divisional Statistics

### Students and Postdoctoral Fellows

Master's	2
Doctoral	4
Postdoctoral Fellows	7
Total	13

### Permanent and Contract Staff

Permanent staff	72
Fixed term contract staff	21
Total	93

## Academic and Support Staff

Academic staff	6
PASS staff	87
<b>Total</b>	<b>93</b>

## Research Fields and Staff

### Research Staff

#### WILLEM HANEKOM – DIRECTOR

TB vaccine development and testing; Correlates of risk of TB disease in infants, adolescents and adults; Immunopathogenesis of TB and of TB/BCG/IRIS in infants, adolescents and adults.

#### MARK HATHERILL – DEPUTY DIRECTOR FOR CLINICAL TRIALS AND EPIDEMIOLOGY

TB vaccine development and testing; Epidemiology and diagnosis of TB in infants, adolescents and adults.

#### THOMAS SCRIBA – DEPUTY DIRECTOR FOR IMMUNOLOGY

Immunopathogenesis studies; TB vaccine development and testing; Correlates of risk of TB in infants and adolescents; adolescents and adults; Assay development.

#### HENNIE GELDENHUYSEN

TB vaccine development and testing, including novel administration of vaccines; Epidemiology and diagnosis of TB in infants, adolescents and adults.

#### ANGELIQUE LUABEYA

TB vaccine development and testing; Epidemiology and diagnosis of TB in infants, adolescents and adults.

#### MICHELE TAMERIS

TB vaccine development and testing; Epidemiology and diagnosis of TB in infants and adolescents; Drama as a vehicle for communicating research technology.

#### ELISA NEMES

TB vaccine development and testing; Correlates of risk of TB disease in infants; Immunopathogenesis of TB and of TB/BCG/IRIS in infants, adolescents and adults.

#### ADAM PENN-NICHOLSON

TB vaccine development and testing; Correlates of risk of TB disease in adolescents; Assay development.

#### EDWARD MAKGOTHLO

Correlates of risk of TB disease in adolescents.

#### SARA SULIMAN

TB vaccine development and testing; Correlates of risk of TB disease in adolescents; Assay development.

#### HELEN MEARN

Analysis of immune responses to novel vaccine strategies against TB.

#### VIRGINIE ROZOT

TB vaccine development and testing; Correlates of risk of TB disease in infants; Immunopathogenesis of TB and of TB/BCG/IRIS in infants, adolescents and adults.

#### SELECTED RESEARCH GRANTS

SATVI received additional financial support through the following grant awards during 2013:

1. Project: Robin Wood (T. Scriba), Tuberculosis Transmission: Host, Bacterium and Environment  
Funder: MSC SA  
Grant period: 2013 – 2016
2. Project: T. Scriba, T cell determinants of risk for TB disease in adolescents  
Funder: Bill & Melinda Gates Foundation  
Grant period: 2013 – 2016
3. Project: T Scriba, The role of human naïve-like memory T cells in natural infection with Mycobacterium tuberculosis  
Funder: MRC SA  
Grant Period: 2013 – 2015
4. Project: T Scriba, CyTOF Mass Cytometer for T cell correlates of risk of TB disease in adolescents  
Funder: SA Department of Science and Technology  
Grant Period: 2013 – 2014
5. Project: Z Brey, Riley Method TB Vaccine Research Facility  
Funder: Bill & Melinda Gates Foundation  
Grant Period: 2013 - 2015
6. Project: M Hatherill, A phase IIb, double-blind, randomised, placebo controlled study to evaluate the efficacy, safety and immunogenicity of GSK Biologicals' candidate tuberculosis (TB) vaccine GSK 692342 against TB disease, in healthy adults aged 18-50 years, living in a TB endemic region  
Funder: Aeras / GSK  
Grant Period: 2013 – 2017
7. Project: M Hatherill, A double-blind, randomised controlled Phase IIb trial of safety and immunogenicity of MVA85A given for prevention of recurrent tuberculosis  
Funder: National Institutes of Health (NIH)  
Grant Period: 2013 – 2014
8. Project: M Hatherill, A Randomized, Placebo Controlled, Partially Blinded Phase II Study to Evaluate Safety, Immunogenicity, and Prevention of Infection with Mycobacterium tuberculosis of AERAS-404 and BCG Revaccination in Healthy Adolescents  
Funder: Aeras  
Grant Period: 2013 – 2017
9. Project: M Hatherill, UCT Clinical Trials Unit SATVI CRS  
Funder: NIH  
Grant Period: 2013 – 2020
10. Project: M Tameris, Vaccine Development Registry  
Funder: Aeras  
Grant Period: 2013 – 2015
11. Project: M Tameris, A Phase 1b, Randomized, Double-blind, Placebo-controlled, Dose-escalation Study to Evaluate the Safety and Immunogenicity of the ID93 + GLA-SE Vaccine in BCG-Vaccinated Healthy Adults  
Funder: Aeras  
Grant Period: 2013 – 2015
12. Project: A Luabeya, A Phase I/IIa Double-Blind, Randomized, Placebo-Controlled, Dose-Finding Study to Evaluate the Safety and Immunogenicity of AERAS-456 in HIV-negative Adults with and without Latent Tuberculosis Infection  
Funder: Aeras  
Grant Period: 2013 – 2015
13. Project: A Luabeya, Host-Based Assessment of MTB  
Funder: University of Washington  
Grant Period: 2013 – 2014

Identifying & Addressing Developmental-Behavioral Problems: A Practical Guide for Medical and Non-Medical Professionals, Trainees, Researchers and Advocates, pp. 405-408. USA: PEDStest.com, LLC. ISBN 9780966432350.

Morrow, B. and Argent, A.C. 2013. Diagnosis, prevention, and treatment of ventilator-associated pneumonia in children. In M. Astuto (ed), Pediatric Anesthesia, Intensive Care and Pain: Standardization in Clinical Practice, pp. 13-26. Italy: Springer-Verlag. ISBN 9788847026841.

## Articles in peer-reviewed journals

Adikibi, B., Arnold, M., Van Niekerk, G., Alexander, A., Numanoglu, A. and Millar, A.J.W. 2013. Magnetic bead toy ingestion: uses and disuses in children. Pediatric Surgery International, 29: 741-744.

Adikibi, B.T., Wood, R.J., Pillay, K. and Millar, A.J.W. 2013. Omental cyst presenting with profound anaemia. African Journal of Paediatric Surgery, 10(2): 180-184.

Argent, A.C. 2013. What's new in the recognition and management of septic shock in children: dos and don'ts. Current Pediatrics Reports, 1: 17-26.

Argent, A.C. and Morrow, B. 2013. Ventilator-associated pneumonia: the answer depends on the question being asked. Pediatric Critical Care Medicine, 14(1): 109-111.

Arkwright, P.D., Motala, C., Subramanian, H., Spergel, J., Schneider, L.C. and Wollenberg, A. 2013. Management of difficult-to-treat atopic dermatitis. Journal of Allergy & Clinical Immunology: In Practice, 1: 142-151.

Balme, K.H. and Roberts, C. 2013. More about... Paediatric emergency medicine: what's new in toxicology? CME-Continuous Medical Education, 31(1): 24-26.

Bergman, N. 2013. Neonatal stomach volume and physiology suggest feeding at 1-h intervals. Acta Paediatrica, 102: 773-777.

Boyede, G., Lesi, F.E.A., Ezeaka, V.C. and Umeh, C.S. 2013. Impact of socio demographic factors on cognitive function in school-aged HIV-infected Nigerian children. HIV/AIDS - Research and Palliative Care, 5: 145-152.

Boyede, G., Lesi, F.E.A., Ezeaka, V.C. and Umeh, C.S. 2013. The influence of clinical staging and use of antiretroviral therapy on cognitive functioning of school-aged Nigerian children with HIV infection. Journal of AIDS & Clinical Research, 4:195. DOI: 10.4172/2155-6113.1000195.

## Contact Details

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## DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH

### Research output

### Authored books

Woods, D.L. and Eley, B.S. 2013. Childhood HIV: what health professionals need to know (update). South Africa: Electric Book Works. ISBN 9781920218218.

### Chapters in books

Donald, K.A.M., Hall, D. and Dawes, A.R.L. 2013. International models for prevention, early detection, intervention and professional training: early child development and detection in South Africa. In F.P. Glascoe, K.P. Marks, J.K. Poon and M.M. Macias (eds),

- Boyles, T.H., Bamford, C., Bateman, K.J., Blumberg, L., Dramowski, A., Karstaedt, A.S., Korsman, S.N.J., le Roux, D.M., Maartens, G., Madhi, S., Naidoo, R.N., Nuttall, J., Reubenson, G., Taljaard, J., Thomas, J., van Zyl, G.U., von Gottberg, A., Whitelaw, A.C. and Mendelson, M. 2013. Guidelines for the management of acute meningitis in children and adults in South Africa. *Southern African Journal of Epidemiology and Infection*, 28(1): 5-15.
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## PRIMARY HEALTH CARE DIRECTORATE

**Director: Prof Steve Reid**

**Directorate Profile**

The vision of the Primary Health Care Directorate is a Health Science Faculty that promotes equity and quality in health care, guided by the primary health care approach. The Directorate aims to promote the primary health care approach in teaching, research, policy, health services and community engagement by the Faculty of Health Sciences. Its objectives are to integrate a primary health care approach into the faculty's undergraduate and postgraduate curriculae by means of extending and developing the faculty's clinical teaching platform in rural and primary care sites; deepening community engagement within the health service and the faculty's curriculae; enhancing the recruitment and support of students of rural origin in the faculty; and increasing inter-disciplinary research in health sciences. The mission of the PHC Directorate is to promote equitable, comprehensive, compassionate and quality care at all levels of the health system by means of: the recognition of diversity and culture; evidence-based practice and policy; active health promotion; community-based education; and strategic partnerships.

**Directorate Statistics**

**Permanent and long-term contract staff**

Professors	1
Senior Lecturers	2
Lecturers	3
Junior Research Officer	1
Health Teaching Platform Manager	1
Site Facilitators	4
NGO Facilitators	2
Site Coordinators	4
Facility Manager	1
Admin Staff	2
<b>Total</b>	<b>21</b>

## Honorary staff

Honorary Lecturers	2
Honorary Research Associate	1
<b>Total</b>	<b>3</b>

## Research Fields and Staff

### Permanent staff

#### PROF STEVE REID

Director: Primary health care; Collaboration for Health Equity through Education and Research; compulsory community service; family medicine; rural health; district health systems; community based services support & intermediate care policy; community oriented primary care; population based approaches to health; community based education; medical education; human resources for health; global consensus on social accountability; creativity and health; arts and healthcare steve.reid@uct.ac.za

#### MR JAMES IRLAM

Senior Lecturer: Primary health care; evidence-based practice; climate change and health  
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#### DR LAURAIN VIVIAN

Senior Lecturer: Primary health care; medical anthropology; culture, psyche and illness; medical education; electromagnetic radiation health implications from cell phone technology  
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#### MRS JOHANNAH KEIKELAME

Lecturer: Primary health care; health promotion; community needs assessment; patient and carers perspectives on epilepsy  
johannah.keikelame@uct.ac.za

#### MRS SARAH CRAWFORD-BROWNE

Lecturer: Primary health care; culture, psyche and illness; psychological trauma; community based mental health programming  
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### Contract staff

#### DR DES MICHAELS

Lecturer: Primary health care; health promotion; integrated clinical practice, Collaboration for Health Equity through Education and Research; social accountability  
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#### MRS CLAUDIA NAIDU

Junior Research Officer: Collaboration for Health Equity through Education and Research; social accountability  
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## Honorary Lecturers & Honorary Research Associates

#### DR BEN GAUNT

Honorary Lecturer: Primary health care; rural health; district health systems; community based healthcare & development; health systems research; multi-disciplinary healthcare; clinical services; medical education & outreach programmes; HIV/AIDS; obstetrics & gynaecology  
gaunts@gmail.com

#### DR KARL DU PRE LE ROUX

Honorary Lecturer: Primary health care; rural health; district health systems; community based healthcare & development; medical education & outreach programmes; clinical services; HIV/AIDS; obstetrics & gynaecology; nutrition research  
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#### DR ROB BAUM

Honorary Research Associate: Playwriting; theatre, speech, choreography & dance; movement therapy; inter-disciplinary arts research; African dance ethnography; creative arts  
rob.baum@uct.ac.za

## Research Highlights

**Medicine and the Arts:** A new postgraduate Medicine and the Arts course which commenced in 2014 was designed by Prof Reid and Dr Susan Levine, Dept of Social Anthropology. The course contributes to new interdisciplinary research initiatives underway at UCT, and provides an unparalleled opportunity for students from the Health Sciences and Humanities to engage with the production of knowledge of and about the body, from multiple perspectives. The course also provides an intellectual platform for students to explore new possibilities, already activated on the global stage, about the ways in which the arts can constructively engage with medical pedagogy and practice, and to engage in key debates relating to medicine, the arts and medical anthropology.

**Promoting Rural Health:** A portion of a faculty R1.2m Atlantic Philanthropies 3-year grant dispersed to the PHCD was utilized to encourage the recruitment of health sciences students from rural and underserved areas, support them to develop leadership skills, better prepare medical students for rural practice, and contribute overall to health equity. The PHCD worked at raising the profile of rural health amongst the students and faculty; expose an increasing number of students to rural situations via the subsidy provided for 5th year rural electives; raise awareness amongst rural learners about health careers and processes to be followed to become health professionals in future; and expose

students to leadership through workshops and practice whilst leading their student societies.

**Interdisciplinary Work:** James Irlam brought together a workshop on Trans-disciplinary and Inter-disciplinary (TDID) Research in the faculty, which has the potential for increasing research output. The statistics from around the world show that the output of those universities that have deliberately created an enabling environment for interdisciplinary research, has increased exponentially, as compared to those who continue ploughing the same furrows within their disciplinary boundaries. Although a lot of the work done at the PHCD is interdisciplinary, this is not the case for most departments, and one of our core functions is to initiate and stimulate this kind of thinking within the faculty.

**Curriculum Revision:** The faculty-led Curriculum Revision Task Team (CRTT) chaired by Prof Reid met for their final meeting in October 2013 to review what has been achieved since the inception of the Task Team in August 2010, evaluate if the major objectives have been served and to bring clarity to the way forward with respect to salient issues that remain a work-in-progress and will be taken up by the MBChB Programme Committee. Initial revisions to the 4th year curriculum would take effect in 2014 including the introduction of primary care Paediatrics, incorporating additional on-site student clinical work, inclusion of alternative off-campus sites, home visits, and integrating PHC themes and learning outcomes across the curriculum. Revisions to the 6th year curriculum would continue to be interrogated with the aim of exploring the implementation of a longitudinal 6th year programme in George or other community-based off-campus sites on the expanded teaching platform, and interrogating workable models. Task Teams would continue to examine graduate attributes in relation to templates that were designed to identify and integrate PHC threads across the major themes of human rights; inter-professional teamwork; communications & cultural competence; evidence based practice; life-long learning; bio-psychosocial approach; ethics; gender & sexuality (LGBT); SHAWCO Health Proposal; and oral health. The curriculum mapping process which was half-way through, would also be completed. The Culture, Psyche and Illness thread of the MBChB was reviewed leading to a clarification of outcomes and strategies.

**Visiting Scholars:** Prof Stewart Mennin, an expert in curriculum reform from the University of New Mexico, was invited by Prof Reid to run a workshop on "Curriculum Change & Models" at the faculty in September 2013 on the vital subject of curriculum revision, curriculum models and the challenges of curriculum changes pertaining to the MBChB undergraduate early and clinical years. The workshop interrogated the numerous complex issues at play including what rules can be instituted

to synergize teachers and learners; how size can be used advantageously; how a teacher delivery model (one speaking to many) can address the fact that size is unlimited and inversely proportional to engagement and meaningful exchange; how basic rules of working together can be better understood and instituted; which curriculum models could work within our context; and how to examine the basic unit of function, which is learning not content. Prof David Hirsch, Assistant Professor of Medicine at Harvard Medical School and Director and co-founder of the Harvard Medical School-Cambridge Integrated Clerkship, was invited to present to the faculty in August 2013 on "The Case for Curricular Integration: What Harvard's Longitudinal Integrated Clerkship teaches about educational design". Prof Hirsch is an expert in the so-called 'Longitudinal Integrated Clerkship' model of teaching, in which clinical students undertake their learning in each discipline over a whole year 'longitudinally' rather than 'vertically' in blocks. The Harvard Medical School Cambridge Integrated Clerkship story has much to say about educational transformation and will be helpful to open ideas about our final year MBChB curriculum revision.

**Conference Presentations:** Prof Reid, Dr Michaels, Claudia Naidu and James Irlam gave oral & poster presentations at the SAAHE 6th National Conference on "The relationship of health science faculties to their health service partners: implications for clinical teaching in SA"; "Peer review for social accountability of health sciences education: a model from SA"; "The home visit: still a feasible teaching tool for medical students? A pilot study for curriculum revision"; "A system that is constantly trying to shape you in a different way - student's perspectives on being a good doctor"; "Career and practice intentions of health science students across three SA medical schools"; "A review of the Wits University medical students' community-based health promotion service learning projects in SA". James Irlam gave oral & poster presentations on "Advocacy for a health energy policy: the experience of a national roundtable process" at the RuDASA 17th Rural Health Conference and the 9th PHASA Conference; "Micronutrient supplementation in children with HIV infection: a Systematic Review for the HIV/AIDS Cochrane Review Group" at the African Cochrane Indaba; and "A cost-effective strategy for primary prevention of acute rheumatic fever and rheumatic heart disease in SA children with pharyngitis" at the UCT SCHAH Research Day. Prof Reid gave oral presentations on "Why we do what we do: the philosophy of rural health" at the RuDASA Conference and "Medicine and humanities in conversation" at the WiSER Body Knowledge Medical Humanities in Africa Conference.

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## Research output

### Chapters in books

Flinkenflogel, M., Mash, B., Ayankogbe, O., Reid, S., Essuman, A. and De Maeseneer, J. 2013. The African family physician: development of family medicine in Africa in the twenty-first century. In M. Kidd (ed), *The Contribution of Family Medicine to Improving Health Systems: A guidebook from the World Organization of Family Doctors*, 2<sup>nd</sup> edition, pp. 247-265. London: Radcliffe Publishing Ltd. ISBN 9781846195549.

### Articles in peer-reviewed journals

Diab, N., Flack, P.S., Mabuza, L.H. and Reid, S. 2012. Qualitative exploration of the career aspirations of rural origin health science students in South Africa. *Rural and Remote Health*, 12: 2251(11pp).

Gichuhi, S. and Irlam, J.H. 2013. Interventions for squamous cell carcinoma of the conjunctiva in HIV-infected individuals. *Cochrane Database of Systematic Reviews*, 2: CD005643(20pp).

Irlam, J.H., Mayosi, B.M., Engel, M.E. and Gaziano, T.A. 2013. A cost-effective strategy for primary prevention of acute rheumatic fever and rheumatic heart disease in children with pharyngitis. *SAMJ South African Medical Journal*, 103(12): 894-895.

Irlam, J.H., Siegfried, N., Visser, M. and Rollins, N.N. 2013. Micronutrient supplementation for children with HIV infection. *Cochrane Database of Systematic Reviews*, 10(CD010666): 1-43.

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Keikelame, M.J. and Swartz, I. 2013. A lay carer's story about epilepsy in an urban South African context: they call it an illness of falling or an illness of fitting because a person shakes and eventually falls. *Epilepsy & Behavior*, 28: 512-518.

Keikelame, M.J. and Swartz, I. 2013. Lost opportunities to improve health literacy: observations in a chronic illness clinic providing care for patients with epilepsy in Cape Town South Africa. *Epilepsy & Behavior*, 26: 36-41.

Mabuza, L.H., Diab, N., Reid, S., Ntuli, B.E., Flack, P.S., Mpofu, R., Daniels, P.S., Adonis, T.-A., Cakwe, M., Karuguti, M.W. and Molefe, N. 2013. Communities' views, attitudes and recommendations on community-based education of undergraduate health sciences students in South Africa: a qualitative study. *African Journal of Primary Health Care & Family Medicine*, 5(1): 1-9.

Moosa, S., Downing, R.V., Mash, B., Reid, S., Pentz, S. and Essuman, A. 2013. Understanding of family medicine in Africa: a qualitative study of leaders' views. *British Journal of General Practice*, 63(608): 139-140.

Naidu, C., Irlam, J.H. and Diab, N. 2013. Career and practice intentions of health science students across three South African Medical Schools. *African Journal of Health Professions Education*, 5(2): 68-71.

Nkabinde, T.C., Ross, A., Reid, S. and Nkwanyana, N.M. 2013. Internship training adequately prepares South African medical graduates for community service with exceptions. *SAMJ South African Medical Journal*, 103(12): 930-934.

# DEPARTMENT OF PSYCHIATRY AND MENTAL HEALTH

## Head of Department: Professor Dan J. Stein

### Departmental Profile

The Department of Psychiatry and Mental Health is firmly committed to strengthening the integration between services, teaching, and research. Clinicians in each of the Divisions of the Department (addiction psychiatry, child and adolescent psychiatry, consultation-liaison psychiatry, forensic psychiatry, general hospital psychiatry, intellectual disability, psychotherapy, neuropsychiatry, psychopharmacology, and public mental health) are active in research in their particular areas. Thus clinical research in the Department covers key clinical problems that are relevant in the South African context, including behavioural and neuropsychiatric aspects of HIV/AIDS, substance use disorders (including fetal alcohol spectrum disorder), adolescent risk-taking behaviour, posttraumatic stress disorder, and mental health policy and services.

In addition, the Department plays a key role in several cross-departmental and cross-institutional research initiatives:

- The Brain-Behaviour Initiative (BBI) is one of UCT's signature themes. The initial focus of the BBI was on trauma, but it has extended to include neuroHIV and substance use disorders. More details of the aims, methods, and partners, are available at - <http://www.health.uct.ac.za/research/groupings/bbi/overview/>
- The Adolescent Health Research Unit is examining adolescent risk-taking behaviour, predictors of school dropout, and violence in intimate adolescent relationships. Data analysis is in progress for two large school-based cluster randomised control trials of AIDS prevention.
- The Alan J Flisher Centre for Public Mental Health addresses a range of questions in mental health policy and implementation science, and offers advanced training in public mental health. The Centre currently conducts research in 9 low and middle-income countries in Africa and south Asia, including the Programme for Improving Mental health care (PRIME) ([www.prime.uct.ac.za](http://www.prime.uct.ac.za)), the Africa Focus on Intervention Research for Mental health (AFFIRM) ([www.affirm.uct.ac.za](http://www.affirm.uct.ac.za)), and Emerging Mental Health systems in low and

middle-income countries (EMERALD) research and capacity building initiatives. Within the Centre, The Perinatal Mental Health Project (PMHP) contributes research on maternal mental health from its own service and training initiatives as well as in collaboration with other partners.

### Departmental Statistics

#### Permanent and long-term contract staff

Professors	3
Emeritus Professors	5
Associate Professors	4
Senior Lecturers	41
Lecturers	15
Research Staff	35
Administrative and Clerical Staff	5
<b>Total</b>	<b>96</b>

#### Honorary Staff

Lecturers	11
Senior Lecturers	3
Professors	14
<b>Total</b>	<b>17</b>

#### Students

Postdoctoral / Clinical Research Fellows	8
Doctoral	14
Master's	34
<b>Total</b>	<b>58</b>

### Research Fields and Staff

#### ADDICTION PSYCHIATRY

Substance use and anxiety disorders (Don Wilson); Interventions (Katherine Sorsdahl, Sonja Pasche)

#### CHILD AND ADOLESCENT PSYCHIATRY

Adolescent risk behaviour (Cathy Mathews), infant mental health (Astrid Berg), autism and pervasive development disorders (Petrus de Vries).

#### CONSULTATION-LIAISON PSYCHIATRY

Women's mental health, stress and pregnancy (Bavanisha Vythilingum), liaison psychiatry and HIV (Jackie Hoare and Kerry Louw), pain (Louise Frenkel)

#### FORENSIC PSYCHIATRY

Mentally ill offenders and femicide (Sean Kaliski and Tania Swart).

#### GENERAL PSYCHIATRY

mHealth interventions (Pete Milligan), bipolar disorder (Neil Horn), substance-induced psychosis (Henk Temmingh), clinical audit (Robin Allen).

#### INTELLECTUAL DISABILITY

Fetal alcohol spectrum disorder (FASD) neurobehaviour and brain imaging (Colleen Adnams)

#### PSYCHOTHERAPY

Intimate partner violence (Adele Marais), Recovery in serious mental illness (Sharon Kleintjes)

#### NEUROPSYCHIATRY

Neurocognitive disorders and neuropsychiatry of HIV, brain imaging and HIV (John Joska; Carla Freeman), ARV initiation and adherence (John Joska and Hetta Gouse)

#### PSYCHOPHARMACOLOGY

Pharmacological MRI, Evidence-based psychopharmacology (Dan Stein, Taryn Amos)

#### PUBLIC MENTAL HEALTH

Mental health policy and services (Crick Lund), Green psychiatry (John Parker)

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#### Research highlights from 2013

- Awarding of the Emerging Mental Health systems in low and middle-income countries (EMERALD) EU-FP7 grant (€6,000,000). The grant is being led by Prof Graham Thornicroft at the Institute of Psychiatry, King's College London, and the UCT CPMH is leading Work Package 3 of the grant, together with Dr Dan Chisholm at the World Health Organization, Geneva.
- Publication of a "flagship" paper for PRIME in PLoS Medicine (December 2012).

#### Research output

##### Articles in peer-reviewed journals

Abbo, C., Kinyanda, E., Kizza, R.B., Levin, J., Ndyanabangi, S. and Stein, D.J. 2013. Prevalence, comorbidity and predictors of anxiety disorders in children and adolescents in rural north-eastern Uganda. *Child and Adolescent Psychiatry and Mental Health*, 7(21): 1-11.

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Anglemyer, A., Rutherford, G.W., Horvath, T., Baggaley, R., Egger, M. and Siegfried, N. 2013. Antiretroviral therapy for prevention of HIV transmission in HIV-discordant couples. *Cochrane Database of Systematic Reviews*, 4: CD009153.

Atwoli, L., Stein, D.J., Williams, D.R., McLaughlin, K.A., Petukhova, M., Kessler, R.C. and Koenen, K.C. 2013. Trauma and posttraumatic stress disorder in South Africa: analysis from the South African stress and health study. *BMC Psychiatry*, 13: 182.

Baldwin, D.S., Ajel, K., Masdrakis, V.G., Nowak, M. and Rafiq, R. 2013. Pregabalin for the treatment of generalized anxiety disorder: an update. *Neuropsychiatric Disease and Treatment*, 9: 883-892.

Baldwin, D.S., Rafiq, R. and Talat, B. 2013. Overcoming barriers in the pharmacological treatment of anxiety disorders. *Neuropsychiatry*, 3(1): 33-44.

Bethlehem, R.A.I., van Honk, J., Auyueung, B. and Baron-Cohen, S. 2013. Oxytocin, brain physiology, and functional connectivity: a review of intranasal oxytocin fMRI studies. *Psychoneuroendocrinology*, 38: 962-974.

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Bos, P., van Honk, J., Ramsey, N.F., Stein, D.J. and Hermans, E.J. 2013. Testosterone administration in women increases amygdala responses to fearful and happy faces. *Psychoneuroendocrinology*, 38: 808-817.

Boyes, M. and Cluver, L. 2013. Performance of the revised children's manifest anxiety scale in a sample of children and adolescents from poor urban communities in Cape Town. *European Journal of Psychological Assessment*, 29(2): 113-120.

Boyes, M. and Cluver, L. 2013. Relationships among HIV/AIDS orphanhood, stigma, and symptoms of anxiety and depression in South African youth: a longitudinal investigation using a path analysis framework. *Clinical Psychological Science*, 1(3): 323-330.

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## SCHOOL OF PUBLIC HEALTH AND FAMILY MEDICINE

**Director:**  
**Professor Mohamed F Jeebhay**

#### School Profile

The School of Public Health and Family Medicine is a strong multidisciplinary department in the Faculty of Health Sciences. Its teaching, research and service extend to a wide range of settings and content areas consistent with the evolving disciplines of Public Health and Family Medicine.

The School is currently organised into 8 disciplinary teaching and training divisions and 4 URC accredited research units. Three of these divisions, Public Health Medicine, Occupational Medicine and Family Medicine have a clinical service responsibility through joint appointments with Western Cape Government Department of Health (Directorate of Health Impact Assessment, Groote Schuur Hospital Occupational Medicine Clinic, Chief Directorate Metro District Health Services) respectively.

#### Teaching

The School runs a large postgraduate programme, including 7 postgraduate diplomas, 6 Master's programmes, 3 professional Master's programmes and a PhD programme. In 2013, there were 364 postgraduate students in the School including 29 PhD students. A total of 102 postgraduate students graduated in 2013, including 5 PhDs, 41 Master's and 56 postgraduate diploma students (one third of all faculty diplomas awarded). The Master's in Public Health (MPH) is the School's flagship public health programme and the largest taught master's in the Faculty, with 200 students having graduated over the past decade.

The MPH continues to attract widespread interest from potential applicants, particularly from other African countries. There were 226 applicants for 50 places, of which 52 were accepted and took up places for study in 2013. A record number of 30 students (from 26 in 2012) graduated during 2013 out of a total registration of 156 students pursuing this 3 year degree. With appropriate resourcing, there is scope for an increased intake and increased throughput on this flagship programme. As the only Master's programme in palliative medicine in Africa, the MPhil in Palliative Medicine continues to attract students from South Africa and other countries in Africa.

The School is also playing an increasing role in the new undergraduate medical curriculum with the aim of producing medical professionals able to function effectively at the primary care level and imbued with an understanding of public health. Public Health and Health Promotion training to undergraduates take place in community-based settings and has been instrumental in pioneering community-placements for MBChB students at UCT. A number of initiatives are underway to develop off-campus teaching sites linked to Community Health Centres and district hospitals. The Family Medicine division has been closely involved in developing and supporting the rural teaching venue in Vrendenburg.

#### Research – overview

There are four URC-accredited research entities within the School: Centre for Infectious Disease Epidemiology & Research (CIDER), Centre for Occupational and Environmental Health Research (COEHR), Health Economics Unit (HEU) and the Women's Health Research Unit (WHRU). Research outputs in 2013 included approximately 185 peer-reviewed journal publications (a 3% increase from 2012) and 12 book chapters. Total research grant and contract income to the School was R46 882 032 in 2013, a 20% increase from 2012 research income.

Furthermore, in addition to subsidy-attracting publications, academic staff participate in a range of provincial, national and international policy and produce a number of technical and policy papers. These contributions do not always find their way into peer-reviewed scientific journals, but which are integral to the department's service mission, reflecting the School's strong social responsiveness profile in applying research and scholarly activity as part of advocacy to promote the public's health.

The School's research mission is reflected in the wide range of research activities and the associated research outputs are notable for their multidisciplinary perspective. In infectious diseases and women's health, publications cover childhood and adult tuberculosis prevention, diagnosis and treatment; HIV epidemiology, transmission and treatment (including treatment outcomes, adherence and mortality); adolescent risk-taking behaviour and educational interventions; prevention of mother-to-child transmission of HIV infection; contraceptive services and women's reproductive health more broadly; economic analyses of tuberculosis and HIV services; HPV vaccination and cervical cancer prevention and health systems aspects of care related to TB and HIV. The integration of human rights considerations into public health policy and health systems practice receives attention in a number of publications. The department continues its role as

a national leader in occupational and environmental health research with investigations into occupational allergy, pesticides, hazardous metals and lung disease due to mineral dust. Finally, the question of equity of resource allocation in health, and particularly in primary health care, continues to occupy researchers in health economics, who remain the leading South African source of peer-reviewed publications in this field.

The School has eight NRF-rated researchers, including Dr Chris Colvin (Promising Young Researcher), A/ Prof Aqiel Dalvie (Established Researcher), Dr Richard Matzopolous (Established Researcher), Professor Jonny Myers (Internationally Acclaimed Researcher), Professor Lucy Gilson (Internationally Acclaimed Researcher), Professor Mohamed Jeebhay (Internationally Acclaimed Researcher), Professor Leslie London (Internationally Acclaimed Researcher) and Professor Di McIntyre (Internationally Acclaimed Researcher).

In 2013, Dr Mary-Ann Davies in CIDER received the Bronte Stewart Memorial Research Award for the best PhD in the Faculty. The School also made its third award of the David Bourne prize for the best student in the MPH programme to Monika Kamkuemah. The prize commemorates David Bourne, a demographer in the School who died in 2009, and whose death left a huge gap in the HIV research world. Keren Middelkoop was awarded the Ethne Jacka prize for the top MPH dissertation by a graduating candidate in 2012. John Ataguba received the Young Investigator Award for the best publication in the Faculty (2012) as well as the Claude Leon Merit Award for Young Lecturers. Two staff members, Associate Professor Landon Myer and Dr Chris Colvin, were among the recipients of the Top Soft-Funded Academic and Research Staff (SFARS) Awards in the Faculty.

### **Centre for Occupational and Environmental Health Research (COEHR)**

The Centre's aim is to be a principal centre of OEH research, teaching and training, occupational medical clinical services, policy advisory, technical consultancy services, advocacy and a source of supportive outreach activities in South Africa, in the Southern and Eastern regions of Africa, Africa more generally, and internationally.

The major objectives of the Centre are firstly, to conduct multidisciplinary research, teaching and service provision of high priority in Southern Africa, integrating laboratory, clinical, epidemiological and policy skills. Another key objective is to explore and develop means of maintaining the health of workers and environmentally exposed communities. A third objective is to conduct policy research into issues ranging from toxic or injurious exposures through to

health surveillance. Fostering inter-institutional research, teaching and service (including outreach) collaboration and capacity development constitutes another major objective. Finally, another aim is to foster local and global networks for occupational and environmental health promotion through collaboration with United Nations and other agencies.

### **Key research projects**

Key research areas for the Centre currently include the identification of risk factors and evaluating preventive approaches for allergens and asthma in the workplace, health hazards of chemicals (such as pesticides and endocrine disruptors) and silicosis elimination in gold miners.

Workforces that are of particular relevance for the Centre's work include health care workers, with a specific focus on studying the determinants of TB infection and diagnostic approaches in order to prevent the spread of TB related to the HIV epidemic. Other vulnerable groups include agricultural workers (for whom injuries and pesticide-related asthma and neurotoxicity are a problem) and mine workers (at high risk of developing pneumoconioses and TB).

Environmental risks for workers and communities exposed to metals, such as manganese and arsenic, and other chemicals in the working and residential environments are assessed and monitored. Climate change and its impact on occupational and general health has become a focus linked to the UCT African Climate and Development Initiative.

These areas are supplemented by a broader focus on research to address occupational and environmental health systems and worker's compensation, to promote ethical issues in occupational health practice as well as developing programmes to build OHS capacity through research and training in the SADC region, through the Fogarty International Centre Millenium Promise Programme (MPP) for non-communicable chronic lung diseases.

The Centre commenced a project analysing the approximately 9 million records of mining contracts over the last 40 years from an anonymised database provided by the main recruiting company in the South African mining industry. The study has a number of objectives, viz. to map the changing distribution of recruitment, particularly from gold mines, to estimate actuarially mortality rates and the number of living miners, and to project the number of living miners with silicosis, tuberculosis and HIV infection. The ultimate goal is to inform activities directed at silicosis elimination, control of tuberculosis and the just compensation of miners with occupational lung disease on the subcontinent.

The work of the Centre led by Prof Jonny Myers has played a major role in contributing towards a safer occupational exposure limit for manganese exposed workers through its contribution to the American Conference for Government Industrial Hygienists Threshold Limit Values (TLV).

Roslynn Baatjies doctoral study on baker's allergy and asthma demonstrated the substantial positive impact of targeted interventions in reducing flour dust allergens in bakeries, thereby contributing towards preventative strategies for protecting baker's lung health. The findings will be used recommendations to the Department of Labour to revise the current flour dust exposure standard in South Africa, bringing it in line with international best practice.

The Centre received two grants from the International Development Research Centre to evaluate the effectiveness of upstream interventions including urban upgrading and alcohol trading restrictions in reducing violence in selected low-income community in the Western Cape with high rates of violence. Violence Prevention through Urban Upgrading (VPUU) are the primary implementation partners and key proponents of participatory approaches to community development.

The Health Risk Management Programme (HRMP) has begun to conduct research in the area of climate change and climate variability impacts on health and chemical exposure risks. Research in 2013 continued to also focus on the silent public and environmental health problem of informal vendors selling agricultural pesticides for domestic use in low-socio economic communities of street pesticides and child poisonings; occupational herbicide exposures of community workers removing alien vegetation in the Working for Water programme; and developing health interventions for low literate populations. These research projects involved engagement with NGOs, community leaders/members, national, provincial and municipal government departments (health, agriculture and environment) and research institutions (i.e., MRC, CSIR). Capacity building has also included dissemination of research findings to decision makers and lay populations. Mechanisms for capacity building by the HRMP are through a Post Graduate Diploma in Pesticide Risk Management (DPRM) targeted at regulators and inspectors; information dissemination through UCT's pesticide electronic list servers, a bi-monthly online chat discussion forum - virtual seminar - for students and global experts in the field of pesticides and health. The HRMP also develops a range of risk communication materials and health interventions, algorithm, and policy briefs based on research findings. These mediums are used in order to disseminate and translate research findings for a broad range of stakeholders and continue to be widely distributed in printed form and as Creative Commons licensed electronic material posted on UCTs OpenContent UCT site. The programme also conducts policy analysis and inputs to national, regional and international policies on chemical risk management and environmental health.

### **Major highlights for 2013 included the following:**

- The Centre successfully underwent the 5 year URC Quality Assurance review, which commended the work of the Centre as being highly productive, generating high quality output with an international reputation.
- The Centre hosted the 12<sup>th</sup> International Symposium of Neurobehavioural Methods and Effects in Occupational and Environmental Health in Cape Town in March 2013 under the auspices of the Scientific Committee for Neurotoxicology and Psychophysiology of the International Congress on Occupational Health (ICOH). The conference was co-chaired by Emeritus Professor Jonny Myers and Professor Leslie London, who have been asked to co-guest edit a special edition of Neurotoxicology for papers presented at the Symposium. Associate Professors Aqiel Dalvie and Andrea were members of the Scientific Organizing Committee.
- Professor London was also appointed guest editor for a special edition of the journal New Solutions to focus on the Extractive Industries.
- Professor Leslie London was also awarded a Fulbright Senior Research Fellowship to spend a sabbatical in the Department of Environmental Health at Boston University School of Public Health in the latter part of 2013.
- Professor Rodney Ehrlich spent three weeks at the Yale University Law School and School of Public Health as a Gruber Fellow in Global Health and Justice. One of the outcomes was a postgraduate student project entitled "Fulfilling Broken Promises. Reforming the Century-Old Compensation System for Occupational Lung Disease in the South African Mining Sector".
- Professor Ehrlich was confirmed as Head of the newly formed Division of Occupational Medicine in the School and Prof Jeebhay as Head of the Occupational and Environmental Health Division.
- Associate Professor Hanna-Andrea Rother was promoted ad hominem to Associate Professor. She was appointed Deputy Director of the Centre for the period of 2013-2015.
- Associate Professor Rother chaired a UN advisory group's 7th FAO/WHO Joint Meeting on Pesticide Management of which she is a WHO nominated panel member.
- A/Prof Rother is a member of the Scientific Organizing Committee for the 2014 World Universities Network Conference on Climate

Change and Public Health. She also convened a Satellite Session on Climate Change and Health.

- A/Prof Rother also serves as a member of UNEPs Expert Group on the Development of Legal and Institutional Infrastructures and Cost Recovery Measures for Sound Management of Chemicals. She was also promoted to Associate Professor.
- Prof Jeebhay was presented with the Collegium Ramazzini medal by the Mayor of Carpi in Italy on being elected as a new fellow of the Collegium Ramazzini.
- Prof Jeebhay was invited to two technical taskforces of the European Academy of Allergy and Clinical Immunology (EAACI) Occupational Allergy section to develop consensus guidelines in relation to occupational allergy and asthma viz. MOCEA (measurement of airborne allergens) taskforce and Occupational Anaphylaxis taskforce.
- Roslynn Baatjes was awarded her PhD for her work on occupational allergy and asthma among bakery workers.
- Professor Jeebhay was invited to do a presentation on diagnosis of occupational asthma at the XXXII Congress of the European Academy of Allergy and Clinical Immunology and World Allergy Congress held in Milan, Italy, June 2013.

#### *Industrial Health Resource Group (IHRG)*

Within the COEHR, the Industrial Health Resource Group (IHRG) operates as an action research and socially responsive development group, providing occupational health and safety research, curriculum development, training, advice, and resource development services for trade unions and their members. The work of IHRG is guided by a vision of building the capacity of trade unions and their members to independently monitor, enforce, defend and advance the health and safety rights of workers.

IHRG does representation, investigative and advocacy work for workers and trade unions in relation to workplace health and safety incidents and cases of work-related injury and disease. IHRG assisted with 83 cases of occupational injury and disease during 2013, involving 51 men, 29 women and 3 workplaces. Cases came from a variety of workplaces and sectors including the breweries, clothing, furniture making, engineering, education, farming, municipalities, security, transport, retail, public health, mining and asbestos manufacturing. In March the Western Cape High Court ruled in favour of a worker (and against the Director General of the Department of Labour) who claimed that he had contracted Hepatitis B as a result of an occupational exposure whilst working in the plumbing of a naval vessel. This court action was the result of a collaboration between IHRG and the trade union Solidarity. In December 2013 lawyers filed an application in the High Court to contest the Department

of Labour's refusal to provide the families of workers killed in the 2009 Paarl Print fire access to the DoL Section 32 Formal Enquiry report. Numsa is acting as financial guarantor should IHRG lose the case and be ordered to pay costs. This legal action follows IHRG's unsuccessful efforts to secure access to the report from the DoL under the Promotion of Access to Information Act.

In the course of 2013 IHRG ran a series of workshops for shop stewards and trade unionists on occupational injury and disease case management. This training seeks to develop capacity amongst union organisers and workplace representatives to investigate incidents in the workplace, manage compensation claims, and represent workers in incapacity dismissal cases. Alongside this training activity, IHRG published a revised version of its handbook on *COIDA and Case Management*. The publication is being piloted in training courses and has been circulated for comment to a reference group that includes representatives from COSATU, NUM, Numsa, SAMWU and Solidarity, occupational medicine specialists from the University of Cape Town, as well as Dr. Sophia Kisting, former Director of the ILO HIV/AIDS Program.

IHRG also plays an advocacy role within a national, regional and global context of deregulation, outsourcing and casualisation of labour - trends which enable public and private sector employers to shed responsibility for workplace health and safety. In this regard, IHRG is collaborating with the Federatie Nederlandse Vakbeweging and its South African partners in a campaign for decent work that is directed particularly at vulnerable workers. Our current work with vulnerable workers includes: Nine workshops in collaboration with Naledi and Satawu during 2013 with shop stewards from contract cleaning, security and aviation companies at OR Tambo International Airport; weekly meetings with a group of 20 Community Health Care Workers in Delft; and health and safety workshops with farmworkers organised by Sikhula Sonke.

In November 2013 IHRG convened an indaba for 27 shop stewards and organisers from Numsa who have been participating in a three year *Strengthening Workers Rights* programme funded by the German union confederation, DGB-BW. The purpose of the programme is to build the capacity of the shop stewards to engage with German multi-national companies in the negotiation of workplace level agreements. The participants on the programme represent workers at 11 German multinational companies in the Eastern Cape, Gauteng, Mpumalanga and Kwazulu-Natal. During 2013 IHRG, Samwu and DGB-BW negotiated an agreement for a health and safety training and organisational development programme for the period 2014 to 2016.

IHRG provided health and safety training workshops in response to requests from Nehawu and Chevron petrochemical refinery.

IHRG collaborates locally, nationally, regionally and globally with other labour service organisations, non-governmental organisations, adult educationists, occupational health experts, various academic programmes, and health research institutions. During 2013, IHRG collaborated with - amongst others - Federatie Nederlandse Beweging, Deutscher Gewerkschaftsbund, Naledi, Ditsela, Workers World Media Productions, Legal Resources Centre, Labour and Enterprise Policy Research Group and the Department of Occupational and Environmental Health at UKZN. In August 2013 IHRG programmes underwent an external evaluation by FNV and by DGB-BW.

Research activity of IHRG contributes towards the production and distribution of a variety of popular and accessible resources (including posters, newsletters, research reports, workshop materials, and handbooks) for trade unions and their members on issues of occupational health and safety. During 2013 IHRG produced a guide for shop stewards on compensation *COIDA and Case Management*, a housing audit tool for farmworkers, Afrikaans translations of eight health and safety training modules, an article on the class action lawsuit for gold mine workers with silicosis, a DVD about three contract workers injured in a fire at the Engen refinery in Cape Town and another DVD on the working conditions of Community Health Care Workers in Delft, Cape Town. IHRG further developed its website [www.ihrg.org.za](http://www.ihrg.org.za) by setting up a mobi version for cell-phone access and establishing a discussion forum on compensation.

#### **Centre for Infectious Disease Epidemiology and Research (CIDER)**

The Centre for Infectious Disease Epidemiology and Research (CIDER) is a multi-disciplinary research group with the following objectives:

- To conduct public health research integrating laboratory, clinical, epidemiological, social science and health systems research into infectious diseases that have high priority in Southern Africa (in particular HIV, tuberculosis and sexually transmitted infections) in order to improve the prevention and management of these diseases.
- To be a service-led research entity, maintaining very strong links with health services at all levels, and to assist policy makers, programme and services managers with the implementation of the results of research.
- To be a centre of expertise in the surveillance and monitoring of infectious diseases and infectious

disease programmes and services, and in the conduct of robust observational research based on routine data sources.

- To provide postgraduate teaching and supervision in epidemiology.

The Centre has a strong track record in researching strategies for HIV prevention. Historically the Centre ran field sites for two large multicentre HIV prevention trials, one for a candidate vaginal microbicide, and the other testing the efficacy of twice daily acyclovir suppressive therapy in preventing HIV transmission among heterosexual HIV-discordant couples in which the HIV-infected partner is Herpes Simplex Virus-2 seropositive. Furthering the focus on HIV prevention the Centre is developing tools and indicators for measuring and evaluating PMTCT programmes in resource limited settings, and is testing novel service strategies for further improving the effectiveness of PMTCT interventions.

A further focus of the work of the Centre is in the area of treatment and service delivery for HIV and tuberculosis. This encompasses an expanding portfolio of health systems research as well as the clinical epidemiology of treatment interventions in individual cohorts. Health system projects have focussed on the use of lay health workers and community-based care, and the integration of TB and HIV services in the Western Cape, Free State and Gauteng. A major strength of the Centre is cohort studies of patients receiving antiretroviral therapy. This includes work with individual cohorts in Khayelitsha and Gugulethu, through to running an NIH-funded data centre for collaborative cohort research combining data from 14 cohorts in South Africa.

The Centre has an excellent working relationship with the Provincial Department of Health, with staff supporting the conduct and analysis of the annual antenatal HIV seroprevalence survey, the development and maintenance of information systems to monitor HIV programmes, and assistance with infectious disease surveillance and outbreak investigations. The work on context-appropriate information systems for HIV programmes has led to further collaborations nationally, regionally and with the World Health Organization.

The Centre has a strong multidisciplinary team of PhD scientists and continues to be a significant resource for epidemiology, biostatistics, infectious disease modelling and qualitative research support within the Faculty. There are active collaborations with a range of clinical and laboratory departments, including with the Departments of Psychiatry and Mental Health, Virology, Obstetrics and Gynaecology, Child and Adolescent Health, and Medicine.

### **The major highlights for 2013 include:**

A number of staff were promoted during the year or took on new senior appointments

- Associate Professor Landon Myer was appointed as the head of the new Division of Epidemiology and Biostatistics and as Deputy Director of CIDER
- Dr Chris Colvin was appointed as the head of the new Division of Social and Behavioural Sciences
- Dr Kathryn Stinson was promoted ad hominem to Senior Research Officer

### **CIDER was successful with the following new grants**

- 2 NIH supplements were awarded to the International Epidemiologic Databases to Evaluate AIDS (IeDEA) grant – one to the transfer of children on HIV treatment and one on the impact of HIV treatment (Davies) on adult mortality in South Africa (Johnson).
- Dr Mary-Ann Davies led a successful global consortium that was awarded a grant from the International AIDS Society to develop a global paediatric HIV treatment cohort collaboration (CIPHER)
- Collaborative Initiative for Paediatric HIV Education and Research)
- Dr Chris Colvin was awarded an NIH training grant in HIV Social Sciences together with colleagues at Brown University

### **The following staff were successful with their post-graduate studies:**

- Master's Degrees: Phuelele Trasada, Monika Kamkuemah, Leatitia Kampiire (MPH); Lucy Campbell (MSc Statistics)
- Dr Mary-Ann Davies was awarded her PhD, and was awarded the Bronte Stewart Memorial Research Award for the best PhD in the Faculty of Health Sciences.
- Dr Lele Rangaka, awarded her PhD in 2012 by the London School of Hygiene and Tropical Medicine, was awarded in 2013 the Woodruff medal for the PhD most likely to impact health in developing countries.

CIDER had another productive year in terms of publication output, with staff being authors on over 80 peer reviewed articles, many in leading general medical journals and lead by CIDER staff.

### **Health Economics Unit**

The Health Economics Unit (HEU) conducts research in health economics and health system issues. The

HEU maintains a balance between conceptual and applied research as well as between topics of local and international relevance and focuses on three thematic areas of research, namely health systems and health equity research; health financing and the economic evaluation of disease-priority areas.

There are currently a number of projects relating to issues of health financing and the achievement of universal coverage. In addition to this research work, the HEU is active in knowledge translation through the provision of input into the Ministerial Advisory Committee on National Health Insurance and its various sub-committees in South Africa. Other key policy work includes participation in the Economics and Financing Group for the government's new "National Strategic Plan for HIV and AIDS, STIs and TB" and the provision of scientific advice to the World Health Organisation to look at health economics issues related to vaccines in low- and middle-income countries.

A five-year research project (UNITAS – Universal coverage in Tanzania and South Africa: Monitoring and evaluating progress) continued in 2013. The UNITAS project focuses on monitoring and evaluating policy formulation and implementation processes aimed at achieving universal health coverage in South Africa and Tanzania. The project undertakes monitoring mainly at the district level, with some monitoring and evaluation at the national level. It aims to support implementation processes and will establish an 'early warning system' of implementation difficulties. It is a collaborative, EU-funded project with 2 other South African institutions, a Tanzanian institution and 2 European institutions.

The Global Network for Health Equity (GHNE) continued in 2013 and will enable comparative and collaborative work across three continents to advance equitable universal health coverage. It draws on 3 existing networks: EQUITAP (Equity in Asia-Pacific Health systems, an Asia-Pacific Research Partnership); LANET (The Latin American and Caribbean Research Network on Financial Protection and Health Observatory); SHIELD (Strategies for Health Insurance for Equity in Less Developed Countries, an African network that the HEU co-ordinates). It is funded by the IDRC.

The DST/National Research Foundation South African Research Chairholder in Health and Wealth focuses on the inter-play of health and wealth in the South African context and the impact of a range of government policies on health. Researchers contextualised the social determinants of health within an African context to increase awareness about this issue and to take into account health equity issues to address the root causes of socioeconomic health inequalities. In 2013, the HEU started compiling existing global and domestic evidence on social determinants of health (broadly defined)

both at disease specific level and for health in general. Specific disease conditions that we are exploring at the moment include malnutrition in children, obesity, diabetes, hypertension and mental health. Based on this synthesised evidence and the broad WHO framework for SDH, the HEU is developing a conceptual framework for more fully understanding the causal pathways and mechanisms through which SDH operate within the South African context. The ultimate goal is to inform domestic policy actions that can address key social determinants (e.g. through macro-economic and social policies) and improve population health status. Another key area of research relates to providing a strong evidence base to contribute to current policy debates on health care financing reform.

The XTEND and XPHACTOR studies continued in 2013. The XTEND evaluates the impact and cost-effectiveness of Xpert MTB/RIF in the investigation of TB, and its impact on patient and programme outcomes and transmission at a population level, and thus informs policy on the scale up of Xpert MTB/RIF in low- and middle-income countries. The XPHACTOR project focuses on the Xpert MTB/RIF for people attending HIV clinics. It will identify an evidence-based algorithm, which is feasible to implement within HIV clinics, to guide the utilisation of TB investigations. The results will complement the XTEND study, and provide evidence to guide the rational use of Xpert MTB/RIF in national roll-out in South Africa and other settings where HIV and TB are both prevalent. The projects run until end of 2014, and the HEU is partnering with the London School of Hygiene and Tropical Medicine, the Aurum Institute, the World Health Organisation, and the National Health Laboratory Services. The Gates Foundation is funding this project.

The HEU also worked on a number of short-term research projects in 2013. A cost analysis of a decentralized drug-resistant TB management model developed by Medicines Sans Frontières was conducted in partnership with the City of Cape Town and the Provincial Government of the Western Cape. Another study that was initiated and completed in 2013 explored the cost-effectiveness of adding the MVA85A vaccine to the BCG vaccine in children from the perspective of the South African government. The recently published results of the Phase IIb clinical trial conducted in Worcester, South Africa, showed the efficacy of the MVA85A vaccine in preventing TB in infants to be 17.3%. Therefore, the vaccine can be considered ineffective. This has a noticeable effect on the outcomes of the cost-effectiveness analysis. However, a Markov model that we developed for this vaccine could also be used to determine the cost-effectiveness of other new TB vaccines being tested in infants. In addition, the model could, potentially, be adapted to reflect the different populations that the efficacy of MVA85A continues to be tested in (e.g. HIV-positive adults). Another study, called

Safe Generations, which explores the cost-effectiveness of Option B+ approach to antiretroviral therapy for HIV positive pregnant women in Swaziland was initiated in 2013. Lastly, an implementing and scaling up a community health policy in Kenya project focuses on community health policy in Kenya; the HEU is working with Japanese Aid and the Kenyan Ministry of Health to analyse issues related to implementing a health promotion programme with Community Health Workers. The project will run until the end of January 2014.

Resilient and Responsive Health Systems (RESYST) is a consortium that is undertaking health policy and systems research (with a focus on financing, health workers and governance) in a set of African and Asian settings, including India, Kenya, Nigeria, South Africa, Thailand, Tanzania and Vietnam. Funded by DFID, the consortium began in 2011 and will run until 2016.

Coordination work for EQUINET (Regional Network for Equity in Health in East and Southern Africa) continued in 2013 around equitable financing of health systems and equitable allocation of health care resources in a range of East and Southern African countries.

During this year, Dr John Ataguba was promoted to Senior Lecturer.

### **Women's Health Research Unit (WHRU)**

The WHRU enjoys local, national and international research standing especially in the areas of sexual and reproductive health and gender issues. The Unit is involved in research, teaching, technical health service support, and advocacy in the area of women's health. It is made up of a multidisciplinary team of researchers with expertise in public health, epidemiology, sociology and anthropology. The Unit's focus on women's health and on gender and health is aligned with local and global challenges in addressing the health needs of women.

The Unit's research focus can be summarised into three thematic areas: Socio- behavioural research; health services operational research and quantitative/ epidemiological research.

### **The major highlights for 2013 include:**

- A wide range of research collaborators and other visitors visited the Unit and included, Dr Grossman and Kelly Blanchard from Ibis Reproductive Health, USA, Yi-Ling Tan from Gynuity Health Projects and Mary Fjerstad Director of Woman Health Global.
- The Unit also continued to host a study abroad programme from New York University in collaboration with Professor Sally Guttmacher,

Professor of Public Health and Director of Master's in Public Health Program in Community Health, New York University

- Unit members received numerous awards and honours with Dr Jane Harries, the director of the Unit, being promoted Ad hominem to Associate Professor in the School of Public Health and Family Medicine
- Associate Professor Jennifer Moodley was appointed as a member of the Ministerial Advisory Committee on Cancer Prevention and Control and was also appointed as Director of Cancer Research in the Faculty of Health Sciences, UCT.
- The Unit continued with its interdisciplinary and translational research collaborations in Africa and hosted the Africa Knowledge workshop supported by the UCT Research Office with collaborators from the University of Namibia, University of Lesotho, Eduardo Mondlane University, Mozambique and University of Botswana.
- The Unit co-hosted and taught on the Men Engage Africa Training course with Sonke Gender Justice and on the Stanford University Bing Overseas Study Program: Public and Community Health in Sub-Saharan Africa.
- Unit members continue to attend and disseminate research at invited International Meetings including at WHO Headquarters Geneva, University of California San Francisco, 2nd International Congress on Women's Health and Unsafe Abortion, Bangkok and AIDS impact Conference in Barcelona.
- Associate Professor Diane Cooper was an invited expert member of a Harvard University-USAID Maternal Health and HIV task team developing a global research agenda for priorities in HIV/AIDS and maternal health in African countries.

## Health Policy and Systems Division

The *Health Policy and Systems Programme* in the HPS Division encompasses a range of activities aiming to build this area of work through research, teaching, and networking within and outside the SOPHFM. The particular focus of our work is health policy analysis and health systems research.

In 2013, work continued under the umbrella of the *Consortium for Health Policy and Systems Analysis* (CHEPSAA) an 11-partner consortium funded by the European Commission (see [www.hpsa-africa.org](http://www.hpsa-africa.org)). This work built on the initial assets and needs assessment of

health policy and systems research in UCT and South Africa – for example, by developing teaching curriculae for relevant courses, and supporting skills development of staff. We have also continued to engage with other colleagues working on HPSR issues in the Western Cape and nationally. We also hosted the first workshop of the CHEPSAA Emerging Leaders programme for 27 emerging HPS researchers from across Africa, to think about the leadership capabilities needed in this field. The Emerging Leaders programme was co-funded by the Rockefeller Foundation.

Continued implementation of work within the *District Innovation, Action and Learning for Health Systems development* (DIALHS) project, funded by the Atlantic Philanthropies. This project is being implemented in collaboration with the SOPH at the University of the Western Cape, and colleagues from the Western Cape health department and City of Cape Town, within the Mitchell's Plain sub-district of the Metro District Health System. In 2013 we continued to: work at local level bringing together a range of local actors from local communities and different government sectors better to understand the locally available health assets and needs, and more specifically engage with Environmental Health Care practitioners; as well as engage with and support primary health care facility managers and sub-district managers. We also organized a special session at the South African Public Health Association Conference to discuss this work, led by our managerial colleagues, published a chapter in the annual South African Health Review and have prepared and submitted a set of papers for consideration by international journals. Our work is now being carried forward by similar learning site initiatives, which have drawn lessons from DIALHS, in Gauteng and Kenya (funded by the RESYST consortium, see below).

The *Collaboration for Health Systems Analysis and Innovation* (CHESAI) was initiated during 2012. CHESAI is a collaborative of health policy and systems researchers based in the Western Cape, South Africa—with a focus on strengthening the health policy and systems research field through conceptual and methodological development, as well as interdisciplinary and multi-sectoral engagement. The main partners are The University of Cape Town and the University of the Western Cape, Schools of Public Health — supported by a grant from the International Development Research Centre, Canada. In 2013 we engaged in a range of reflective activities to share our experience, develop ideas and infer our ongoing research. These included welcoming two practitioner sabbaticants (from the Gauteng and Eastern Cape Departments of Health) to take time out of their work lives to look afresh at a key challenge in their workplace and how to address it, and also welcoming Prof Irene Agypong from the Ghana School of Public Health to spend time with us

and share her experience and work. Irene travelled with two of her PhD students, with whom we were also able to share and learn. Finally, we established a regular reflective meeting to draw together HPS researches and practitioners in Cape Town, to think together about the nature and challenges of health system development.

In 2013 we initiated work on a new project, funded by the Doris Duke Charitable Foundation, called *Implementing large-scale health system strengthening interventions: experience from the DDCF's African Health Initiative*. In this project we will closely with colleagues in Mozambique and Zambia to add a qualitative and process evaluation of the health systems strengthening interventions, focussed on health planning and management and primary level quality of care, respectively, they have introduced.

The *International Religious Health Assets Programme* (IRHAP), formerly based in UCT's Faculty of Humanities has settled into the SOPHFM. International collaborative work continues, including writing and research projects. Several empirical research projects under the IRHAP banner continued in 2013. These included a three-country evaluative case study in Cameroon, Ghana and Malawi of Catholic maternal health service provision and systems interventions – funded by CORDAID. Also completed was the first stage of research on the *Health System Strengthening through Strategic Partnership* (HESP) Project for the Hospice and Palliative Care Association of South Africa (HPCA) – an evaluation of civil society driven health committees in 32 sites in South Africa. Several small international 'think-tank' meetings were convened by IRHAP in 2013 and early 2014, with a focus on issues such as community systems strengthening and governance of faith-based health institutions.

The HPSP also works with HEU within the RESYST consortium, a UK DfID funded international health systems research consortium (HPSP leads the governance work of RESYST); and in the UNITAS project.

*Resilient and Responsive Health Systems* (RESYST) is a Consortium that is undertaking health policy and systems research (with a focus on financing, health workers and governance) in a set of African and Asian settings, including India, Kenya, Nigeria, South Africa, Thailand, Tanzania and Vietnam. Funded by DfID, the consortium began in 2011 and will run until 2016. The Health Policy and Systems Division has a particular focus on the governance agenda within the RESYST programme of work. The *UNITAS* project focuses on monitoring and evaluating policy formulation and implementation processes aimed at achieving universal health coverage in South Africa and Tanzania. The project undertakes monitoring mainly at the district level, with some monitoring and evaluation at the national level. It aims to support implementation

processes and will establish an 'early warning system' of implementation difficulties. The project runs from 2011 to 2015 and is funded by the European Union. It is a collaborative project with partners from the London School of Hygiene and Tropical Medicine, Ifakara Health Institute (in Tanzania), Institute of Tropical Medicine Antwerp (in Belgium), Centre for Health Policy, University of Witwatersrand and the Africa Centre in South Africa.

## Public Health Medicine Division

The *Health and Human Rights Programme* in the PHM Division undertakes a range of teaching, research and advocacy aimed at helping to build a culture of human rights in South Africa. Its work extends into East and Southern Africa. Research areas include the role of civil society organisations (CSOs) in the realisation of the right to health, community participation in the right to health, the rights of the Deaf in the health care system and how health care providers can be involved in the realisation of the right to health.

The Learning Network for Health & Human Rights (LN) with 5 Western Cape CSOs in partnership with Universities of Maastricht, Warwick and Western Cape continues to explore models for linking civil society action to health rights and to identify best practice for realising health rights. This network draws on a multidisciplinary team of researchers in partnership with CSOs to develop best practice for realising the right to health. CSOs in the Learning Network have been utilising a toolkit for training on the Right to Health to raise awareness and to empower community members to claim their health rights.

A key part of the programme in 2013 focused on community participation as a strategy for the realisation of the right to health. This work followed the release of the results of a two year research project by the Learning Network in the Cape Town Metropole focusing on the challenges faced by health committees as the formal structures for community participation in health. The project has two large grants for ongoing work with Health Committees to enhance community participation as a vehicle for the realization of the Right to Health. This focuses on the roles of Health Committees in a primary health care led health system. One funder is the European Union which has supported projects that enhance the demand for quality primary health care and this project examines health care users experiences as a focus for unlocking opportunities to access quality health services in the Eastern and Western Cape. An additional grant from the International Development Research Centre in Canada supports work with collaborators in Uganda on governance in the health system, specifically focusing on community participation as a key strategy for the realisation of the right to

health. In these projects we continue our collaboration with researchers from Maastricht University, Warwick University and the University of North Carolina.

### **Family Medicine Division**

The mission of the Division of Family Medicine is to graduate doctors who are able to enter their internship and community service years with the appropriate level of confidence and competence when diagnosing and managing common primary care problems. They are able to function fully in the PHC team, and are able to take the lead in district-based health care, teaching and research in any community setting in South and Southern Africa.

Our postgraduate students enrolled for the M Fam Med, M Med (Fam Med), and M Phil (Fam Med) degrees are all required to complete a research dissertation.

### **Research highlights for 2013 included the following:**

- The Division of Family Medicine partnered with Professor Leslie London in the Public Health Medicine Division and the Learning Network to successfully apply for an EU funded grant for the strengthening of primary health care services in 2012, to the value of around 1 million EURO. Family Medicine has 5 packages in this project to the approximate value of over R5 million over a period of 30 months, viz
- (a) Package 17: Extension of undergraduate student language learning into the 5<sup>th</sup> year of the MBChB curriculum. Two blocks of 5<sup>th</sup> year students have completed the training and we started our third block from the beginning of the new semester in 2014. We successfully ran an SSM in Languages/ Family Medicine for eight students in their second year of study – four in isiXhosa and four in Afrikaans at the Vanguard, Mitchells Plain and Gugulethu CHC's. The Becoming a Doctor SSM concept was flighted on national television (SABC 2) on the "Doctor's orders" show in January 2014.
- (b) Package 18: Providing language instruction in isiXhosa and Afrikaans for service personnel at Delft and Kraifontein CHC's. Eleven staff members in isiXhosa and six in Afrikaans have successfully completed the course.
- (c) Package 19: PROMS (Patient Related Outcome Measures) being conducted by Palliative Medicine in association with King's College, London. Ethics approval obtained. Data collected from the research sites and data analysis is underway at present.
- (d) Package 20: PCAT (Primary Care Assessment Tool). Ethics approval obtained and data collection and analysis nearing completion.
- (e) Package 21: Chronic Disease Audit. Ethics approval obtained and data collection underway.
- A/Professor Derek Hellenberg is the PI for packages 17 and 18
- Dr Liz Gwyther is the PI for the IMPAQT study (Package 19) for the EU grant: Measuring and Improving Outcomes for Patients with Progressive Chronic Disease: a Palliative Care Audit in two Western Cape sites
- Dr Elma De Vries leads the annual audit of chronic diseases of lifestyle for the Western Cape Department of Health. This project has now added a new dimension to the audit tool (that of patient perceptions of the management they receive for chronic diseases at CHC's which forms part of the EU Grant (Package 21).
- Dr Graham Bresick is the PI for the PCAT study that started in 2011 and was completed in 2012. This study has been extended to include a rural and a few more urban sites and forms part of the EU Grant (Package 20).
- Dr Abdul Isaacs is the PI for the Prescription costs study which was started in 2012 and compared medicine costs for chronic diseases at a few CHC's in the Metro District. The first article from this study was accepted for publication in the SAJP in 2014. The second article relating to this topic has also been submitted for review.
- Professor D A Hellenberg is the PI of a survey initiated in 2009 of the first graduates of the new curriculum (2007) to assess the usefulness of language learning during the BaDr course in the work environment. Surveys and focus group interviews were done annually until end 2013 to record the effects of innovations in the course structure and content on the outcomes. The data is currently being analysed.
- Dr Nazlie Beckett completed a project: "A Qualitative evaluation of UCT medical students' feedback of the OSCE (Objectively Structured Clinical Examination) at the end of the family medicine clerkship" which has been submitted for publication
- The database of 6<sup>th</sup> year family medicine student CHC-based projects is continuously updated on our database. The database serves as a useful guide for district management, the family physicians and family medicine registrars at the CHCs when deciding on research priorities and interventions to improve delivery of primary health care services
- Meetings with MDHS senior management and staff continued in 2013, to develop a common research agenda, prioritise key research questions and commission research. Our students and staff have addressed many topics which facility managers felt concerned about.

### **School Statistics**

#### **Permanent and long-term contract staff**

Professors	5
Associate Professors	9
Emeritus Associate Professor	1
Senior Lecturers	14
Lecturers (including part-time)	14
Chief Research Officer	1
Clinical Senior Research Officer	1
Senior Research Officer	6
Research Officer	9
Research Assistant	7
Research Project Management Staff	3
Data Management staff	8
Facilitators	25
Admin and Clerical Staff	26
<b>Total</b>	<b>134</b>

#### **Honorary Staff**

Honorary Professor	6
Honorary Associate Professor	5
Honorary Senior Lecturer	10
Honorary Lecturer	18
Honorary Research Associates	11
Visiting Lecturers	10
<b>Total</b>	<b>60</b>

#### **Students**

Doctoral	29
Master's	222
PG Diploma	113
Undergraduate	1245
<b>Total</b>	<b>1609</b>

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#### **Research output**

#### **Edited books**

Lorenzo, T., Ned, L. and Cois, A. (eds) 2013. Disability Catalyst Africa: Youth, Disability and Rural Communities. Facing the Challenges of Change. 96pp. Series No 3. Cape Town: Disability Innovations Africa, Disability Studies Programme. ISBN 9780987020321.

### **Chapters in books**

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- Rother, H. 2013. Exposing a hidden harm. In D. Jopling (ed), *International Innovation*, 140pp. Bristol, UK: Research Media Ltd. ISBN 20518552.
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# DEPARTMENT OF RADIATION MEDICINE

## DIVISION OF MEDICAL PHYSICS

### Head of Division: Ms Hester Burger

#### Divisional profile

The Medical Physics Division has been actively working towards reinventing themselves over the last twelve months. Five students enrolled in the newly established BSc(Hons)(Medical Physics) course, and the class achieved a 100% pass-rate with a class average of 68.6%.

In addition, the division was involved in the training of two IAEA fellows from Nigeria, one from Zimbabwe, as well as one medical physics intern who will be completing her training in 2014.

#### Other activities included:

- PhD students (2)
- MSc student (1 – graduated 2013)
- Medical Physics Honours project supervision (5)
- National and international posters/presentations (9)
- IAEA international workshop hosted (13 lectures and practicals)
- Publications (1 published/ 1 in press / 1 SA journal report)
- External examiner/moderator (9)
- Examiner (College of Medicine, BSc(Hons)) (6)
- Departmental lectures (18)
- Formal lectures (231)
- Research and development collaboration projects (2)

During the year, staff was also involved in the design, installation and commissioning of new high technology equipment that will allow for future research in modern radiotherapy treatment techniques.

#### Research Fields and Staff

##### Head of Department

###### H. BURGER MSC (MED PHYS) (UP)

Modern Radiotherapy and Radiosurgery Treatments and Treatment Planning

##### Deputy Manager

###### C TRAUERNICHT MSC (MED) IN MEDICAL PHYSICS (UCT)

Nuclear Medicine and Brachytherapy

#### Assistant Managers (Medical Physics):

###### H MAC GREGOR BSC (HONS) (STARTED NOVEMBER 2012)

Radiotherapy and Advanced Technique QA and Treatment Planning

###### T KOTZE PHD (US)

Diagnostic Radiology teaching and Radiation Protection

###### N JOUBERT (WILLEMSE) M.MED.SC MEDICAL PHYSICS (UFS)

Slot-scanning mammography  
Radiotherapy and Nuclear Medicine

#### Technical Staff

##### Chief Radiographer

K Botha Nat Dipl Radiography (Therapy), Dipl Computer Science

##### Mould Room

##### Chief Radiographer

S TOVEY DIPL. RADIATION LABORATORY TECHNOLOGY (RLT), NAT DIPL RADIOGRAPHY (DIAGNOSTIC AND RADIOTHERAPY), BTECH (RADIOGRAPHY RADIOTHERAPY)

##### Radiation Technologist

M HENDRICKS DIPL. RADIATION LABORATORY TECHNOLOGY (RLT), NAT DIPL RADIOGRAPHY (DIAGNOSTIC)

##### Intern Radiation Technologist

MARILYN MANUEL NATIONAL DIPLOMA IN RADIOGRAPHY (DIAGNOSTIC)

##### Mechanical Workshop

##### Chief Industrial Technician

C THOMSON NTCII

##### Artisan

RE HISCOCK NIII

##### Secretarial

##### Senior Admin Clerk

O KWAYIBA

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## DIVISION OF NUCLEAR MEDICINE

### Head of Division: Dr Tessa Kotze

#### Divisional Profile

Nuclear medicine currently provides a wide spectrum of diagnostic procedures, in-vivo studies and therapy; all pertaining to the use of unsealed sources of radioactivity. Procedures cover the central nervous system, respiratory, cardiac, gastrointestinal, genitourinary, endocrine, lymphatic and skeletal systems. There is access to both SPECT/CT and PET/CT. All procedures are integrated into service provision, training and research. In the department is also an osteodensitometer.

#### Divisional Statistics

#### PERMANENT AND LONG TERM CONTRACT STAFF

#### JOINT STAFF (UCT/PGWC)

Senior Consultant Full time 1  
Junior Consultant Full time 1  
Senior Consultant Part time 1

#### Research fields and staff

##### Specialist Staff

###### DR TESSA KOTZE

Therapy; PET

###### DR RACHELLE STEYN

ERNA

###### PROF MIKE MANN

Pediatric Nuclear Medicine

#### Undergraduate Staff

SUPERNUMERARY REGISTRAR DR GARBA YUNUSA  
REGISTRAR DR NERISHA GOVENDER

## Contact Details

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## DIVISION OF RADIATION ONCOLOGY

### HEAD OF DIVISION - Professor R P Abratt

#### Divisional Profile

1. The Division of Radiation Oncology provides the following services:
  - 1.1 Investigation, management and treatment of all forms of malignant disease. This is co-ordinated by 23 multidisciplinary clinics, which meet weekly.
  - 1.2 Participation in clinical studies, both investigator initiated and as part of cooperative groups.
2. Teaching of undergraduate medical courses and provision of post graduate specialists training courses. Pre and post-diplomate instruction to radiographers and post-diplomate courses to nurses. Full training in Radiobiology from undergraduate to honours, master's and doctoral level.
3. Provision of a comprehensive clinical radiobiological research facility.

#### Divisional Statistics

#### Permanent and long term contract staff

#### JMS staff

Professors	1	1
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#### University staff

Research Staff	3
Administrative/Clerical Staff	1
Total	4

## Joint staff (UCT/PAWC)

Head of Clinical Unit	1
Senior Full-time Lecturers	3
Lecturers	3
Principal Medical Officers	1
Sessional Medical Officers	3
Medical Scientists	2
Total	13

#### Honorary staff

Honorary Lecturers 3	13
Total	1

#### Postgraduate students

Registrars	16
Total	16

#### Research Fields and Staff

##### Permanent Staff

##### Specialist Staff

###### PROFESSOR RAYMOND ABRATT

Chief Specialist Radiation Oncology & Head of Division;  
NRF Rated – Category B

###### DR JEANETTE PARKES

Senior Specialist Radiation Oncology and Senior Lecturer; Main interests - neurological tumours, paediatric tumours, bones and sarcoma

###### DR SAMEERA DALVIE

Specialist Radiation Oncology Lung Cancer; Male genito-urinary tract cancer, Ear, nose and throat cancer

###### DR ZAINAB MOHAMED

Senior Specialist Radiation Oncology and Senior Lecturer; Main interests - Lymphoma, Myeloma, Melanoma, Hodgkin's Disease

###### DR BARBARA ROBERTSON

Specialist Radiation Oncology & Lecturer; Main interests - Thyroid, Oesophageal and Gastro-intestinal cancers, stomach, pancreas, liver, unknown primary cancers.

###### DR LEON VAN WIJK

Senior Specialist Radiation Oncology & Senior Lecturer; Main interests - Gynaecological tumours.

## DR JULIE WETTER

Specialist Radiation Oncology and Lecturer; Main interests – skin cancers, melanoma, eye Head and neck.

## DR T NAIKER – STARTED 1 NOVEMBER 2013

Specialist Radiation Oncology - Main interests – breast cancer

## DR HENRIETTE BURGER

Specialist Radiation Oncology – Main interests – Urology and Oesophagus

## Medical Officers

### DR CINDY SHEPHERD

Principal Medical Officer Radiation Oncology; Main interests - Lung cancer, Tumours of the thyroid, Male genito-urinary tract cancer.

## Scientific Staff

### DR ANDRE HENDRIKSE

Senior Medical Natural Scientist & Lecturer; Main interest - Research in Medical Natural Science Radiobiology (research on tumours with experimental animals)

### DR ALISTAIR HUNTER

Medical Natural Scientist; Main interest - Research in Medical Natural Science Radiobiology (research on tumours with experimental animals)

## Contract Research Staff

PART-TIME CLERICAL RESEARCH ASSISTANTS (DATA MANAGERS)

### MRS GLYNIS CHILCOTT

### MISS E NEL

### MRS M HENDRICKS

## Contact Details

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# DIVISION OF RADIOLOGY

## Head of Division: Professor Stephen James Beningfield

### Divisional Profile

The Division of Radiology works closely with clinical colleagues and their patients throughout the hospital, both in service and academic capacities. This collaboration involves all major medical, surgical, therapy and women's health areas, including their subspecialties. The recently acquired multi-slice CT's are heavily utilised, especially for vascular and thoraco-abdominal problems. Red Cross is making good use of their new MRI and CT scanners. There is now also direct access to PET-CT scanning at Tygerberg. Links to Somerset and GF Jooste Hospitals remain strong, with some teaching activity also at Victoria Hospital. The experience of our post-retirement sessional staff continues to benefit the Division. The impact of the full conversion to digital radiology over the next year has been very positive, with electronic requests and reports almost universal.

All available posts are filled with interest in supernumerary registrar posts from within and outside the country remaining strong.

### Research Fields and Staff

#### PROFESSOR STEPHEN BENINGFIELD

Hepatobiliary, vascular, interventional radiology, computer applications and digital radiology.

#### DR NAZIR AHMED

Cross-sectional imaging, colorectal imaging.

#### DR SALLY CANDY

Neuroradiology and Magnetic Resonance Imaging.

#### DR DILESH CHIBA

Musculoskeletal radiology, cross-sectional imaging, interventional radiology.

#### DR QONITA SAID-HARTLEY

High resolution computerized tomography and fine needle biopsies, chest radiology.

#### DR THARBIT HARTLEY

Hepatobiliary, vascular, interventional radiology

#### DR PAUL SCHOLTZ

Cardiac and vascular radiology

#### DR ROBERT SEGGIE

Ultrasound, computerised tomography and general radiology.

#### DR TRACY KILBORN

Paediatric radiology.

#### DR NICOLE WIESELTHALER

Paediatric radiology.

#### DR E BANDERKER

Paediatric Radiology

### Divisional Statistics

#### Permanent and long-term contract staff University staff

Professor and Head of Division	1
Administrative Staff	1
<b>Total</b>	<b>2</b>

#### JMS Staff

Senior Lecturers	3
Lecturers	8
<b>Total</b>	<b>11</b>

#### Part-time JMS Staff

Emeritus Professor	1
Emeritus Associate Professors	2
<b>Total</b>	<b>3</b>

#### Part-time UCT Staff

Digital imaging assistant	1
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#### Students

Master's [registrars]	22
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#### Teaching

##### Postgraduate

This major activity continues, with new inputs from the University, Colleges and the HPCSA having significant roles. More structured teaching, regular assessments and revised examination structure plus obligatory theses are now reality. The division is has upgraded and complete refurbished into a fully digital radiology unit, with a formal Picture Archival and Communication Systems (PACS) and Radiology Information System (RIS) in place. This is having a major beneficial effect on the manner and quality of postgraduate teaching and supervision, both in radiology and other specialties.

- Undergraduate  
Regular weekly structured teaching sessions continue, with the case-based multidisciplinary meetings in various specialties allowing both under- and post-graduate students to see the impact of imaging on clinical-decision making

### Research

There are a number of collaborative and self-initiated projects running, with the recent requirement for a thesis dissertation leading to increased activity. The consequences of digital imaging and newer modalities remain strongly felt, with diversification of interests. These continue to be largely on the basis of combined collaboration and multidisciplinary applied clinical research, together with some basic research that is also being undertaken in MRI and digital mammography. There is a good prospect of a full body 3T MRI being installed soon.

### Service

The increase in service load, particularly on the multislice CT's, is placing an increased demand on reporting time. The PACS and RIS does allow more efficient distribution of the resulting reporting work.

Close interaction with UCT PAH clinical service adds another dimension to the work undertaken.

### Social responsiveness

There is ongoing collaboration with a number of the closer satellite hospitals, most notably Mitchells Plain, New Somerset and Victoria, but also II Military Hospital (with significant recent equipment upgrades), as well as with the newly-developed and refurbished regional hospitals such as George, Worcester and Paarl, Khayelitsha and Mitchells Plain, that are likewise converting to digital imaging and PACS.

### Publications

These are mostly on the basis of close clinical collaboration and applied research, although some more basic MRI and digital radiography research has also been published

### General

The refashioning of the division into a purely digital system has had a major impact on the manner of our clinical interaction within and outside the division.

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### Research output

#### Articles in peer-reviewed journals

Alleyne-Mike, K., Mohammed, K., Van Wijk, A.L. and Botha, F.C.J. 2013. Unique case of dual gynecological malignancies coexisting with an uncommon thyroid lymphoma. International Journal of Case Reports and Images, 4(12): 714-718.

Alleyne-Mike, K., Van Wijk, A.L. and Hunter, A.J. 2013. A retrospective review of patients with stage IB2 cervical cancer treated with radical radiation versus radical surgery as a primary modality. International Journal of Gynecological Cancer, 23(7): 1287-1294.

Hamunyela, R., Kotze, T. and Philotheou, G. 2013. Normal reference values for thyroid uptake of technetium-99m pertechnetate for the Namibian population. Journal of Endocrinology, Metabolism and Diabetes of South Africa (JEMDSA), 18(3): 142- 147.

Hofmeyr, S., Burmeister, S., Beningfield, S.J. and Krige, J.E.J. 2013. Pancreatic pseudocyst haemorrhage treated by common hepatic artery embolisation. The South African Gastroenterology Review, 2013: 21-22.

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## DEPARTMENT OF SURGERY

### Head of Department: Professor Del Kahn

### Departmental Profile

The Department of Surgery comprises the nine Divisions: General Surgery, Cardiothoracic Surgery, Emergency Medicine, Neurosurgery, Ophthalmology, Orthopaedics, Otorhinolaryngology, Plastic Surgery and Urology

Each of the Divisions functions very independently with regard to administration, clinical service, undergraduate and postgraduate teaching, and research. The Special Clinical expertise, research interests, and outstanding achievements over the last year, are documented in the individual divisional profiles.

The Department of Surgery Research Day, organised by Dr Sally Rothemeyer, was a most successful collaboration between the Divisions. Professor Graham Fiegen delivered the John Terblanche Lecture.

## DIVISION OF GENERAL SURGERY

### Head of Division: Professor Del Kahn

### Divisional Profile

The four surgical firms within the Division of General Surgery are responsible for Hepatobiliary Surgery, Surgical Oncology/Endocrine Surgery, Colorectal Surgery, and Vascular Surgery. The Surgical Intensive Care Unit, the Trauma Unit, and the Transplant Unit are also part of the Division. In addition there is an Acute Care Surgery Firm which managers all the non-trauma surgical emergencies.

The Division prides itself on maintaining high standards of clinical service, and teaching of both undergraduates and postgraduates. The Division continues to function as a true academic unit, with its members making significant contributions at both local and international meetings, while at the same time maintaining a high research output.

### Divisional statistics

### Permanent and Long Term Contract Staff

Professors	7
Senior Lecturers	13
Administrative Staff	6
<b>Total</b>	<b>19</b>

### Research fields and staff

#### Permanent Staff (Full-Time)

**PROFESSOR JEJ KRIGE**  
Hepatobiliary Surgery

**ASSOCIATE PROFESSOR A NICOL**  
Trauma Surgery

**ASSOCIATE PROFESSOR P GOLDBERG**  
Colorectal Surgery

**ASSOCIATE PROFESSOR WL MICHELL**  
Critical Care

**ASSOCIATE PROFESSOR P NAVSARIA**  
Trauma Surgery

**ASSOCIATE PROFESSOR E PANIERI**  
Surgical Oncology

**DR M BERNON**  
Hepatobiliary Surgery

**DR A BOUTALL**  
Colorectal Surgery

**DR S BURMEISTER**  
Hepatobiliary Surgery

**DR L CAIRNCROSS**  
Surgical oncology

**DR G CHINNERY**  
Upper Gastrointestinal Surgery

**DR N CLOETE**  
Vascular Surgery

**DR S EDU**  
Trauma Surgery

**DR J KLOPPER**  
Acute Care Surgery

**DR C KLOPPERS**  
Acute Care Surgery

**DR E MULLER**  
Transplantation

**DR NG NAIDOO**  
Vascular Surgery

**DR D THOMSON**  
Critical Care

**DR C WARDEN**  
Acute Care Surgery

### Contact Details

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## DIVISION OF OPHTHALMOLOGY

### Head of Division: Professor C. Cook

### Divisional Profile

The Division of Ophthalmology combines an academic hospital service with University teaching, clinical training and research.

Specialist tertiary care clinical services are provided to patients in the Western Cape and beyond.

Teaching is provided to fifth year medical students, and specialist training of both local graduates and graduates from other countries is provided.

A postgraduate diploma course in community eye health and a master's in public health with a community eye health track is provided for Vision 2020 programme managers working in sub Saharan Africa.

## Divisional statistics

### Permanent and Long Term Contract Staff

Professors	1
Honorary professors	2
Senior Lecturers	6
Lecturers	11
Administrative Staff	1
<b>Total</b>	<b>21</b>

### Students

Master's	10
Postgraduate diploma	8
Undergraduate	187
<b>Total</b>	<b>205</b>

### Research fields and staff

#### Permanent Staff (Full-Time)

##### PROFESSOR C. COOK

Professor and Head, Division of Ophthalmology, UCT Faculty of Health Sciences, Groote Schuur Hospital and Red Cross Children's Hospital. Community eye health, glaucoma.

##### DR N. DU TOIT

Consultant Specialist, Groote Schuur Hospital. Anterior segment surgery, glaucoma, ocular trauma.

##### DR K. LECUONA

Consultant Specialist, Groote Schuur Hospital. Prevention of blindness in developing countries, lacrimal drainage disorders, inflammatory eye disease, ocular oncology.

##### DR T. POLLOCK

Consultant Specialist, Red Cross Children's Hospital. Paediatric ophthalmology.

##### DR J. RICE

Consultant Specialist, Groote Schuur Hospital. Vitreo-retinal disease.

##### DR J STEFFEN

Consultant Specialist, Groote Schuur Hospital. Vitreo-retinal disease.

##### DR C. TINLEY

Consultant Specialist, Red Cross Children's Hospital. Paediatric ophthalmology.

#### Permanent Staff (Part-Time)

##### DR E. ALBRECHT

Medical retina.

##### DR M. ATTENBOROUGH

Cornea.

##### DR N COCKBURN

Oculoplastics

##### DR J. DE VILLIERS

Strabismus.

##### DR R. GROTE

Paediatric ophthalmology

##### DR D. HARRISON

Oculoplastics

##### EMERITUS PROFESSOR A. MURRAY

Strabismus.

##### DR A. PEROTT

Glaucoma.

##### DR P. STEVEN

Neuro-Ophthalmology.

##### DR K SUTTLE

Surgical retina, oculoplastics.

##### DR H. VAN VELDEN

Surgical retina.

#### Honorary Staff

##### PROFESSOR P COURTRIGHT

Epidemiologist. Director of Kilimanjaro Centre for Community Ophthalmology.

##### PROFESSOR S LEWALLEN

Ophthalmologist. Director of Kilimanjaro Centre for Community Ophthalmology.

#### Contact Details

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## DIVISION OF ORTHOPAEDIC SURGERY

### Head of Division: Professor Robert Dunn

#### Divisional Profile

The Division of Orthopaedic Surgery continued to provide secondary and tertiary Orthopaedic services to the Western Cape and surround surrounding communities organized in the following sub-units: Trauma, Hands, Acute Spine Injury Unit, Spine Surgery Unit, Upper limb unit, Lower Limb unit and Orthopaedic Oncology. This comprehensive service is made possible with the input from enthusiastic sessional staff from private practice, highlighting the benefits of public-private partnerships.

This platform provides an excellent training experience for our 19 registrars, with all 4 senior being successful in their exit exams in this period.

Increasing emphasis has been placed on restoring the large joint arthroplasty throughput. Total hip and knee output has doubled compared to recent history due to reallocation of theatre resource. Current challenges remain the high trauma and infectious pathology case load, necessitating ongoing unacceptable late night surgery on the emergency lists.

## DIVISION OF EMERGENCY MEDICINE

### Head of Division: Professor LA Wallis

#### Divisional Profile

Emergency Medicine is run as two academic Divisions (at UCT and SUN) but has a single Head. The Division utilises various academic and satellite hospitals for the purposes of teaching and research; these include: Groote Schuur, Red Cross War Memorial Children's, Victoria, GF Jooste, Paarl, and New Somerset Hospital. The types of patients seen and emergencies treated vary among hospitals, allowing our MMed students to become fully competent Emergency Medicine specialists.

The Division places an emphasis on post graduate programmes, with 15 PhD students, 5 MSc, and 20 MPhil. In 2013, the Division produced 30 publications in peer-reviewed journals and contributed to 10 book chapters. The Division's research has been focused in the following areas: emergency care systems, emergency ultrasound, pre-hospital care and disaster medicine, and mHealth.

The Division has 1 Professor, 2 Senior Lecturers, 3 Lecturers, and 1 Research Coordinator between SU

and UCT. There are 9 honorary lecturers at SU and an additional 10 honorary lecturers at UCT.

Head of Division (UCT, SU & PGWC)

PROFESSOR LEE A. WALLIS MBCHB MD DIMC DIP SPORT MED FRCSED FCEM FCEM(SA) FIFEM

Head of Education (UCT & PGWC)

HEIKE I. GEDULD MBCHB FCEM(SA) MMED(EM)

MPhil Programme Convenor

TYSON B. WELZEL MBCHB DIPPEC H DIP INTMED DIP HIV Man DTM&H Dip ForMed(Clin/Path) BSc(Med) (Hons)(Diving Med) EMDM MMedSc (Clin Epi)

### Divisional Statistics

#### Permanent and Long-term UCT Contract Staff

Professor	1
Senior Lecturers	2
Research Staff	1
<b>Total</b>	<b>4</b>

#### Honorary staff

Honorary Lecturers	10
<b>Total</b>	<b>10</b>

#### Students

PhD	14
MMed / College	16 (&16 Stellenbosch)
MMed supernumerary	6 (& 6 Stellenbosch)
MPhil	20
MSc	5
Undergraduate	3rd, 4th, 5th and 6th years

#### Contact Details

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## DIVISION OF NEUROSURGERY

2013 saw the fruition of a number of long-term objectives concerning infrastructure and staffing. The establishment of the UCT/GSH Neurosurgery Clinical Hub in the F3 Core Area has transformed our meetings and we were delighted to acknowledge the donors who made it possible, especially the Parker family and the Mauerberger Foundation Fund at an opening ceremony on 22 August 2013. A new Cathlab at UCTPAH enhanced the neurointerventional program and the first fluorescence-guided glioma resection was performed by Dr Sally Rothemeyer.

Members of the Division collaborated with our counterparts in Neurology to run a very successful GP Refresher Course in February and this was matched by the first edition of Continuing Medical Education (March 2013) devoted entirely to neurosurgical topics. Dr Rothemeyer and Dr David Le Feuvre organised the Surgical Research Day and the year ended on a high note on the international front with Professor Anthony Figaji hosting the 4<sup>th</sup> biennial meeting of the International Society for Intraoperative Neurophysiology (ISIN).

Well-deserved promotions went to Professor Allan Taylor (Head of Clinical Unit), Professor Patrick Semple (Professor) and Dr David Le Feuvre (Associate Professor). This year saw the award of a number of substantial research grants and training fellowships. Dr Tiago Morgado was appointed as the inaugural Neurocritical Care Fellow (funded by Johnson and Johnson) and the Division hosted our first ever postdoctoral student in Dr Nelleke Langerak (UCT Postdoctoral Award) who received a prestigious CIPHER grant from the International AIDS Society which will enable her to stay on as a Senior Research Officer. Dr Llewellyn Padayachy received a Harry Crossley Award for his doctoral research, Ursula Rohlwink a CIDRI Wellcome Trust Postdoctoral Award pending completion of her PhD in 2014 and Professor Figaji received a substantial research grant from the Cancer Research Initiative of South Africa (CARISA) and was nominated by the University Selection Committee for the very prestigious SARChI Chair in Clinical Neuroscience.

We were fortunate to have Dr Nte Mjoli stay on as Chief Registrar while Dr Edwin Mogere passed the FCNeurosurg(SA) exam. Two registrars received major international awards. Dr David Roytowski received the International Abstract Award from the American Association of Neurological Surgeons and was invited to present at the main plenary session, an extraordinary achievement while Dr Mogere received the Professor Ming Chien Kao Scholarship from the World Federation of Neurosurgical Societies and presented his work at the 14<sup>th</sup> World Congress of Neurosurgery in Seoul, Korea

where he also participated in the Pediatric neurosurgery Pre-Congress Course, talking on *Management of asymptomatic patients: chronic subdural haematoma*. Dr Rohen Harrichandparsad, a neurosurgeon from Durban, completed training in neuro-intervention and is now running a service at the Inkosi Albert Luthuli Central Hospital. Visiting professors included Dr Abhya Kulkarni (Hospital for Sick Children, Toronto, Canada) and Dr Mohamed Raji Mahmud (National Hospital Abuja, Nigeria).

We were greatly honoured by the generous establishment of the Estelle Yach Award by the Mauerberger Foundation Fund and this will be used to establish an annual neurosurgical meeting in Cape Town. A great deal of work went into organizing an annual ISP/ESPN African Paediatric Neurosurgery Course which will kick off in Pretoria in March 2014. Finally, the plans to return the academic department to J Block, co-located with Neurology and Neuropsychology as a Clinical Neurosciences Centre were formally approved by the hospital and submitted to the Provincial Department of Health with a request for support.

### Postgraduate students

Dr Padayachy registered for a PhD and Ursula Rohlwink continued with her PhD (Neuroscience) in Neurosurgery, while the number of neurosurgical trainees grew to 11. Registrars included Drs Nte Mjoli, Edwin Mogere, Johan Malan, David Roytowski, Nico Enslin, Mohamed Ben Husein, Ncedile Mankahla, Emmanuel Wegoye with Drs Chris Young and Nqobile Thango as medical officers and Dr Tiago Morgado as the first ever Neurocritical Care Fellow.

### Research Grants

Generous grants from the Mauerberger Foundation Fund, the Parker Family, the Wellcome Trust, the Medical Research Council of South Africa, the Integra Foundation and Johnson & Johnson (Codman), Baroque Medical, Boston Scientific, Karl Storz and the University of Cape Town (including the Department of Surgery and the Department of Paediatrics and Child Health) are gratefully acknowledged.

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## DIVISION OF UROLOGY

### Head of Division: Associate Professor JM Lazarus

#### Divisional Profile

The Division of Urology renders a urological service to Groote Schuur Hospital, Red Cross War Memorial Children's Hospital and Somerset Hospital. An operating list is done once per week at Eerste River Hospital, operating on Groote Schuur Hospital patients.

A Prof John Lazarus is head of Paediatric Urology at Red Cross Hospital and Dr Lisa Kaestner attends Somerset Hospital for ward rounds and outpatients. The operating list at Eerste River Hospital is done by a Senior Registrar assisted by Professor Johan Naudé (ex head of Division of Urology).

Undergraduate teaching is provided to 6<sup>th</sup> year medical students, who do a two week block in Urology. Postgraduate training is provided to Urology Registrars and also to supernumerary registrars. The members of our division make significant contributions at both local and international meetings. A number of our members have attended instructional courses both locally and overseas. The Division has maintained its productivity despite staff shortages and the financial crisis.

The Division is involved with two combined clinics – Urological Oncology Clinic (with Radiation Oncologists) and Female Continence Clinic (with Gynaecologists). We run a number of other specialised clinics – Adolescent Spinal Defects Clinic, Haematuria Clinic, Stricture Clinic, Erectile Dysfunction Clinic, Reconstructive Urology Clinic and Metabolic Stone Clinic.

#### Divisional Statistics

#### Permanent and Long-term Contract Staff

Principal Lecturer	1
Senior Lecturers	3
Administrative	1
Sessional Senior Lecturers	3
<b>Total</b>	<b>8</b>

#### Students

MMed	5
Undergraduate (6th years)	187
<b>Total</b>	<b>192</b>

## Research Fields and Staff

### PROFESSOR R D BARNES

Metabolic aspects of Urolithiasis, Urological Oncology

### PROFESSOR A R PONTIN

Renal infections in diabetics, Female Incontinence, Urological Oncology

### DR J LAZARUS

All aspects of Paediatric Urology; Surgical Treatment of Renal Calculi

### DR S SINHA

Widening indications for laparoscopic surgery in urology; double J stent insertion under local anaesthetic; radical cystectomy and extended pelvic lymphadenectomy

### DR L KAESTNER

Prostate cancer; Renal Transplantation; Urogynaecology

### DR A VAN DEN HEEVER

Results of urethroplasty for urethral strictures

### DR M KOLIA

Retrospective Review Prostatectomies done between 2005 and 2011 at Groote Schuur Hospital

### DR F CASSIM

Retrospective Review of Bladder of Open versus Laparoscopic Radical Cystectomy for the Treatment of Bladder Cancer: Complications and Oncological Outcome

## Contact Details

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## DIVISION OF OTOLARYNGOLOGY

### Head of Division: Professor Johan Fagan

#### Divisional Profile

The Division of Otolaryngology combines an academic hospital service with university teaching, training and clinical research. It provides specialist clinical services to patients in the Western Cape and beyond. Its university responsibilities include in-hospital and community-based training of 5<sup>th</sup> year medical students, teaching of dental and paramedical students, and specialist training of both local graduates and graduates from other countries. An outreach programme supplements the

training of students and primary health care workers in the fundamentals of ear care. We continue to provide specialist training to supernumerary registrars from other African countries, always having 2-3 such trainees on our staff. We recently trained our 8<sup>th</sup> UCT *Karl Storz Fellow in Advanced Head and Neck Surgery* from Malawi. Previous fellows are from Senegal, Nigeria, Ghana (2), Kenya, Uganda and Rwanda. All have returned to teaching hospital in their home countries. Our next fellow is from Tanzania. This fellowship training, the only such training in Africa, has made a significant contribution to the quality of head and neck care in Sub-Saharan Africa, and strengthened UCT's connections with other African countries.

## Research outputs

The Division had 7 publications in peer-reviewed journals in 2013. Dr Kate Stephenson (registrar) won the award for the best presentation at the annual *UCT Department of Surgery Research Day* and at the 2013 National Meeting of the *South African Society of Otolaryngology - Head and Neck Surgery*. Two registrars (Drs Pedro Monteiro and Gavin Quail) presented their research at the 2013 *IFOS World Congress* in Seoul, S Korea.

## Open Access Textbooks

Prof Fagan edits and publishes two open access textbooks which are hosted on the UCT webserver. Chapters from *The Open Access Atlas of Otolaryngology, Head & Neck Operative Surgery* have been downloaded >185 000 times, currently at a rate of >500 downloads per day. Chapters from *The Open Access Guide to Audiology and Hearing Aids for Otolaryngologists* have been downloaded >15 000. Although primarily directed at surgeons in Developing Countries, the biggest users of the textbooks, following India and South Africa, are the USA and the UK. Chapters are authored by international experts. From UCT, Prof Fagan has authored 34 chapters, and Dr Tasheem Harris 10 chapters, and Dr Shazia Peer 1 chapter. The textbooks are reportedly the standard surgical text in some countries.

## Divisional statistics

### Permanent and Long-term Contract Staff

Professors	1
Lecturers	5
Lecturers (part-time)	6
Audiologists	3
Administrative Staff	1
<b>Total</b>	<b>16</b>

## Students

Master's	9
Karl Storz Fellow in Advanced Head and Neck Surgery	1

## Research fields and staff

### J.J. FAGAN

Head and Neck Cancer; Developing World ENT

### D.E. LUBBE

Rhinology; Minimally invasive cranial base surgery

### G.J. COBLEY

Paediatric ENT, ENT primary care

### T. HARRIS

Otology; Head and Neck

### E. MEYER

Otology; Paediatrics; Head and Neck

### O. EDKINS

Sialendoscopy; General ENT

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## CHRIS BARNARD DIVISION OF CARDIOTHORACIC SURGERY

### Head of Division: Professor Peter Zilla

## Divisional Profile

The Division offers the full range of adult and paediatric cardiac and thoracic surgery services, catering to all forms of congenital heart disease, myocardial revascularisation (on- and off-pump), cardiac valvular repair and replacement surgery as well as thoracic aortic surgery. Research will be conducted within the Division's Cardiovascular Research Unit during 2014 to evaluate an affordable Left Ventricular Assist Device (VAD) for use at Red Cross Children's Hospital. VADs promise to allow a period of stability and lead to recovery of the heart, or alternatively allow survival until cardiac transplantation in otherwise inoperable cases, for example primary pump failure due to viral infection.

Currently, the use of such a device is prohibitively expensive in a developing world scenario.

The Division's transcatheter valve programme was officially launched in March 2013. Groote Schuur Hospital has been approved by Department of Health Head Professor Househam as a Centre of Excellence for Transcatheter Aortic-Valve Implantation (TAVI) services for current clinical cases. The development of low cost TAVI solutions appropriate to Subsaharan Africa is currently being conducted by a University of Cape Town startup company (Strait Access Technology) based in the Cardiovascular Research Unit and formed around IP originally developed there. The goals of this company are acutely aimed at collaborative studies together with the medical device industry and other international academic units to produce cost-effective devices which are more readily appropriate to the developing world. Preclinical testing of prototype designs is anticipated in 2014. A second phase of funding has secured another 33mio Rand for the next two years of this project.

Hybrid minimally invasive/minimum access procedures were also launched in 2013. The envisaged 'hybrid' operating theatre for this purpose has been approved and building construction is planned for April 2014. While funding of the C-arm and beds remain an issue, funding has been secured for the construction phase. This facility will not only offer to reduce hospital stays but remove the costs of open heart surgery thereby bringing heart valve treatment closer to the third world where rheumatic disease remains highly prevalent.

## Divisional Profile (Cardiovascular Research Unit)

Although 2013 continued to remain financially challenging, the Western Cape Heart Research Grouping of the Medical Research Council, of which the Cardiovascular Research Unit is a member, continued to support essential basic research and will continue to do so in 2014. The Unit also relies on National Research Foundation research grants.

A significant breakthrough in our synthetic vascular graft research was achieved in the previous year where spontaneous endothelialization of the luminal surface across an engineered porous graft wall was shown to be independent of trans-anastomotic outgrowth. A confluent endothelial lining in small diameter vascular grafts remains the 'Holy Grail' in humans and is essential for long-term patency.

In 2013, the breakthrough results on porous polyurethane grafts were published in an international peer reviewed journal and followed by a successful study to elucidate and differentiate between the two

non-trans-anastomotic modes of healing, namely transmural and fallout healing. The former was shown to be the most prevalent and reliable. These findings may be useful for the development of clinical peripheral vascular (including endolumenal) grafts, as transmural endothelialization remains a viable healing mode in humans. Continued work in this field in 2014 will focus on accelerating the healing response.

A collaboration with Gothenburg University in the field of vascular grafts was concluded, with publication of the results anticipated in 2014. Similarly, publication of the initial results on our studies with Clemson University on the use of elastin-derived grafts is imminent, and work continues in a large animal model.

Research continued to focus on a regenerative medicine approach based on remodelling of synthetic engineered hydrogels. A model for assessment of the regenerative capacity of these synthetic hydrogels in the treatment of myocardial infarction has generated further promising results. Therapeutic benefits with respect to cardiac function and scarring were shown for hydrogels carrying growth factor coacervates. Strong preliminary data has been obtained showing both improved engraftment and therapeutic effect of stem cells delivered with the synthetic hydrogel into infarcted hearts. Synthetic 'smart' hydrogels were also developed that were shown to control invasion of specific cell types, a finding that has generated considerable international interest in the field of tissue regeneration.

Building on the groundwork laid down in 2012 with respect to porcine pericardial tissue, research evaluating the immune and inflammatory cell responses as well as the potential for mineralisation and resorption of animal tissue used in the construction of 'bioprosthetic' transcatheter heart valve designs, in 2013 concentrated on understanding the benefits of tissue decellularisation, the introduction of different covalent 'cross-links' and capping alternatives and the use of non-covalent agents when applied to bovine pericardium. A short list of regimens emerging from that research are already undergoing preclinical testing in a circulatory model.

Milestones of the Biomechanical Sciences Group in 2013 included the successful completion of a 3-year project into biomechanics of biomaterial therapies for myocardial infarction funded from the South African Centre for High Performance Computing; the commencement of an interdisciplinary collaborative project aiming at reducing the failure rate of arterio-venous access for haemodialysis in patients with end-stage renal diseases and the graduation of two M.Sc.(Med) students with distinction. The group also extended its activities in the biomechanics of single cells through organization of an international event on cell mechanics and mechanobiology in Cape Town

with speakers from the UK, Germany, Spain and South Africa that included a meeting with the UK Minister for Science and Universities, Rt. Hon. David Willets.

## Divisional Statistics

### Permanent and Long Term Contract Staff

Professor	1
Associate Professors	5
Senior Consultants	3
Assistant Director	1
Senior Lecturer	1
Supernumerary Registrars	2
Surgical Registrar	6
Surgical Rotator	1
Senior Medical Officer	1
Senior Scientific Officer	2
Secretary	2
Clinical Technologist/Perfusionist	4
<b>TOTAL</b>	<b>29</b>

### Students

Postdoctoral research fellows	3
Doctoral	4
M.Med.	4
Master's	5
Honours	1
<b>TOTAL</b>	<b>17</b>

### Research Fields and Staff

#### Permanent Staff

##### PROFESSOR PETER ZILLA

Head of Division

##### ASSOCIATE PROFESSOR JOHAN BRINK

Clinical Director

##### ASSOCIATE PROFESSOR JOHN HEWITSON

Section Head: Paediatric Surgery

##### ASSOCIATE PROFESSOR ANTHONY LINEGAR

Section Head: Thoracic Surgery

##### ASSOCIATE PROFESSOR DEON BEZUIDENHOUT

Senior Lecturer, Section Head Polymer Sciences

##### ASSOCIATE PROFESSOR THOMAS FRANZ

Section Head: Biomechanics

##### DR PAUL HUMAN

Research Director, Section Head Pathobiology

#### DR LOVEN MOODLEY

Section Head: Thoracic Surgery

#### DR ANDRE BROOKS

Senior Consultant

#### DR JACQUES SCHERMAN

Senior Consultant

#### DR NEIL DAVIES

Senior Lecturer, Section Head Biology and Regeneration

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#### 3. Cranio facial clinic

#### 4. Congenital ear clinic

#### 5. Congenital hand clinic

Teaching is provided to fifth year medical students PAMS, and specialist training of post graduates is undertaken – including supernumerary registrars from other countries. The Department is actively involved in research in all aspects of Plastic Surgery, including paediatric Plastic Surgery.

The Department enjoys a strong partnership with colleagues in private practise. These part time surgeons provide valuable input to the Department both in teaching and in clinical services.

Dr S Adams was an invited guest and chairman at the World Cleft Lip & Palate Congress held in USA.

The Division continued to conduct research in breast reconstruction, complex wounds, paediatric plastic surgery, microsurgery and buns and a number of publications emanated from this.

#### Divisional statistics

#### Permanent and Long Term Contract Staff

Professors	1
Senior Lecturers	2
Lecturers	10
Administrative Staff	1
<b>Total</b>	<b>14</b>

#### Students

PhD	1
Master's	6
Undergraduate	0
<b>Total</b>	<b>7</b>

#### Research Fields and Staff

##### PROF. D.A. HUDSON

Breast Reconstruction; Wound Healing; Burns.

##### DR K. ADAMS

Management of complex wounds, Transsexual Surgery, Burns

##### DR S. ADAMS

Cleft Lip Palate; Lower leg Reconstruction, Burns

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#### Research output

##### Articles in peer-reviewed journals

Airoldi, F., Baldino, G., Mortola, P., Losa, S., Clerici, G., Tavano, D., Latib, A., Gori, A. and Faglia, E. 2013. Nitinol stents with polymer-free paclitaxel coating for stenosis of failing infringuinal bypass grafts. *Journal of Cardiovascular Surgery*, 54: 441-445.

Baigrie, R.J. 2013. Modern management of colorectal cancer. *South African Family Practice*, 55(1): 47-52.

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Bezuidenhout, D., Oosthuysen, A., Davies, N.H., Ahrenstedt, N., Dobner, S., Roberts, P. and Zilla, P. 2013. Covalent incorporation and controlled release of active dexamethasone from injectable polyethylene glycol hydrogels. *Journal of Biomedical Materials Research Part A*, 101A: 1311-1318.

Bezuidenhout, D., Pennel, T., Fercana, G., Zilla, P. and Simionescu, D. 2013. Evaluation of elastin-derived vascular grafts in a circulatory model. *Cardiovascular Pathology*, 22(3): e29-e52.

Botha, M., Wells, M., Dickerson, R., Wallis, L.A. and Stander, M. 2013. Adrenaline and amiodarone dosages in resuscitation: rectifying misinformation. *SAMJ South African Medical Journal*, 103(10): 713-714.

Bracher, M.J., Bezuidenhout, D., Lutolf, M., Franz, T., Sun, M., Zilla, P. and Davies, N.H. 2013. Cell specific ingrowth hydrogels. *Biomaterials*, 34: 6797-6803.

Broeders, J., Roks, D., Ali, U., Watson, D., Baigrie, R.J., Cao, Z., Hartmann, J. and Maddern, G. 2013. Laparoscopic anterior 180-degree versus nissen fundoplication for gastroesophageal reflux disease. *Annals of Surgery*, 257(5): 850-859.

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- Bruwer, Z., Futter, M.J. and Ramesar, R.S. 2013. Communicating cancer risk within an African context: experiences, disclosure patterns and uptake rates following genetic testing for Lynch syndrome. *Patient Education and Counseling*, 92: 53-60.
- Buyse, H., Muloiwa, R., Westwood, C., Richardson, D., Cheema, B. and Westwood, A.T.R. 2013. An adapted triage tool (ETAT) at Red Cross War Memorial Children's Hospital medical emergency unit, Cape Town: an evaluation. *SAMJ South African Medical Journal*, 103(3): 161-165.
- Caesar, B., McCollum, G.A., Elliot, R., Williams, A. and Calder, J.D.F. 2013. Stress fractures of the tibia and medial malleolus. *Foot and Ankle Clinics*, 18(2): 339-355.
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## Peer-reviewed published conference proceedings

Perks, T.J., Trauernicht, C.J., Hartley, T., Hobson, C., Lawson, A.J., Scholtz, P., Dendere, R., Steiner, S.V.G. and Douglas, T.S. 2013. Effect of aluminium filtration on dose and image quality in paediatric slot-scanning radiography. Proceedings of 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society in Conjunction with the 52nd Annual Conference of Japanese Society for Medical and Biological Engineering (JSMBE), 3-7 July 2013, Osaka, Japan. Piscataway, NJ, United States of America: IEEE EMBS. ISBN 9781457702143.

# DEAN'S OFFICE

## Research output

### Chapters in books

Benatar, S.R. 2013. Afterword. In A. Pinto, and R. Upshur, (eds), *Introduction to Global Health Ethics*, pp. 159-159. New York, USA: Routledge. ISBN 9780415673525.

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Benatar, S.R. 2013. Needs, obligations and international relations for global health in the 21st century. In J. Coggon, and S. Gola, (eds), *Global Health and International Community*, pp. 63-80. London: Bloomsbury Publishing Plc. ISBN 1780935587.

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### Articles in peer-reviewed journals

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Perez, A.M., Ayo-Yusuf, O.A., Hofman, K.J., Kalideen, S., Maker, A., Mokonoto, D., Morojele, N., Naidoo, P., Parry, C.D.H., Rendall-Mkosi, K. and Saloojee, Y. 2013. Establishing a health promotion and development foundation in South Africa. *SAMJ South African Medical Journal*, 301(3): 147-149.

Wall, S.N., Mazzeo, C., Adejuwogbe, E., Ayede, A., Bahl, R., Baqui, A., Blackwelder, W.C., Brandes, N., Darmstadt, G.I., Esamai, F., Hibberd, P.L., Jacobs, M., Klein, J., Mwinga, K., Rollins, N.N., Saloojee, H., Tshefu, A.K., Wammanda, R.D., Zaidi, A.M. and Qazi, S.A. 2013. Ensuring quality in AFRINEST and SATT: clinical standardization and monitoring. *Pediatric Infectious Disease Journal*, 32(9): S39-S45.

### Peer-reviewed published conference proceedings

Perks, T.J., Trauernicht, C.J., Hartley, T., Hobson, C., Lawson, A.J., Scholtz, P., Dendere, R., Steiner, S.V.G. and Douglas, T.S. 2013. Effect of aluminium filtration on dose and image quality in paediatric slot-scanning radiography. Proceedings of 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society in Conjunction with the 52nd Annual Conference of Japanese Society for Medical and Biological Engineering (JSMBE), 3-7 July 2013, Osaka, Japan. Piscataway, NJ, United States of America: IEEE EMBS. ISBN 9781457702143.



# FACULTY OF COMMERCE

In recent years, the Faculty of Commerce has undergone a significant reorganisation to align our research thematically and is now home to 13 research units. The impact of this organisational principle has been seen in a number of milestones, including a tripling of the overall number of researchers rated B or A in 2013 in the faculty.

## DEAN'S REPORT PROFESSOR DON ROSS



THE RATE OF NEW POSTGRADUATE ENROLMENTS TICKED UPWARD, AND AS OF 2014 STANDS AT A THIRD HIGHER THAN IT DID IN 2008. THE FACULTY SET A NEW RECORD FOR GRANT AND CONTRACT INCOME, AND FOR PUBLICATION OUTPUTS.

33<sup>+</sup>  
NRF-RATED RESEARCHERS

R77.43M  
VALUE OF RESEARCH  
CONTRACTS

910<sup>+</sup>  
REGISTERED POSTGRADUATES

A primary strategic goal of the Faculty of Commerce is to organise most academic staff into thematic research units. This offers several benefits. First, a strong research unit is more likely to attract significant grants and contracts. Second, research units with international visibility attract world-class graduate students. Third, graduate students enjoy the network effects that help them succeed, and are apprenticed in the team approach to research that is characteristic of contemporary science. Fourth, research units can establish institutional relationships with businesses and non-governmental organisations (NGOs) that have material interests in the units' agendas, and can thereby create working partnerships among academia, business and organised citizenry. Economists recognise these elements as crucial engines of growth and innovation. A strong research unit very much resembles an entrepreneurial small business, with all the dynamism and engagement that comparison implies.

The faculty now has two dedicated postgraduate training institutes in addition to the long-established Graduate School of Business (GSB). The Graduate School for Development Policy and Practice (GSDPP), launched in late 2012, welcomed its first cohort of executive master's students in early 2014. A consortium of funders from the national financial services sector joined forces with the Western Cape Government to establish the African Institute for Financial Markets and Risk Management (AIFMRM) (see p174), which will be the first consolidated entity on the

continent to offer master's and doctoral qualifications in quantitative finance, investment banking and risk management.

A review of highlights of research unit activities over the past year provides a sense of the diverse range of work, spanning 21st-century priorities in business and economics, that makes our faculty the leading hub of commercial scholarship in Africa.

The Institute for Monitoring and Evaluation has completed contract research in the areas of literacy and extended curriculum programmes. It is currently leading an innovative global Astronomy for Development programme.

The Development Policy Research Unit (DPRU) continued to combine academically credible research with high-level policy impact. Achievements in 2013 included research into the impact of minimum wages and enforcement on general employment, wages and hours of work in South Africa; skills needed at the workplace; and understanding the African jobs challenge. The DPRU remains a key partner in the Africa Growth Initiative at the Brookings Institution in the USA. Towards the end of 2013, the unit engaged in a World Bank initiative as the Sub-Saharan African partner for the Jobs Knowledge Platform.

The UCT Unilever Institute of Strategic Marketing released two landmark research studies. *The Majority Report* shatters longstanding misconceptions about South Africa's 21 million "survivor households" living on less than R25 000 per month and is the first comprehensive cross-disciplinary study into this market segment. Another study, *4 Million and Rising*, tracks the dizzying dynamics of South Africa's new black middle class.

The Environmental Economics Policy Research Unit (EPRU) emphasised two main avenues of exploration. The first was into conservation, specifically the impacts of conservation zones on nearby communities and the optimal pricing of entry into national parks. The second concerned climate change and behaviour.

The Centre for Actuarial Research launched *Tools for Demographic Estimation* at the "27th International Population Conference" in Busan, South Korea. This work, funded by the United Nations Population Fund, sets out state-of-the-art methods of estimating demographic parameters from limited and deficient data – the kind of data characteristic of Africa and other poor and emerging regions.

Among the activities of the Research Unit for Behavioural Economics and Neuroeconomics

(RUBEN) were two studies in Cape Town townships. RUBEN teamed up with the Southern African Sustainable Development Initiative (SASDI) Foundation, Knowledge Pele and Georgia State University to study the rollout of new crèches in Mfuleni, and with the National Responsible Gambling Programme to study the extent and consequences of unlicensed gambling in Khayelitsha. RUBEN researchers also worked with the Western Cape Government to develop interventions to promote after-school programmes, healthy lifestyles among teen girls, recycling in the city business district, and safe behaviour by youth in Cape Town townships. Each of RUBEN's two National Research Foundation (NRF) A-rated researchers (Professor Don Ross and Professor Harold Kincaid) published a book with a leading international publisher.

## A STRONG RESEARCH UNIT VERY MUCH RESEMBLES AN ENTREPRENEURIAL SMALL BUSINESS, WITH ALL THE DYNAMISM AND ENGAGEMENT THAT COMPARISON IMPLIES.



A nascent unit incubating within RUBEN, the Development Unit for New Enterprise (DUNE), in partnership with the Manufacturing, Engineering and Related Services Sector Education and Training Authority, hosted an international colloquium on technology-based entrepreneurship in 2014, following a successful national colloquium in 2013. In collaboration with the SASDI Foundation, DUNE raised two tranches of funding to conduct community-needs analysis intended to establish an early-childhood development hub in New Crossroads, and additional funds for equipping the Mfuleni Computer Centre, a township-based educational resources facility. DUNE worked with the UCT Angel Fund to help raise the funding required to run training programmes for a total of 27 township entrepreneurs.

The Centre for Information Technology and National Development in Africa (CITANDA) found its research emphasis continuing to shift toward M4D (Mobile Communication for Development) – how mobile technologies drive development, governance and

innovation. Apart from its focus on larger research issues and projects, one tiny mobile application developed within CITANDA's Samsung–UCT Mobile Innovation Laboratory to teach English-speaking South Africans basic Xhosa/Zulu/Tswana phrases, is averaging well over 100 downloads daily.

It was a year of threes for the Southern African Labour and Development Research Unit (SALDRU). The third wave of the National Income Dynamics Survey (NIDS) was publicly released and public downloads of NIDS data passed the 3 000 mark (see p91). Associate Professor Ingrid Woolard, a NIDS principal investigator, was asked to serve on the National Tax Review Commission by the Minister of Finance. The Poverty Action Lab, J-PAL Africa, celebrated its third year, with Laura Poswell taking over a well-established organisation as its second executive director. Dr Vimal Ranchod, a chief research officer, was awarded a Y1-rating by the National Research Foundation (NRF). He is the third SALDRU researcher to earn this rating as one of South Africa's promising young researchers.

## THESE COLLABORATIVE AND INSTITUTIONAL-SCALE PROJECTS WENT ON AMIDST HIGHLY PRODUCTIVE YEARS FOR INDIVIDUAL RESEARCHERS.



DataFirst opened its new Secure Data Service, which houses a version of the NIDS with global positioning systems information. It has also acquired administrative data from the Department of Basic Education. A new version of the *Post-apartheid Labour Market Series* was released with wage information stretching from 1994 to 2012.

Professors Mike Morris and Raphael Kaplinsky and Dr David Kaplan of the unit for Policy Research in Industry, Services and Manufacturing (PRISM) produced a book titled *Making the Most of the Commodities Boom in Sub-Saharan Africa*. Professor Lawrence Edwards and Harvard University's Professor Robert Lawrence published a book and a policy brief with the Petersen Institute for International Economics on causes of recent employment shifts in the United States. Professor Morris and Dr Cornelia Staritz completed a large research project on Global Value Chains and Ownership in the Madagascar Apparel Industry, and Professor Morris

co-authored with Professor Anthony Black a report on *Industrial Policy Options for the South African Customs Union*. The Graduate School of Development Policy and Practice (GSDPP) established a research partnership with the Effective States and Inclusive Development Research Centre at the University of Manchester. The programme is implemented jointly with Harvard University's Kennedy School of Government, India's Institute of Economic Growth, Bangladesh's BRAC Development Institute, the Centre for Democratic Development in Ghana and the University of Malawi. The GSDPP's contributions include an analytical overview of South Africa's evolving political settlement in comparative perspective, with particular attention to the influence of inequality on governance and political stability, and research in partnership with humanities researchers on the politics and governance of basic education in South Africa.

Outside the research units, the faculty's departments promoted a range of additional scholarship. The GSB published a record 48 publications in 2013. Academics in the College of Accounting presented 10 papers at the biennial "South African Association of Accountants/International Association for Accounting Education and Research Conference". The first edition of the college's new electronic journal, *Accounting Perspectives in Southern Africa*, was published. Other projects include the adjudication of the EY Excellence in Integrated Reporting Awards and 2013 saw the appointment of a staff member to the board of the Global Reporting Initiative.

The Tax Section of the Department of Finance and Tax is actively engaged in a four-year research project funded by the Research Council of Norway titled Sustainable Tax Governance in Developing Countries through Global Tax Transparency.

Researchers in the Department of Information Systems secured an NRF grant of almost R1 million to explore the impact of mobile technology and public access on collective empowerment among the urban poor, and a South Africa–Tanzania research agreement to explore the role of ICTs in empowering women in rural areas. The department was chosen as the lead partner in the more than €3 million Enterprise Systems Education for Africa project to research and develop an enterprise system education programme for the African continent, linking up tertiary institutions from 10 African countries.

All these collaborative and institutional-scale projects coincided with highly productive years for individual researchers in the other departments and sections of the faculty, including the schools of Economics and Management Studies (Actuarial Science, Organisational Psychology, Marketing, Business Communication and Entrepreneurship).



## IDENTIFYING THE POTHOLE IN THE ROAD TO ECONOMIC SUCCESS

The 2013 *South African Global Entrepreneurship Monitor* (GEM) research report published by the GEM South African team in the Development Unit for New Enterprise (DUNE) in the Faculty of Commerce had some good news for the South African economy. The research, which is the largest and most authoritative longitudinal study of entrepreneurship in the world, shows that South Africa's entrepreneurial activity is on an upward trend.

Although the country still compares poorly with similar economies – the latest data shows South Africa's TEA (total early-stage entrepreneurial activity) rate is at 10.6% compared to Brazil's 17.3 % – entrepreneurship levels, as measured by the number of individuals who are engaged in starting or have just started a new business, are now at their highest since 2002.

Dr Mike Herrington, executive director of the GEM international operations and co-author of the GEM South African report, says that this is significant because entrepreneurial activity is understood to be a necessary condition of healthy societies, specifically as it contributes to economic growth and job creation, which in South Africa is a key concern.

The GEM study provides very clear guidelines as to what needs to be done to support entrepreneurs and boost job creation. Its recommendations include investing in changing attitudes and perceptions towards entrepreneurship, which are still poor in this country, fixing the education and health systems and cleaning up crime and corruption. "These elements are the potholes in South Africa's road to economic success. And unless government takes the time to fill them in, very little will change and even the fanciest of policies to support entrepreneurs will founder," cautions Dr Herrington.

## RESEARCH FLOWERING AT GSB



The UCT Graduate School of Business (GSB) celebrated a record intake of PhD students in 2014, a clear indication that the school's emphasis on research is paying off. In the past few years, research has gone from strength to strength, with 27 students registered for the PhD programme in 2014, including nine international students, and the highest research output to date being registered in 2013.

"An active research community is the foundation for our claim to be a leading business school with high aspirations," says Professor Ralph Hamann, research director at the school. The GSB is consistently rated as the top business school in Africa and it is the only African school to have its full-time MBA ranked in the prestigious *Financial Times* top 100 MBA ranking.

GSB research focuses on three thematic clusters: social innovation and sustainability; values-based leadership; and emerging markets finance, investment and trade. PhD students are supported by a rigorous programme of five PhD and Research Colloquia throughout the year to provide strong theoretical and methodological foundations and to develop a collegial, supportive and well-informed research culture at the school. First-year PhD students are required to participate, while other students and faculty are encouraged to become involved as participants and facilitators.

The investment in student research also contributes to the GSB's growing publication output. Faculty and students published a record 48 peer-reviewed scholarly publications in 2013, including 33 journal papers, 10 books or book chapters, and five accredited conference papers.

## STATS AND MATHS FOR AFRICA

The African Collaboration for Quantitative Finance and Risk Research (ACQuFRR) Unit continued its drive over the past year to advance the theory and application of modern quantitative, statistical and mathematical techniques to the modelling and risk management of financial products and markets – particularly as they apply in Africa.

The unit, which is the research arm of the newly established African Institute of Financial Markets and Risk Management, co-hosted two groundbreaking "Prescient Securities/ACQuFRR Quant" conferences and co-organised the "African Institute of Mathematical Sciences Summer School in Mathematical Finance" in 2013. In addition to



its regular weekly Seminar Series, the unit also hosted two industry-led Masterclasses and four Extraordinary Seminars, and established a research collaboration with the University of Nairobi in Kenya.

ACQuFRR's publication output continues to grow, with members publishing 13 peer-reviewed journal articles in 2013.

## AFRICA'S FIRST ACADEMIC RISK INSTITUTE LAUNCHED

In a first for Africa, the Faculty of Commerce launched the African Institute of Financial Markets and Risk Management (AIFMRM) in January 2014, a unique academic institute that will conduct research and deliver education and training in financial markets and risk management.

"In the 21st century, capacity for situation-specific innovation in financial markets and risk management will be among the core determinants of which emerging markets graduate to mature development and which remain mired in middle-income traps," commented the dean of the Faculty of Commerce, Professor Don Ross, at the launch. "AIFMRM's establishment improves the prognosis in this area."

Founding sponsors of the institute are FirstRand Ltd, Barclays Africa Group, Liberty Holdings Ltd and the Western Cape Government's Department of Economic Development and Tourism.

The unit will be headed up by Associate Professor David Taylor, who said that the institute was specifically focused on two key areas. One was transforming the profile of quantitative finance, risk management, insurance and banking professionals. The other was ensuring that a steady and sustainable pipeline of African university graduates with sophisticated knowledge in banking, insurance, risk management and quantitative finance exists on the continent.

## BOOSTING TOURISM IN SA



The Faculty of Commerce celebrated the launch of the Tourism Research Unit (UCT-TRU) in 2013, a specialist research and teaching unit within the School of Management Studies that will work to increase the knowledge base of the tourism industry in order to contribute to policy formation by business, governments and international organisations.

UCT-TRU, which is headed up by Dr Richard George, is currently working with Cape Town Tourism, Grant Thornton and the City of Cape Town in a United Nations–World Tourism Organisation collaborative project analysing the economic impact of tourism in Cape Town, and is also working with the Regional Tourism Organisation of Southern Africa on international tourist data collection for the Southern African Development Community.

# DOCTORAL GRADUATIONS

## R.C. DANIELS (ECONOMICS)

The income distribution with multiple sources of survey error  
Supervised by Professor M. Leibbrandt and Professor M. Wittenberg

## J. DIKGANG (ECONOMICS)

The economic value of natural resources around the Kgalagadi Transfrontier Park and implications for the Khomani San in South Africa  
Supervised by Associate Professor E. Muchapondwa

## J.G. FAY (GRADUATE SCHOOL OF BUSINESS)

The role of market-based incentives to promote low carbon development in developing countries  
Supervised by Associate Professor R. Hamann

## G. GAMARIEL (ECONOMICS)

Financial liberalisation and banking crises in sub-Saharan Africa  
Supervised by Professor H. Abraham

## A.V. GORDON (GRADUATE SCHOOL OF BUSINESS)

Adaptive vs. visionary-advocacy approaches in scenario planning: implications of contrasting purposes and constraint conditions  
Supervised by Associate Professor M. Soko

## S.K. KABANDA (INFORMATION SYSTEMS)

E-commerce and Small and Medium Enterprises (SMEs) in least developed countries: the case of Tanzania  
Supervised by Professor I. Brown

## M. KABINGA (GRADUATE SCHOOL OF BUSINESS)

Governance, capabilities and performance in state-owned enterprises: the case of South Africa's electricity sector  
Supervised by Professor A. Eberhard and Dr H. Worch

## E.L. MCKINNEY (GRADUATE SCHOOL OF BUSINESS)

The experiences of people with disabilities during their integration and retention into employment in South Africa  
Supervised by Dr L. Ronnie, Professor F.M. Horwitz and Professor S.D. Amosun

## A.S. METFULA (INFORMATION SYSTEMS)

The interplay between policy network actors and information and communication technology policies in a developing country context  
Supervised by Associate Professor W. Chigona

## M.A. NCHAKE (ECONOMICS)

Product market price integration in developing countries  
Supervised by Professor L. Edwards

## D.E. PIETERSE (ECONOMICS)

Adverse childhood experiences and educational outcomes, problem drinking and the perpetration of violence  
Supervised by Professor N. Natrass

## S.L. SNYMAN (ECONOMICS)

High-end ecotourism and rural communities in Southern Africa - a socio-economic analysis  
Supervised by Associate Professor A. Leiman

## M.C. TANNER (INFORMATION SYSTEMS)

Social conditions leading to scrum process breakdowns during global agile software development: a theory of practice perspective  
Supervised by Associate Professor W. Chigona and Associate Professor K. Sewchurran

## B. TIBESIGWA (ECONOMICS)

An economic perspective on the influence of social interaction on risky behaviours  
Supervised by Associate Professor M. Visser

# COLLEGE OF ACCOUNTING

## Head of Department: Associate Professor Mark Graham

### College Profile

Research in the College of Accounting is carried out in five broad areas, namely auditing, financial accounting, financial management, management accounting and taxation. The research effort is conducted on three general levels: applied research related directly to professional practice; applied research of a more general nature; and pure research on the broader frontiers of the discipline. In addition, research is carried out on the educational aspects of accountancy. The research is carried out by the academic staff members and postgraduate students.

### College Statistics

#### Permanent and Long-term Contract Staff

Professors	3
Associate Professors	4
Senior Lecturers	9
Lecturers	10
Administrative and Clerical Staff	10
Total	36

#### Students

Postgraduate Diplomas	306
Undergraduate	2701
Total	3007

### Research Fields and Staff

#### Permanent Staff

##### MR JAMES ANTHONY

Management accounting; financial management; accounting education

##### ASSOCIATE PROFESSOR PETER BOURNE

Auditing; corporate governance; company law

##### MR RILEY CARPENTER

South African income tax; capital gains tax; international tax; trust and estate duty

##### PROFESSOR CARLOS CORREIA

Capital budgeting; cost of capital; valuations

## MR PETER CRAMER

Cost of capital; taxation

## PROFESSOR GEOFF EVERINGHAM

Financial reporting; International Financial Reporting Standards (IFRS); corporate governance

## MS JOLANDI GEVERS

Financial management; accounting education

## ASSOCIATE PROFESSOR MARK GRAHAM

International Financial Reporting Standards (IFRS); integrated thinking ; integrated reporting; financial analysis; corporate reporting

## MR MICHAEL HARBER

Audit committees; corporate governance issues; risk management

## MRS SHELLY HERBERT

International Financial Reporting Standards (IFRS); financial analysis; corporate reporting; accounting education

## MR ANDREW HYLAND

International Financial Reporting Standards (IFRS) development; framework based teaching and education

## MS JACQUI KEW

Accounting education; financial literacy; entrepreneurship

## MS ILSE LUBBE

Accounting education; International Financial Reporting Standards (IFRS); IFRS for SMEs.

## MR RIYAAN MABUTHA

International taxation

## MR DONALD MACDONALD

Accounting education; financial literacy; integrated reporting disclosure.

## MR PAUL MAUGHAN

Accounting education; financial analysis

## MRS TARYN MILLER

International Financial Reporting Standards (IFRS); integrated reporting

## ASSOCIATE PROFESSOR TESSA MINTER

Information risk management; financial systems and controls; the teaching of financial systems and controls; corporate governance; corporate governance education

**MR GOOLAM MODACK**

Accounting education; International Financial Reporting Standards (IFRS); integrated reporting

**MR SHAUN PARSONS**

South African income tax; financial instruments; banking and the taxation thereof

**MR BRAD STRAUSS**

Accounting Education

**PROFESSOR ALEX WATSON**

International Financial Reporting Standards (IFRS) development; professional accounting education; integrated reporting

**MS SUMAYA WEST**

Corporate governance; auditing; accounting education

**MS GIZELLE WILLOWS**

Financial reporting; financial analysis; behavioural finance

**MR JAMES WINFIELD**

Accounting education; business and professional ethics; foundations of accounting

Associate Professor Michael Wormald  
Corporate capital structures; financial policy

**Contact Details**

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Website: <http://www.commerce.uct.ac.za/accounting>

**Research output****Articles in Peer-reviewed Journals**

Bakoro, L.E., De Jager, P. and Parsons, S.G. 2013. Commentary: how accounting information is used by the South African bank regulator. SA Journal of Accounting Research, 27(1): 181-203.

Holman, G.S., Correia, C.D.J., Pitt, L.P. and Majoni, A. 2013. The corporate use of derivatives by listed non-financial firms in Africa. Corporate Ownership and Control, 11(1): 671-690.

Lubbe, I. 2013. Educating accounting professionals: development of a theoretical framework as a language of description of accounting knowledge production

and its implications for accounting academics at South African universities. SA Journal of Accounting Research, 27(1): 87-124.

Thurner, W. and Varughese, A. 2013. Experiences of project developers around CDM projects in South Africa. Energy Policy, 61: 1271-1275.

Winfield, J.H. and Luyt, J. 2013. An evaluation of an exploratory intervention to improve progression in a first-year accounting course. SA Journal of Accounting Research, 27(1): 1-36.

**Peer-reviewed published conference proceedings**

Anthony, J.A. and Wormald, M.P. 2013. Assessment of the validity of use of the approaches to study skills inventory for students (ASSIST) within the context of a professionally accredited post-graduate accounting programme in South Africa. Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Correia, C.D.J. and Muller, M. 2013. An analysis of IPO underpricing in South Africa. In H. Siringoringo, R.M.S. Laureano and A.A. Rosa (eds), Proceedings of the Fifth Global Management Conference on Managing Globalization in Times of Economic Crisis, 22-25 May 2013, Lisbon, Portugal. Lisbon, Portugal: ISCTE-IUL. ISBN 9789897321566.

De Jager, P. and Parsons, S.G. 2013. Signs of Jibar manipulation? Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Gevers, J. and Lubbe, I. 2013. Effective teamwork design, implementation and assessment: addressing the need for the acquisition of pervasive skills by undergraduate accounting students. Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Cape Town, South Africa. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Herbert, S.L. 2013. Enhancing student understanding in an undergraduate accounting course through student-created videos. Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Pitt, L.P., Correia, C.D.J. and Holman, G.S. 2013. Does size matter? An analysis of derivative use by small South African firms listed on the JSE and AltX. Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Willows, G.D. 2013. Differential investment performance in South Africa based on age. In U. Laptanet & G. Narte (eds), Proceedings of the 4th International Conference on Business and Economics (ICBE 2013) "Business Challenges of Globalization for Sustainable Economic Development", 13-15 June 2013, Reykjavik, Iceland. Bangkok, Thailand: UP Organizer and Publication Co., Ltd. ISBN 9786163351302.

Willows, G.D., De Jager, P., Drummond, C.D., Sinton, D.S. and Carr, L. 2013. Is the CEO of Investec overpaid? Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town, South Africa. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Wormald, M.P. and Miller, M.J. 2013. The value proposition of black economic empowerment transactions on South African companies. Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

**SCHOOL OF ECONOMICS**

**Director: Associate Professor Edwin Muchapondwa**

**Departmental Profile**

The School of Economics is located in two faculties, namely the Faculty of Commerce (which is also its administrative home) and the Faculty of Humanities. In March 2011, the School of Economics moved into a newly-constructed building on Middle Campus. The new infrastructure provides a good working environment for staff and helps the School in attracting good students and eminent academics from around the world. The School has 64 permanent and long-term contract staff. Two Honorary Professors are also affiliated with the School: George Ainslie and David Lam.

The School has more than 3000 undergraduate students. In 2013, the School had 198 Honours students (88 in Economics and 110 in Financial Analysis and Portfolio Management), 58 Masters students, and 79 PhD students.

The School's flagship programmes involve PhD training. Since 2003, the School offers two PhD programmes. In addition to the traditional PhD by thesis programme, the School also has a coursework-and-thesis based PhD programme which is offered in collaboration with seven other universities on the African continent. The four-year collaborative PhD programme consists of 18-24 months of core and applied coursework, followed by a thesis. Between 2003 and 2012 this programme has attracted 72 students, nearly all from African countries.

Since inception of the collaborative programme in 2003, a substantial number of PhD students in this programme have been funded by the African Economic Research Consortium (AERC). The AERC has typically funded about 11 students per year since 2011, up from 3-5 students per year before then. Furthermore, Carnegie Corporation has provided scholarships to another 24 PhD students since 2012. The scholarships from Carnegie Corporation are also tenable for students in the traditional PhD programme. The growth in PhD enrolment means that the School can expect a sharp increase in PhD graduates in three or four years' time. The School graduated a total of 10 PhD students in 2012 and 8 in 2013.

Current research activity, with an emphasis on policy related research, is spread across a number of fields, including development economics; international economics; international finance; financial theory;

growth theory and empirics; labour economics; poverty and inequality; health economics; education; environmental and resource economics; and political economy. Most of the School's research takes place in the context of big projects coordinated by our research units. The quality of our research is on an international level and several staff have received high recognition through the NRF rating system. The School is the only South African Department of Economics to host two NRF A-rated researchers. The School is also home to two SARChI chairs.

The School of Economics hosts six research units which are led by its academic staff but also recruit other research staff. These are the Aids and Society Research Unit (ASRU), the Development Policy Research Unit (DPRU), the Environmental-Economics Policy Research Unit (EPRU), Policy Research on International Services and Manufacturing (PRISM), Research Unit in Behavioural Economics and Neuroeconomics (RUBEN) and the Southern Africa Labour and Development Research Unit (SALDRU).

### Aids and Society Research Unit (ASRU)

ASRU is an inter-disciplinary unit that conducts quantitative and qualitative social science research on various aspects of AIDS policy and the socio-economic dimensions of living with HIV. Recent research by students and researchers in ASRU has focussed on the socio-economic determinants of HIV infection, medical male circumcision, AIDS conspiracy beliefs (and how they are contested), sexual behaviour, the international AIDS response (including Millennium Development Goal 6), HIV and reproductive rights, HIV and gender, the modelling of HIV in Southern Africa, the effect of antiretroviral treatment on labour market behaviour and household composition. ASRU continues to engage with community organisations and NGOs outside of the university. ASRU is directed by Professor Nicoli Nattrass.

Environmental-Economics Policy Research Unit (EPRU)  
The Environmental-Economics Policy Research Unit (EPRU) is a research group which seeks to enhance environmental policy-making in South Africa through rigorous policy research and extension in order to attain sustainable development and poverty reduction. EPRU is funded by the Swedish International Development Cooperation Agency (SIDA) through the Environment for Development (EfD) Initiative managed by the Environmental Economics Unit (EEU) at the University of Gothenburg. The EfD consists of seven environmental economics research centers in developing countries (Costa Rica, Chile, China, Ethiopia, Kenya, South Africa and Tanzania), University of Gothenburg and Resources for the Future in Washington DC, US. The EfD Initiative provides EPRU with a rich network of

highly skilled academics trained in environmental economics to draw on.

The existing focus of EPRU's research projects are in the following areas: biodiversity and ecosystems management; responses to climate risk; distributional consequences of climate policy; poverty, service delivery and local environmental quality; community based resource management; fisheries; behavioural aspects of natural resource management including risk preferences and cooperative behavior.

EPRU has collaborated with a number of local and national stakeholders on medium-size projects; these collaborators include South African National Parks in the wildlife sector, The Department of Water Affairs and Forestry in the water sector, The Department of Environmental Affairs and Tourism on marine and coastal management, The Department of Agriculture, Forestry and Fisheries, and the City of Cape Town on air quality management and energy savings. Increasingly the unit's efforts are being channelled into research outputs accessible to policy makers.

EPRU's research fellows are actively involved in teaching Environment and Natural Resource Economics, both within the School of Economics and in the broader university.

EPRU has six Senior Research Fellows (Anthony Black, Anthony Leiman, Edwin Muchapondwa, Mare Sarr, Jane Turpie and Martine Visser); several Research Fellows (Sunday Adewara, Kerri Brick, Johane Dikgang, Dambala Gelo, Coretha Komba, Sue Snyman and Byela Tibesigwa); PhD students (Reviva Hasson, Gerald Kibira, Herbert Ntuli, Jackson Otieno and Grant Smith); an administration officer (Libbi Downes). A number of Masters students are also being funded and supervised by EPRU fellows. EPRU is directed by Associate Professor Anthony Leiman.

### Southern Africa Labour and Development Research Unit (SALDRU)

The Southern Africa Labour and Development Research Unit (SALDRU) carries out research in applied empirical microeconomics with an emphasis on labour markets, human capital, poverty, inequality and social policy. SALDRU is governed by an executive committee. It strives for academic excellence and policy relevance.

SALDRU was founded in 1975 and, in the apartheid years, conducted a number of surveys revealing the negative impacts of apartheid on the population. In the post-apartheid period, SALDRU has continued to gather data and conduct research directed at informing and assessing anti-poverty policy. Recent survey projects include the ongoing Cape Area Panel

Study, the Financial Diaries Project, the Public Work Research Project and the Quality of Life Survey. In 2006 the Presidency awarded SALDRU the tender to set up and conduct the base wave of South Africa's first national panel study of well-being, the National Income Dynamics Study. In 2009, 2011 and 2014 respectively, SALDRU won the tenders for the second, third and fourth waves of NIDS. Data from the third wave was publicly released in 2013. In January 2011 J-PAL Africa was launched as a project within SALDRU. Linked to a global network of researchers, J-PAL Africa is building capacity within Africa to run randomized impact evaluations of anti-poverty programmes. In 2012 the National Treasury asked SALDRU to run a national project to stimulate and support research in three areas; employment, income distribution and inclusive growth. Three national research groups are in place to undertake this work.

Currently SALDRU's research team includes a Director (Professor Murray Leibbrandt), a permanent Associate Professor, the Executive Director of J-PAL Africa, a Chief Research Officer, a Senior Research Officer, 3 Post-doctoral Fellows, a Survey Manager, 2 researchers, 19 research associates from within the School of Economics, 4 honorary research associates. There are 19 research affiliates, reflecting SALDRU's active national and international research collaborators. The NIDS survey office is run by the survey manager and contains 7 dedicated staff and, during fieldwork, up to 30 temporary staff members. The J-PAL Africa office is run by the Executive Director, Laura Poswell, and has two research managers, a policy manager and four research assistants.

Aside from the National Income Dynamics Study and the work of J-PAL Africa, current research work falls into the following research themes: Post-apartheid Poverty, Employment, Education, Health and Migration dynamics. In 2013 our key funders were the NRF Research Chair in Poverty and Inequality Research, the NRF Programme, Grand Challenges, Social Dynamics, European Union's NoPoor Consortium, the National Institutes of Child Health and Development, the Presidency's Programme to Support Pro-poor Policy Development, the National Treasury, WIDER and the OECD.

Fertility and Intergenerational Transfers (funded by the Hewlett Foundation and Population Reference Bureau).

Social Protection, Public Works and the Labour Force (funded by the International Development Research Centre, the Ford Foundation and the British ESRC).

The Economics of Tobacco Control in Africa (funded in 2011 by the American Cancer Society (ACS) and in

2012 onwards by the ACS and the Bill and Melinda Gates Foundation).

Since 1999 SALDRU has run the annual UCT Summer Programme in Social Science Research Using Survey Data. Currently this programme trains over 100 Southern African researchers per year. It was funded by the Mellon Foundation for the first decade and, in 2011 was endowed by large grants from Kresge, Ford and Mellon Foundations and Statistics South Africa as well as smaller grants from 10 of South Africa's universities. In addition, SALDRU runs Winter Workshops in the analysis of panel data and in programme evaluation.

### Development Policy Research Unit (DPRU)

The Development Policy Research Unit (DPRU) aims to inform economic and social policy making by producing academically credible research and rigorous policy analysis of labour market challenges such as education and regulation, and their consequences as manifest in poverty and inequality.

One of South Africa's premier research institutions, the DPRU is located within the School of Economics at the University of Cape Town. The Unit has been actively engaged in policy-relevant research since 1990, and from inception fostered strong linkages with the anti-apartheid mass democratic movement. Valuable relationships have been cultivated with policy makers, national and provincial government departments (including the Presidency), and international and multilateral agencies.

The DPRU has three core objectives:  
to foster high quality, policy relevant research within the DPRU;  
to train a new generation of research economists within the Unit and engage in training and teaching activities; and to  
to disseminate information and knowledge to, and develop effective networks with, decision- and policy-makers in government, the research community, the private sector and civil society.

The Unit publishes a number of research outputs including a notable Working Paper series, a Policy Brief series (featuring condensed versions of selected papers making key policy-relevant findings accessible), and a set of Factsheets analysing changes, and focusing on trends, in the South African labour market.

DPRU researchers are frequently published in peer-reviewed journals, book chapters, reports, online blogs and opinion forums, and the Unit is often cited in the domestic and global press, in print, radio and TV. The Unit has a growing social media presence via an active

Facebook page, the Director's flourishing Twitter feed and a dedicated Youtube channel. DPRU outputs are freely available in print, digital format and online.

Prof. Haroon Bhorat, DPRU Director, was awarded a Tier 1 Research Chair under the NRF SARChI (South African Research Chairs Initiative) for 2010-14. The thematic focus of the Chair is Economic Growth, Poverty and Inequality, and has facilitated the awarding of post-graduate bursaries and fellowships to Economics students at the University.

Current and recently completed projects undertaken by the DPRU include:

- The Africa Growth Initiative (AGI) Programme
- Understanding Enforcement of Minimum Wage Laws
- Monitoring the Impact of the Economic Downturn on the SA Labour Market
- Labour Market Dynamics in the Western Cape
- The Labour Market Intelligence Partnership Project: Skills Biased Labour Demand, Human Capital Accumulation and Pro-Poor Growth etc.
- The Pursuit of Inclusive Economic Growth in South Africa
- National Transfer Accounts (NTA): Maximising South Africa's Demographic Dividend

### **Policy Research on International Services and Manufacturing (PRISM)**

Policy Research in International Services and Manufacturing (PRISM) is a research and policy unit located within the School of Economics. PRISM provides a lens to focus research and policy work broadly on issues of globalization, trade and industrialization. It is home to a number of related research activities, projects and programmes concerned with issues of globalization, global value chains, industrialization paths, international trade, foreign investment, the defence industry, policy governance, infrastructure development, the role of knowledge intensive services, innovation, and international competitiveness. Another feature of PRISM's work has been its applied focus, responding to economic policy questions issues in South Africa, the rest of Africa and beyond. PRISM is managed by a Steering Committee consisting of Mike Morris (Head), David Kaplan and Anthony Black.

PRISM research and policy activities are focused around the following issues:

- Globalisation and industrialization development
- International trade and foreign investment
- Governance and economic policy
- Commodities and resource based linkage industrialization
- Innovation and upgrading in developing countries
- Industrial policy and development

- Employment intensive growth in South Africa
- International competitiveness of firms and sectors
- Clusters and learning networks
- China's economic impact on Africa
- Regulatory frameworks for trade, services and sectors
- The distributional gains of industrial growth.

### **Research Unit in Behavioural Economics and Neuroeconomics (RUBEN)**

RUBEN's interdisciplinary team of experimental economics researchers seek to understand the way in which people in developing economies assess risk and make decisions. They do this through quantitatively analyzed laboratory and field experiments with people earning real monetary rewards for performing experimental tasks. RUBEN researchers especially focus on trust - the essential basis of business relationships – and people's attitudes to risk, uncertainty and time. This knowledge is crucial to innovative product design in insurance, banking and retail asset management. For certain studies, RUBEN researchers also have the technology and expertise to conduct brain imaging studies, of the kind needed for neuroeconomics and neuromarketing. In 2014, RUBEN was directed by Professor Harold Kincaid, and includes researchers from other Departments at UCT and international associates. Members within the School of Economics are Andre Hofmeyr, Don Ross, Mare Sarr, Martine Visser and Honorary Professor George Ainslie.

Current RUBEN research projects underway include experimental and neuroimaging studies of addictive consumption and illegal gambling; a study of the risk and time preferences of Western Cape fruit farmers that can inform the design and pricing of new insurance products to support innovation for export promotion; a study of the consistency of choices under risk among South Africans living in disadvantaged communities; a study of the prevalence and determinants of pathological gambling among informal gamblers in a township; a study of a new initiative to deliver early childhood education in Cape Town townships; a study of behavioral "nudges" to reduce water consumption in Cape Town, and a national prevalence study of problem gambling and gambling behaviors in South Africa.

RUBEN is currently the only centre for experimental research in economics on the African continent and thus a key aspect of RUBEN activity is training. RUBEN hosts annual training workshops for scholars from the rest of the continent, and raises funds to cover all workshop costs for these participants.

## **Departmental Statistics**

### **Permanent and long term contract staff**

Professors	14
Associate Professors	11
Senior Lecturers	9
Lecturers	5
Research Staff	25
Administrative staff	18
Total	82

### **Students**

Doctoral	79
Masters	58
Honours	198
Undergraduate*	3000+
<b>Total</b>	<b>3335</b>

\* Number of students enrolled for economics courses. Students can take a number of courses in one year.

## **Research Fields and Staff**

### **Permanent teaching staff**

#### **PROFESSOR HAIM ABRAHAM**

Finance; futures and derivatives; monetary economics in a general equilibrium context.

#### **PROFESSOR HAROON BHORAT**

Director of the DPRU: Labour markets and labour market policy; poverty and income distribution.

#### **PROFESSOR ANTHONY BLACK**

Development economics, trade and industrial policy; automotive industry, garment industry, foreign direct investment, regional integration; global location of manufacturing and services.

#### **ASSOCIATE PROFESSOR JUSTINE BURNS**

Microeconomics; labour; poverty and income distribution; rural development; institutional economics.

#### **ASSOCIATE PROFESSOR BEATRICE CONRADIE**

Farm labour markets; women in agriculture; wine industry mechanisation; irrigation farming; human animal conflicts.

#### **DR REZA C. DANIELS**

Applied development microeconomics; applied econometrics; analyses of household & firm surveys; public policy.

#### **ASSOCIATE PROFESSOR CLARA DELAVALLADE**

Development economics; applied econometrics; corruption; health; education; evaluation of public policies.

#### **PROFESSOR PAUL J DUNNE**

Defence, conflict and peace economics; applied econometrics

#### **PROFESSOR LAWRENCE EDWARDS**

International trade and competitiveness; trade policy; trade and infrastructure; trade, employment and poverty.

#### **MS KATHERINE EYAL**

Labour; development; education; program evaluation; econometrics, behavioural economics

#### **ASSOCIATE PROFESSOR LUKASZ GRZYBOWSKI**

Industrial organisation; game theory; applied econometrics; network economics; telecommunications; competition and antitrust policy.

#### **ASSOCIATE PROFESSOR SHAKILL HASSAN**

Finance: fixed income, currency and commodity markets; arbitrage and asset pricing; applied financial econometrics. Economics: currency speculation and crises; monetary policy and asset prices; applicable economic theory.

#### **MR ANDRÉ HOFMEYR**

Game theory; behavioural economics; the economics of addiction; political economy.

#### **PROFESSOR DAVID KAPLAN**

Technology development; technology policy; industrial policy; telecommunications industry; migration of skilled persons. Work on the SA mining industry – technological change; innovation; mining based exports (capital equipment and services); local (Western Cape) economic development issues.

#### **ASSOCIATE PROFESSOR MALCOLM KESWELL**

Econometrics of Programme Evaluation, Behavioural Economics, Development Economics

#### **PROFESSOR HAROLD KINCAID**

Philosophy and methodology of social science; causal modeling; addiction; experimental elicitation of risk and time preferences and other topics in behavioral economics

#### **MR KEVIN KOTZE**

Macroeconomics; Financial Economics; Econometric Modelling.

#### **MS LEIGH LAKAY**

Labour economics; environmental economics.

**PROFESSOR MURRAY LEIBBRANDT**

Director of SALDRU; income distribution and poverty; survey econometrics; labour; education.

**ASSOCIATE PROFESSOR ANTHONY LEIMAN**

Director of EPRU; Environmental and resource economics; cost-benefit analysis; informal sector.

**MR CECIL MLATSHENI**

Youth and the labour market; participation, search and unemployment; fertility and labour market participation; the brain drain and skills migration.

**PROFESSOR MIKE MORRIS**

Director of PRISM; Globalisation; impact of China on Africa; industrialization and the Africa commodities boom; clothing and textiles; automotive industry; clusters and industrial development; industrial policy.

**ASSOCIATE PROFESSOR EDWIN MUCHAPONDWA**

Director of SoE; Community based natural resource management; nature-based tourism; valuation of non-market environmental amenities

**PROFESSOR NICOLI NATTRASS**

Director of ASRU; The socio-economic dimensions of living with HIV; the clothing industry; attitudes to employment; the political-economy of job creation; the moral economy of dealing with predators.

**DR AMOS PETERS**

International migration and development; aid and foreign direct investment; open economy macroeconomics.

**MS NERYVIA PILLAY**

Risk measurement, financial markets.

**DR PATRIZIO PIRAINO**

Applied microeconomics; labour economics; economics of education; immigration; development economics; experimental economics.

**DR VIMAL RANCHHOD**

Labour economics; economics of education; economic demography; poverty; inequality and development economics.

**PROFESSOR DON ROSS**

Experimental economics of risk and time preference; game theory; philosophy of economics (methodology); infrastructure development; African trade and industry policy; philosophy of science.

**DR MARE SARR**

Natural resource wealth, institutions and growth; foreign policy interventions in dictatorships (foreign aid, military, etc.) and their impact on likelihood

of dictators to loot and prospect for investment in the country; Intellectual property rights in the biopharmaceutical industry (pharmaceutical and biotech); bioprospecting, intellectual property rights and traditional knowledge; neglected diseases.

**DR ALBERT TOUNA MAMA**

Macroeconomics (households' consumption/investment behavior); international macroeconomics (current account imbalances, sovereign borrowing); dynamic stochastic equilibrium models; development economics (informal insurance arrangements, terms of trade shocks, structural changes).

**ASSOCIATE PROFESSOR CORNE VAN WALBEEK**

The economics of tobacco control; the economics of alcohol policy; evaluating economic forecasts; the quality of official data, economics education.

**ASSOCIATE PROFESSOR MARTINE VISSER**

Behavioural and experimental economics applications to natural resource utilization; environmental and natural resource economics; poverty, inequality and sustainability; social institutions and networks; applied game theory and microeconomics; valuation techniques.

**PROFESSOR MARTIN WITTENBERG**

Data Quality; Measurement of Poverty, Incomes and Economic Well-being; Labour economics; economics of the household; analysis of time-use data; microeconomics.

**ASSOCIATE PROFESSOR INGRID WOOLARD**

Measurement of poverty; income inequality; labour economics; social assistance; tax policy.

**Adjunct staff****ADJUNCT PROFESSOR BRIAN LEVY**

Governance and political economy; development policy and practice.

**ADJUNCT ASSOCIATE PROFESSOR MARK ELLYNE**

Monetary economics (monetary transmission, monetary policy, inflation targeting); exchange rates (policy, valuation, exchange regimes and controls); regional integration (SADC convergence, African integration); IMF and World Bank (structural adjustment programs); country macroeconomic studies.

**DR NICK SAMOUILHAN**

Financial Economics: asset allocation and portfolio construction, asset class modelling, quantitative market strategies and volatility modelling and forecasting.

**Honorary staff****HONORARY PROFESSOR GEORGE AINSLIE**

Behavioral economics (picoeconomics); motivation; choice; self-control; higher mental functions; interface among economics; experimental psychology; philosophy (theory of mind).

**Research Staff****ASRU**

Nathan Geffen (researcher, deputy director of ASRU, and co-ordinator of GroundUp)

**DPRU****MR MORNÉ OOSTHUIZEN**

Deputy Director: Labour markets; poverty and inequality, inflation, wage inequality and demographic economics.

**MS CARLENE VAN DER WESTHUIZEN**

Senior Researcher: Labour economics; poverty and inequality.

**MS AALIA CASSIM**

Development economics; labour economics, competition and regulation; economics of education; social entrepreneurship.

**MS SUMAYYA GOGA**

Labour markets; poverty and inequality.

**Ms TOUGHEDAH JACOBS**

Project management, labour market profiles, poverty, inequality, development.

**MS ELNE JACOBS**

Development economics; labour economics; institutional economics; micro economics; survey data analysis; economics of education.

**MS NATASHA MAYET**

Labour economics; minimum wage

**MS KARMEN NAIDOO**

Development economics, financial sector, financial inclusion, small & medium size enterprise (SME) financing, growth & development, and economics of education.

**MR BENJAMIN STANWIX**

Applied economics, labour economics, economic and social history

**MR NAN TIAN**

Labour economics; conflict; economic growth.

**MR DAVID (CHEN-WEI) TSENG**

Labour economics; survival analysis; time series and forecasts.

**MR DEREK YU (PART-TIME)**

Labour economics, development economics, household survey analysis and economic education.

**SALDRU****ASSOCIATE PROFESSOR CALY ARDINGTON**

Intergenerational support; analysis of household surveys; orphanhood; family background, school quality and educational outcomes.

**PROFESSOR SEAN ARCHER**

Economics of human rights; economics of education training, and economics and ecology of arid zones.

**PROFESSOR FRANCIS WILSON**

Poverty and development; unemployment; household survey data collection; water policy.

**DR THOMAS BOSSUROY**

Inequalities and social mobility; political economy; social structures and identities and evaluation of public policy.

**DR BRENDAN MAUGHAN-BROWN**

HIV-related stigma; socioeconomic and behavioural determinants of HIV.

**DR EVA WEGNER**

Political mechanisms of inequality persistence; clientelism; political parties; authoritarian regimes; Islamist movements.

**DR NICOLA BRANSON**

Quantitative research in education inequality and the intergenerational consequence of teenage childbearing in South Africa.

**ARDEN FINN**

Inequality, poverty and the analysis of panel data

**CLARE HOFMEYR**

Economics of education, training, communications and policy work.

**MS LAURA POSWELL**

Executive Director of J-PAL Africa.

**LAURA COSTICA**

J-PAL Africa Research Manager

**EMMANUEL BAKIRDJIAN**

J-PAL Africa Research Manager

## Distinguished visitors

### PROF LEONCE NDIKUMANA

Taught on LSE-UCT July School  
University of Massachusetts

### DR EVAN BLECHER

Senior Economist, Economic and Health Policy Research  
American Cancer Society

### DR HANA ROSS

Managing Director, Economic and Health Policy Research  
American Cancer Society

Dr Yussuf Saloojee  
Executive Director  
National Council Against Smoking

### MR ALEX LIBER

Economic and Health Policy Research  
American Cancer Society

DR HELEN SUICH  
Australian National University

PROFESSOR JANE CARRUTHERS  
Department of History, UNISA

PROFESSOR RAPHAEL KAPLINSKY  
Open University, UK

PROFESSOR JOHN BOARDMAN  
Environmental Change Institute, Oxford.

PROFESSOR GLENN HARRISON  
Georgia State University

PROFESSOR LISA RUTSTROM  
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## Research output

### Authored books

Edwards, L.J. and Lawrence, R. 2013. Rising Tide. Is Growth in Emerging Economies Good for the United States? 251pp. Washington: Peterson Institute for International Economics. ISBN 9780881325003.

### Edited books

Ross, D.A., Ladyman, J. and Kincaid, H. (eds) 2013. Scientific Metaphysics: pp. 1-235. Oxford: Oxford University Press. ISBN 9780199696499.

### Chapters in books

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Scientific Metaphysics, pp. 108-150. Oxford: Oxford University Press. ISBN 9780199696499.

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Ross, D.A. 2013. The evolution of individualistic norms. In K. Sterelny, R. Joyce, B. Calcott, and B. Fraser (eds), Cooperation and its evolution, pp. 17-43. Cambridge, MA: The MIT Press. ISBN 9780262018531.

### Articles in peer-reviewed journals

Ainslie, G. 2013. Cold climates demand more intertemporal self-control than warm climates. Behavioral and Brain Sciences, 36(5): 17-18.

Ainslie, G. 2013. Grasping the impalpable: the role of endogenous reward in choices, including process addictions. Inquiry, 56(5): 446-469.

Ainslie, G. 2013. Intertemporal bargaining predicts moral behavior, even in anonymous, one-shot economic games. Behavioral and Brain Sciences, 36(1): 78-79.

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Bhorat, H.I., Mayet, N. and Kanbur, R. 2013. The impact of sectoral minimum wage laws on employment, wages, and hours of work in South Africa. *IZA Journal of Labor and Development*, 2(1): 1-27.

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Conradie, B.I. and Garcia Corbeira, M. 2013. An estimate of the recreational value of the Agulhas plain, South Africa, with special reference to the value of plant biodiversity. *South African Journal of Economic and Management Sciences*, 16(2): 170-182.

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Crookes, D.J., Blignaut, J., de Wit, M.P., Esler, K., Le Maitre, D.C., Milton, S.J., Mitchell, S.A., Cloete, J., de Abreu, P., Fourie(nee Vlok), H., Gull, K., Marx, D., Mugido, W., Ndhlovu, T., Nowell, M., Pauw, M. and Rebelo, A.G. 2013. System dynamic modelling to assess economic viability and risk trade-offs for ecological restoration in South Africa. *Journal of Environmental Management*, 120: 138-147.

Dellis, A. and Spurrett, D. 2013. An eye for an eye: reciprocity and the calibration of redress. *Behavioral and Brain Sciences*, 36(1): 20.

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gambling severity among rural and peri-urban poor South African adults in KwaZulu-Natal. *Journal of Gambling Studies*, 29: 417-433.

Doganoglu, T. and Grzybowski, L. 2013. Dynamic duopoly competition with switching costs and network externalities. *Review of Network Economics*, 12(1): 1-25.

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Fessehaie, J. 2013. The impact of privatisation on technological upgrading: a case study. *African Journal of Science, Technology, Innovation and Development*, 5(6): 499-509.

Fessehaie, J. and Morris, M.L. 2013. Value chain dynamics of Chinese copper mining in Zambia: enclave or linkage development? *European Journal of Development Research*, 25(4): 537-556.

Gummerson, E., Maughan-Brown, B. and Venkataramani, A.S. 2013. Who is taking up voluntary medical male circumcision? Early evidence from Tanzania. *AIDS*, 27(16): 2657-2659.

Hasan, R., Mitra, D. and Sundaram, A. 2013. The determinants of capital intensity in manufacturing: the role of factor market imperfections. *World Development*, 51: 91-103.

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Keswell, M.M., Girdwood, S. and Leibbrandt, M.V. 2013. Educational inheritance and the distribution of occupations: evidence from South Africa. *Review of Income and Wealth*, 59: S111-S137.

Kincaid, H., Daniels, R.C., Dellis, A., Hofmeyr, A.K., Rousseau, J., sharp, c. and Ross, D.A. 2013. A taxometric analysis of problem gambling data from a South African national urban sample. *Journal of Gambling Studies*, 29: 377-392.

Lam, D., Marteletto, L. and Ranchhod, V. 2013. The influence of older classmates on adolescent sexual behavior in Cape Town, South Africa. *Studies in Family Planning*, 44(2): 147-167.

Mah, T. and Maughan-Brown, B. 2013. Social and cultural contexts of concurrency in a township in Cape Town, South Africa. *Culture, Health and Sexuality*, 15(2): 135-147.

Maughan-Brown, B. 2013. Concurrent sexual partnerships among young adults in Cape Town, South Africa: how is concurrency changing? *Sexual Health*, 10: 246-252.

Muchapondwa, E. and Stage, J. 2013. The economic impacts of tourism in Botswana, Namibia and South Africa: is poverty subsidizing? *Natural Resources Forum*, 37: 80-89.

Mukanjari, S., Bednar-Friedl, B., Muchapondwa, E. and Zikhali, P. 2013. Evaluating the prospects of benefit sharing schemes in protecting mountain gorillas in Central Africa. *Natural Resource Modeling*, 26(4): 455-479.

Nattrass, N.J. 2013. Understanding the origins and prevalence of AIDS conspiracy beliefs in the United States and South Africa. *Sociology of Health and Illness*, 35(1): 113-129.

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Panagariya, A. and Sundaram, A. 2013. External liberalization by India and China: recent experience and future challenges. *Indian Growth and Development Review*, 6(1): 8-34.

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Picot, G. and Piraino, P. 2013. Immigrant earnings growth: selection bias or real progress? *Canadian Journal of Economics-Revue Canadienne D'Économique*, 46(4): 1510-1536.

Sarr, M. and Swanson, T. 2013. Economics of intellectual property rights (IPR) for genetic resources: north-south cooperation in sequential R&D. *International Journal of Ecological Economics and Statistics*, 26(3): 67-82.

Ross, D.A. 2013. Action-oriented predictive processing and the neuroeconomics of sub-cognitive reward. *Behavioral and Brain Sciences*, 36(3): 45-46.

Ross, D.A. 2013. Forgiveness is institutionally mediated, not an isolable modular output. *Behavioral and Brain Sciences*, 36(1): 35-36.

Ross, D.A. 2013. Will scientific philosophy still be philosophy? *Repenser les rapports entre sciences et philosophie*, 29: 11-27.

Ross, D.A. and Ladyman, J. 2013. Quantum probability, choice in large worlds, and the statistical structure of reality. *Behavioral and Brain Sciences*, 36(3): 305-306.

Snyman, S. 2013. Household spending patterns and flow of ecotourism income into communities around Liwonde national park, Malawi. *Development Southern Africa*, 30(4-5): 640-658.

Sowman, M., Scott, D., Green, L.J., Hara, M., Hauck, M.B., Kirsten-Sardinha, K., Paterson, B., Raemakers, S., Jones, K., Sunde, J. and Turpie, J.K. 2013. Shallow waters: social science research in South Africa's marine environment. *African Journal of Marine Science*, 35(3): 385-402.

Thom, A. and Conradie, B.I. 2013. Urban agriculture's enterprise potential: exploring vegetable box schemes in Cape Town. *Agrekon*, 52(1): 64-86.

Van Walbeek, C.P. 2013. How accurate are South African macroeconomic forecasts? *Studies in Economics and Econometrics*, 37(3): 1-23.

Van Walbeek, C.P., Blecher, E., Gilmore, A. and Ross, H. 2013. Price and tax measures and illicit trade in the framework convention on tobacco control: what we know and what research is required. *Nicotine and Tobacco Research*, 15(4): 767-776.

Venkataramani, A.S. and Maughan-Brown, B. 2013. Effects of household shocks and poverty on the timing of traditional male circumcision and HIV risk in South Africa. *AIDS and Behavior*, 17: 1668-1674.

Wittenberg, M.W. 2013. Non-monetary dimensions of well-being: a comment. *Development Southern Africa*, 30(6): 826-829.

Wittenberg, M.W. 2013. The weight of success: the body mass index and economic well-being in Southern Africa. *Review of Income and Wealth*, 59: S62-S83.

Woolfrey, H.L. 2013. Innovations for the curation and sharing of African social survey data. *Data Science Journal*, 12: 4pp.

## **Peer-reviewed published conference proceedings**

Whelan, B. and Muchapondwa, E. 2012. Assessing the viability of small-scale wind turbines in different scenarios in South Africa. In W. Nyangena (ed), Proceedings of Natural Resource Management and Climate Change in Africa. Kenya: African Economic Research Consortium. ISBN 9789966345882.

Woolard, I.D. and Leibbrandt, M.V. 2012. The evolution and impact of unconditional cash transfers in South Africa. In C. Sepulveda, A. Harrison, and J.Y. Lin (eds), Proceedings of Annual World Bank Conference on Development Economics Global, 2010, Washington, USA. Washington, USA: The World Bank. ISBN 9780821385227.

# **DEPARTMENT OF FINANCE AND TAX**

## **Head of Department: Associate Professor Craig West**

### **Departmental Profile**

The Department of Finance and Tax was formed with effect from 1 January 2012.

The Department houses two disciplines, namely: finance at an undergraduate and post-graduate level and taxation at a post-graduate level only.

As the Department becomes more established, it is anticipated that the research outputs of its staff will increase.

The tax section within the Department is participating in a collaborative research project with 6 other institutions around the world. The Research Council of Norway funds this project. The staff of this section of the Department are also participating in the Marie Curie International Staff Exchange Scheme (IRSES) for particular research topics in international tax. To this end, the Department hosted three visiting doctoral student from Vienna University of Business and Economics in Austria and will host further guests in 2014. Department staff will also participate in the exchanges in the coming years. The IRSES programme provides funding for the travel and accommodation of the visiting academic.

The department has two NRF-rated researchers, being Professor Paul van Rensburg (full-time) and Professor Enrico Uliana (part-time).

An exceptional 15 Master's students graduated from the department in 2013. The Masters graduates are expected to increase as are PhD students.

### **Departmental Statistics**

Permanent and Long-term Contract Staff (including both full and part-time staff)

Professors	3
Associate Professors	3
Senior Lecturers	7
Lecturers	4
Administrative and Clerical Staff	5
Total	22

Adjunct and Honorary Staff

Adjunct Associate Professors	2
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Registered Students

Master's	15
Honours	31
Undergraduate	753
Total	799

### **Research Fields and Staff**

#### **Permanent Staff**

##### **MR ABDUL ABDULLA**

Accounting education; financial ratio analysis.  
Islamic Finance.

##### **DR EDWARD CHAMISA**

International accounting standards in developing countries; corporate governance; corporate social responsibility.

##### **MR PHILLIP DE JAGER**

Fair value accounting; banks; capital markets.

##### **ASSOCIATE PROFESSOR GLEN HOLMAN**

Capital markets.

##### **MR CHUN-SUNG HUANG**

Financial risk management and modelling; Value-at-Risk estimates and Improvements; Utility-Indifference Pricing; Stochastic Modelling.

##### **DR RYAN KRUGER**

Predictive modelling of asset returns and the financial applications of machine learning.

##### **MR AKIOS MAJONI**

Liquidity in African financial markets; corporate restructuring and shareholder value.

##### **MR LUCIAN PITT**

General field of disclosure with emphasis on risk disclosure in AFS.

##### **MR KANSHUKAN RAJARATNAM**

Decision making in consumer credit finance; credit union models; optimisation.

##### **PROFESSOR JENNIFER ROELEVeld**

International double tax treaties; South African income tax. Estate duty

##### **MR COLIN SMITH**

Valuation models; working capital management; behavioural issues in Management Accounting; NGO accounting and financial management.

##### **PROFESSOR PETER SURTEES**

South African income tax.

##### **DR FRANCOIS TOERIEN**

Entrepreneurial and small business finance; alternative investments; equities.

##### **PROFESSOR ENRICO ULIANA**

Management accounting practices; strategic cost analysis; use of accounting in aligning performance with strategy; intellectual capital.

##### **PROFESSOR PAUL VAN RENSBURG**

Asset Pricing. Explaining the cross section of equity returns in local and international markets.

##### **ASSOCIATE PROFESSOR CRAIG WEST**

International Tax (Income and Capital); Tax Information Exchange Agreements and South African income tax.

##### **MR DARRON WEST**

Taxation of savings and investments; behavioural finance and investing.

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## **Research output**

### **Articles in peer-reviewed journals**

Bakoro, L.E., De Jager, P. and Parsons, S.G. 2013. Commentary: how accounting information is used by the South African bank regulator. SA Journal of Accounting Research, 27(1): 181-203.

Campbell, A. and Rajaratnam, K. 2013. Avoiding frustrations of unprepared students with online quizzes. International Business and Economics Research Journal, 12(8): 969-977.

Hodnett, K., Hsieh, H. and Van Rensburg, P. 2013. Nonlinearities in stock return prediction: a blended approach. Journal of Applied Business Research, 29(1): 7-22.

Holman, G.S., Correia, C.D.J., Pitt, L.P. and Majoni, A. 2013. The corporate use of derivatives by listed non-financial firms in Africa. Corporate Ownership and Control, 11(1): 671-690.

Kruger, R. and Toerien, F. 2013. The impact of index migrations on share prices: evidence from the Johannesburg stock exchange. Journal of Applied Business Research, 29(6): 1861-1872.

Plimsoll, J., Saban, B., Spheris, A. and Rajaratnam, K. 2013. The day of the week effect: an analysis of the Johannesburg stock exchange top 40 firms. International Business and Economics Research Journal, 12(3): 319-330.

Rajaratnam, K. and Campbell, A. 2013. Enhancing students' learning through practical knowledge taught by industry professionals. International Business and Economics Research Journal, 12(6): 717-724.

Rubin, G.M., Overstreet, G.A., Beling, P. and Rajaratnam, K. 2013. A dynamic theory of the credit union. Annals of Operations Research, 205: 29-53.

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### **PEER-REVIEWED PUBLISHED CONFERENCE PROCEEDINGS**

Boraine, A., Jepthas, J., Rix, K. and Rajaratnam, K. 2013. The relationship of the South African stock market with those of its major trading partners. In U. Laptaned and G. Nartea (eds), Proceedings of the 4th International Conference on Business and Economics

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Chinhamu, K., Huang, C., Hammujuddy, J. and Huang, C.S. 2013. Modelling the South African mining index with generalized hyperbolic distribution. In L. Santana (ed), Proceedings of the 55th Annual Conference of the South African Statistical Association for 2013 (SASA 2013), 4-8 November 2013, Polokwane, South Africa. Polokwane, South Africa: SASA. ISBN 9781868226498.

De Jager, P., Holman, G.S. and Nel, E. 2013. An investigation into the effects of liquidity draw downs by asset backed commercial paper conduits on South African banks. Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

De Jager, P. and Parsons, S.G. 2013. Signs of Jibar manipulation? Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town, South Africa. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Hedley, G., Lu, D., van der Riet, C. and Huang, C.S. 2013. Impact of economic climate changes on significant style characteristics in predicting share returns on the JSE. In U. Laptan and G. Narte (eds), Proceedings of the 4th International Conference on Business and Economics (ICBE 2013) "Business Challenges of Globalization for Sustainable Economic Development", 13-15 June 2013, Reykjavik, Iceland. Bangkok, Thailand: UP Organizer and Publication Co., Ltd. ISBN 9786163351302.

MacFarlane, A. and West, D.G. 2013. Domacroeconomic variables explain future stock market movements in South Africa? Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Somerset West, Cape Town, South Africa. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Makan, R., Ramdenee, Y., Severaj, R. and Rajaratnam, K. 2013. The December effect: evidence from the Johannesburg stock exchange. In U. Laptan and G. Narte (eds), Proceedings of the 4th International Conference on Business and Economics (ICBE 2013) "Business Challenges of Globalization for Sustainable Economic Development", 13-15 June 2013, Reykjavik, Iceland. Bangkok, Thailand: UP Organizer and Publication Co., Ltd. ISBN 9786163351302.

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Pitt, L.P., Correia, C.D.J. and Holman, G.S. 2013. Does size matter? An analysis of derivative use by small South African firms listed on the JSE and AltX. Proceedings of 2013 Southern African Accounting Association Biennial Conference, 26-28 June 2013, Cape Town, South Africa. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

Pitt, L.P. and Rajaratnam, K. 2013. Loan restructuring for small business. In U. Laptan and A. Benabdellahid (eds), Proceedings of the 2nd International Conference on Production and Supply Chain Management (ICPSCM 2013), 7-10 November 2013, Rome, Italy. Bangkok, Thailand: UP Organizer and Publication Co., Ltd. ISBN 9786167695105.

Willows, G.D., De Jager, P., Drummond, C.D., Sinton, D.S. and Carr, L. 2013. Is the CEO of Investec overpaid? Proceedings of 2013 Southern African Accounting Association Biennial Conference: Peer-reviewed Conference Proceedings, 26-28 June 2013, Cape Town, South Africa. Cape Town, South Africa: Southern African Accounting Association. ISBN 9780620563826.

# DEPARTMENT OF INFORMATION SYSTEMS

## Head of Department: Associate Professor Lisa Seymour

### Department Profile

A core focus of the department and the Department's accredited research unit CITANDA (Centre for IT and National Development) remains the role of ICT in Developing Country context but this is complemented by our other key research areas IS and education, ICTs and innovation, IS management, IS development and digital forensics.

This year saw the departmental review as well as the review of CITANDA and both reviews were highly complimentary on the strong research ethic of the department and the high growth in both research outputs and post-graduate enrolments. We have increased our research outputs to 12 DHET-accredited journal articles, 4 chapters in books and 44 peer-reviewed published conference papers. This is also a record publication output for the department. With another staff member obtained his NRF-rating, we have eight rated staff, which is more than half the academics.

Our post-graduate program keeps growing strongly. The more than 10% growth meant that our 89 Masters and PhD students represent a new record enrolment in the department. An especially proud achievement is that, among our 2013 PhD graduates are three female staff members.

The department managed to secure some highly competitive research grants, including three NRF grants of almost R1.8 million to explore: the impact of mobile technology and public access on collective empowerment among the urban poor; the role of ICTs in empowering women in rural areas in South Africa and Tanzania; and the nature, prevalence and implications of mobile bullying in South African schools. These projects have also facilitated awarding of post-graduate bursaries to a number of Information Systems students. The department was also chosen as the lead partner in the €3+million ESEFA (Enterprise Systems Education for Africa) project to research and develop an Enterprise System education programme for the African continent, linking up tertiary institutions from 10 African countries. The department is also collaborating in a Water Research Council research project into mobile technology for increasing rural water quality.

## Departmental Statistics

### Permanent staff

Professors	2.5
Associate Professors	5
Senior Lecturers	6
Lecturers	0
Administrative and Clerical Staff	5
<b>Total</b>	<b>18.5</b>

Honorary Staff

Emeritus Professors	2
Registered Students	

Doctoral	38
Masters	51
Honours	98
Postgraduate Diploma	285
Undergraduate	2095
<b>Total</b>	<b>2567</b>

### Research Fields and Staff

#### PROFESSOR IRWIN BROWN

IS in developing countries; IS management; Grounded Theory in IS research.

#### ASSOCIATE PROFESSOR WALLACE CHIGONA

ICT for national development; community informatics; and mobile technology for development.

#### EMERITUS PROFESSOR MIKE HART

Strategic use of IS; key management issues in IS; business intelligence; data mining and analytics.

#### ASSOCIATE PROFESSOR KEVIN JOHNSTON

ICT strategy and management, IS educational issues, Open Source Software, Social and Networking Systems, Emerging technology, and Entrepreneurship.

#### ASSOCIATE PROFESSOR MICHAEL KYOBE

Strategic IT planning; IT alignment; computer security and utilisation of IT to leverage knowledge management; enterprise and IT governance.

#### DR ELSJE SCOTT

Object-orientated programming and methodologies; efficient teaching methods for programming concepts; IS project management, with the specific focus on student group projects using C# as programming language.

#### DR SALAH KABANDA

IT adoption; M and E commerce; ICT4D.

### **PROFESSOR OJELANKI NGWENYAMA**

Developing and using critical social science methods for IS research. Empirical research focused on: software process innovation; IS implementation; IS management; the impact of ICT on social and economic development.

### **DR JACQUES OPHOFF**

Information and cyber security; privacy; design science research.

### **MR MIKE POLLOCK**

Effective IS teams, IS programming with students; technology acceptance; the digital divide in South Africa; digital forensics; virtual teams.

### **DR SUMARIE ROODT**

IS and Education: Technology-enhanced learning with a focus on using emerging technologies for the Net Generation, Digital Game-Based Learning (DGBL), Virtual Worlds, Educational Neuroscience & Technology- Enhanced Learning. IS and Business: Using emerging technologies for Competitive Advantage

### **ASSOCIATE PROFESSOR LISA SEYMOUR**

Enterprise systems and business process management with a developing country focus.

### **EMERITUS PROFESSOR DEREK SMITH**

Project portfolio management; project teams; project manager competencies.

### **MR ADRIE STANDER**

Data communications; database design; human-computer interaction; culture and information systems.

### **DR MAUREEN TANNER**

Agile, Global Software development.

### **PROFESSOR JEAN-PAUL VAN BELLE**

Adoption of information technologies; ICT4D; e-commerce and m-commerce; e-government and m-government; open source software; enterprise IS architectures; e-readiness of SMEs and NGOs; Green IS/IT.

### **Contact Details**

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InformationSystems/

## **Research output**

### **Chapters in books**

Brown, C. and Hart, M.L. 2013. Exploring higher education students technological identities using critical discourse analysis. In P. Isaias, and M. Baptista-Nunes (eds), *Information Systems Research and Exploring Social Artifacts: Approaches and Methodologies*: pp. 181-198. University of Sheffield, UK: IGI Global. ISBN 97814666249.

Johnston, K. 2013. Bringing the personal to the professional in information systems. In C. Ohajunwa and J. McKenzie (eds), *Disability Catalyst Africa - Series no. 4: Beyond "if" to "how": Disability Inclusion in Higher Education*, pp. 100-104. Cape Town: Disability Innovations Africa, Disability Studies Programme, DHRS, UCT. ISBN 9780987020938.

Mtingwi, J. and Van Belle, J.W.G.D. 2013. E-government status and m-government readiness in Malawi. In Z. Mahmood (ed), *E-Government Implementation and Practice in Developing Countries*: pp. 211-241. Hershey: IGI Publishing. ISBN 9781466640900.

Stevenson, G. and Van Belle, J.W.G.D. 2013. Using social media technology to improve collaboration: a case study of micro-blogging adoption in a South African financial services company. In N. Azab (ed), *Cases on Web 2.0 in Developing Countries: Studies on Implementation, Application, and Use*, pp. 313-341. Hershey: IGI Publishing. ISBN 9781466625167.

### **Articles in peer-reviewed journals**

Bankole, F., Osei-Bryson, K. and Brown, I.T.J. 2013. The impact of ICT investments on human development: a regression splines analysis. *Journal of Global Information Technology Management*, 16(2): 59-85.

Bisimwa, K. and Johnston, K. 2013. Impact of mobile phones on integration: the case of refugees in South Africa. *Journal of Community Informatics*, 9(4): 11pp.

Chigona, W.M.G., Nyemba-Mudenda, M. and Metfula, A. 2013. A review on mhealth research in developing countries. *Journal of Community Informatics*, 9(2): 1-7.

Dawson, L.J. and Van Belle, J.W.G.D. 2013. Critical success factors for business intelligence in the South African financial services sector. *South African Journal of Information Management*, 15(1): 545.

Hinde, C. and Van Belle, J.W.G.D. 2012. Cloud computing in South African SMMEs risks and rewards for playing at altitude. *International Journal of Computer Science and Electrical Engineering (IJCSEE)*, 1(1): 10pp.

Johnston, K. 2013. A guide to educating different generations in South Africa. *Issues in Informing Science and Information Technology*, 10: 261-273.

Johnston, K., Begg, S. and Tanner, M.C. 2013. Exploring the factors influencing the adoption of open source software in Western Cape schools. *International Journal of Education and Development using ICT*, 9(2): 64-84.

Johnston, K., Chen, M.M. and Hauman, M. 2013. Use, perception and attitude of university students towards Facebook and Twitter. *Electronic Journal of Information Systems Evaluation*, 16(3): 200-210.

Johnston, K., Tanner, M.C., Lalla, L. and Kawalski, D. 2013. Social capital: the benefit of Facebook 'friends'. *Behaviour & Information Technology*, 32(1): 24-36.

Joubert, J. and Van Belle, J.W.G.D. 2013. The role of trust and risk in mobile commerce adoption within South Africa. *International Journal of Business, Humanities and Technology*, 3(2): 27-38.

Makoza, F. 2013. The level of e-government implementation: case of Malawi. *Electronic Journal of e-Government*, 11(2): 268-279.

Matavire, R. and Brown, I.T.J. 2013. Profiling grounded theory approaches in information systems research. *European Journal of Information Systems*, 22(1): 119-129.

Metfula, A. and Chigona, W.M.G. 2013. The effects on policy of the composition of the ICT public policy network in Swaziland. *The African Journal of Information and Communication*, 1(13): 83-94.

Mpazanje, F., Sewchurran, K. and Brown, I.T.J. 2013. Rethinking information systems projects using actor-network theory: a case of Malawi. *The Electronic Journal of Information Systems in Developing Countries*, 58(7): 32.

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Rogerson, C. and Scott, E. 2013. Effective online staff training: is this possible? *World Academy of Science, Engineering and Technology*, 1(79): 1822-1829.

Roodt, S. and Peier, D. 2013. Using YouTube in the classroom for the net generation of students. *Issues in Informing Science and Information Technology*, 10: 473-488.

Seymour, L. and Naidoo, M. 2013. The usage and impact of broadband: a South African household analysis. *Electronic Journal of Information Systems Evaluation*, 16(2): 132-145.

Stanton, G. and Ophoff, J. 2013. Towards a method for mobile learning design. *Issues in Informing Science and Information Technology*, 10: 501-523.

Van Belle, J.W.G.D. and Cupido, K. 2013. Increasing public participation in local government by means of mobile phones: the view of South African youth. *Journal of Community Informatics*, 9(4): 1-17.

Van Heerden, M., Ophoff, J. and Van Belle, J.W.G.D. 2013. Are university students ready to dump their textbooks? A survey on student attitudes towards e-readers and tablet computers. *International Journal of Cyber Ethics in Education (IJCEE)*, 2(3): 15-44.

Weimann, P., Pollock, M.A., Scott, E. and Brown, I.T.J. 2013. Enhancing team performance through tool use: how critical technology-related issues influence the performance of virtual project teams. *IEEE Transactions on Professional Communication*, 56(4): 332-353.

### **Peer-reviewed published conference proceedings**

Abrahams, B. and Kyobe, M. 2013. Investigating the quality and effectiveness of the picture archiving communication system (PACS) at an academic hospital in South Africa. In B. John, M. Nkhomwa and N. Leung (eds), *Proceedings of the 4th International Conference on Information Systems Management and Evaluation*, 13-14 May 2013, Ho Chi Minh City, Vietnam. Oxfordshire, UK: Academic Conferences and Publishing International Limited Reading. ISBN 9781909507203.

Adeniran, T., Chigona, W.M.G., Madisha, M., Makoza, F. and Van Beulen, I. 2013. Perceived business benefits and risks of using social networking sites. In A. Koch and P.A. van Brakel (eds), *Proceedings of the 15th Annual Conference on World Wide Web Applications*, 10-13 September 2013, Cape Town. Cape Town, South Africa: Cape Peninsula University of Technology. ISBN 9780620595704.

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- Chigona, A. and Chigona, W.M.G. 2013. South African pre-service teachers' under-preparedness to teach with information communication technologies. Proceedings of The Second International Conference on E-Learning and E-Technologies in Education (ICEEE 2013), 23-25 September 2013, Lodz University of Technology, Poland. Lodz, Poland: IEEE. ISBN 9781467350938.
- Chigona, W.M.G., Petersen, T. and Nyembwa-Mudenda, M. 2013. Uses & gratifications of social network sites revisited. In A. Koch and P.A. van Brakel (eds), Proceedings of the 15th Annual Conference on World Wide Web Applications, 10-13 September 2013, Cape Town, South Africa. Cape Town, South Africa: Cape Peninsula University of Technology. ISBN 9780620595704.
- Hubbard, M. and Van Belle, J.W.G.D. 2013. Factors driving an organisation's capability to develop mobile compatible websites. In V. Potdar, P. Shah, R. Ingle and F. Liu (eds), Proceedings of 2013 International Conference on Cloud & Ubiquitous Computing & Emerging Technologies, 15-16 November 2013, Pune, India. ISBN 9781479922345.
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- Jansen van Vuuren, I. and Seymour, L. 2013. Towards a model for user adoption of enterprise systems in SMEs. In A. Gerber and P. van Deventer (eds), Proceedings of the first Enterprise Systems Conference (ES 2013), 7-8 November 2013, Cape Town, South Africa. New Jersey, USA: IEEE. ISBN 9781467364126.
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- Nyamarebvu, C. and Van Belle, J.W.G.D. 2013. Communication needs and ICT usage of low income, long distance migrants living in Cape Town. In J. Steyn and B. van der Vyver (eds), Proceedings of the 7th International Development Informatics Association. Public and Private Access to ICTs in Developing Regions, 1-3 November 2013, Bangkok, Thailand. Bangkok, Thailand: Public and Private access to ICTs in developing regions. ISBN 9780620580403.
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- Olumide, A. and Van Belle, J.W.G.D. 2013. ICT adoption in South Africa: opportunities, challenges and implications for national development. Proceedings of 2013 IEEE International Conference on Electronics Technology and Industrial Development. Nusa Dua, Bali. Nusa Dua, Bali: IEEE. ISBN 9781479916115.
- Olumide, A. and Van Belle, J.W.G.D. 2013. Towards the development of a framework to increase the cloud computing readiness of financial institutions in South Africa. In N.M. Ochara (ed), Proceedings of the 2013 International Conference on E-Leadership: Technology Innovation and Leadership in an Electronic Age, 4-6 November 2013, Pretoria, South Africa. Pretoria, South Africa: IEEE. ISBN 9781479924271.
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Rogerson, C. and Scott, E. 2013. Motivating an action design research approach to implementing online training in an organisational context. In M. Nunes and M. McPherson (eds), Proceedings of the IADIS International Conference e-Learning 2013, 22-26 July 2013, Prague, Czech Republic. United Kingdom: IADIS Press. ISBN 9789728939885.

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Sabiescu, A., Van Zyl, I., Pucciarelli, M., Cantoni, L., Bytheway, A., Chigona, W.M.G. and Tardini, S. 2013. Changing mindsets: the attitude of pre-service teachers on technology for teaching. Proceedings of The Sixth International Conference on Information and Communications Technologies and Development, 7-10 December 2013, Cape Town, South Africa. New York: ACM. ISBN 9781450319072.

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Utulu, J., Sewchurran, K. and Dwolatzky, B. 2013. Systematic and grounded theory literature reviews of software process improvement phenomena: implications for IS research. Proceedings of Informing Science & IT Education Conference (InSITE) 2013, 2013, Porto, Portugal. California, USA: Informing Science Institute. ISSN 15350703.

Van Heerden, M. and Van Belle, J.W.G.D. 2013. Using e-readers and tablets in higher education: a student perspective. Proceedings of The Fourth International Conference on E-Learning (ICEL2013), July 8-10, 2013, Ostrava. Ostrava, Czech Republic: SDIWC. ISBN 9780985348397.

## SCHOOL OF MANAGEMENT STUDIES

### Head of School: Associate Professor Anton F. Schlechter

Over the last five years the staff members in the School have dramatically increased their research outputs to the point where the School fares favourably when compared to much larger and traditionally research-focused departments in the faculty. Over the last 4 years the School has been placed in the second or third position in the faculty in terms of total research outputs. The increased focus on research and growing a research culture is evident in the growth in URC funding awarded to staff. Several staff members have also received best paper awards at conferences that to some extent reflects the quality of what is produced.

For a School that mainly consists of young/junior staff (42% of staff are at lecturer level and only a third of staff have PhDs) the research output is both gratifying and encouraging. Much of the research output, however, is dependent on the work of individual staff members and we are encouraging collaborations and across discipline partnerships in order to increase research emanating from research-teams.

The School makes use of the programmes offered by the Research Office to support, develop, and assist young and mid-career academics. The School has 33 active members within the Emerging Researcher Programme (ERP). The ERP is a university-wide, co-ordinated research and mentoring programme for young researchers. Two new research seminar groups have been formed in the last year, which adds to the already established groups which are active in the School. These are designed to further cement the research culture and provide support. The School also annually participates in Writer's Workshops facilitated by the Research Office.

We actively support the development of research capacity at mid-career level and above, and assist and encourage academics to achieve an NRF rating. There are currently two NRF rated researchers within the School, namely Prof Jeffrey Bagram and Prof Tom Moultrie. Younger staff members are regularly encouraged to apply for a Y rating, while established researchers are encouraged to apply for higher ratings.

The School is focused on supporting both the University and Faculty research agenda. Given the multi-disciplinary nature of the School its staff work

on vastly different and wide ranging research topics which span both more theoretical and applied research approaches.

During 2012 academic staff at CARe were the principal investigators in a multi-year project funded by the UNFPA to update and rewrite a major manual on demographic estimation from limited and defective data. The results of this work appeared in 2013. During 2013 the unit was evaluated by an external panel, which included international experts and was reaccredited by the URC for another 5 years.

The Organisational Psychology Section has PhD students working in the areas of talent retention, work-family studies, organisational health and safety and programme evaluation. During 2013 the URC funded a Post Doc Fellowship within the Section. The Organisational Psychology Section hosts the Institute for Monitoring and Evaluation Unit (IME) (Director: Professor Joha Louw-Potgieter). During 2013 the IME presented various public short courses in programme evaluation. Despite some competition in the market, the IME remains the preferred provider of short courses for public sector and non-governmental clients. The Institute is inundated with various contract evaluations for clients within and outside of the university.

The Marketing Section continues to engage key questions in both the scholarly and applied domains of marketing. The UCT Unilever Institute of Strategic Marketing (Director: Emeritus Professor John Simpson) is aligned with the Marketing Section. The main purpose of the UCT Unilever Institute of Strategic Marketing is to develop marketing theory and information for the uniquely South African market place. This has become a critical source of marketing intelligence for South African marketers and is widely used by corporates, market research houses, advertising agencies and academics.

The research focus in the Section for Applied Management reflects the applied and varied nature of the disciplines being taught within this Section. The Tourism Research Unit (UCT-TRU) has published widely in the area of tourists' perceptions of risks and safety, and security of mega-events, such as the FIFA World Cup and the Olympic games. Dr David Prilaid is currently working on a large dataset collated to understand the effect of extrinsic cues as heuristic errors, and how these manifest across certain demographic transects like age, experience, gender and so forth. David is mapping out the neurological impact of cue-exposure as individuals become increasingly conditioned to price information, and similar cues. The price-cue is ubiquitous and the method developed is cheaper than prevailing fMRI techniques. More so it provides a remarkable degree of comparative accuracy.

## School Statistics

### Permanent and long-term contract staff

Professor	4
Associate Professor	5
Senior Lecturers	14
Lecturers	12
Emeritus Professor	1
Adjunct Professor	1
Research Staff	2
Technical Support Staff	4
Administrative and Clerical Staff	11
Contract lectures (3 of which are course convenors)	7
<b>Total</b>	<b>61</b>

Students

Postdoctoral	1
Doctoral	13
Visiting scholar	1
Dean of Commerce (offered by CARE)	58
Masters	53
Honours	43
Postgraduate Diplomas	1690
Undergraduates	5437
<b>Total</b>	<b>7296</b>

### Research Fields and Staff

#### Permanent staff

##### PROFESSOR JEFFREY BAGRAIM

Work-family issues; organisational commitment; commitment to change; organisational culture; workplace attitudes; student integrity; Occupational Health Psychology

##### PROFESSOR ROB DORRINGTON (CARE)

Demography; mortality; migration; HIV/AIDS modelling; analysis of census and survey data; population estimation and projection; burden of disease quantification; ageing

##### PROFESSOR JOHA LOUW-POTGIETER

Programme evaluation; human resource management

##### PROFESSOR ERIC WOOD

Value creation; Innovation management; Entrepreneurship; The influence of religious belief on entrepreneurial behaviour; The survival and performance of entrepreneurial firms

##### ASSOCIATE PROFESSOR IAIN MACDONALD

Applied probability; new time series models (especially hidden Markov models); EM algorithm; mathematical finance

##### ASSOCIATE PROFESSOR TOM MOULTRIE (CARE)

Demography, especially the analysis of fertility patterns and trends; analysis of census and survey data; modelling of birth intervals; contraceptive use and adoption; HIV/AIDS

##### ASSOCIATE PROFESSOR ANTON SCHLECHTER

Reward Management and talent retention; leadership; positive organisational behaviour

##### ASSOCIATE PROFESSOR DAVID TAYLOR

Financial derivatives; mathematical finance; financial time series models (asset returns and volatility).

##### ASSOCIATE PROFESSOR GERT HUMAN

Industrial marketing and inter-firm networks; strategic marketing; strategic management and international marketing

##### DR TERRI GRANT

Business communications in the global economy; scenario learning and pedagogy; non-verbal communication and multimodality; graphics; commerce education and learning theories

##### DR RICHARD GEORGE

Safety and security issues in tourism, and events (with a specific focus on mega-events), township tourism, social media and tourism, tourism marketing

##### DR SUKI GOODMAN

Organisational and individual learning; training and programme evaluation; graduate attributes

##### DR SHANNON KENDAL

Measuring and managing retirement product risk; taxation of retirement funds; living annuities, defined benefit valuation bases

##### DR SURE MATARAMVURA

Financial Mathematics; Stochastic Calculus; Game Theory

##### DR DAVID MARALACK

Sport governance; sport policy and politics; sport and development; sport institution building; sport in transformation; sport strategic management; sport and tourism

##### DR INES MEYER

Humanitarian work psychology, intergroup relations in the workplace; transformation; workplace diversity

##### DR DAVID PRIILAIID

Wine pricing and brand valuations; extrinsic cues; placebo effects; the entrepreneurial mind-set

##### DR VISSÉHO ADJIWANOU (CARE)

Maternal and Reproductive Health in sub-Saharan Africa, Gender Inequality, Demography, Endogeneity, Multilevel and Structural Equation Modelling

##### MR JUSTIN BENEKE

Retailing management; electronic marketing; customer relationship management & higher education marketing

##### MS SHIVANI RAMJEE

Health care financing; medical price indices; health care application of operations research; private-sector engagement with health care reform

##### MR DAVE STRUGNELL

Asset pricing; behavioural finance; experimental economics; decision making under risk and uncertainty

##### MRS ADIILAH BOODHOO

Monitoring and programme evaluation; decision making in evaluation; recruitment and selection

##### MRS ELSAMARI BOTHA

Viral Marketing; Digital Marketing; Social Networks; Marketing research methodology

##### MR FRANCOIS DE KOCK

Personnel selection; development and validation of psychological tests; accuracy and bias in ratings

##### MRS CHAO NKHUNGULU MULENGA

Occupational Health Psychology, Recruitment and Selection; Academic Integrity; & Monitoring and Evaluation

##### MRS CARREN FIELD

Monitoring and evaluation; training evaluation; employee relations

##### MS JOANNA LEGUTKO

Retirement and social security; subjective well-being

##### MR GAONTEBALE NODOBA

Inter-cultural Communication; Second Language Acquisition; Language Policy and Planning; Multilingualism in Higher Education

##### MR STUART HENDRY

High-Technology Entrepreneurship; social entrepreneurship and action-based learning

##### MRS AMEETA JAGA

Work-family; organisational design; performance management

##### MS CLAUDIA KALIL

Applied language and literacy studies; incentivising academic writing; scenario learning teaching practice

##### MR JACQUES ROUSSEAU

Religious conflict, philosophy of science, epistemology and business ethics

##### EMERITUS PROFESSOR

Emeritus Professor John Simpson  
Consumer behaviour; retailing; strategic marketing; management in sport; teaching methodology

##### ADJUNCT PROFESSOR

Adjunct Professor Heather McLeod  
Healthcare financing; risk adjustment; social security reform; health services research; palliative care and the financing of end-of-life care

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### Research Output

#### Authored books

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- Wiese, M., Botha, E. and van Heerden, G. 2013. Social relations beyond team-based learning. In K. Kubacki (ed), *Proceedings of Ideas in Marketing: Finding the new and Polishing the Old (Proceedings of the Annual Conference of the Academy of Marketing Science)*, 15-18 May 2013, Monterey, California, USA. Louisiana, USA: Academy of Marketing Science. ISBN 0939783401.

# GRADUATE SCHOOL OF BUSINESS

**Director: Professor Walter Baets**

## School Profile

GSB research broadly focuses on emerging market business. Our context places the GSB in one of the most interesting learning laboratories in the world, in a society and economy characterised by significant change and complexity. This presents GSB researchers with a special opportunity to conduct research that is of interest to leading scholarly journals while simultaneously addressing the various social, economic and environmental challenges facing emerging market societies. The GSB's overarching research mission is thus "engaged inquiry in a complex world."

With our focus on "engaged inquiry" we build on the work of Andrew van de Ven, Tima Bansal and others, who have been arguing for the need to design and implement research so that it impacts on both theory and practice. We feel that this orientation is particularly fitting to our context, given the many pressing organisational and social challenges facing our southern African societies, as well as the important opportunities arising from this context for contributing to global conversations on organisational theory.

Within this broad orientation, GSB research focuses on three thematic clusters: *Social innovation and sustainability; Values-based leadership; and Emerging markets finance, investment and trade.*

In our research node *Emerging markets finance, investment and trade* we seek to comprehensively unpack the political, institutional, economic, financial and social forces at work in emerging economies. This is to better inform organizations and investors as to how to adapt their strategies and portfolios to take advantage of the opportunities presented.

This includes work on the impact of institutions on economic development in emerging markets; companies' strategic responses to institutional voids; democratisation, local governance and service delivery; and emerging financial markets, implications for corporate finance, and new developments in sustainable and responsible investment. Specific research units in this cluster include the GSB's Management Programme in Infrastructure Reform and Regulation (MIR), which undertakes research across the African continent on investment in network industries, restructuring of utilities and improved regulatory regimes.

In the research node *Social innovation and sustainability* we are concerned with the nature of intentional, collaborative work that creatively transforms social-ecological systems across multiple scales. We focus on the development of products, processes, initiatives, or organizations that: 1) create social value through both means and ends; and 2) reconfigure institutionalized rules, values, beliefs, or relational patterns. We see emerging economies as especially fertile places to explore these themes. GSB researchers currently explore these questions via a variety of topics and contexts, including health care, education, food security, climate change, impact investing, the sociology of finance, social entrepreneurship, supply chain innovation, and inclusive innovation. Much of the research in this area is supported by the Bertha Centre for Social Innovation and Entrepreneurship, which includes the Raymond Ackerman Academy of Entrepreneurial Development. Social innovation is also a prominent theme in the Lean Institute Africa.

In the cluster on *Values-based leadership*, researchers focus on the growing concern about unethical behaviour among managers. An array of scandals is eroding public confidence in corporations as agents of development and positive social change. Such scandals exacerbate worries about companies acting as vehicles for self-enrichment at the expense of society and the environment. Yet despite a plethora of analyses, debates and laws, it seems that nothing much has changed. Why is change so difficult and what is our role in such change? What are the assumptions supporting our current business management model, and what are their implications? These are among the key questions addressed in various ways in this GSB research cluster. Research on this theme is supported in particular by the Allan Gray Chair in Values-Based Leadership, and related work is also undertaken in the Centre for Coaching. In 2013 GSB researchers were awarded a grant of Swedish Krona 1,037,000 (approx 1.7m Rand) for a study of South African local government.

During 2013, the GSB's research strategy saw a number of important innovations. Chief among these was the development and the first round implementation of the GSB PhD programme and the associated GSB Research Calendar. This includes a series of PhD and Research Colloquia, in which students and faculty discuss key themes in organisational theory and research design. In some of these workshops, participants benefited from dedicated contributions from leading international scholars, including Ted Baker and Pratima Bansal.

2013 also saw the third instalment of the GSB's international conference on "The Business of Social and Environmental Innovation." Chaired by Verena

Bitzer, it focused on the theme of co-innovation and had keynote speakers including Trevor Manuel, Bulelwa Makalima-Ngwana, and Oana Branzei.

These various activities have started bearing fruit. 2013 was the GSB's best year ever in terms of publication output, including 26 accredited journal papers, three books and seven book chapters. The growing importance of students in the GSB's research effort is also apparent in their contributions to this publication output. It is also evident in the record number of PhD students joining the GSB in early 2014.

## School Statistics

### Permanent and long-term contract staff

Professors	8
Emeritus Professors	3
Associate Professors	4
Senior Lecturers	17
Professional and Administrative Staff	81
<b>Total</b>	<b>113</b>

### Students

Doctoral (PhD)	31
Master of Business Administration (MBA)	144
Master of Commerce (MCom)	103
Master of Philosophy (MPhil)	35
Executive MBA	69
Associate in Management Programme (AIM)	47
Postgraduate Diploma in Business Administration (PDBA)	70
Customised Academic Learning - Associate in Management (AIM) in Management Practice	115
Customised Academic Learning - Postgraduate Diploma in Management Practice (PGDip)	216
Executive Education	1499
<b>Total</b>	<b>2329</b>

## Research Staff and Fields

### PROFESSOR WALTER BAETS

Innovation; knowledge management; management learning; non-linear dynamic (complex) behaviour in management; pedagogical approaches; workplace learning; personal development

### PROFESSOR GEOFF BICK

Marketing, particularly marketing metrics

### PROFESSOR NICHOLAS BIEKPE

Development finance, econometrics, statistics and financial economics.

### PROFESSOR KURT APRIL

Human dynamics; organisational leadership; organisational psychology; personal psychology; diversity; inclusive workplaces and cross-cultural dynamics.

### PROFESSOR ANTON EBERHARD

Strategic management; restructuring and regulation of infrastructure industries, including the electricity, gas, telecommunication and water sectors.

### PROFESSOR THOMAS KOELBLE

Globalisation; European politics; business, governance and society; electoral laws; South African democracy.

### PROFESSOR JOHN LUIZ

International business; business in Africa; business, society, and government economics of emerging markets.

### PROFESSOR (EMERITUS) NORMAN FAULL

Operations management; strategy and implementation; lean thinking in operations; supply chain management; world-class manufacturing.

### PROFESSOR (EMERITUS) PAUL SULCAS

Information systems and technology; business strategy; applied business strategy; change management.

### ASSOCIATE PROFESSOR RICHARD CHIVAKA

Strategic cost management; supply chain management; business strategy; business process improvement.

### ASSOCIATE PROFESSOR RALPH HAMANN

Sustainable enterprise; corporate citizenship and social responsibility; organizational strategy; cross-sector collaboration.

### EMERITUS PROFESSOR TOM RYAN

Systems thinking and organisational development; management development and learning; management research methodology.

### ASSOCIATE PROFESSOR KOSHEEK SEWCHURRAN

Innovation management, information systems, systems thinking and project organising.

### ASSOCIATE PROFESSOR MILLS SOKO

International trade, international business; emerging markets; globalization; foreign direct investment; commercial diplomacy; regional economic integration, with a specific focus on southern Africa; public-private partnerships; economic competitiveness and innovation; government-business relations in South Africa.

### DR FRANCOIS BONNICI

Social innovation, social entrepreneurship, health

**MS JANINE EVERSON**

Executive coaching; leadership and team development; large group facilitation; organisational development; productive dialogue skills; virtual teams; cross-cultural and global teams; implementation of small and large-scale coaching interventions.

**DR CO-PIERRE GEORGE**

Lecturer, microfinance, microeconomics of banking, computational economics, quantitative finance

**DR STEPHANIE GIAMPORCARO**

Responsible and sustainable investment; developmental finance; carbon finance and impact investment; social studies of finance; anthropology of markets and consumption; economic sociology; sustainability (green building, fair trade).

**DR SEAN GOSSEL**

Applied financial econometrics; applied macro econometrics; development finance; capital flows; corporate finance.

**MS FATIMA HAMDULAY**

Operations management; change leadership.

**DR MLENGA JERE**

Advertising; consumer behaviour; social marketing.

**DR MUNDIA KABINGA**

Lecturer, innovation, base of the pyramid, emergent market economic and business policy

**MR FARAI KAPFUDZARUWA**

Lecturer, Corporate sustainability, Inclusive business, organisational strategy, emerging market

**DR SHADRICK MAZAZA**

Health management; personal transformation; leadership; continuous quality improvement; healthcare quality and accreditation.

**DR CHIPO MLAMBO**

Investments; finance; financial markets.

**DR WARREN NILSSON**

Relationship between positive organizational dynamics (e.g., engagement, creativity, compassion) and broader patterns of deep, intentional, institutional change.

**DR NCEKU NYATHI**

Senior lecturer, organisation studies and theory leadership, critical perspectives on management, International management learning, post-colonialism

**DR ELIADA W GRIFFIN-EL**

Social entrepreneurship; entrepreneurial development in African emerging markets; social capital/

networks and economic development; international development; global political economics; grounded theory.

**DR HAMIEDA PARKER**

Manufacturing and operations; supply chain management; entrepreneurship; innovation and new product development.

**DR STEVEN ROGERS**

Lecturer, housing market and urbanization in developing countries, social and public policy analysis, changing socio-spatial configurations in developing countries, emerging markets and urbanization, regional economic integration, governance and political economy in Africa

**DR LINDA RONNIE**

Managing people in organisations; organisational change; adult learning; sociology of education; research methodology; HR good practice and management; organisational behaviour.

**MS ELIANA SHELLEY**

Executive development; systems thinking; organizational diagnostics and design.

**MS BEVERLY SHRAND**

Marketing; database marketing; business administration.

**MR BARRY STANDISH**

Macro-economic performance and trends; economic modelling; economic impact assessment; market size studies.

**MR LANCE STRINGER**

Technology strategy and management; IT management.

**DR NOSAKHERE GRIFFIN-EL**

Freirean thought, love as a theoretical framework, qualitative methods, autobiography as methodology, and educational and societal issues of peoples from oppressed backgrounds.

**Contact Details**

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Website: <http://www.gsb.uct.ac.za>

**Research output****Authored books**

April, K., Kukard, J. and Peters, K. 2013. Steward Leadership: A Maturational Perspective. 116pp. Claremont: UCT Press. ISBN 9781919895321.

Borzel, T.A. and Hamann, R. 2013. Business and Climate Change Governance: South Africa in comparative perspective. 218pp. Hampshire, England: Palgrave Macmillan. ISBN 9780230235977.

Kapika, J. and Eberhard, A.A. 2013. Power-Sector Reform and Regulation in Africa. 247pp. Cape Town: HSRC Press. ISBN 9780796924100.

**Chapters in books**

Hamann, R., Frey, M., Waddock, S., Lozano, J.M., Willi, A., Grayson, D., Shrivastava, P., Zsolnai, L., Smith, N., Arragon-Correa, J.A., Wenlong, H., Blagov, E., Lemme, C. and Koljatic, M. 2013. Business - and business schools - at a cross road in Southern Africa: innovation and collective action in response to systemic problems. In M. Zollo (ed), *The Shared Value Debate: Academic Visions on Corporate Sustainability*, pp. 139-146. Milano, Italy: Egea. ISBN 9788823851207.

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Vassilopoulou, J., Pascal Da Rocha, J., Seierstad, C., April, K. and Ozbilgin, M. 2013. International diversity management: examples from the USA, South Africa and Norway. In J. Gamon (ed), *Cultural and Technological Influences on Global Business*: pp. 14-28. Hershey, USA: Business Science Reference. ISBN 9781466639676.

**Articles in peer-reviewed journals**

Adonis, L., An, R., Luiz, J.M., Mehrotra, A., Patel, D.N., Basu, D. and Sturm, R. 2013. Provincial screening rates for chronic diseases of lifestyle, cancers and HIV in a health-insured population. *SAMJ South African Medical Journal*, 103(5): 309-312.

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Basardien, F., Friedrich, C. and Parker, H. 2013. The relationship between planning strategies and entrepreneurial success for start-up entrepreneurs in the Western Cape. *International Journal of Entrepreneurship and Innovation*, 14(4): 281-288.

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- Harry, R., Sewchurran, K. and Brown, I.T.J. 2013. The impact of introducing a mobile payment system to an emerging economy's mobile phone subscriber market. *Proceedings of the 12th International Conference on Social Implications of Computers in Developing Countries (IFIP)*, 21-24 May 2013, Montego Bay, Jamaica. Mona, Jamaica: University of the West Indies. ISBN 9789764102557.
- Jere, M. and Gold, B. 2013. Determinants of consumer participation in social media. *Proceedings of the 2013 Annual conference of the Emerging Markets Conference Board*, 19-20 June 2013, Port Elizabeth. Port Elizabeth, South Africa: Nelson Mandela Metropolitan University Business School. ISBN 9780620576604.
- Jere, M. and Burgess, S.M. 2013. Gender representations in print advertisements. *Proceedings of the 2013 Annual conference of the Emerging Markets Conference Board*, 19-20 June 2013, Port Elizabeth. Port Elizabeth, South Africa: Nelson Mandela Metropolitan University Business School. ISBN 9780620576604.
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# FACULTY OF HUMANITIES

The past year has been an extremely busy and productive time for members of the Faculty of Humanities. What is most exciting about it is not only the quantity and quality of research outputs but also the wide range of disciplinary areas and interests that they span.

## DEAN'S REPORT PROFESSOR SAKHELA BUHLUNGU



ONE OF THE MOST GRATIFYING ASPECTS OF THE RESEARCH ACTIVITIES IN THE FACULTY OF HUMANITIES IS THE FACT THAT THEY ARE SPREAD OUT AMONG THE DIFFERENT CATEGORIES AND LEVELS OF ACADEMIC STAFF: YOUNG AND OLD, JUNIOR AND SENIOR, AND WOMEN AND MEN.

71<sup>♦</sup>  
NRF-RATED RESEARCHERS

R78.47<sup>M</sup>  
VALUE OF RESEARCH CONTRACTS

1 592<sup>♦</sup>  
REGISTERED POSTGRADUATES

The impressive range of research in the Faculty of Humanities is a tribute to the heads of the various sections, departments and schools, who take care to support and encourage colleagues to engage in research. Below are brief summaries of some of the key achievements in 2013/14. These are mere illustrations and should by no means be read to represent the full spectrum of research activities in the faculty.

In 2013, Professor Carolyn Hamilton's DST/NRF SARChI Chair in Archive and Public Culture was renewed for a further five years. Based in the School of African and Gender Studies, Anthropology and Linguistics (AXL), the chair has become one of the key research hubs in the faculty, bringing together senior and younger scholars, as well as international collaborators. The chair has started a new project to study the Southern African pre-colonial past. This has several dimensions, one of which is the Five Hundred Year Archive Project, which involves collaborations with the Killie Campbell Africana Museum, the University of KwaZulu-Natal (UKZN), the KwaZulu-Natal Museum, the Johannesburg Art Gallery, Historical Papers at the University of the Witwatersrand, the British Museum, the Phonogramm Archiv Berlin, and the Museum of Anthropology and Archaeology in Cambridge, United Kingdom.

Associate Professor Shamil Jeppie's ongoing Tombouctou Manuscript Project saw the Institute for Humanities in Africa

(HUMA) co-host an international conference on "The Arts and Crafts of Literacy: Manuscript cultures in Muslim, Sub-Saharan Africa" in September 2013. The project has become a catalyst for collaborative research between UCT and researchers in West Africa and the Sahel region.

Among new research activities embarked on by members of the faculty was a two-year project begun by Dr Siona O'Connell of the Michaelis School of Fine Art on the "Miss Spring Queen" and "Miss Gay Western Cape" pageants. Dr O'Connell is a joint leader of the project, alongside colleagues from the Royal Holloway University of London and the Queen Mary University of London. The project is funded through the UK Arts and Heritage Council, and follows an earlier research project, also led by Dr O'Connell, at the Centre for Curating the Archive. One of the main outcomes of this project will be the development of a digital archive.

African Textualities: Mobilities, Translations, Frames is a new collaborative research grouping which was established in 2014 and is based in the Department of English Language and Literature. Associate Professor Meg Samuelson is leading the project and the UCT team members are Dr Victoria Collis-Buthlezi, Associate Professor Harry Garuba, Dr Chris Ouma and Dr Sandra Young. The collaborative project is funded by a grant from UCT's Programme for the Enhancement of Research Capacity and involves colleagues from Kenyatta University (Kenya), Makerere University (Uganda) and the University of Ibadan (Nigeria). There are plans to involve researchers from the Open University of Zimbabwe and the universities of Pretoria, Stellenbosch, the Western Cape, the Witwatersrand, and Rhodes University. The long-term objective of the project is to forge a continent-wide research network in literary and cultural studies.

Academics in the faculty attracted substantial amounts of research funds during 2013. Although significant amounts came from local sources, principally the National Research Foundation (NRF) and sources such as the National Lottery and the South African National Arts Council, the bulk of research funding came from outside, including international foundations and donors.

A strong emphasis on collaborative research is exemplified in the work of Professor David Chidester in Religious Studies, who has collaborated for five years with the research network Heritage Dynamics: The Politics of Authentication and the Aesthetics of Persuasion, which links colleagues in Amsterdam, Cape Town, Ghana and Brazil.

Also in Religious Studies, Associate Professor Sa'diyya Shaikh is leading a collaborative interdisciplinary research project titled Theorising Experience, Subjectivity and Narrative in Studies of Gender and Islam, in collaboration with Associate Professor Gabeba Baderoon (Penn State University) and Dr Nina Hoel (UKZN). In 2013, Associate Professor Shaikh organised an international conference at UCT on this project and co-edited a special issue of the *Journal for Islamic Studies* (2013).

## A SAMPLE OF ACHIEVEMENTS ACROSS THE FACULTY

- In 2013, Dr Shose Kessi (Department of Psychology) was awarded the Harvard Mandela-Mellon Fellowship (tenable to May 2014).
- Professor Mark Solms (Department of Psychology) received an AW Mellon Foundation award to develop an interactive website for distance-learning purposes. Titled "Talking Head", the award is worth US\$250 000 and is for the period 2013 to 2015.
- Associate Professor Imraan Coovadia (Department of English Language and Literature) won the South African Literary Award for Creative Non-fiction for his 2013 essay collection *Transformations*. He also won the M-Net Prize for English Fiction for his novel *The Institute for Taxi Poetry* (2013).
- Professor Pippa Skotnes (Michaelis School of Fine Art) was awarded a year-long fellowship at the prestigious Wissenschaftskolleg in Berlin (Institute for Advanced Study) for 2013/14.
- In February 2014, Associate Professor Ana Deumert (Linguistics, AXL) received the Neville Alexander Award for the Promotion of Multilingualism from the Western Cape Government.

## SURROGACY TAKES CENTRE STAGE



There can't be many sociologists who present their academic work as a piece of theatre, but that is exactly what Dr Amrita Pande from the Department of Sociology has been doing, with huge success.

Pande, who has been researching the fast-growing commercial surrogacy market in India (worth US\$2,3 billion a year) for several years, turned her work into an interactive performance, with the assistance of a Danish producer and director. The first performance was at the German Sociological Association in 2010, but since then she has played to ordinary theatregoers in Denmark and Sweden, touring 14 cities in the latter country. Pande presented an English-only version in Copenhagen in June 2014, after which she hopes to perform it at the American Sociological Association conference.

As the biggest unregulated market in the world, commercial surrogacy has deservedly received significant media attention. Pande's research, which involved living in a surrogacy hostel and interviewing several surrogates, sets out to shine a light into the hidden corners of the industry and to set right some of the myths surrounding it – including the belief that the surrogates are passive victims who are exploited by unscrupulous clinics and their clients.

Dr Pande is also working on a book, *Wombs in Labour: Transnational commercial surrogacy in India*, to be published by Columbia University Press in the USA and Open University Press in India in 2014.

Professor Bob Matthes from the Political Studies Department heads the Afrobarometer, a consortium that conducts survey research on public attitudes to the social, political and economic atmosphere in Africa based on nationally representative samples. The latest 34-country results represent the views of approximately three-quarters of the continent's population. In October 2013, Afrobarometer published a policy brief titled *After a Decade of Growth in Africa, Little Change in Poverty at the Grassroots* (Matthes, together with Boniface Dulani and Carolyn Logan).

Some of the research activities in the faculty have a strong public-service dimension, with regard to modes of dissemination and public engagement. During 2013 and early 2014, many researchers, often working with community organisations, movements and non-governmental organisations (NGOs), took their research to communities in the greater Cape Town area. For example, in February 2013, Dr Zethu Matebeni of HUMA partnered with lesbian, gay, bisexual, transgender and intersex (LGBTI) organisations in Cape Town and hosted an evening symposium on the politics and contestations of gay pride and city space in South Africa. The symposium took place in a community centre in Langa.

In the same year, HUMA hosted a public lecture on the history of the 1913 Land Act. The lecture was part of HUMA's public lecture/seminar series "Know Your City", a long-standing initiative that is intended as a public history programme aimed at bringing academic experts into conversation with interested members of the public – particularly those resident on the Cape Flats. This series is organised in partnership with a local NGO, the International Labour Research and Information Group (ILRIG), which is well connected to the NGO community, including those on the Cape Flats. In 2013/14 the Gordon Institute for Performing and Creative Arts (GIPCA) ran a highly successful series of festivals titled "Infecting the City" in Cape Town (March 2013) and Mbombela in Mpumalanga province (January 2014) (see p180).

Members of the faculty won numerous awards, prizes and other honours in recognition of their excellent work in scholarship, performance and creative work in the past year.

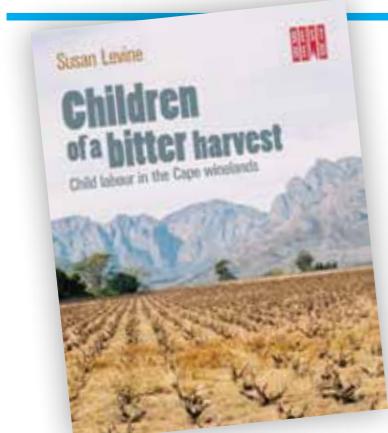
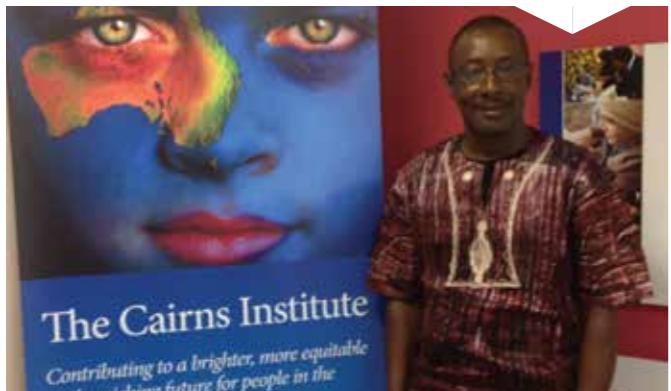
The faculty also continued to play its role as one of the leading centres for training postgraduate students in the humanities, the social sciences, and the performing and creative arts. A total of 109 master's and 19 doctoral candidates graduated from the faculty in 2013. In addition, the faculty was host to 33 postdoctoral fellows.

## FELLOWSHIP TO BUILD EXPERTISE IN A MUCH-NEGLECTED AREA

Dr Johannes John-Langba, a senior lecturer in the Department of Social Development, has been nominated by the EIDOS Institute, an Australian-based public policy think-tank, for the prestigious Australian Fellowship to continue his work on the use and misuse of alcohol and other drugs (AOD) among indigenous Australians and previously disadvantaged South Africans.

Working in collaboration with Associate Professor Deborah Graham and other colleagues from the Cairns Institute at James Cook University in Australia, Dr John-Langba seeks to explore issues around AOD misuse intervention, prevention and treatment, as well as problems related to new types of drugs that are appearing in vulnerable and underserved communities. According to Professor Sue McGinty, acting director of the Cairns Institute, the fellowship has the potential to increase South African expertise in a much-neglected area.

As part of this work, Dr John-Langba, who is also a Research Fellow of the Cairns Institute, visited the Institute in March 2013 and presented a paper which has since been published in the journal *International Peacekeeping*.



## CHILD LABOUR ON SA WINE FARMS EXPOSED

A new book by Dr Susan Levine, a senior lecturer in the School of African and Gender Studies, Anthropology and Linguistics, has laid bare an uncomfortable truth about child labour on South African wine farms. Consisting of 100 short stories documenting moments in the lives of children, some as young as nine, who worked on the Cape wine farms between 1996 and 2010, the book – *Children of a Bitter Harvest: Child labour in the Cape winelands* – challenges readers to think a little more deeply about the origins of the products they consume.

## A HANDEL ON SUCCESS

A piece of research that started as a side project has won the prestigious Händel-Forschungspreis – an annual prize by the German Handel Society awarded for outstanding research on the life and work of the composer George Frideric Handel.



Associate Professor Rebekka Sandmeier, director of the SA College of Music, and a German colleague, Dr Dominik Höink of the University of Münster, were nominated for the publication *Aufführungen von Händels Oratorien im deutschsprachigen Raum (1800–1900): Texte und Rezensionen in ausgewählten Musikzeitschriften*, which will be published by V&R Unipress in September 2014.

The publication was produced with the help of student research assistants, both in Germany and at UCT (Maike Gevers, Nicole d'Oliveira and Itunu Ogunseitan) and, in addition to its scholarly merit, was chosen because it introduced students to research on Handel. Their research has put facts to what was only guessed at before, and has shown many of these guesses to be incorrect. For instance, it has always been assumed that *Messiah* was the most commonly performed oratorio, followed by *Judas Maccabeus* and *Israel in Egypt*. *Messiah*'s status has been confirmed – that was no surprise – but in fact the next most commonly performed oratorio was *Samson*.



## NEW CHAIR HONOURING VAN ZYL SLABBERT

A new chair honouring the late South African political analyst, businessman and politician Frederik van Zyl Slabbert (left), has been established in the Faculty of Humanities. The Van Zyl Slabbert Chair has been made possible through the Open Society Foundation for South Africa, which has provided an initial five-year grant to fund a series of Van Zyl Slabbert Visiting Professorships in the departments of Political Studies and Sociology between 2013 and 2018. The chair's first incumbent is Professor Roger Southall, former head of sociology at the University of the Witwatersrand and Distinguished Research Fellow at the Human Sciences Research Council.

## UCT PROJECT VOTED ONE OF TOP FIVE CD RELEASES IN SA FOR 2013

A new CD, *The Mike Rossi Project: Trespassing Permitted*, featuring 10 original compositions by Mike Rossi, professor of jazz and woodwinds at the SA College of Music at UCT, arranged for a six-piece jazz ensemble, has been getting feet tapping across the continent.

Released by Advance Music, one of the world's leading jazz publishers, *The Mike Rossi Project* was featured at the Kinshasa International JazzKif Festival in the Democratic Republic of the Congo and at the Grahamstown National Arts Festival in 2013, and was accepted for the 2014 Joy of Jazz Festival in Johannesburg. The CD was nominated as one of the top five South African CD releases of 2013 by jazz journalist Don Albert.



## INFECTING THE CITY

The Gordon Institute for Performing and Creative Arts (GIPCA) partnered with the Africa Centre for the 2014 "Infecting The City" Public Arts Festival in Cape Town in March. The annual festival showcases a number of international and local collaborative works, along with a diversity of entertaining, engaging and thought-provoking pieces encompassing performance art, dance, music, visual art and other forms beyond conventional categories.

GIPCA's contributions embraced interdisciplinarity and engaged with public spaces in compelling ways and included *Uncles & Angels*, an interactive dance and video collaboration between choreographer Nelisiwe Xaba and video artist Mocke J van Veuren, and *Cubicle*, a mobile gallery offering artworks by students and alumni of the Michaelis School of Fine Art. Students from the School of Architecture also presented an exhibition of beautiful *Urban Resting Places* for people to meet.

# DOCTORAL GRADUATIONS

## C.J. ALMELEH (SOCIOLOGY)

HIV disclosure in 'public' and personal spaces: a mixed methods study of people living with HIV in Khayelitsha, South Africa  
Supervised by Professor N. Natrass

## K. BATISAI (AFRICAN AND GENDER STUDIES, ANTHROPOLOGY AND LINGUISTICS)

Body politics: - an illumination of the landscape of sexuality and nationhood? Re-seeing Zimbabwe through elderly women's representations of their sexual and gendered lives  
Supervised by Associate Professor J. Bennett

## V.S. BELLING (HISTORICAL STUDIES)

Recovering the lives of South African Jewish women during the migration years, c1880 – 1939  
Supervised by Professor M. Shain and Associate Professor R. Mendelsohn

## M.A.J. CASALE (PSYCHOLOGY)

The protective role of social support for the health of caregivers of children in HIV-endemic South Africa  
Supervised by Dr L. Wild

## M.L. CROUS (ENGLISH LANGUAGE AND LITERATURE)

Abjection in the novels of Marlene Van Niekerk  
Supervised by Professor J. Higgins

## J.N. GITHAIGA (PSYCHOLOGY)

An interpretative phenomenological analysis of the experiences of women family caregivers of advanced cancer patients in Nairobi  
Supervised by Dr D. Learmonth and Professor P. Gobodo-Madikizela

## S.D. GODFREY (SOCIOLOGY)

A study of changes and continuities in the organisation and regulation of work with empirical examination of the South African and Lesotho clothing/retailing value chain  
Supervised by Emeritus Professor J. Maree

## A. GOODRICH (SOCIAL ANTHROPOLOGY)

Riffling through 'nature': an ethnographic account of biltong hunting, late capitalist 'nature' and a politics of belonging in the South African wildlife ranching industry  
Supervised by Associate Professor L. Green and Associate Professor A.D. Spiegel

## K.A. JAMES (PSYCHOLOGY)

Relationships between psychosocial stress, cortisol, apolipoprotein 4, beta-amyloid, hippocampal volume,

and Alzheimer's disease in a sample of South African older adults  
Supervised by Associate Professor K. Thomas and Associate Professor M.I. Combrinck

## K.M. KEFALE (SOCIOLOGY)

The University as a social system Niklas Luhmann on the problem of self-descriptions: the case of the University of Cape Town's Admissions Policy  
Supervised by Emeritus Associate Professor K. Jubber

## C.H. KELLY (PSYCHOLOGY)

Constructing activist identities in post-apartheid South Africa  
Supervised by Professor D. Foster

## F.S. LANGERMAN (MICHAELIS SCHOOL OF FINE ART)

The exploded book: a disarticulation of visual knowledge systems within sites of natural history display  
Supervised by Professor P. Skotnes and Professor C. Hamilton

## W. LONG (PSYCHOLOGY)

A history of 'relevance': South African psychology in focus  
Supervised by Professor D. Foster

## L.B. MAABA (HISTORICAL STUDIES)

The history and politics of liberation archives at Fort Hare  
Supervised by Emeritus Professor C. Saunders and Professor C. Hamilton

## K.F. MACINTYRE (AFRICAN AND GENDER STUDIES, ANTHROPOLOGY AND LINGUISTICS)

Restitution as justice: historical redress and distributive justice in New Zealand and other settler economies  
Supervised by Dr H. MacDonald and Associate Professor F. Ross

## A. MAW (PSYCHOLOGY)

The psychological impact of rape: a longitudinal study of adult female survivors in the Western Cape, South Africa  
Supervised by Professor C. Tredoux

## S.K. MORREIRA (AFRICAN AND GENDER STUDIES, ANTHROPOLOGY AND LINGUISTICS)

Transnational human rights and local moralities: the circulation of rights discourses in Zimbabwe and South Africa  
Supervised by Associate Professor F. Ross

## J.N. MUASYA (AFRICAN AND GENDER STUDIES, ANTHROPOLOGY AND LINGUISTICS)

Exploring discourses of access and sexual harassment in higher education: a study of students' perceptions of

University of Nairobi's Institutional Culture, Kenya  
Supervised by Associate Professor J. Bennett and Professor J. Gatumu

## F. NCAPAYI (SOCIOLOGY)

Land and changing social relations in South Africa's former reserves: the case of Lupaphasi in Sakhisizwe Local Municipality, Eastern Cape  
Supervised by Professor L. Ntsebeza

## G. OBERTH (POLITICAL STUDIES)

Who governs public health? The spheres of influence in Southern African HIV/AIDS policy-making  
Supervised by Professor R. Mattes

## E.V. O'SHAUGHNESSY (ENGLISH LANGUAGE AND LITERATURE)

'History lives in these streets': reading place and urban disorder in three post-apartheid Johannesburg novels  
Supervised by Associate Professor C. Clarkson

## N.M. PALLITT (CENTRE FOR FILM AND MEDIA STUDIES)

Gender identities at play: children's digital gaming in two settings in Cape Town  
Supervised by Dr M. Walton and Associate Professor M. Prinsloo

## E.N. PRAH (AFRICAN AND GENDER STUDIES, ANTHROPOLOGY AND LINGUISTICS)

Children on the move: experiences of children living in a temporary relocation camp in Cape Town, South Africa  
Supervised by Dr S. Levine

## E.J. RILEY (HISTORICAL STUDIES)

From Matieland to Mother City: landscape, identity and place in feature films set in the Cape Province, 1947-1989.  
Supervised by Professor V. Bickford-Smith

## L.E. SCHRIEFF (PSYCHOLOGY)

Investigating severe pediatric traumatic brain injury in South Africa: a demographic profile of admissions, brain oxygenation and neuropsychological outcomes and an attention-training intervention  
Supervised by Associate Professor K. Thomas

## S.C.T. SHELL (HISTORICAL STUDIES)

From slavery to freedom: the Oromo slave children of Lovedale, prosopography and profiles  
Supervised by Emeritus Professor C. Saunders

## K. VAN DER WALT (COLLEGE OF MUSIC)

The mezzo-soprano as representation of 'the other' in nineteenth century opera  
Supervised by Associate Professor R. Sandmeier

## C. VAN DER WESTHUIZEN (SOCIOLOGY)

Identities at the intersection of race, gender, sexuality and class in a liberalising, democratising South Africa: the reconstitution of the 'the Afrikaner woman'  
Supervised by Professor M. Steyn and Professor R. Sitas

## S.L. VAN SCHALKWYK (ENGLISH LANGUAGE AND LITERATURE)

'An American parallel for each new European marvel': Robert Lowell's imitations and the Cold War World  
Supervised by Associate Professor I. Coovadia and Dr C. Parsons

## J.M. WANDERA (RELIGIOUS STUDIES)

Public preaching by Muslims and Pentecostals in Mumias, Western Kenya and its influence on interfaith relations  
Supervised by Professor A. Tayob

## S.J. WARNER (ENGLISH LANGUAGE AND LITERATURE)

Ruth Miller and the poetics of literary maternity  
Supervised by Dr S. Young and Dr N. Distiller

## H.B. ZUMA (PSYCHOLOGY)

The social psychology of self-segregation: the case of university student friendship groups  
Supervised by Professor C. Tredoux

## N.P. ZUNGU (PSYCHOLOGY)

Social representations of AIDS and narratives of risk among Xhosa men  
Supervised by Dr F. Boonzaier and Professor D. Foster

# CENTRE FOR FILM AND MEDIA STUDIES

(Including the Centre for Rhetoric Studies)

**Director:**  
**Associate Professor Lesley Marx**

## Centre Profile

The Centre for Film and Media Studies, based in the Faculty of Humanities, was established in March 2003.

### The aims of the Centre are:

to enable students at undergraduate and postgraduate levels to pursue research in film and television studies and media studies more broadly and  
to offer students training as creative practitioners in a choice of screen production, radio journalism, screenwriting, print journalism and digital media;  
to extend, intensify and enrich students' intellectual, creative and practical training and equip them to make key contributions both to scholarship and to the film and media industries;  
to foster cutting-edge research in film, television and media that has especial relevance to Africa, and to South Africa's place both continentally and globally;  
to strengthen ties with similar institutions, scholars and practitioners locally and abroad.

The Centre offers majors in i) Media & Writing and in ii) Film & Television Studies. In addition, we offer, on competitive entry during the second year, five options for a programme in Film and Media Production, with choices between screen production, radio, screenwriting, print journalism and interactive media.

We offer Honours, MA and PhD level degrees in film and television studies, media theory and practice and in rhetoric. We also offer interdisciplinary Honours and MA level degree programmes in political communication.

The staff of the Centre engage in a wide variety of exciting formal and creative research in, for example, African and South African cinema, radio in South Africa, audience analysis, political communication, rhetoric studies, youth culture, new approaches to film history, film and identity, adaptation theory and practice, screenwriting and video gaming.

## Centre Statistics

### Permanent Staff

Distinguished Professor	1
Professor	1
Associate Professors	3
Senior Lecturers	6
Lecturers	5
Technical staff	1
Administrative staff	4
<b>Total</b>	<b>21</b>

### Students (by course registration)

Doctoral	23
Master's	136
Honours	302
Undergraduate	2336
<b>Total</b>	<b>2797</b>

## Research Fields and Staff

### DR TANJA BOSCH

Radio, democracy and identity in South Africa; youth, citizenship and new media; media and social change; social media and politics; qualitative research methods

### ASSOCIATE PROFESSOR MARTIN BOTHA

South African cinema, cinema and marginality, the representation of gays/lesbians in cinema, Queer Theory.

### DR WALLACE CHUMA

Contemporary journalism and the public sphere, critical political economy of media, media policy and regulation, and media and political transition in Southern Africa.

### DR MARTHA EVANS

Media events and the coming of television to South Africa, media and national identity, the TRC as a South African media event.

### PROFESSOR IAN GLENN

Media in the new South Africa, Afropessimism, political communication, wildlife documentaries.

### ASSOCIATE PROFESSOR ADAM HAUPT

Youth and media, theories of empire and film, intellectual property, racial identity politics, gender and representation, counter-culture.

### RON IRWIN

Brand management, narratology, online/offline feature writing, creative writing, literary theory, topics in film theory.

### ASSOCIATE PROFESSOR LESLEY MARX

African Cinema, British cinema, American Studies, the interface between American and South African history and culture, topics in film theory, genre and adaptation.

### DR MUSAWENKOSI NDLOVU

Political marketing, youth and news media, media and the public sphere and international communication.

### DR IAN-MALCOLM RIJSDIJK

Film and history, South Africa on screen, Terrence Malick, environment and film.

### DISTINGUISHED PROFESSOR PHILIPPE-JOSEPH SALAZAR

Multi-disciplinary research in public rhetoric, deliberative democracy and argumentative culture.

### DR IBRAHIM SALEH

Political communication and national development; sociology of media during political transitions; new media governance, multiculturalism; media literacy and education; journalism research and education; politics of climate change; crisis communication and interdisciplinary media and political transformation in emerging markets; Director and coordinator in Africa and Middle East: Media and Climate Change at Crossing Roads in collaboration with University of Bergen, Norway; Fellow: African Climate and Development Initiative (ACDI); Director and Coordinator in Africa and Middle East: Network of the Journalistic Performance Role Around the Globe; Coordinator in Egypt and South Africa: MediaClimate – a Transnational Research Project.

### DR ALEXIA SMIT

Affect and visceral displays of the body on contemporary British and American television. Television aesthetics across a range of television genres and formats.

### DR MARION WALTON

Literacy and access to technology in South Africa, and on developing semiotic models that can explain user experience of computer games and the Web.

## Contact Details

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# CENTRE FOR RHETORIC STUDIES

**Director:** Philippe-Joseph Salazar,  
**Distinguished Professor of Rhetoric**  
**URC Post-doctoral Fellow:** Dr Sergio Alloggio

## Centre Profile

The Centre was founded in 1995, as an academic response to the establishment of democracy in South Africa, and in the wake of a large international conference on "Persuasion and Power" held in July 1994. The Centre is unique on the Continent and concerns itself with multi-disciplinary research in public rhetoric, deliberative democracy and argumentative culture. Its pioneering role is recognized by the *International Encyclopedia of Communication* (Blackwell, 2008).

The Centre was awarded a 5-year endowment from the A W Mellon Foundation to support its graduate recruitment (Mellon-UCT Scholarships in Rhetoric Studies).

A detailed description of the Centre's research activities and publications (including the *African Yearbook of Rhetoric*) can be found on its dedicated Website: [www.rhetoricafrica.org](http://www.rhetoricafrica.org)

## Research output

### Edited books

Salazar, Ph.-J. (eds) 2013. Rhetoric in South America. 224pp. Cape Town: Africa Rhetoric Publishing. ISBN 978-0-620-56678-0.

### Chapters in books

Glenn, I.E. 2013. Spotting the leopard: fieldwork, science and leopard behaviour. In Lesley Green (eds), Contested Ecologies: Dialogues in the South on Nature and Knowledge, pp. 227-242. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.

Ndlovu, M.W. 2013. Marketing politics to generation X. In Gouliamos K, Theocharous A and Newman B (eds), Political Marketing: Strategic Campaign Culture, pp. 97-113. New York: Routledge Journals, Taylor & Francis Ltd. ISBN 978-0-415-8446-7.

Salazar, Ph.-J. 2013. Gazing at paintings and the evocation of life. In Ivo Strecker and Markus Verne

(eds), *Astonishment and Evocation*, pp. 27-40. New York: Berghahn Books Inc. ISBN 978-0-85745-935-0.

Saleh, I. 2013. 'Convergence culture' and youth activism in Egypt: new social movements on the block. In Ulla Carlsson and Sherri Hope Culver (eds), *Media and Information Literacy and Intercultural Dialogue*, pp. 201-214. Sweden: The International Clearinghouse on Children, Youth and Media. ISBN 978-91-86523-64-0.

Saleh, I. 2013. School literacy in South Africa: emerging literacy and hidden curricula. In Ulla Carlsson and Sherri Hope Culver (eds), *Media and Information Literacy and Intercultural Dialogue*, pp. 355-367. Sweden: The International Clearinghouse on Children, Youth and Media. ISBN 978-91-86523-64-0.

Saleh, I. 2012. The Arabic imperative in IMACR. In Aimee Vega Montiel (eds), *Communication and Human Rights*, pp. 63-67. Mexico: Universidad Nacional Autonoma de Mexico. ISBN 978-607-02-2820-9.

Saleh, I. 2013. WikiLeaks and the Arab Spring: the twists and turns of media, culture and power. In Benedetta Brevini, Arne Hintz and Patrick McCurdy (eds), *Beyond Wikileaks: Implications for the Future of Communications, Journalism and Society*, pp. 236-244. UK: Palgrave Macmillan. ISBN 978-1-37-27573-8.

Saleh, I. 2013. Understanding the minds, problems and aspirations: An untold story about the Egyptian dilemma. *African Journal of Political Science and International Relations*, 7(4): 172-181.

Saleh, I. 2013. 365 Days of Muslim Brotherhood in Egypt: Contesting Media, Activism, & Power. *COSMOPOLIS: A Review of Cosmopolitics Revue de cosmopolitique*, 3(4): 53-71.

#### Articles in peer-reviewed journals

Alloggio, S. and Thomas, K. 2013. Editorial: Resisting the lure of deferral: realising the South African National Development Plan. *Social Dynamics-A Journal of the Centre for African Studies University of Cape Town*, 39(1): 108-110.

Barker, K., Connolly, S. and Angelone, C. 2013. Creating a brighter future in Rwanda through entertainment education. *Critical Arts: South North Cultural and Media Studies*, 27(1): 75-90.

Bosch, T. 2013. Youth, facebook and politics in South Africa. *Journal of African Media Studies*, 5(2): 119-130.

Botha, M. 2013. The journeys of the marginalised: the cinema of Darrell James Roodt. *Kinema, A Journal for Film and Audiovisual Media*, 39(Spring): 5-22.

Botha, M. 2013. The representation of gays and lesbians in South African cinema 1985-2013. *Kinema, A Journal for Film and Audiovisual Media*, 40: 63-80.

Haupt, A. 2013. Citizenship without representation? Blackface, misogyny and parody in die antwoord, Lup Fiasco and Angel Haze. *Communicatio: South African Journal for Communication Theory and Research*, 39(4): 466-482.

Hyde-Clarke, N. and Walton, M.N. 2013. Introduction: African media and politics. *Journal of African Media Studies*, 5(2): 115-118.

Ndlovu, M.W. and Mbenga, C. 2013. Facebook, the public sphere and political youth leagues in South Africa. *Journal of African Media Studies*, 5(2): 169-186.

Salazar, Ph.-J. 2013. Chine Ancienne, Chine Nouvelle: Engrames rhetoriques. *Cosmopolis: A Review of Cosmopolitics*, 6: 101-103.

Salazar, Ph.-J. 2013. reflexions rhetoriques sur la presidence americaine, et sur sa vertu fatale. *Cosmopolis: A Review of Cosmopolitics*, 3: 147-157.

Salazar, Ph.-J. 2013. Rhetoric as epistemology of resistance. *Journal for studies in Humanities and Social Sciences*, 2(2): 174-181.

Saleh, I. and Barkho, L.B. 2013. Towards a praxis-based media research. *Journal of applied journalism & Media Studies*, 2(1): 3-18.

Smit, A.J. 2013. Visual effects and visceral affect: 'Tele-affectivity' and the intensified intimacy of contemporary television. *Critical studies in television: The International Journal of Television Studies*, 8(3): 92-107.

Walton, M.N. and Leukes, P. 2013. Prepaid social media and mobile discourse in South Africa. *Journal of African Media Studies*, 5(2): 149-167.

Walton, M.N. and Rivera-Sanchez, M. 2013. Making sense of life's transitions: mobile phones and the creation of alternative spaces by South African youths. *Journal of Creative Communications*, 8(2&3): 177-191.

#### Peer-reviewed published conference proceedings

Donner, J. and Walton, M.N. 2013. Your phone has internet - why are you at a library PC? Re-emerging public access in the mobile internet era. In Paul Kotze, Gary Marsden, Gitte Lindgaard, Janet Wesson and Marco Winckler (eds), *Proceedings of 14th IFIP TC International Conference*, Cape Town, South Africa, 2-6 September 2013. New York: Springer Heidelberg Dordrecht. ISBN 978-3-642-40482-5.

Noakes, T., Czerniewicz, L. and Brown, C. 2013. Students as creative producers. In Eunice Ivala (eds), *Proceedings of the 8th International Conference on e-Learning*, 27-28 June 2013, Cape Peninsula University of Technology. United Kingdom: Academic Conferences and Publishing International Limited Reading (UK). ISBN 978-1-909507-28-9.

#### Creative writing

##### Poems published in anthologies

Evans, M.J. 2013. High noon. In Michael King (ed.), *New Contrast South African Literary Journal*, p. 19. Cape Town: South African Literary Journal Ltd.

## CENTRE FOR SOCIAL SCIENCE RESEARCH [CSSR]

#### Director: Professor Jeremy Seekings

#### Centre Profile

The Centre for Social Science Research (CSSR) is an interdisciplinary research centre at the University of Cape Town dedicated to conducting and building capacity for systematic, evidence based, policy-relevant, replicable social science research in South Africa, the region, and across Africa.

In 2013, the CSSR consisted of a small Directorate, three research units, and additional individual personnel and small projects. The research units were the AIDS and Society Research Unit (ASRU); Democracy in Africa Research Unit (DARU); and the Sustainable Societies (Research) Unit (SSU). All permanent academic staff in the Centre have departmental appointments also.

Methodologically, CSSR research is empirical, but problem-driven. While we utilize both quantitative and qualitative strategies of data collection, our work is always based on systematic research designs with clear conceptualization of variables and transparent rules of operationalising variables, selecting cases and collecting and analyzing data analysis (in contrast to *ad hoc* fact collection or narrative description). After a reasonable period, collected data are turned into public access data sets. CSSR projects are usually team-oriented, bringing together multiple local and international researchers, and offering post-graduate students significant opportunities for hands-on training by involving them

in all stages of projects. Research findings are presented and discussed at regular weekly seminars and published as CSSR Working Papers. Substantively, the CSSR conducts research in the broad areas of globalization, industrialization, democratization, development, poverty and public health.

#### AIDS and Society Research Unit (ASRU)

The AIDS and Society Research Unit (ASRU) supports research into the social and economic dimensions of AIDS in South and Southern Africa. Special emphasis is placed on exploring the interface between qualitative and quantitative research. Focus areas include: AIDS policy in South Africa, AIDS-stigma, sexual relationships in the age of AIDS, social and economic factors driving HIV infection, disclosure (of HIV-status to others), the interface between traditional medicine and biomedicine, the international treatment rollout, global health citizenship, the international treatment rollout, global health citizenship and leadership, AIDS treatment activism and the impact of providing antiretroviral treatment on individuals and households.

#### Democracy in Africa Research Unit (DARU)

DARU supports students and scholars who conduct systematic research in the following four areas: public opinion and political culture in Africa and its role in democratization and consolidation; elections and voting in Africa; the development of legislative institutions; and the impact of the HIV/AIDS pandemic on democratization in southern Africa. DARU has also developed close working relationships with projects such as the Afrobarometer (a cross-national survey of public opinion in fifteen African countries) and the Comparative National Elections Project, which conducts post-election surveys over twenty countries across the world.

#### Sustainable Societies (Research) Unit (SSU)

explores the social and institutional dimensions of economic development and the interaction between human society and the natural world. Focus areas include: winners and losers in South African economic growth and the interplay between ecological and economic concerns. The SSU was previously known as the Social Surveys Unit and still works on a number of survey projects, including the Cape Area Panel Study.

#### Centre Statistics

Professors, associate professors and lecturers, with departmental appointments	7
Research and Contract Staff	4
Administration and Clerical Staff	5
<b>Total</b>	<b>16</b>

## Research fields and staff

### PROFESSOR ROBERT MATTES (ALSO IN THE DEPARTMENT OF POLITICAL STUDIES)

Director of Democracy in Africa Research Unit; public opinion; democratisation; electoral behaviour; social identity; legislatures; survey research

### PROFESSOR NICOLI NATTRASS (ALSO IN THE SCHOOL OF ECONOMICS)

Director of the AIDS and Society Research Unit; AIDS; unemployment; inequality; social and economic policy; AIDS policy, AIDS denialism; AIDS conspiracy theory; defending HIV science

### PROFESSOR JEREMY SEEKINGS (ALSO IN THE DEPARTMENT OF SOCIOLOGY)

Director of CSSR; political sociology (race and class; social attitudes, voting behaviour and political protest); comparative politics and political economy of public policy (especially education and welfare policy); democratic theory

### ASSOCIATE PROFESSOR RAJEN GOVENDER (ALSO IN THE DEPARTMENT OF SOCIOLOGY)

Political behaviour, political deviance and political activism; welfare economics and the capability approach; household poverty dynamics; applied fiscal impact assessment; research methodology and advanced quantitative methods

### DR BEATRICE CONRADIE (ALSO IN THE SCHOOL OF ECONOMICS)

Director of Sustainable Societies Unit; biodiversity and predators; farm labour markets; women in agriculture; wine industry mechanisation; irrigation farming; sustainability issues and environmental certification

### DR ELENA MOORE (ALSO IN THE DEPARTMENT OF SOCIOLOGY)

Sociology of the family, family policy, gender and intimacy, intergenerational relations, feminist theories, biographical research methods.

### DR PEDRO WOLF (ALSO IN THE DEPARTMENT OF PSYCHOLOGY)

Evolutionary psychology

### DR ELIZABETH GUMMERSON

Post-doctoral research fellow: Demography and public policy (class, race, gender and policy effects on mortality and morbidity) poverty/inequality policies and their effect on health and wellbeing; education and health behaviour.

### DR KEVIN ONEIL

Post-doctoral research fellow; International migration; migration and development; immigrant integration;

migration policy; xenophobia; education and support for democracy.

### DR COLLETTE SCHULZ-HERZENBERG

Post-doctoral research fellow: Elections, public opinion and voter behaviour; politics, groups and identity; party politics; democratization theory; legislative studies; corruption and governance.

### MR NATHAN GEFFEN

Manager, GroundUp: HIV and TB science and human rights, epidemiology particularly agent-based simulation of epidemics, parallel computer algorithms.

## Contact Details

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UCT web: <http://www.uct.ac.za>

## Research Output

### Chapters in books

Alfaro-Velcamp, T. 2013. From Uncle Mustafa to Auntie Rana: Journeys to Mexico, United States, and Lebanon. In Alan M. Kraut (eds), *Ethnic Historians and the Mainstream: Shaping America's Immigration Story*, pp. 175-188. David A. Gerber. New Brunswick: Rutgers University Press. ISBN 9780813562247.

Hodes, R. 2013. "You Know What a Bad Person You Are?" HIV, Abortion, and Reproductive Health Care for Women in South Africa. In Raymond A. Smith (ed), *Global HIV/AIDS politics, policy, and activism: Persistent challenges and emerging issues: Vol. 2. Policy and policymaking*, pp. 232-252. Santa Barbara: Praeger. ISBN 978-0-313-399459.

Oberth, G. and Tucker, P. 2013. Count Us In the Need for More Comprehensive Global Data on HIV/AIDS Prevention, Testing, and Knowledge among LGBT Populations. In Raymond A. Smith (eds), *Global HIV/AIDS Politics, Policy, and Activism*, pp. 43-67. Santa Barbara: Praeger. ISBN 978-0-313-39945-9.

Schollar, E. 2013. The Learning for Living Project: a book-based approach to learning of language in South African primary schools. In Yusuf Sayed, Anil Kanjee and Mokubung Nkomo (eds), *The search for quality education in post-apartheid South Africa*, pp. 237-256.

Cape Town, South Africa: HSRC Press. ISBN 978-0-7969-2407-0.

## Articles in peer-reviewed journals

Geffen, N. 2013. World Health Organization guidelines should not change the CD4 count threshold for antiretroviral therapy initiation. *Southern African Journal of HIV medicine*, 14(1): 6-7.

Gummerson, E. and Schneider, D. 2013. Eat, drink, man, woman: gender, income share and household expenditure in South Africa. *Social Forces*, 91(3): 813-836.

Gummerson, E. 2013. Have the educated changed HIV risk behaviours more in Africa? *African Journal of AIDS Research*, 12(3): 161-172.

Gummerson, E., Maughan-Brown, B. and Venkataramani, A.S. 2013. Who is taking up voluntary medical male circumcision? Early evidence from Tanzania. *AIDS*, 27(16): 2657-2659.

Jury, C. and Nattrass, N.J. 2013. Parental presence within households and the impact of antiretroviral therapy in Khayelitsha, Cape Town. *Southern African Journal of HIV medicine*, 14(2): 70-74.

Shenga, C. 2013. Enhancing Executive -Legislative Accountability in Mozambique. *Africa Peace and Conflict journal*, 1(1): 73-80.

Wienand, A. 2013. David Goldblatt: in the time of AIDS. *De Arte*, 87: 7-21.

# SOUTH AFRICAN COLLEGE OF MUSIC

## Director: Dr Morné Bezuidenhout

### College Profile

The South African College of Music pursues a wide range of musical activities. Besides musicology music education, music technology and composition, there is a strong instrumental and vocal tradition in the classical field, as well as a very active jazz department and a flourishing opera school. Ethnomusicology and practical African music studies are an important part of the department's programme.

### College Statistics

#### Permanent staff

Professors	3
Associate Professors	11
Senior Lecturers	7
Lecturers	6
Technical Support	2
Departmental Assistants	3
Administrative Staff	4
<b>Total</b>	<b>36</b>

#### Honorary staff

Emeritus Professor	3
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#### Students

Doctoral	12
Master's	17
Honours	12
Undergraduate	283
PG Diploma	24
<b>Total</b>	<b>348</b>

### Research Fields and Staff

#### PROFESSOR HENDRIK HOFMEYR

Composition; orchestration; music theory and analysis

#### PROFESSOR KAMAL KHAN

Opera

**PROFESSOR MICHAEL ROSSI**  
Jazz: performance (woodwinds); composition; improvisation, history

**ASSOCIATE PROFESSOR FARIDA BACHAROVA**  
Violin performance; chamber music; orchestral studies; professional orchestral musician

**ASSOCIATE PROFESSOR MIKE CAMPBELL**  
Composition and arrangement for jazz ensemble, stage band & symphony orchestra; big band jazz performance; electric bass

**ASSOCIATE PROFESSOR VIRGINIA DAVIDS**  
Vocal performance (specialised in Verdi)

**ASSOCIATE PROFESSOR FRANCOIS DU TOIT**  
Piano performance; chamber music; accompanying; recording

**ASSOCIATE PROFESSOR SIDWIL HARTMAN**  
Vocal performance in oratorio opera, especially Puccini, Verdi and contemporary composers.

**ASSOCIATE PROFESSOR ANRI HERBST**  
Music education; intercultural musicology; neuro-musicology

**ASSOCIATE PROFESSOR FRANKLIN LAREY**  
Piano performance; accompanying; chamber music

**ASSOCIATE PROFESSOR BRAD LIEBL**  
Vocal performance (opera and Lieder), especially contemporary and rarely performed repertoire and composers.

**ASSOCIATE PROFESSOR ANDREW LILLEY**  
Jazz: theory; performance; ensemble; improvisation; contemporary music practice

**ASSOCIATE PROFESSOR REBEKKA SANDMEIER**  
Opera and oratorio; music of the 15th, 19th and 20th century; historically informed performance

**ASSOCIATE PROFESSOR ALBIE VAN SCHALKWYK**  
Piano performance; chamber music; art song accompaniment and interpretation

**MR DARRYL ANDREWS**  
Jazz guitar performance; composition; arrangement; ensemble; theory

**DR MORNÉ BEZUIDENHOUT**  
Plainchant and liturgy

**DR SYLVIA BRUINDERS**  
Ethnomusicological theory and methodology; African and African diasporic music; musical practices and social history of the Western Cape

**MR THEO HERBST**  
Theoretical research: music technology; signal processing methods applied in musical analysis; applied research: composition; technology-based solutions for creative challenges

**MR MICHAEL NIXON**  
Ethnomusicology theory; music in popular culture; music of sub-Saharan Africa; music and society in South Asia; music and society in southern Africa

**MR DIZU PLAATJIES**  
African music performance (specialised in the performance of indigenous music of the Eastern and Western Cape)

**DR MARTIN WATT**  
Composition; orchestration; music theory and analysis

**MR JAMES GRACE**  
Classical guitar performance; chamber music

**MR WILLIAM HAUBRICH**  
Brass studies

**MR JASON REOLON**  
Jazz piano; performance; composition; recording

**MS BECKY STELTZNER**  
Woodwinds, and particularly clarinets, in South African history and South African collections; copyright vs. public domain in sheet music and developing syllabi for disadvantaged communities; repertoire development in the woodwind and chamber music fields

**MS AMANDA TIFFIN**  
Jazz vocal performance; composition; arrangement, especially contemporary and jazz vocal arranging

**MR PATRICK TIKOLO**  
Vocal studies

## Research Output

### Chapters in books

Bruinders, S.R. 2013. *Soldiers of God: the spectacular musical ministry of the Christmas bands in the Western Cape, South Africa*. In Suzel Reily & Katherine Brucher (eds), *Brass Bands of the World: Militarism, Colonial Legacies, and Local Music Making*, pp. 139-154. London: Ashgate Publishing. ISBN 978-1-4094-4422-0.

### Encyclopaedia entries

Sandmeier, R. 2013. "Dunstable, John". In Lexikon der Kirchenmusik: vol 1. Germany: Laaber-Verlag. ISBN 978-3-89007-696.

Sandmeier, R. 2013. "Purcell, Henry". In Lexikon der Kirchenmusik: Vol 2. 2013. Germany: Laaber-Verlag. ISBN 978-3-89007-696.

Sandmeier, R. 2013. "Fayrfax, John". In Lexikon der Kirchenmusik: vol 1. Germany: Laaber-Verlag. ISBN 978-3-89007-696.

Sandmeier, R. 2013. "Old Hall Manuscript". In Lexikon der Kirchenmusik: vol 2. Germany: Laaber-Verlag. ISBN 978-3-89007-696.

Sandmeier, R. 2013. "Power, Lionel". In Lexikon der Kirchenmusik: vol 2. Germany: Laaber-Verlag. ISBN 978-3-89007-696.

Sandmeier, R. 2013. "Britten, Benjamin". In Lexikon der Kirchenmusik: Volume 1. Germany: Laaber-Verlag. ISBN 978-3-89007-696.

Sandmeier, R. 2013. "Dublin". In Lexikon der Kirchenmusik: 1. Germany: Laaber-Verlag. ISBN 978-3-89007-696.

**Articles in peer-reviewed journals**

Herbst, A.C. 2013. Editorial - Spreading words and tones: journaling a journey. *Journal of the musical arts in Africa*, 10(1): viii-xi.

**Creative works**

**Arrangements**

Andrews, D.I. 2013. *A Cry, A Smile, A Dance*. Requested by SACM Jazz Ensembles. 17-piece Jazz band and vocalist. 6 min.

Andrews, D.I. 2013. *Cute*. Requested by SACM Jazz Ensembles. 2 trumpets, tenor saxophone, trombone, guitar, piano. 7 min.

Andrews, D.I. 2013. *Greased Lightning*. Commissioned by Bergvliet High School. 17-piece Jazz band and vocalists. 7 min.

Andrews, D.I. 2013. *Lady Bird*. Requested by SACM Jazz Ensembles. Trumpets, tenor saxophone, trombone, guitar, piano. 5 min.

Andrews, D.I. 2013. *Recipe for Love*. Requested by Delft Big Band. 17-piece Jazz band and vocalist. 4 min.

Andrews, D.I. 2013. *Seven Steps to Heaven*. Requested by SACM Jazz Ensembles. 2 trumpets, tenor saxophone, trombone, guitar, piano. 6 min.

Andrews, D.I. 2013. *So What*. Requested by SACM Jazz Ensembles. Trumpets, tenor saxophone, trombone, guitar, piano. 6 min.

Campbell, M.I. 2013. *Living Years*. Requested to Africa Centre for HIV Aids Research. Symphony orchestra, rhythm section, choir & soloist. 4 min.

Campbell, M.I. 2013. *When You Believe*. Requested by Africa Centre for HIV Aids Research. Symphony orchestra, rhythm section, choir & soloist. 4 min.

Grace, J. 2013. *Chaconne, Violin Partita No. 2 in D minor BWV 1004 (JS Bach)*. Guitar. 15 min.

Haubrich, W. 2013. *Dirge*. Requested by Feya Faku. Big band. 4 min.

Haubrich, W. 2013. *Hymn for All*. Requested by Feya Faku. Big band. 5 min.

Haubrich, W. 2013. *Le-Ngoma*. Requested by Feya Faku. Big band. 4 min.

Haubrich, W. 2013. *Peddies Place*. Requested by Feya Faku. Big band. 4 min.

Haubrich, W. 2013. *Zion*. Requested by Feya Faku. Big band. 5 min.

Hofmeyr, H.P. 2013. *2 Chorales*. Commissioned by the South African Society of Church Organists. Mixed choir. 2 min.

Hofmeyr, H.P. 2013. *Die Spokewals*. Commissioned by the OSM Camerata. Chamber orchestra. 4 min.

Hofmeyr, H.P. 2013. *en skielik is dit aand* 5 poems of Wilhelm Knobel. Requested by the ATKV for the finals of the Musicanto National Singing Competition. Medium voice, orchestra. 13 min.

Hofmeyr, H.P. 2013. *Jankemalanke Langklaasfranke*. Requested by Pretoria Afrikaans Boys High School Choir. TTTTB BBBB. 3 min.

Hofmeyr, H.P. 2013. *Kaljanner kaljanner*. Requested by Pretoria Afrikaans Boys High School Choir. TTBB. 3 min.

Hofmeyr, H.P. 2013. *Pie Jesu*. Requested by Golda Schultz. High voice, piano. 3 min.

Reolon, J. 2013. *Fever*. Piano, double bass, drums, saxophone, vocals, percussion. 4 min.

Reolon, J. 2013. *Moonpool*. Piano, double bass, drums, saxophone, trumpet. 7min.

- Reolon, J. 2013. Oracle Oriah. Hammond organ, Fender Rhodes, effects, electric bass. 7 min.
- Reolon, J. 2013. Oriah. Piano, double bass, drums, saxophone, trumpet. 6 min.
- Reolon, J. 2013. The Ledge. Piano, double bass, drums, saxophone, trumpet. 4 min.
- Reolon, J. 2013. Windmills of your Mind. Piano, electric bass, drums, flugelhorn, cello. 5 min.
- Sandmeier, R. 2013. Shades of Grey. Requested by GIPCA; Infecting the City Festival. 8 singers, organ, 2 speakers. 30 min.
- Tiffin, A.J. 2013. Ancestors (Lindie Lila). 5-part vocal ensemble, flute, percussion, programmed. 6 min.
- Tiffin, A.J. 2013. Dolphins Cry (Lindie Lila). 5-part vocal ensemble, bhansuri flute, percussion. 6 min.
- Tiffin, A.J. 2013. Earth My Body (traditional). 5-part vocal ensemble, string quartet, percussion. 4 min.
- Tiffin, A.J. 2013. Habibi (Lindie Lila). 6-part vocal ensemble, 8-piece string ensemble, ou. 4 min.
- Tiffin, A.J. 2013. Magic (Lindie Lila). 4-part vocal ensemble, 8-piece string ensemble, ac. 5 min.
- Tiffin, A.J. 2013. Makhosi (Lindie Lila). 6-part Vocal ensemble, flute, percussion, programmed. 10 min.
- Tiffin, A.J. and Weir, G. 2013. Melantho and a cappella opera (Graham Weir). Cape Town Opera. Opera chorus, soloists, 4-part mixed vocal. 130 min.
- Tiffin, A.J. 2013. Moondance (Lindie Lila). 4-part Vocal ensemble, oud, percussion, programmed. 5 min.
- Tiffin, A.J. 2013. Mother of Darkness (Lindie Lila). Commissioned by Lindie Lila. 6-part vocal ensemble, cello, percussion, programmed. 5 min.
- Tiffin, A.J. 2013. Motherland (Lindie Lila). Commissioned by Lindie Lila. 5-part vocal ensemble, acoustic guitar, mbira, per. 6 min.
- Tiffin, A.J. 2013. Nomalanga (Caiphus Semenya). Choir. 4 min.
- Tiffin, A.J. 2013. Oya (Lindie Lila). Commissioned by Lindie Lila. 5-part vocal ensemble, oud, kalimba, percussion. 5 min.
- Tiffin, A.J. 2013. Spirit of the Ocean (Lindie Lila). Commissioned by Lindie Lila. 5-part vocal ensemble, percussion, programmed ba. 7 min.
- Tiffin, A.J. 2013. Yemaya (traditional/additional melody Lindie Lila). Commissioned by Lindie Lila. 6-part vocal ensemble, mbira, percussion, programmed. 6 min.
- ### Compositions
- Andrews, D.I. 2013. Convocation Theme. Commissioned by Aga Khan University, Karachi, Pakistan. Symphony orchestra. 4 min.
- Campbell, M.I. 2013. UNISA sight-reading examination pieces for Grades 1-8. Commissioned by UNISA. Trombone (16 pieces), saxophone (16 pieces). 92 pieces at average 30 sec. each = 46 min.
- Haubrich, W. 2013. Trumpet Descants for Common Hymns. Commissioned by Willian Haubrich. Trumpet, organ, choir. 7 min.
- Hofmeyr, H.P. 2013. Concerto for Bassoon and Orchestra (1st movement). Requested by Paul Rodgers. Bassoon, orchestra. 9 min.
- Hofmeyr, H.P. 2013. Des ténèbres. Commissioned by the Huguenot Foundation of South Africa. Orchestra. 10 min.
- Hofmeyr, H.P. 2013. Die skaduwee van die son. 6 poems of Lina Spies. Commissioned by the Woordfees in celebration of Lina Spies's 75th birthday. Medium voice, piano. 12 min.
- Hofmeyr, H.P. 2013. Orithyia and the North Wind. Commissioned by SAMRO Foundation for the UNISA International Wind Competition 2014. Flute. 4 min.
- Hofmeyr, H.P. 2013. Sonata for Cello and Piano. Requested by Berthine van Schoor. Cello, piano. 24 min.
- Hofmeyr, H.P. 2013. Two Chorale Preludes. Commissioned by the South African Society of Church Organists. Organ. 2 min.
- Reolon, J. 2013. Arrested. Piano, double bass, drums, saxophone, trumpet. 8 min.
- Reolon, J. 2013. Garrtjie. Hammond organ, Fender Rhodes, effects, electric bass. 9 min.
- Reolon, J. 2013. Gospel FM. Hammond organ, Fender Rhodes, effects, electric bass. 9 min.
- Reolon, J. 2013. Headport. Hammond organ, Fender Rhodes, effects, electric bass. 8 min.
- Reolon, J. 2013. Hereish vs Thereish. Hammond organ, Fender Rhodes, effects, electric bass. 4 min.
- Reolon, J. 2013. Message from the Elders. Piano, double bass, drums, saxophone, trumpet. 6 min.
- Reolon, J. 2013. Mirror Mirror (a) Acoustic (b) Electric piano, double bass, drums, saxophone, trumpet. (a) 9 min (b) 9 min.
- Reolon, J. 2013. New Moon. Piano, electric bass, drums, flugelhorn, vocals. 4 min.
- Reolon, J. 2013. Not Far From Here. Piano, double bass, drums, saxophone. 10 min.
- Reolon, J. 2013. Ode to Nick. Piano, double bass, drums, saxophone, trumpet. 8 min.
- Reolon, J. 2013. Outline. Double bass, drums, trumpet, saxophone. 17 min.
- Reolon, J. 2013. Rhyming Game. Hammond organ, Fender Rhodes, effects, electric bass. 8 min.
- Reolon, J. 2013. Tortoise. Hammond organ, Fender Rhodes, effects, electric bass. 5 min.
- Reolon, J. 2013. Twilight Express. Piano, double bass, drums, saxophone. 8 min.
- Reolon, J. 2013. Two Nights in a Day. Piano, double bass, drums, saxophone, trumpet. 8 min.
- Reolon, J. 2013. Walk of the Aardvark. Piano, double bass, drums, saxophone, trumpet. 7 min.
- Reolon, J. 2013. Wanna Be Loved. Piano, Fender Rhodes, double bass, drums, saxophone. 4 min.
- Reolon, J. 2013. Wanted. Piano, double bass, drums, saxophone, trumpet. 4 min.
- Reolon, J. 2013. Wayne on Mars. Piano, double bass, drums, saxophone, trumpet. 5 min.
- Reolon, J. 2013. Windfarm. Piano, double bass, drums, saxophone. 8 min.
- Rossi, M.J. 2013. K.G. Cape Town. Schott Music, Mainz, Germany. Ensemble mix. 10 min.
- Rossi, M.J. 2013. Scungiili. Schott Music, Mainz, Germany. Ensemble mix. 8 min.
- Rossi, M.J. 2013. The Forty Club. Schott Music, Mainz, Germany. Ensemble mix. 8 min.
- Tiffin, A.J. 2013. Finding My Way. Jazz quartet, voice. 4 min.
- Tiffin, A.J. 2013. I Sing. Commissioned by Germaine Gamiet for the Bloom A Cappella Festival. 4-part mixed choir. 3 min.
- Tiffin, A.J. 2013. My Own Song. Voice, piano, double bass. 3 min.
- Tiffin, A.J. 2013. Welcoming the Day. Jazz quartet, voice. 5 min.
- Watt, M. 2013. Elegy. Clarinet. 6 min.
- Watt, M. 2013. Four Arie Antiche. Dedicated to Jacques le Roux. High voice, flute, oboe, clarinet, horn, bass. 12 min.
- Watt, M. 2013. Four Nocturnes. Piano. 20 min.
- Watt, M. 2013. Four Rilke Songs. Baritone, piano. 14 min.
- Watt, M. 2013. Missa Baltica. Commissioned by The Southern African Music Rights organisation (SAMRO). SSAATTBB, SATB soloists. 25 min.
- Watt, M. 2013. Solitude. Oboe. 6 min.
- Watt, M. and Fazakas, G. 2013. Sonata for Solo Flute. Dedicated to George Fazakas. Flute. 13 min.
- Watt, M. 2013. Sounds of Visby. Guitar. 8 min.
- Watt, M. 2013. String Quartet No. 2. 2 violins, viola, cello. 20 min.
- Watt, M. 2013. Three Sketches. Bassoon. 9 min.
- Watt, M. 2013. Trio. Oboe, viola, cello. 13 min.
- Watt, M. 2013. Two Tableaux for Vibraphone and Marimba. Commissioned by Duo FOURIVTwo. Marimba, vibraphone. 12 min.
- ### Performances
- Rossi, M.J. 2013. Contrasts of Cape Town, Simba Samba, Yearning, The Forty Club, Buon Giorno Le Marche, K.G. Cape Town, Should I?, Night Fright!, Scungilli. Mahogany Room, Cape Town. 29 May. Composer. 100 min.
- Andrews, D.I. 2013. Glomus Gala Concert. Makimura University Auditorium, Arusha, Tanzania. 21 January. Arranger, conductor. 8 min.

- Andrews, D.I. 2013. So What in Concert. The Crypt, St Georges Cathedral, Cape Town. 12 October. Arranger, guitarist. 120 min.
- Andrews, D.I. and Campbell, M.I. 2013. Nelson Mandela Celebrations. Outside Stage, City Hall, Cape Town. 11 December. Guitarist. 30 min.
- Andrews, D.I. 2013. The Phone Book Jazz Trio. Tino Europa, Roy Davids. The Crypt, St Georges Cathedral, Cape Town. 25 November. Arranger, guitarist. 120 min.
- Bacharova, F.A., di Blasio-Scott, L., Lewin, M. and Moolman, J. 2013. KABA Music Festival Concert. KABA Music Festival, Port Alfred Music Society and Grahamstown Cathedral, 16 & 18 January. Soloist/chamber. 60 min.
- Bacharova, F.A., Goodwin, P., Fourie, P. and Chernev, C. 2013. String Quartet No. 1 (Dvorak), Divertimento in D (Mozart), Tango (McLean). Quartet of Peace Concert, FW De Klerk Foundation, Cape Town. 2 February. Soloist/chamber. 90 min.
- Bacharova, F.A., Goodwin, P., Fourie, P. and Chernev, C. 2013. String Quartet No. 12 (Dvorak). SACM Staff Concert, Baxter Concert Hall, Cape Town. 19 February. Soloist/chamber. 20 min.
- Bacharova, F.A., Yampolsky, V. Avdeeva, Y. and Cape Philharmonic Orchestra. 2013. Symphonic Variations (Franck), Piano Concerto No. 2 (Chopin), Symphonic Dances (Rachmaninov). City Hall, Cape Town. 14 February. Leader. 120 min.
- Bacharova, F.A., Mitas, F., Panteleev, M. and Cape Philharmonic Orchestra. 2013. Overture American in Paris (Gershwin), Violin Concerto (Britten), Sinfonia Antarctica (Vaughan-Williams). City Hall, Cape Town. 21 February. Leader. 120 min.
- Bacharova, F.A. 2013. Partita No. 2 (Bach). Franschhoek Mountain Chamber Music, Chamber Concert Hall, Franschhoek. 30 March. Soloist. 15 min.
- Bacharova, F.A., Kuchar, T., Chang, S. and Cape Philharmonic Orchestra. 2013. Cape Philharmonic Orchestra Concert: Overture to The Italian Girl in Algiers (Rossini), Symphony No. 4 (Mendelsohn), Finlandia (Sibelius). City Hall, Cape Town, 9 June. Leader. 120 min.
- Bacharova, F.A., Shinozaki, Y., Pompa-Baldi, A. and Cape Philharmonic Orchestra. 2013. Night on Bold Mountain (Mussorgsky), Piano Concerto No. 1 (Rachmaninov), Firebird Suite (Stravinsky), Piano Concerto No. 2 (Rachmaninov). City Hall, Cape Town. 27 June. Leader. 120 min.
- Bacharova, F.A., Chernev, C., Fourie, P. and Goodwin, P. 2013. String Quartet No. 2 (Watt). Watt More Concert, Baxter Concert Hall, Cape Town. 30 July. Soloist/chamber. 60 min. First performance: 25 min.
- Bacharova, F.A., Phillips, B., Howard, L. and Cape Philharmonic Orchestra. 2013. Adagio for Strings (Barber), Piano Concerto No. 2 (Tchaikowsky), Symphony No. 3 (Saint-Saëns). City Hall, Cape Town. 1 August. Leader. 120 min.
- Bacharova, F.A., Tien, A., Malan, P. and Cape Philharmonic Orchestra. 2013. The Wood Dove (Dvorak), Piano Concerto No. 20 (Mozart), Symphony No. 3 (Brahms). City Hall, Cape Town. 8 August. Leader. 120 min.
- Bacharova, F.A. and Bonnefoy, C. 2013. 18 au max - Creation Concert: Compositions (Carine Bonnefoy). Conservatoire National Supérieur de Musique et de Dance de Paris, Paris-La Villette, France. 23 October. Soloist. 120 min.
- Bacharova, F.A., Chernev, C. and Fourie, P. 2013. Suite in D (Bach), Divertimento in f (Mozart), Eine Kleine Nachtmusik (Mozart), Adagio and Polka (Shostakovich). The Elders Concert in honour of Desmond Tutu, Hohenort Cellars, Cape Town. 29 October. Soloist/chamber. 60 min.
- Bacharova, F.A., So, P., Lee, Y. and Cape Philharmonic Orchestra. 2013. Le Roi Lear (Berlioz), Scottish Fantasy (Bruch), Symphony No. 6 (Glazunov). Cape Philharmonic Orchestra. City Hall, Cape Town. 7 November. Leader. 120 min.
- Bacharova, F.A. and Gueller, B. 2013. Wagner-Verdi Opera Gala Celebration Concert. Cape Philharmonic Orchestra. City Hall, Cape Town. 28 November. Leader. 120 min.
- Campbell, M.I., Rossi, M.J. and Andrews, D.I. 2013. Symphonic Groove. Baxter Concert Hall, Cape Town. 16 March. Arranger, conductor. 90 min.
- Campbell, M.I. 2013. SA Artists for Aids Awareness. Africa Centre for HIV Aids Research. Artscape Theatre, Cape Town 9 June. Arranger, conductor, keyboardist. 120 min.
- Campbell, M.I. and Rossi, M.J. 2013. Mike Del Ferro Quartet. Hilton Arts Festival Hall, KZN. 13 September. Bassist. 45 min.
- Du Toit, G.F. 2013. Solo recital. Partita No. 1 (Bach), Sonata in E-flat major (Haydn), Sonatas Op. 27 No. 1 and 2 (Beethoven). Fish Hoek Music Society, Fish Hoek Civic Centre. 8 February. Soloist. 70 min.
- Du Toit, G.F. and Kern, A. 2013. Various compositions and improvisations. Piano Duel, Darling Music Festival, Darling. 9 February. Soloist. 60 min.
- Du Toit, G.F. Larey, F., Cock, R. and Cape Town Symphony Choir. 2013. Carmina Burana (Orff). Oude Libertas Theatre, Stellenbosch. 23 & 24 February. Piano soloist. 45 min.
- Du Toit, G.F. Johannesburg Philharmonic Orchestra, 2013. Piano Concerto No. 3 (Beethoven). Linder Auditorium Johannesburg. 27 & 28 February. Soloist. 30 min.
- Du Toit, G.F. Cape Philharmonic Orchestra, C.P.O. 2013. Piano Concerto No. 1 (Tchaikovsky). Cape Town City Hall, Cape Town. 6 June. Soloist. 45 min.
- Du Toit, G.F. and Dias, J. 2013. Sonata Op. 27 No. 1 and Symphony No. 5 (Beethoven). Piano Duo Recital, (a) Hermanus Civic Centre, Hermanus; (b) Tulbagh Museum, Tulbagh. (a) 15 June (1st performance); (b) 8 September. Soloist. 60 min.
- Du Toit, G.F. and Stapelberg, Z. 2013. Frauendliebe und -Leben (Schumann), selection of Spanish songs. Lieder Recital for the Klein Karoo Klassique, Oudtshoorn Cathedral, Oudtshoorn. 9 August. Piano accompanist. 60 min.
- Du Toit, G.F. 2013. Piano Concerto No. 3, Op. 37 (Beethoven). NG Kerk Welgemoed, Cape Town. 14 September. Soloist. 30 min.
- Du Toit, G.F. and Juritz, D. 2013. Cape Town Concert Series. Sonata (Elgar), Sonata No. 2 in A major (Brahms) Three pieces by Szymanovsky. Baxter Theatre, Cape Town. 28 September. Pianist. 70 min.
- Du Toit, G.F. and Martens, P. 2013. Duo concert with Peter Martens. Sonata in A major (Beethoven), Sonata for Violin and Piano (Klatsow). St. Andrews Church, Cape Town. 13 October. Pianist. 40 min.
- Du Toit, G.F. 2013. Solo recital. Prelude and Fugue in D major (Bach-Busoni), Widmung (Schumann-Liszt), Siciliana (Bach-Kempf), Sonata in C# minor (Beethoven). Dutch Reformed Church, Franschhoek. 26 October. Soloist. 60 min.
- Du Toit, G.F. Johannesburg Philharmonic Orchestra, 2013. Piano Concerto No. 2 (Tchaikovsky). Linder Auditorium, Johannesburg. 30 & 31 October. Soloist. 45 min.
- Grace, J. 2013. A Spanish Celebration. Johannesburg International Mozart Festival. Villa Arcadia, Johannesburg. 1 February. Soloist. 60 min.
- Grace, J. 2013. Campanas del Alba (Sainz de la Maza). Baxter Concert Hall, Cape Town. 19 February. Soloist. 5 min.
- Grace, J., Rennie-Salonen, B., de Villiers, J., Libertas Choir, Mallows, F., Gerhard Niemand, and Amanda Strydom, 2013. Missa Criolla, Navidad Nuestra (Ramirez). Oude Libertas Amphitheatre, Stellenbosch. 9-10 March. Accompanist. 75 min.
- Grace, J., Drakensberg Boys Choir, Chris Chameleon, Jonathan Crossley, Schalk Joubert, and Riaan van Rensburg, 2013. Missa Criolla (Ramirez). Burger Saal, Oudtshoorn, Klein Karoo National Arts Festival. 2, 3, 4, 6 April. Accompanist. 20 min.
- Grace, J. 2013. I Love a Guitar. Warehouse Theatre, Windhoek, Namibia. 20 April. Soloist. 70 min.
- Grace, J. and Stapelberg, Z. 2013. Secret Songs. Die Bordinghuis, Wellington. 26 April. Accompanist. 60 min.
- Grace, J., Jonathan Crossley, and Murphy, C. 2013. Guitarras Ramirez en Concierto. Hugo Lambrechts Auditorium, Cape Town. 5 May. Soloist/accompanist. 30 min.
- Grace, J., Cock, R. and Cape Town Festival Orchestra, 2013. Adagio, Concerto de Aranjuez (Rodrigo). Cape Town Festival. 11-12 May. Soloist. 8 min.
- Grace, J., Horne, A. and KwaZulu Natal Philharmonic Orchestra, K.Z.N.P.O. 2013. Adagio, Concerto de Aranjuez (Rodrigo). Royal Showgrounds, Pietermaritzburg. 26 May. Soloist. 8 min.
- Grace, J. and Stapelberg, Z. 2013. Secret Songs. Warehouse Theatre, Windhoek, Namibia. 12 June. Accompanist. 60 min.
- Grace, J. 2013. A Spanish Celebration. Tatham Art Gallery, Pietermaritzburg. 19 July. Soloist. 60 min.
- Grace, J. and Rennie-Salonen, B. 2013. Sonata for Flute and Continuo in E Major BWV 1035 (Bach), Il poeta e l'usignolo (Hofmeyr), Sonata for Flute and Guitar Op. 205 (Castelnuovo-Tedesco), Suite Buenos Aires (Pujol). (a) Bouchard Finlayson Cellar, Hermanus; (b) Clubhouse, Helderberg Music Society, Somerset West; (c) St Andrews Church, Cape Town ; (d) The Chapel, Hilton, Witness Hilton Arts Festival. (a) 26 July; (b) 28 July; (c) 6 September; (d) 14 September. Accompanist. 60 min.
- Grace, J. 2013. Secret Songs. KykNet Konservatorium, North West University, Clover Aardklop Nasionale Kunstfees. 24 September. Accompanist. 60 min.

- Grace, J. and Stapelberg (Soprano), Z. 2013. Canciones Espaolas. Fiago Theatre, Knysna. 29 November. Accompanist. 60 min.
- Grace, J., Mallows, F., Libertas Choir, Rennie-Salonen, B., Gerhard Niemand, Amanda Strydom and de Villiers, J. 2013. Missa Criolla, Navidad Nuestra (Ramirez). Oude Libertas Amphitheatre, Stellenbosch. 5, 7 December. Accompanist. 75 min.
- Haubrich, W. and Hartman, S. 2013. Sammy Hartman Ensemble. Pigalles Restaurant. January to November. Trumpet, flugelhorn, trombone. 280 min for 5 performances.
- Haubrich, W., Rossi, M.J. and Bass, D. 2013. Acid Bass. Mahogany Room. 12 January, 12 May. Trombone. 360 min, 180 min.
- Haubrich, W. and Robertson, G. 2013. Kaleidoscope Jazz. Kaleidoscope Church and Jazz Club. 1 February, March, 6 September. Trumpet, flugelhorn, trombone. 240 min.
- Haubrich, W., Blake, M., Thompson, D., Amon, P. and Green, N. 2013. Solid Brass Quintet. Christ King Church, Claremont. 10 February. Trombone. 65 min.
- Haubrich, W. 2013. SACM Staff Concert. Baxter Theatre. 19 February. Trombone, trumpet, flugelhorn. 15 min.
- Haubrich, W., Reid, M. and Joffe, I. 2013. Playing with Fire Jewish Ensemble. Various venues. 24 February, 20 July. Trombone. 180 min.
- Haubrich, W., Lazar, C. and Balubeta, S. 2013. Kariba Group. Various venues. 26 February, 14 March, 14 August. Flugelhorn. 540 min, 180 min.
- Haubrich, W., Rossi, M.J. and Vernick, G. 2013. Mike Rossi Project. Various venues. , 17 March, 29-30 May, 6 September. Trombone. 900 min, 180 min.
- Haubrich, W., Blake, M., Thompson, D. and Howard, A. 2013. Adam Howard Big Band. Artscape Theater. 7-8 March. Trombone. 180 min.
- Haubrich, W., Blake, M., Thompson, D. and Green, N. 2013. Easter Service Brass. St. Michael's Church. 31 March. Trombone. 140 min.
- Haubrich, W. and Deacon, G. 2013. Gary Deacon Ensemble. Lourensford Estate. 5 April. Trumpet, flugelhorn, trombone. 240 min.
- Haubrich, W. and Blake, M. 2013. Khumba soundtrack recording. Endler Hall. 13 April. Trombone. 240 min.
- Haubrich, W., Thompson, D. and Sharrock, C. 2013. Clive Sharrock Big Band. Kaleidoscope Church and Jazz Club. 5 May. Trombone. 180 min.
- Haubrich, W. and Hartman, S. 2013. Sammy Hartman Ensemble. Catherine's Restaurant. 19, 26 May. Trumpet, flugelhorn, trombone. 40 min each.
- Haubrich, W., Campbell, M.I. and Rossi, M.J. 2013. Mike Campbell Alumni Big Band. Baxter Concert Hall. 1 June. Trombone. 120 min.
- Haubrich, W., Rossi, M.J. and Rustin, W. 2013. Kinshasa, DRC Jazz Festival. Various venues. 14 June. Trombone. 180 min.
- Haubrich, W. and Cassidy, B. 2013. Bruce Cassidy Awesome Big Band. Grahamstown Festival. 29, 30 June. Trombone. 360 min.
- Haubrich, W. 2013. SACM Brass Bash. Baxter Concert Hall. 1 August. Conductor, director. 50 min.
- Haubrich, W. and Sharrock, C. 2013. British Vodacom Film Shoot. Heritage Square. 31 September. Trombone. 2 min.
- Haubrich, W. and Matola, S. 2013. Intsholo. Various venues. 5, 22 October. Trumpet, flugelhorn, trombone. 180 min.
- Haubrich, W., Rossi, M.J., Blake, M. and Thelen, A. 2013. Sonfest German Band. Newlands Brewery, Durban Beerfest, Johannesburg Beerfest. 8-10 November, 12-15 September, 10-13 October. Trombone/euphonium. 120 min each.
- Haubrich, W., Andrews, D.I., Amon, P. and Blake, M. 2013. Studio recording. Milestone Studios. 22 October. Trombone. 180 min.
- Haubrich, W. and Fokkens, A. 2013. Ein Deutches Requiem (Brahms). Endler Hall, Stellenbosch. 27 October. Bass trombone. 75 min.
- Haubrich, W., Campbell, M.I., Lilley, A.C.P. and Gibson, K. 2013. Mike Campbell Ensemble. Royal Cape Yacht Club. 31 October. Trumpet, flugelhorn, trombone. 180 min.
- Haubrich, W., Shout, D. and Smith, I. 2013. Blues Brothers Recording. Sunset Studios, Franschoek. 26 November. Trombone. 180 min.
- Hofmeyr, H.P., The World Orchestra, and Vicent, J. 2013. Partita africana for orchestra. (a) JG Zuma High School, Inanda; (b) KZN Philharmonic Summer Season, City Hall, Durban; (c) Plettenberg Bay Primary School; (d) Dutch Reformed Church Hall, Knysna; (e) Endler Hall, Stellenbosch; (f) City Hall, Cape Town; (a) 4 February; (b) 7 February; (c) 10 February; (d) 11 February; (e) 16 February; (f) 17 February. Composer. 15 min.
- Hofmeyr, H.P., Temmingh, S., Cape Philharmonic Orchestra, C.P.O. and Huyssen, H. 2013. Concerto for Recorder, Strings and Harpsichord. CPO Summer Music Festival, Hugo Lambrechts Auditorium, Cape Town. 18 February. Composer. 12 min. [1st performance].
- Hofmeyr, H.P. 2013. Preludio – Come una lugubre barcarola for piano. Baxter Concert Hall, SACM Staff Concert, 20 February. Composer/pianist. 4 min.
- Hofmeyr, H.P., OSM Camerata and Onken, J. 2013. Notturno elegiaco - Version for chamber orchestra. (a) Odeion School of Music Opening Concert, Odeion, Bloemfontein; (b) New Music Week Gala Concert, Odeion, Bloemfontein; Enoch Sontonga Hall, Pretoria; (d) XIII International Conservatory Week Festival, Glazunov Hall, St. Petersburg, Russia; (e) White Hall of the Polytechnical University, St. Petersburg, Russia; (a) 22 February [1st performance]; (b) 20 July; (c) 30 October; (d) 7 November [1<sup>st</sup> European performance]; (e) 8 November. Composer. 7 min.
- Hofmeyr, H.P., Stapelberg, Z. and University of Stellenbosch Symphony Orchestra, 2013. Pie Jesu – Version for high voice and string orchestra. Endler Concert Series, Endler Hall, Stellenbosch. 1, 3 March. Composer. 3 min.
- Hofmeyr, H.P., Gerber, A. and Jordaan, H. 2013. Crucifixus for cello and organ. (a) Waterkloof DR Church, Pretoria; (b) St Mary's Cathedral, Cape Town; Miederpark DR Church, Potchefstroom. (a) 12 April; (b) 14 April; (c) 16 April. Composer. 9 min.
- Hofmeyr, H.P., Du Toit, G.F. and Stoltz, L. 2013. Mabalêl – Fantasia for flute and piano; Incantesimo & Marimba for solo flute. South African Society of Music Teachers Concert, Collegiate Girls High School Auditorium, Port Elizabeth. 18 April. Composer. 15 min.
- Hofmeyr, H.P., Steltzner, B.L., UCT Symphony Orchestra, U.C.T. and Gueller, B. 2013. Concerto for Clarinet and Orchestra. City Hall, Cape Town. 20 May. (1) Composer, (2) soloist. 23 min. [1st performance].
- Hofmeyr, H.P., Projektchor Schulmusik München 2013, Jetzinger, F. and Eisner, S. 2013. Uqongqothwane for mixed choir. (a) TU München, Munich; (b) Hochschule für Musik und Theater, Munich. (a) 21 May; (b) 22 May. Composer. 4 min.
- Hofmeyr, H.P., Stoltz, L. and Jacobs, L. 2013. Mabalêl – Fantasia for flute and piano; Incantesimo for solo flute. University of KwaZulu-Natal, Durban. 24 May. Composer. 11 min.
- Hofmeyr, H.P., Du Toit-Pierce, M. and Hugo, A. 2013. Kinderland; Ecce homo from Alleenstryd Song cycle on poems by SV Petersen. André Howard Memorial Concert, Endler Hall, Stellenbosch. 25 May. Composer. 8 min.
- Hofmeyr, H.P. and Krawitz, J. 2013. Sonata for Piano. The College Music Society International Conference 2013, Centro Cultural Borges, Buenos Aires. 20 June [1st South-American performance]. (1) Composer; (2) pianist. 17 min.
- Hofmeyr, H.P., Roberts, M., Phillips, B. and Johannesburg Festival Orchestra, 2013. Concerto for Flute and Orchestra. Finals of the UNISA National Wind Competition, ZK Matthews Hall, Pretoria. 6 July. Composer. 22 min.
- Hofmeyr, H.P., KwaZulu-Natal Youth Choir and du Toit, G. 2013. Desert Sun for 8-part mixed choir. Florence International Choir Festival, Florence. 24-26 July. Composer. 5 min.
- Hofmeyr, H.P., OSM Camerata, and Onken, J. 2013. Die Spokewals Version for chamber orchestra. (a) New Music Week Gala Concert, Odeion, Bloemfontein; (b) Enoch Sontonga Hall, Pretoria; (c) XIII International Conservatory Week Festival, Glazunov Hall, St. Petersburg, Russia, (d) White Hall of the Polytechnical University, St. Petersburg, Russia. (a) 26 July [1st performance]; (b) 30 October; (c) 7 November [1<sup>st</sup> European performance]; (d) 8 November. Composer. 4 min.
- Hofmeyr, H.P., Mattei, C., University of Stellenbosch Symphony Orchestra, and Roberts, M. 2013. Concerto for Flute and Orchestra (1st movement). Concerto Festival, Endler Hall, Stellenbosch. 17 August. Composer. 13 min.
- Hofmeyr, H.P., Stoltz, L. and Van Eeden, B. 2013. Sonata for Flute and Piano. Fismer Hall, Stellenbosch. 27 August. (1) Composer; (2) flautist. 14 min.
- Hofmeyr, H.P., Dias, J. and Stoltz, L. 2013. Sonata for Flute and Piano. (a) Chisholm Recital Room, Cape Town; (b) NT Hall, Westerford High School, Cape Town; (c) Hugo Lambrechts Auditorium; (a) 12 September; (b) 24 October; (c) 2 November. Composer. 14 min.
- Hofmeyr, H.P. and Rete Regionale Flauti Toscana, 2013. Il giardino delle Esperidi for solo flute and flute sextet. Florence Musica a impatto zero, I.C. Primo Levi Impruneta, Florence. 29 September [1st European performance]. Composer. 8 min.

- Hofmeyr, H.P. and Taffanel Trio, 2013. *Trio II* for flute, clarinet and piano. (a) Musaion, Pretoria; (b) Sounding south-north, Fismer Hall, Stellenbosch. (a) 13 October; (b) 16 October. Composer. 21 min.
- Hofmeyr, H.P. Amici Choir and Cloete, M. 2013. *Thula, babana – Version for mixed choir*. Baxter Concert Hall, Cape Town. 16 October. Composer. 3 min.
- Hofmeyr, H.P., Joubert, L., Penny, B., Wijnberg, P., Theart, L., Minter, S. and Kelly, J. 2013. *Il giardino delle Esperidi* for solo flute and flute sextet. (a) NT Hall, Westerford High School Cape Town; (b) Hugo Lambrechts Auditorium, Cape Town NT Hall, (a) 24 October; (b) 2 November. Composer/conductor. 8 min.
- Hofmeyr, H.P., Mattei, C. and University of Stellenbosch Symphony Orchestra, 2013. *Des ténèbres - Chorale partita* for orchestra. Huguenot Festival Concert, Endler Hall, Stellenbosch. 26 October. Composer. 10 min.
- Hofmeyr, H.P., Stoltz, L., Theart, L., Minter, S. and Kelly, J. 2013. *Ingoma – Version for flute quartet*. Hugo Lambrechts Auditorium, Cape Town Hugo Lambrechts Auditorium, Cape Town. 2 November. Composer. 6 min.
- Hofmeyr, H.P., St. Mary's Singers, and Burger, C. 2013. Horie petryse ennie fisane for treble choir. *Voyage of Songs Choral Competition*, Bangkok. 8 December. Composer. 3 min.
- Khan, K. 2013. Castaldo, K. W., Moagi, T. and students of University of Michigan. *Ariadne auf Naxos* (Richard Strauss). Mendelssohn Theater, Ann Arbor, Michigan, USA. 28-30 March. Conductor. 117 min.
- Khan, K., Gobbato, A.M.G. and Engelbrecht, L. 2013. *Viva Verdi*. Baxter Concert Hall, Cape Town. 3 & 4 May. Music director/pianist/ conductor. 165 min.
- Khan, K., Wild, M. and members of Cape Town Opera Studio. 2013. *Don Giovanni* (Mozart). Baxter Theatre, Cape Town. 20-24 August. Conductor. 180 min.
- Khan, K. 2013. *Walking Tall*. Benefit for Andrew Merryweather. City Hall, Cape Town. 2 November. Music director/pianist. 100 min.
- Khan, K., Yende, P. and Theron, J. 2013. *Pretty Yende recital*. (a) Montecasino Theatre, Johannesburg; (b) Artscape Opera House Cape Town. (a) 14 November; (b) 16 November. Pianist. 110 min.
- Khan, K. and Crouse, C. 2013. *Il barbiere di Siviglia* (Rossini). Artscape Theatre, Cape Town. 20-23 November. Conductor.
- Khan, K. and Qave, L. 2013. Luthando Qave recital. Miriam Makeba Centre, East London, SA. 1 December. Pianist. 115 min.
- Larey, F. 2013. Solo Recital. Arlan Harris Piano Salon, White Plains, NY, USA. 10 March. Soloist. 70 min.
- Larey, F. 2013. Solo Recital. Bjrling Recital Hall, Gustavus College, St. Peter, MN, USA. 17 March. Soloist. 70 min.
- Larey, F. 2013. Adamant Music School (USA), Faculty Recital. Waterside Hall, Adamant, Vermont, USA. 14 July. Soloist. 10 min.
- Liebl, L.B. and Schulman, S. 2013. Art songs of Britten, Debussy; arias of Britten, Rossini. Wahnfried Recital Room, McGregor. 10 February. Vocal soloist. 100 min.
- Liebl, L.B. and Mueller, I. 2013. Art songs of Butterworth, Foster, Schubert and Largo al factotum from *Il barbiere di siviglia* (Rossini). Waterford Library, Waterford, Wisconsin, USA. 9 July. Vocal soloist. 40 min.
- Liebl, L.B. and Van Schalkwyk, A. 2013. Songmakers' Guild, Songs from A Shropshire Lad (Butterworth) and songs of Britten. Nassau Centre, Newlands. 13 October. Vocal soloist. 40 min.
- Liebl, L.B. and Schulman, S. 2013. *Winterreise* (Schubert), songs of Britten. Teale Music Salon, Barrydale. 27 October. Vocal soloist. 90 min.
- Liebl, L.B. and Schulman, S. 2013. Songs of Wolf and Beethoven, and Christmas Fantasia on a theme by Debussy. Red Roan Ranch, Swellendam. 11 December. Vocal soloist. 100 min.
- Liebl, L.B. and Schulman (piano), S. 2013. *Winterreise* (Schubert), Art songs of Britten, Teale Music Salon, Barrydale. 27 October. Vocal soloist. 90 min.
- Lilley, A.C.P., Gibson, K., Sjostedt, M. and Noren, F. 2013. *Brother Gone*. Tranemo Jazz Festival Performance Centre, Sweden. 29 September. Composer, pianist. 60 min.
- Lilley, A.C.P., Gibson, K., Sjostedt, M., Noren, F., Lindborg, F. and Sedgwick, A. 2013. *Gavin Minter Sextet*. Metropole Jazz Club, Sweden. 3 October. Composer, pianist. 120 min.
- Lilley, A.C.P., Gibson, K., Sjostedt, M., Noren, F., Lindborg, F. and Sedgwick, A. 2013. *Andrew Lilley Sextet*. Perdido Jazz and Blues Club, Rnskldsvik, Sweden. 5 October. Composer, pianist. 60 min.
- Lilley, A.C.P., Gibson, K., Sjostedt, M., Noren, F., Sedgwick, A. and Lindborg, F. 2013. *Gavin Minter Quartet* - Stockholm Jazz Festival. Glen Miller Jazz Club, Stockholm, Sweden. 7 October. Composer, pianist. 60 min.
- Lilley, A.C.P., Sjostedt, M., Noren, F., Sedgwick, A., Gibson, K. and Lindborg, F. 2013. *Andrew Lilley Sextet* - Sundsvall Jazz festival. Sundsvall Performance Centre, Sweden. 8 October. Composer, pianist. 60 min.
- Lilley, A.C.P., Scholtz, M., Kytnar, L., Vicha, R., Zatec Gospel Choir and Maranatha Choir, 2013. *Melanie Scholtz - Czech Republic Tour*. Czech Republic. December. Pianist. 60 min.
- Reolon, J. 2013. *Breakfast Included Septet*. Oude Libertas Amphitheatre, Stellenbosch. 4 March. Composer, pianist. 80 min.
- Reolon, J. 2013. *Outline*, Jason Reolon Quartet. Cape Town International Jazz Festival. 31 March. Composer, pianist. 80 min.
- Reolon, J. 2013. *Outline*, Jason Reolon Trio. The Crypt. 24 May. Composer, pianist. 135 min.
- Reolon, J. 2013. *Jason Reolon Duo*. Swan Jazz Club, Paris, France. 11 June. Composer, arranger, pianist. 120 min.
- Reolon, J. 2013. *Jason Reolon Quartet*. The Jazz Barage, Zurich, Switzerland. 15 June. Composer, pianist. 90 min.
- Reolon, J. 2013. *Jason Reolon Quartet*. The Jazz Bar, Edinburgh, Scotland. 20 June. Composer, pianist. 90 min.
- Reolon, J. 2013. *Jason Reolon Quartet*. Gregorys Jazz Club, Rome, Italy 22 June. Composer, pianist. 90 min.
- Reolon, J. 2013. *Double Standards Sextet*. Grahamstown Standard National Jazz Festival. 29 June. Arranger, pianist. 80 min.
- Reolon, J. 2013. *Celebrating Standards International Quintet*. Grahamstown Standard National Jazz Festival. 1 July. Pianist. 80 min.
- Reolon, J. and Johannes, S. 2013. *International Vocal Celebration Sextet*. Grahamstown Standard National Jazz Festival. 1 July. Pianist. 80 min.
- Reolon, J. 2013. *Jason Reolon Quartet*. The Cape Town Royal Yacht Club Jazz Concert Series. 7 July. Composer, pianist, percussionist. 135 min.
- Reolon, J. 2013. *Mike Horne Trio*. The Crypt. 10 & 11 July. Composer, pianist. 135 min.
- Reolon, J. 2013. Outline, Jason Reolon Trio. Endler Auditorium, Stellenbosch. 24 July. Composer, pianist. 120 min.
- Reolon, J. 2013. *Jason Reolon/Buddy Wells*. The Crypt. 25 July, 9 October. Composer, pianist, percussionist. 135 min.
- Reolon, J. 2013. *Jason Reolon Solo*. Val De Vie Summer Jazz Series Val De Vie Summer Jazz Series. 6, 13, 20 September. Composer, pianist, percussionist. 135 min.
- Reolon, J. and Shout, D. 2013. *Shout Quintet*. SACS Music Festival. 27 October. Pianist. 60 min.
- Reolon, J. 2013. *White Collar Club*. Centre for the Book. 30 October. Pianist. 60 min.
- Rossi, M.J., Suesse, H. and Beblaar, P. 2013. *Jazz und Elektronik*. Mahogany Room, Cape Town. 13 February. Soloist, ensemble performer. 150 min.
- Rossi, M.J. 2013. *The Forty Club, Yearning*. Mahogany Room, Cape Town. 13 February. Composer. 15 min.
- Rossi, M.J., Rustin, W., Momple, J. and Blasse, D. 2013. *Cape Dutch Connection*. Le Petite Ferme, Franshoek. 14 February, 2 March. Soloist, ensemble performer. 180 min.
- Rossi, M.J., Faku, F., Suesse, H. and UCT Dance School, 2013. *Trespassing Permitted*, (Donald Gordon Creative Arts Award), *Infecting the City Festival*. Church Square, Cape Town 12-13 March. Soloist, ensemble performer. 90 min.
- Rossi, M.J., Campbell, M.I. and UCT Symphonic Jazz Orchestra, 2013. *UCT Jazz Symphonic Orchestra*, *Concerto for Tenor Saxophone, Strings & Woodwinds*. Baxter Concert Hall, University of Cape Town. 15 March. Soloist, ensemble performer. 18 min.
- Rossi, M.J. 2013. *Buon Giorno Le Marche, Arrivo in Abruzzo*, The Forty Club. Nassau Centre, Cape Town. 17 March. Composer, soloist. 30 min.
- Rossi, M.J., Haubrich, W., Ford, A.F., Rustin, W., Naidoo, K. and Vernick, G. 2013. *The Mike Rossi Project Jazz*. Nassau Centre, Cape Town. 17 March. Soloist, ensemble player, leader. 110 min. 110 min.
- Rossi, M.J., Rustin, W., Horne, M., Gold, L. and Hellaby, B. 2013. *The Lee Gold Collective* The Crypt Jazz Club, Cape Town. 19-20 April. Soloist, ensemble player, leader. 180 min. 180 min.
- Rossi, M.J., Rustin, W., Gibson, K. and Petersen, A.P. 2013. *The Mike Rossi Quartet*. The Crypt Jazz Club,

- Cape Town. 10-11 May. Soloist, ensemble player, leader. 180 min. 180 min.
- Rossi, M.J. and Deacon, G.D. 2013. Mike Rossi & Gary Deacon Duo. The Crypt Jazz Club, Cape Town. 15-16 May. Soloist, performer. 180 min. 180 min.
- Rossi, M.J., Reolon, J.R., Haubrich, W.H., Rustin, W., Thomson, L. and Naidoo, K. 2013. The Mike Rossi Project: Trespassing Permitted (CD Launch). Mahogany Room, Cape Town. 29 May. Soloist, ensemble performer. 120 min. 120 min.
- Rossi, M.J. 2013. Contrasts of Cape Town, The Forty Club. Long Night of Culture, Kasierslautern, Jazz Club Karlsruhe, Karlsruhe, Germany 8-9 June. Composer. 15 min.
- Rossi, M.J., Plank, H.P., Di Clemente, G., Ridley, M., Gibbens, W. and Brubeck, D. 2013. Darius Brubeck Quartet. Long Night of Culture, Kasierslautern, Jazz Club Karlsruhe, Karlsruhe, Germany. 8-9 June. Soloist, ensemble performer. 120 min. 120 min.
- Rossi, M.J. 2013. Contrasts of Cape Town, Simba Samba, Yearning, The Forty Club, Buon Giorno Le Marche, K.G. Cape Town, Should I?, Night Fright!, Scungilli. JazzKif International Jazz Festival, Kinshasa, Democratic Republic of the Congo. 14-17 June. Composer. 100 min.
- Rossi, M.J., Haubrich, W.H., Ford, A., Rustin, W., Thomson, L. and Naidoo, K. 2013. The Mike Rossi Project: Trespassing Permitted. JazzKif International Jazz Festival, Kinshasa, Democratic Republic of the Congo. 14-17 June. Soloist, ensemble player, leader. 150 min.
- Rossi, M.J., Reolon, J.R., Thomson, L., Haubrich, W.H., Rustin, W. and Naidoo, K. 2013. The Mike Rossi Project, Trespassing Permitted. DSG Hall, Standard Bank Jazz Festival, Grahamstown. 26 June - 2 July. Soloist, performer, leader. 75 min.
- Rossi, M.J. 2013. Title of works: Contrasts of Cape Town, Simba Samba, Yearning, The Forty Club, Buon Giorno Le Marche, K.G. Cape Town, Should I?, Night Fright!, Scungilli. DSG, Standard Bank Jazz Festival, Grahamstown. 26 June - 2 July. Composer. 60 min.
- Rossi, M.J., Brubeck, D., Di Clemente, G., Savoretti, F. and Arcevia, 2013. Concerts, CD release & workshops: Arcevia-UCT Student & Teacher Exchange, Impronte Mediterranee. Quarna Sotto, Istituto Comprensivo Anselmi, Arcevia, Controguerra, Recanate, Italy. 24 July-12 August. Soloist, performer, teacher. 18 days.
- Rossi, M.J., Morganti, M., Ford, A., Horne, M. and Ridgeway, D. 2013. Massimo Morganti (Italy) Quintet. The Crypt Jazz Club, Cape Town. 23 & 24 August. Soloist, performer, organizer. 180 min.
- Rossi, M.J. and Deacon, G.D. 2013. Mike Rossi and Gary Deacon Duo. The Crypt Jazz Club, Cape Town. 4-5 September. Soloist, performer, teacher. 180 min.
- Rossi, M.J., Campbell, M.I., Del Ferro, M.D. and Naidoo, K. 2013. Mike Del Ferro Quartet. Hilton Arts Festival, Hilton, Kwazulu-Natal. 13 September. Soloist, ensemble performer. 90 min.
- Rossi, M.J. 2013. Night Fright! Hilton Arts Festival, Hilton, Kwazulu-Natal. 13 September. Composer. 8 min.
- Rossi, M.J., Erdem, K.E., Peters, M. and Naidoo, K. 2013. South African Association for Jazz Education (SAJE) Festival, University of Kwazulu-Natal, Durban. 14-15 September. Soloist, ensemble performer. 60 min.
- Sandmeier, R. and Vukovic, V. 2013. SACM Staff Concert. In darkness let me dwell (Dowland); Ricercada (Ortiz). Baxter Concert Hall, Cape Town. 19 February. Viola da gamba. 10 min.
- Sandmeier, R. and Bezuidenhout, M.P. 2013. Infecting the City Festival: Shades of Grey. Dominik Hink. Slave Church, Long Street, Cape Town. 14, 16 March. Concept and research, speaker. 30 min.
- Sandmeier, R., Fokkens, A., UCT String Ensemble, 2013. Baroque Gems. Overture-Suite (Telemann). Baxter Concert Hall, Cape Town 16 April. Soloist (viola da gamba). 20 min.
- Sandmeier, R. and Cape Consort, 2013. Four Dramatic Scenes: Schütz, Purcell, Caresana, Charpentier. Chisholm Recital Room, SACM, Cape Town. 21 June. Viola da gamba. 60 min.
- Sandmeier, R. and Huyssen, H. 2013. Lecturers' Concert. Strubenholm Recital Room, SACM, Cape Town. 28 June. Viola da gamba, violin. 60 min.
- Steltzner, B.L., Cock, R. 2013. Last Night of the Proms. City Hall, Cape Town. 11-12 May. Principal Clarinet. 165 min.
- Steltzner, B.L. and Amadeus Winds. 2013. Passacaille (Barthe), Quintet No.1 (Cambini), Quintet, Op.79 (Klughardt), Trois Pièces Brèves (Ibert), Pastorale (Pierné), Variations on Sarie Marais (Klein), Polka from The Golden Age (Shostakovich, arr. Smith), Old Hungarian Dances of the Seventeenth Century (Farkas), I Got Rhythm (Gershwin, arr. Skirrow). Amadeus Winds at Nederberg, Nederburg Estate, Paarl. 27 October. Clarinet. 90 min.
- Steltzner, B.L. and Amadeus Winds. 2013. Passacaille (Barthe), Quintet in E-flat (Reicha), Quintet Op.79 (Klughardt), Novelette (Poulenc, arr. Emerson), Variations on Sarie Marais (Klein), Polka from The Golden Age (Shostakovich, arr. Smith), Old Hungarian Dances of the Seventeenth Century (Farkas). Worcester Music Society, Auditorium of the Institute for the Blind, Worcester. 8 November. Clarinet. 70 min.
- Steltzner, B.L., Khan, K., Cape Town Opera and Cape Philharmonic Orchestra. 2013. The Barber of Seville (Rossini). Artscape, Cape Town. 20-24 November (6 performances). Principal clarinet. 180 min.
- Steltzner, B.L., Cock, R. and Cape Philharmonic Orchestra. 2013. Christmas Carols and Starlight. (a) Bishops Chapel, Rondebosch; (b) Oude Libertas Amphitheatre, Stellenbosch. (a) 15 December; (b) 21-22 December. Principal clarinet. 120 min.
- Steltzner, B.L., Cock, R. and Cape Philharmonic Orchestra. 2013. Lloyd Webber and Friends. Oude Libertas Amphitheatre, Stellenbosch. 18 December. Principal clarinet. 120 min.
- Steltzner, B.L. and du Toit, R. 2013. Concerto for Clarinet, Adagio (Mozart). Groote Kerk, Cape Town. 25 December. Soloist. 8 min.
- Steltzner, B.L., Cock, R. and Cape Philharmonic Orchestra. 2013. Last Night of the Proms. City Hall, Cape Town. 11-12 May. Principal clarinet. 165 min.
- Tiffin, A.J. and Ledbetter, D. 2013. Facing South Live In Montagu. Montagu. 27 January. Vocalist. 120 min.
- Tiffin, A.J., Ledbetter, D., Minter, G. and UCT Jazz performance students, 2013. Aquarela Do Brasil, The Music of Brazil. Baxter Concert Hall, Cape Town. 26 February. Vocalist, director. 90 min.
- Tiffin, A.J. and Tanguy, D. 2013. Deborah and Amanda Tiffin Duo. Deborah Tanguy. (a) Mahogany Room, Cape Town (b) WITS Music Concert Series, The Music Room, WITS University, Johannesburg. (a) 17 March; (b) 18 March. Vocalist. 90 min.
- Tiffin, A.J., Campbell, M.I. and Scholtz, M. 2013. Jazz in the Park. Maynardville Open Air Theatre, Cape Town. 14 April. Vocal soloist, director, producer. 180 min.
- Tiffin, A.J., Brauteseth, R. and Goosen, H. 2013. Amanda Tiffin Trio - Live at The Crypt. The Crypt Jazz Club, Cape Town. 26-27 April. Soloist (voice and piano). 130 min.
- Tiffin, A.J. and Deacon, G. 2013. Gary Deacon Duo Live at the Crypt. The Crypt Jazz Club, Cape Town. 26-27 June. Vocalist, pianist. 130 min.
- Tiffin, A.J., Ledbetter, D., Goosen, H. and Lazar, C. 2013. Amanda Tiffin Quartet, The Crypt Jazz Club, Cape Town. 30-31 June. Vocalist, pianist. 130 min.
- Tiffin, A.J., Matsunaga, S., Kaptein, S. and Bottazo, F. 2013. a.s.k Trio with Fabio Bottazzo. Shikiori Concert Room, Fukuoka, Japan. 13 July. Vocalist, pianist. 90 min.
- Tiffin, A.J., Hsieh, C., Giuliani, R., Chang, K., Ruocco, J., Smith, D., Ferber, A., Schoenecker, J., De Nolf, B. and Verderame, M. 2013. International Jazz Masters Concert. Da Aan Park, Taipei, Taiwan. 20 July. Vocalist. 90 min.
- Tiffin, A.J. and Ledbetter, D. 2013. Cape Town Folk and Acoustic Festival. Baxter Concert Hall, Cape Town. 26 July. Vocalist. 10 min.
- Tiffin, A.J. and Tanguy, D. 2013. Deobrah Tanguy Amanda Tiffin Duo. The Crypt Jazz Club, Cape Town. 22 August. Vocalist, pianist. 130 min.
- Tiffin, A.J. and Ledbetter, D. 2013. Facing South Live at the Cottage Club. The Cottage Club Concert Venue, Capri, Cape Town. 24 November. Vocalist. 90 min.
- Watt, M., le Roux, J. and Hennemann, S. 2013. Vier Liedesliedere op gedigte van Marlene van Niekerk. Festival Hall, Austrian National Gallery, Linz, Austria. 17 February. Composer. 16 min.
- Watt, M. and Vorster, B. 2013. Four Nocturnes for Piano. Baxter Concert Hall, Cape Town. 31 July. Composer. 20 min.
- Watt, M. and Bacharova, F.A. 2013. String Quartet No. 2. Baxter Concert Hall, Cape Town. 31 July. Composer. 20 min.
- Watt, M., Mallows, F. and de Vries, M. 2013. Two Tableaux for Vibraphone and Piano. Duo FourlVTwo. (a) Beethoven Hall, Department of Music, Rhodes University, Grahamstown; (b) Music Department, University of Stellenbosch. (a) 27 August; (b) 21 November. Composer. 12 min.
- Watt, M. and Stoltz, L. 2013. Sonata for Solo Flute. Chisholm Recital Room, SACM, UCT, Cape Town. 12 September. Composer. 13 min.
- Watt, M., Gerber, M. and Meyer, M. 2013. Vier Liedesliedere op gedigte van Marlene van Niekerk. Musaion, Department of Music, University of Pretoria, Pretoria. 25 September. Composer. 16 min.
- Watt, M. and SACM Amici Choir, 2013. Missa Baltica for mixed chorus and soloists. Bishops Capel, Rondebosch, Cape Town. 23 October. Composer. 25 min.

Watt, M. and College of Charleston Chamber Singers, 2013. O Sacrum Convivium for mixed chorus. National Collegiate Choral Organisation (USA). Cathedral of St. Luke and St. Paul, Charleston, SC, United States. 2 November. Composer. 7 min.

### **Recordings**

Hofmeyr, H.P., Mossolow, S. and Odeion String Quartet. 2013. String Quartet I, String Quartet II, Of Darkness and the Heart. Produced by Grace, J. and Herbst, T. ZA58G1300001 11. (1) Composer; (4,5) co-producers. 71 min.

Larey, F. 2013. Franklin Larey plays Scarlatti, Mozart, Chopin and Beethoven. Arlan Harris, producer. 884501921350. Pianist. 61 min.

Larey, F. 2013. Jean Pierre Steyn: Three Songs (Liefdestog). Published on YouTube. Pianist. 11 min.

Lilley, A.C.P., Minter, G., Sjostedt, M., Olanderson, K., Sedgwick, A. and Lindborg, F. 2013. Gavin Minter Beautiful Friendship. ZA Y51 000 45-56. Pianist, producer. 60 min.

Lilley, A.C.P., Xaluva, N., Rustin, W., Gibson, K., Dyer, B. and Dyantsi, M. 2013. Kusile: Nomfundo Xaluva. D RVL 640 133 Universal Records. Performer (piano) and producer. 60 min.

Reolon, J. 2013. Breakfast Included, Welcome to Today. BINC2013. Composer, arranger, Performer (piano, Fender Rhodes). 60 min.

Reolon, J. 2013. Restless Natives - Acoustic 1. RN123. Composer, pianist, co-producer. 60 min.

Reolon, J. 2013. Restless Natives - Acoustic 2. RN123. Composer, pianist, co-producer. 60 min.

Rossi, M.J., Di Clemente, G. and Savoretti, F. 2013. Impronte Mediterranee. Paesaggio Acustici (PA001), Cupramaritti. Performer, composer. 54 min.

Rossi, M.J., Pignotti, W.P., De Angelis, A.D. and Macrini, E.M. 2013. Summer Ballads: Wam Trio. Il Pigstudio di Cupramarittima. Soloist, performer. 43 min.

Rossi, M.J., Ford, A.F., Rustin, W., Thomson, L.T., Naidoo, K. and Haubrich, W. 2013. The Mike Rossi Project: Trespassing Permitted. TP/ROS 13 2013, Cape Town. Soloist, performer, composer. 70 min.

Tiffin, A.J., Lila, L., Skillen, R., Tokalon, C., Chernev, K., Nordling, P. and Ross, S. 2013. Sisters of the Moon (Lindie Lila). ZAI981300016, ZAI981300024. Producer, arranger, musical director, backing vocals. 50 min.

# **DEPARTMENT OF RELIGIOUS STUDIES**

(Including the Institute for Comparative Religion in Southern Africa, the Research Institute on Christianity and Society in Africa, and the Centre for Contemporary Islam)

### **Head of Department: Professor Abdulkader Tayob**

### **Departmental Profile**

The Department of Religious Studies maintains a strong research profile through its staff and its three research institutes. The Department houses the Institute for Comparative Religion in Southern Africa (ICRSA), directed by Professor David Chidester, which is engaged in research on religion, religions and religious diversity; the Research Institute on Christianity and Society in Africa (RICSA), directed by Emeritus Professor James Cochrane, which is involved in research on the social impact of Christianity in South Africa and the African continent; and the Centre for Contemporary Islam (CCI), directed by Dr. Andrea Brigaglia, which has undertaken interdisciplinary projects, including international research on Islamic law in Africa, Islamic publics in Africa, and the presidential legacy project on the manuscript archives of Timbuktu. Still under the co-direction of Emeritus Professor Cochrane, the International Religious Health Assets Programme (IRHAP, previously ARHAP) now with its UCT Hub office in the School of Public Health and Family Medicine in the Faculty of Health Sciences, researches various issues on the interface between religion and public health in Africa and beyond. These research initiatives of the Department have proved to be particularly important for the research development of the many postgraduate students employed by them and have also served to attract national and international researchers to the Department. The Department features two NRF A-rated researchers, Professor David Chidester and Emeritus Professor John de Gruchy, the latter of whom is retired but remains an active researcher. In addition the Department publishes the *Journal for Islamic Studies* which is accredited by the Department of Education and the *Annual Review of Islam in South Africa*.

### **Departmental Statistics**

Professors	2
Associate Professors	2
Senior Lecturers	3
Lecturers	1
Postdoctoral Fellows	4
Honorary Research Associates	1
Research Staff	1
Administrative and Clerical Staff	2
<b>Total</b>	<b>16</b>

### **Honorary staff**

Emeritus Professors	2
Adjunct Associate Professors	1
<b>Total</b>	<b>3</b>

### **Students**

Doctoral	15
Master's	16
Honours	5
Undergraduate	741
<b>Total</b>	<b>777</b>

### **Research Fields and Staff**

#### **DR LOUIS BLOND**

Continental Philosophy, Contemporary Jewish Philosophy, Jewish Religious Discourse and Critical Theory

#### **DR ANDREA BRIGAGLIA**

Islam in Africa; Sufism, religious literature and scholarly networks in 20<sup>th</sup> century's Nigeria, Qur'anic exegesis in West African languages

#### **PROFESSOR DAVID CHIDESTER**

History of religions; religion in North America; religion in South Africa.

#### **EMERITUS PROFESSOR JAMES COCHRANE**

Religion; globalisation; public health; society; Africa; migration.

#### **EMERITUS PROFESSOR JOHN DE GRUCHY (SENIOR SCHOLAR)**

Christian theology, Bonhoeffer; South African Church; theological aesthetics; reconciliation; public theology; missionary history.

#### **DR ANNIE LEATT**

Buddhist studies, theories and practices of post-colonial secularism, Asian theories of body, personhood and self-cultivation, political philosophy, critical theory.

#### **DR ASONZEH UKAH**

Religion and Globalisation; Transnational Religion; Media and Material Culture of African Pentecostalism; Popular Culture of Pentecostalism; Pentecostal Advertising; Faith and Films; Urbanism and Sacred Space.

#### **ASSOCIATE PROFESSOR SA'DIYYA SHAIKH**

Islamic intellectual history; Qur'anic studies; hermeneutics; Sufism; Islam and gender; women in religion; feminist theory; religion; sexuality and reproductive health.

#### **PROFESSOR ABDULKADER TAYOB**

Religion Education; Islam and public life in Africa; intellectual trends in modern Islam; and Islam and Religious Studies.

#### **ASSOCIATE PROFESSOR CHARLES WANAMAKER**

Socio-rhetorical Interpretation; Socio-rhetorical Commentary on 1 Corinthians; Cognitive Science and the Study of Early Christianity.

#### **ADJUNCT ASSOCIATE PROFESSOR MUNEER FAREED**

Islamic law, economics, Islam and development

#### **Honorary Research Associates**

Dr Karl Georg Jechoutek

#### **Postdoctoral Research Fellows**

Dr Phillip David Dexter

Dr Mauro Nobili

Dr Elaine Nogueira-Godsey

Dr Fatima Seedat

#### **Distinguished Visitors**

Professor Peter Danchin – University of Maryland, Law School

Professor John Drabinski - Amherst College

#### **Visiting Scholars**

Professor Wolfram Weisse – Hamburg University

Professor Cornelia Roux – North West University

Dr Rene Ferguson – Wits University

Professor Torsten Hylen – Dalarna University

#### **Contact Details**

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UCT General enquiries: +27 21 650 9111

UCT web: <http://www.uct.ac.za>

## Research Output

### Authored books

De Gruchy, J.W. 2013. *Led Into Mystery: Faith and Seeking Answers in Life and Death*. London: SCM Press. 226pp. ISBN 9780334047360.

### Edited books

Lienemann-Perrin, C. and Cochrane, J.R. (eds) 2013. *The Church and the Public Sphere in Societies in Transition*. 278pp. Dorpspruit, South Africa: Cluster Publications. ISBN 9781920620042.

### Chapters in books

Chidester, D.S. 2013. Religion Education and the Transformational State in South Africa. In Silvio Ferrari and Rinaldo Cristofori (eds), *Religion in the Public Space: Volume III*, pp. 185-207. Ashgate: Surrey: Ashgate. ISBN 978-1-4094-3602-7.

Cochrane, J.R. 2013. Introduction: the church and the public sphere in societies in transition. In Christine Lienemann-Perrin & James R. Cochrane (eds), *The Church and the Public Sphere in Societies in Transition*, pp. ix-xvi. Dorpspruit, South Africa: Cluster Publications. ISBN 9781920620042.

De Gruchy, J.W. 2013. Dietrich Bonhoeffer. In Meister & Beilby (eds), *The Routledge Companion To Modern Christian Thought*, pp. 217-226. London and New York: Routledge, Taylor and Francis Group, London and New York. ISBN 9780415782173.

De Gruchy, J.W. and Holness, L.J. 2013. Mentoring younger scholars in theological education in Africa. In Isabel Apawo Phiri and Dietrich Werner (eds), *Handbook Of Theological Education In Africa*, pp. 852-857. Dorpspruit, South Africa: Cluster Publications. ISBN 9781920620011.

Kusmierz, K. and Cochrane, J.R. 2013. Public church and public theology in South Africa's political transformation. In Christine Lienemann-Perrin & James R. Cochrane (eds), *The Church and the Public Sphere in Societies in Transition*, pp. 49-90. Dorpspruit, South Africa: Cluster Publications. ISBN 9781920620042.

Saikh, S. 2013. In search of Al-Insan: Sufism, Islamic law, and gender. In E. Aslan and M. Hermansen and E. Medeni (eds), *Muslima Theology: The Voices of Muslim Women Theologians*, pp. 267-308. 3rd edition. Frankfurt: Peter Lang. ISBN 9783631628997.

Wanamaker, C.A. 2013. *Corinthians*. In The CEB Study Bible with Apocrypha, pp. 303-333. United States of America: E. T. Lowe Publishing. ISBN 9781609260293.

### Articles in peer-reviewed journals

Ahjum, G. 2013. Re-constructing a religious identity through activism in an Islamist movement: experiences of female members of Qibla. *Journal for Islamic Studies*, 33: 151-184.

Baderoon, G., Hoel, N. and Shaikh, S. 2013. Theorising experience, subjectivity and narrative in studies of gender and Islam. *Journal for Islamic Studies*, 33: 3-13.

Blond, P.L. 2012. Translation and interpretation in contemporary Jewish philosophy. *Journal for the Study of Religion*, 25(2): 89-110.

Brigaglia, A. 2013. Two exegetical works from twentieth-century west Africa: shaykh Abu Bakr Gumi's *Radd al-adhhan* and shaykh Ibrahim Niasse's *Fi riyyad al-tafsir*. *Journal of Qur'anic Studies*, 15(3): 253-266.

Brigaglia, A. and Nobili, M. 2013. Central Sudanic Arabic scripts (Part 2). *Barnawi. Islamic Africa*, 4(2): 195-223.

Chidester, D.S. 2013. "Colonialism and religion" in critical research on religion. *Critical Research on Religion*, 1: 87-94.

Chidester, D.S. 2013. Postgraduates producing knowledge. *Journal for the Study of Religion*, 26(1): 5-7.

Chidester, D.S. 2013. Thinking black: circulations of africana religion in imperial comparative religion. *Journal of Africana Religions*, 1(1): 1-27.

Cochrane, J.R. 2013. Spiritual capacity, spirituality and the challenge of freedom. *Journal of Theology for Southern Africa*, 145: 5-17.

De Gruchy, J.W. 2013. "Real presence" and sacramental praxis - reformed reflections on the Eucharist. NGTT: Ned Geref Teologiese Tydskrif, 54(3&4): 117-125.

De Gruchy, J.W. 2013. The contest for reformed identity in South Africa during the church struggle against apartheid. NGTT: Ned Geref Teologiese Tydskrif, 54(1 & 2): 19-27.

Hoel, N. 2013. Embodying the field: a researcher's reflections on power dynamics, positionality and the nature of research relationships. *Fieldwork in Religion*, 8(1): 27-49.

Hoel, N. and Shaikh, S. 2013. Sexing Islamic theology: theorising women's experience and gender through 'abd-Allah and khalifah'. *Journal for Islamic Studies*, 33: 127-150.

Hoel, N. and Shaikh, S. 2013. Sex as ibadah: Religion, gender, and subjectivity among South African Muslim women. *Journal of Feminist Studies in Religion*, 29(1): 69-91.

Kerlis, B. 2013. Sacred spaces in virtual places: locating religion in the financial market. *Journal for the Study of Religion*, 26(1): 23-44.

Nogueira, E. 2013. A history of resistance: Ivone Gebara's transformative feminist liberation theology. *Journal for the Study of Religion*, 26(2): 89-106.

Patel, N. 2013. Exploring South African girlhoods: the self-identifications of young Muslim female learners in post-apartheid South African high schools. *Journal for the Study of Religion*, 26(1): 61-81.

Seedat, F. 2013. Islam, feminism, and Islamic feminism: between inadequacy and inevitability. *Journal of Feminist Studies in Religion*, 29(2): 25-45.

Seedat, F. 2013. When islam and feminism converge. *Muslim World*, 103: 404-420.

Shaikh, S. 2013. Feminism, epistemology and experience: critically (En)gendering the study of Islam. *Journal for Islamic Studies*, 33: 14-47.

Tayob, A.I. 2013. Al Faruqi between the history of religions and islamic theology. *Numen*, 60(2-3): 230-250.

Tayob, A.I. 2013. Kadhis courts in Kenya's constitutional review (1998-2010): a changing approach to politics and state among Kenyan Muslim leaders. *Islamic Africa*, 4(1): 103-124.

Von Benecke, G. 2013. From "threads" to threats: religion, the public sphere, and why scholars need to keep an eye on online "posts". *Journal for the Study of Religion*, 26(1): 9-22.

Weinberg, J. 2013. Surfing the shifting boundary between sacred and profane: confluence, dwelling and crossing. *Journal for the Study of Religion*, 26(1): 45-59.

Woodhull, J. 2013. Sacred uncertainty: hope, fear, and the quest for transcendence. *Journal for the Study of Religion*, 26(1): 83-100.

## SCHOOL OF DANCE

### Director: G. M. Samuel

### School Profile

Academic enquiry (analysis, documentation and publication) and creative scholarship (choreography, direction and performance) inform and constitute a significant and balanced part of the diverse outputs of our School. The participation of staff and students in a variety of dance projects at under- and postgraduate levels acknowledges the coordinate functions of opportunity and responsibility that motivate all UCT endeavour in Africa and universally. Art practice is our business, as referenced in a democratic, multicultural, (South) African society.

Particular awareness of the role of arts and culture in the multicultural, national psyche drives many of our community-focused collaborations.

Highlights of the year include performances, installations, lecture demonstrations, publications, symposia and seminars as well as a range of collaborative engagements (productions and work exchanges) with the following national and international organizations:

Aardklop Kunstfees, AFDA, Africa Tikkun, African Dance Theatre, African Theatre Association, Artscape, Battsworth Arts Centre, Baxter Theatre, The Benesh Institute, Bishops Diocesan College, Bovim Ballet, Cambridge Scholars Publications, Cape Academy of the Performing Arts, Cape Celtic Dance Academy/ Company, Cape Dance Company, Cape Junior Ballet Company, Cape Town City Ballet Company, Cape Town Jewish Seniors Caribbean Examination Council (Jamaica), Caribbean Journal of Education (Jamaica) Cecchetti Society of Southern Africa, Cedar House School, Council on Higher Education (South Africa), Dance Factory, Dance for All, Dance Umbrella Festival (Johannesburg), Elizabeth Sneddon Theatre (Durban), FDesign Marketing Media, Flatfoot Dance Company, Gordon Institute for Performing and Creative Arts, Highlands House, Historic Schools Restoration Project, Hybridmedia Solutions, Irish Dance South Africa, Ikapa Dance Theatre, International Spanish Dance Society, Jazzart Dance Theatre, Jikeleza Dance Project, Jonkunno Arts Journal (Jamaica), Klein Karoo Nasionale Kunstfees, KykNet, MNet LeftfeetFIRST Dance Theatre, NasPers: Media 24. (Die Burger, Die Beeld), National Arts Council, National Creative Arts Youth Festival, National Dance Education Organization (USA), National Society of Dance Teachers Association, Reddam High School, Remix Dance Company, Rhodes University Drama Department, Royal Academy of Dance, SA College of Music, SA Dance Journal, SA Spanish Dance Society,

SA Tourism Board, Temple University, Philadelphia, USA, Theatre Arts Admin Collective, Theatre Dance Association, Tshwane Education Department, Tshwane University of Technology, UCT Drama Department, UCT Faculty of Health Sciences, UCT Graduate School of Business, Umalusi, Underground Dance Theatre, University of Jamaica, University of KwaZulu-Natal, University of North Carolina at Greensboro, USA, University of Stellenbosch Drama Department, University of Surrey Dance, Film & Theatre Department, University of the Witwatersrand, Vadhini Indian Arts Academy, Western Cape Celtic Dance Association, Western Cape Education Department, Western Province Dance Teachers Association, Wilvan School of Dance, Wits School of Arts and the Zimbabwe National Trust

## Departmental Statistics

### Permanent and Long-term Contract Staff

Associate Professors	1
Senior Lecturers	3
Lecturers	4
Administrative and Support Staff	2
<b>Total</b>	<b>10</b>

### Students

Doctoral	1
Masters	2
Honours	1
Undergraduate	77
International Exchange Program	76
Interdisciplinary	7
<b>Total</b>	<b>164</b>

### Research Fields and Staff

#### Full-time Staff

**MS D. CHEESMAN**  
Classical ballet; Dance education; Western dance history

**MR D. FOURIE**  
Western dance musicology; Performance

**DR E. GREYLING**  
Dance notation; Dance ethnology; Dance criticism; Classical ballet; Dance photography; Dance videography; Dance archives

**MS L. RAIZENBERG**  
Choreography; Classical ballet; National dance; Theatre technology; Western dance history

#### MR M. RANI

African dance; Choreography; African dance history

#### MR G.M. SAMUEL

Choreography; Classical ballet; Direction; Dance education; Performativity

#### MS L. WILSON

Contemporary dance; Dance education; Western dance history

#### Part-time Staff

#### DAME M. BECKER

Spanish dance: performance, choreography, tuition

#### MS C. BOTHA

Contemporary dance: performance, choreography, tuition

#### MS S. BOTHA

Dance education

#### MS N. ELLIOTT

Choreography; Physical theatre

#### MR S. KOYANA

African dance: performance, choreography, tuition

#### MR A. PARKER

Contemporary Dance; Physical theatre; Western dance history; Choreographic Studies

#### MR T. PONDO

African music: performance

#### EMERITA ASSOC PROF E. TRIEGAARDT

Classical ballet: tuition, direction/production

#### MR M. WILLIAMS

Ballet: performance, tuition

#### Contact Details

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<http://www.dance.uct.ac.za/>

## Research Output

### Chapters in books

Samuel, G., Friedman, S., Triegardt, E. and Rani, M.X. 2012. Left feet first: dancing disability. In Sharon Friedman (ed.), Post apartheid dance many bodies many voices many stories, pp. 127-146. Newcastle upon Tyne: Cambridge Scholars Publishing. ISBN 144384036.

### Articles in peer-reviewed journals

Wilson, L. 2013. Nurturing students' openness to diverse movement forms and techniques in higher education. South African Dance Journal, 2(1): 20-35.

### Peer-reviewed published conference proceedings

Wilson, L. 2013. The Spirit of Jah in the dance classroom with disadvantaged learners of African ancestry. In S. Friedman (ed.), Proceedings of Confluences 7: Dance Religion and Spirituality. Cape Town, 11-13 July 2013, Cape Town: Department of Dance, University of Cape Town. ISBN 9780799224955.

Wilson, L. 2013. Factors that impact the teaching of cultural dances in studio dance programs in the Caribbean. In K. Harvey (ed.), Proceedings of the National Dance Education Conference (NDEO): The Art of Teaching 23 – 27 October, Florida, USA.

### Performances

Wilson, L. 2013. Ancestral Whisperings (Extended version), Confluences 7: Dance religion and spirituality. Ellie Jacobs, Tandile Mbatsha. School of Dance, University of Cape Town. 12 July. Choreographer and performer. 20 minutes

Wilson, L. 2012. Ancestral Whisperings, Jomba! Contemporary Dance Fringe Festival. Elizabeth Sneddon Theatre, Durban. 3 September. Choreographer and performer. 12 minutes

Wilson, L. 2012. Blood Sweat and Tears, Dance UCT 2012: Unknown Spaces. Kristina, Johnstone. Baxter Concert Hall, Cape Town. 8-10 November. co-choreographer and costume designer. 12 minutes

Wilson, L. and Fourie, D.J. 2012. Dancers Do it Musically. School of Dance, University of Cape Town. 26 October 2012. co-performer. 3 minutes

Wilson, L. 2012. Movement Choirs, Dance UCT 2012: Unknown Spaces. Mamela Nyamza. Baxter Theatre Foyer, Cape Town. 8 -10, November. co-director, costume designer. 10 minutes

Wilson, L. 2012. Roots Infinity, Dance UCT 2012: Unknown Spaces. Baxter Concert Hall, Cape Town. 8-10 November 2012. Choreographer, costume designer, lighting designer. 5 minutes

Wilson, L. 2012. The Body Electric Ensemble Finale, Faculty of Health Sciences centenary concert Sing the Body Electric. School of Music and Faculty of Health Sciences. Baxter Concert Hall, Cape Town. 14 May. choreographer. 5 minutes

### Productions

Wilson, L. 2013. Footprints of Contemporary Dance. dance production. Ikapa Dance Theatre, UCT dance faculty and students. Baxter Concert Hall, Cape Town 02/10/2013 to 02/10/2013. Artistic Director: L.Wilson, Sound: P. Rendilheiro, Lighting, J. Merring Stage Mgr: K. Bezuidenhout.

Wilson, L. 2012. Jetlagged, Baxter Dance Film Festival. Film. Lisa Wilson, Kristina Johnstone, Richard Antrobus, Jason Jacobs, V. Lupuwana. Baxter Theatre, Cape Town 11/08/2012 to 11/08/2012. GIPCA; J. Ginslov; Producer L. Wilson; Director R. Antrobus; Choreographer: K. Johnstone.

### Creative Works

*Flamenco Rock:* Choreographed by M. Becker for a UCT School of Dance Gardens Route student tour. Secondary schools in Mossel Bay and George. 2013.

*Homage to Carolyn Holden:* Produced, directed and co-choreographed by M. Becker for the Baxter Festival. Baxter Theatre. Rosebank, Cape Town. 9 - 10 September 2013.

*Tientos por Tangos:* Arranged and staged by M. Becker for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*Stray:* Choreographed by C. Botha for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*Classical Ballet Ensemble:* Choreographed by D. Cheesman for 3<sup>rd</sup> year students of the UCT School of Dance for a dance tour to George. 19 - 22 March 2013.

*Valse Classique:* Choreographed by D. Cheesman for CJB dancers participating in the WPDTA Showcase. Artscape Theatre. Cape Town. 20 - 24 March 2013.

*Dancers for Dance:* A fundraising event co-ordinated by D. Cheesman for CTCB. Artscape Opera House. Cape Town. 28 April 2013.

*Beyond the Barre:* A lecture demonstration co-ordinated by D. Cheesman and presented by 3<sup>rd</sup> & 4<sup>th</sup> year ballet students of the UCT School of Dance and members of the CJB. Baxter Concert Hall. Rosebank, Cape Town. 22 May 2013.

*4 Solo Pieces:* Choreographed by D. Cheesman for the Cape Town Eisteddfod. Sea Point Civic Centre. Cape Town. 1-13 May 2013.

*Dancers for Dog:* A fundraising event co-ordinated by D. Cheesman, Artscape Theatre. Cape Town. 25 May 2013.

*Alive:* Co-ordinated and directed by D. Cheesman for the Cape Junior Ballet Company, in support of CANSA. Bergvliet High School Theatre. Bergvliet, Cape Town. 21 September 2013.

*Dancers Do It Musically:* Produced and co-performed by D. Fourie for the UCT School of Dance. Rosebank, Cape Town. 1 November 2013.

*Balletmusiek Nommer 1:* CD publication recorded by D. Fourie. Released in 2013. (57min).

*Dancers Do It Musically:* Co-performed by E. Greyling for the UCT School of Dance. Rosebank, Cape Town. 1 November 2013.

*Intension:* Choreographed by S. Koyana for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegaardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*Cellardoor:* Choreographed and co-performed by A. Parker for the SA National Arts Festival. Grahamstown. 28 - ? June 2013.

*Detritus:* Choreographed by A. Parker for Theatre Arts Admin Collective Emerging Theatre Director's Bursary. Theatre Arts Admin. Observatory, Cape Town. 12 – 17 August 2013.

*And Rest:* Choreographed by A. Parker for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegaardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*On Jumping:* Co-choreographed by A. Parker for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegaardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*Irish Dance Medley (10min):* Choreographed by L. Raizenberg for the SA Tourism Board's St Patrick's Day Greening Table Mountain Project. Pepper Club. Cape Town. 1 March 2013.

*Cape Town City Ballet Open Day (1hr):* Lecture demonstration presented by L. Raizenberg with members of the Cape Celtic Dance Academy. UCT School of Dance. Rondebosch, Cape Town. 13 April 2013.

*Country Strong (10min):* Choreographed by L. Raizenberg for Reddham House Academy. Reddham High School, Steenberg, Cape Town. 9 - 11 May 2013.

*Celtic Dance Exhibition:* (15min): Choreographed by L. Raizenberg, with members of the Cape Celtic Dance Company, for the Last Night at the Proms. City Hall, Cape Town. 11 - 12 May 2013.

*Excerpt from Serenade and Country Strong: From the Barre (1hr):* Co-presented and choreographed by L. Raizenberg for students of UCT School of Dance, Baxter Concert Hall. Rondebosch, Cape Town. 22 May 2013.

*Why Fit In? (1hr):* Produced and directed by L. Raizenberg with original choreographies by second year UCT dance students. Baxter Concert Hall. Rondebosch, Cape Town. 5 June 2013.

*Celtic Rhythm (1hr):* Lecture Demonstration, Choreographed and presented by L. Raizenberg for the South African College Schools (SACS) Cultural Day. SACS. Newlands, Cape Town. 11 June 2013.

*Morning Melodies - An Evening of Irish Dance (90min):* Irish lecture and performance choreographed and presented by L. Raizenberg with members of the Cape Celtic Dance Company, Bellville Civic Centre, Cape Town, 10 July, 2013.

*Celtic Flavour (20min):* Presentation choreographed by L. Raizenberg with members of Cape Celtic Dance Academy for the Momentum Life Awards Evening. Durbanville Hills Wine Estate, Cape Town. 13 August, 2013.

*Vice Chancellor's Concert (10min):* Choreographic work by 2<sup>nd</sup> year Choreographic studies student, Adrianna Jamisse produced and co-ordinated by L. Raizenberg. Baxter Concert Hall. Rondebosch, Cape Town. 14 August 2013.

*Headway (1hr 20min):* Produced and directed by L. Raizenberg with original choreographies by third and fourth year UCT dance students. Baxter Concert Hall. Rondebosch, Cape Town. 28 - 29 August, 2013.

*An Invitation to Rhythm and Dance (30 min):* Produced, presented and choreographed by L. Raizenberg with members of Cape Celtic Dance Company for the Darling Voorkamerfest. Darling, Western Cape. 6 - 8 September 2013.

*Let's Dance 2013 (90 min):* Co-choreographed by L. Raizenberg for the Western Cape Celtic Dance Association. Bergvliet High School Hall. Bergvliet, Cape Town. 26 October 2013.

*Dancers Do It Musically:* Co-performed by L. Raizenberg for the UCT School of Dance. Rosebank, Cape Town. 1 November 2013.

*Dance UCT 2013: Jump To It:* Produced and directed by L. Raizenberg for the UCT School of Dance. Little Theatre, Hiddingh Hall Campus, Cape Town. 7 - 9 November 2013.

*Bach in Canon:* Choreographed by L. Raizenberg for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegaardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*Prelude for Lute and Dancer:* Choreographed by L. Raizenberg for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegaardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*Tales of the Orishas:* Directed and choreographed by M. Rani for the Baxter Concert Hall. Rosebank, Cape Town. 24 April 2013.

*Dancers Do It Musically:* Co-performed by M. Rani for the UCT School of Dance. Rosebank, Cape Town. 1 November 2013.

*Iphuncukile:* Choreographed by M. Rani for the annual UCT School of Dance season *Dance UCT: Jump To It* (a tribute to E. Greyling and E. Triegaardt). Little Theatre. UCT Hiddingh Campus. Cape Town. 7 - 9 November 2013.

*Footprints of Contemporary Dance:* Directed, co-choreographed and co-performed by L. Wilson. Baxter Concert Hall. Rosebank, Cape Town. 2 October 2013.

*Ancestral Whisperings:* Choreographed and co-performed by L. Wilson and students T. Mbatsha and E. Jacobs for Confluences 7: Dance Religion and Spirituality. 12 July 2013. UCT School of Dance Company Theatre. Rosebank, Cape Town; Grade 12 English Setwork material seminar organised by the Western Cape Education Department for learners across the Peninsula. 2013.

## DEPARTMENT OF DRAMA

(Including the Little Theatre)

### Head of Department: Associate Professor Geoffrey Hyland

#### Departmental Profile

Research in the Drama Department is conducted through the creation of new theatre works, directing, performance practice, and applied theatre. Research enquiries develop out of and feed into the teaching and directing processes for Acting for the Camera, Television drama, Theatre Making, Community Theatre, Acting, Dance Theatre, Applied theatre, Site Specific performance and the development of mixed media theatre and performance works.

Research projects are sometimes created in conjunction with other arts practitioners, e.g. visual artists and/or musicians. Many projects are located in the profession through staff links with contemporary South African theatre, performance and dance companies. Partnerships or links with theatre, drama and dance projects in local communities have further enriched the research possibilities within the department. Globally, the research work of the department has been performed across all six continents.

Postgraduate enrolments continue to increase, offering increased research opportunities, and the department seeks to strengthen both the studio work and documentation of research through seminar papers, debate, submissions for publication and the development of new theatre works and practices at postgraduate level. The Department, with the support of the NRF, is actively exploring ways of presenting and assessing practice as research in conjunction with departments in other South African universities, and in conversation with international universities.

#### Departmental Statistics Permanent and long-term contract staff

Professor	1
Associate Professors	3
Senior Lecturers	2
Lecturers	6
Administrative and Clerical Staff	2.5
<b>Total</b>	<b>14.5</b>

## Honorary Staff

Emeritus Associate Professor	1
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## Students

PhD	7
Masters	11
Honours	12
Undergraduates	370
<b>Total</b>	<b>400</b>

## Research Fields and Staff

### Permanent staff

#### ASSOCIATE PROFESSOR GEOFFREY HYLAND

Head of Department; Integrated performance aesthetic for heightened text, acting techniques, visual and aural landscapes and 'picturisation' methodology; directing (theatre, dance, opera)

#### PROFESSOR MARK FLEISHMAN

Postgraduate Course Convener; interactive dramaturgy; Staging History/Performing the Archive; migration

#### ASSOCIATE PROFESSOR CHRISTOPHER WEARE

Director of the Little Theatre; interrogating systems of dependence versus creative freedom

#### ASSOCIATE PROFESSOR JAY PATHER

Choreography: mixed and new media / site-specific / urban landscape and architecture; African, indigenous and intercultural knowledges

#### DR VERONICA BAXTER

Honours programme convenor. Applied Drama and Theatre in education, social justice and health; South African Theatre

#### MR SABATA SESIU

Black/African theatre; Theatre for community Development; Theatre/Drama in education; Creative writing; Theatre making.

#### MS JACQUI SINGER

Emerging female playwrights; image-based theatre

#### MS. SARA MATCHETT

Psychophysical approaches to theatre making and performance.

#### EMERITUS ASSOCIATE PROFESSOR GAY MORRIS

Township theatre and Applied Theatre for education, community and social

## Development

#### MS SANDRA TEMMINGH

Contemporary Afrikaans theatre

#### MS LIZ VAN BREDA

Educational Drama and Theatre

## Contract research staff

#### MS CLARE STOPFORD

The theatre director's contribution to new South African texts; feminist theory and practice in theatre making and the representation of women

#### MR GORDON BILBROUGH

Applied theatre, theatre pedagogies

## Distinguished visitors

Professor Bernie Warren, The School of Dramatic Art, University of Windsor, Canada

Dr Awo Asiedu, Theatre Arts, University of Ghana

Dr. Anuradha Kapur, National School of Drama, India

Professor Robert J. Landy; Director of the Drama Therapy Program; New York University

## Contact Details

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Web: <http://www.drama.uct.ac.za/>

## THE LITTLE THEATRE

### Director: Associate Professor

Christopher Weare

Production Manager: Mr Luke Ellenbogen

Administrative Assistant: Nabeelah Khan

Head of Wardrobe: Ms Leigh Bishop

## Unit Profile

The Little Theatre is an interfaculty unit run in association with the Drama Department. It provides theatre spaces and facilities for theatre research for departments within the University as well as opportunities for production for theatre, film, television companies and community groups. It has at its disposal the 250 seat proscenium arch Little Theatre, the flexible staging 70 seat Arena Theatre, the 60 seat Intimate Theatre, the Hiddingh Hall (flexible space), the 40 seat Playroom which is an experimental space and numerous outside spaces on the Hiddingh Campus as well as a scenery workshop, costume wardrobe, furniture and properties store. In addition to staging productions, the Little Theatre serves as an informal resource for past students and members of the public needing theatre information. Assistance is provided whenever possible.

## Contact Details

Postal Address: Little Theatre, University of Cape Town, Little Theatre Workshop Building, Hiddingh Campus, Orange Street, Cape Town, 8001

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Fax: +27 21 480 7106

E-mail: littletheatre@uct.ac.za

## Research Output

### Chapters in books

Baxter, V. 2013. Practice as research in South Africa. In Robin Nelson (ed.), *Practice as Research in the Arts*, pp. 163-174. United Kingdom: Palgrave Macmillan. 9781137282903.

Baxter, V. 2013. *Senzeni Na (What have we done?)*: educational theatre in Southern Africa. In Anthony Jackson and Chris Vine (eds), *Learning Through Theatre*, pp. 209-228. United Kingdom: Routledge (Taylor & Francis Group). ISBN 9780415530712.

Pather, J. 2013. *Rogue Urbanism Emergent African Cities*. In Edgar Pieterse and AbdouMaliq Simone (eds), *Rogue Urbanism Emergent African Cities*, pp. 433-443. South African: Jacana Media. ISBN 9781431406234.

Pather, J. 2013. The making of Blind Spot, from lab to Biennale. In Marie Viltoft Polli (eds), *The Metropolis: Changing Metropolis II*, pp. 88-97. Copenhagen: Kobenhavns Internationale Teater. ISBN 9788799422913.

## Articles in peer-reviewed journals

Matchett, S.P. 2012. Breath as impulse, breath as thread: breath as catalyst for making an autobiographical performance in response to 'corrective rape' and hate crimes against lesbians. *South African Theatre Journal*, 26(3): 280-291.

Morris, J.G. 2013. Flexible weaving: investigating the teaching and learning opportunities in the practices of theatre-makers and performers from selected townships in Cape Town. *RIDE-The Journal of Applied Theatre and Performance*, 18(1): 4-24.

## Creative works

### Exhibitions

Fleishman, M.J. 2013. *Ecocentrix: Indigenous Arts Sustainable Acts*. Bargehouse, South Bank, London 25/10/2013 to 10/11/2013. Commissioned by Professor Helen Gilbert, Royal Holloway, London.

### Productions

Baxter, V. 2013. "Karina se Keuse". Devising and Directing. Theatre. Students. Boland Area Commissioning by SATVI. 22/07/2013 to 19/09/2013.

Fleishman, M.J. 2013. "Every Year, Every Day, I am Walking". Devising and Directing. Theatre. Professional Actors. University of Massachusetts, Amherst, USA Atelier de Paris-Carolyn Carson in Cartoucherie de Vincennes, Paris, France (28/11/2013-29/11/2013). 30/01/2013 to 02/02/2013.

Fleishman, M.J. 2013. "Voices Made Night". Adapted and Directed. Theatre. Professional Actors. Baxter Theatre, Cape Town Commissioning by Magnet Theatre. Edinburgh Fringe Festival, UK, 01/08/2013-26/08/2013. 01/03/2013 to 23/03/2013.

Hyland, G.J. 2013. "The Garage Sale" by Rafiek Mammon. Directing. Theatre. Professional Actors. Artscape Arena Commissioning by Artscape. 13/12/2013 to 14/12/2013.

Singer, J.R. 2013. "La Ronde" by Arthur Schnitzler. Directing. Theatre. Student Actors. Playroom, Hiddingh Campus, Cape Town Commissioning by UCT Drama Department. 11/05/2013 to 16/05/2013.

Singer, J.R. 2013. "The (B)itching Hour". Devising and Directing. Theatre. Professional Actors. Theatre Arts Collective, Observatory, Cape Town 22/08/2013 to 31/08/2013.

Temmingh, S. 2013. "Kersieboord" by Anton Chekov. Directing. Theatre. Professional Actors. Intimate Theatre Commissioning by The Mechanicals. 06/08/2013 to 17/08/2013.

Temmingh, S. 2013. "Mirakel" by Reza de Wet. Directing. Theatre. Student Actors. Arena Theatre, Cape Town Commissioning by UCT Drama Department. 14/05/2013 to 16/05/2013.

Tshazibane, M. 2013. "The Girl who Killed to Save" by Herbert Isaac Ernest Dhlomo. Directing. Theatre. Student Actors. Arena Theatre, Cape Town Commissioning by UCT Drama Department. 21/05/2013 to 25/05/2013.

Weare, C.B. 2013. "An Absolute Turkey" by Georges Feydeau. Directed and Designed. Theatre. Professional Actors. Theatre on The Bay, Cape Town 05/03/2013 to 16/03/2013.

Weare, C.B. 2013. "An Audience with Emily Hobhouse" by Tony Jackman. Directed and Designed. Theatre. Professional Actors. National Arts Festival Fringe, Grahamstown Rosebank Theatre, Cape Town (20/08/2013-14/09/2013) Fox Theatre, Johannesburg, (19/09/2013-22/09/2013) Aardklop Festival, Potchestroom (24/09/2013-28/09/2013). 27/06/2013 to 06/07/2013.

Weare, C.B. 2013. "Booths and All" by Oliver Booth. Directing. Theatre. Professional Actor. Scout Hall, National Arts Festival Fringe, Grahamstown 27/06/2013 to 06/06/2013.

Weare, C.B. 2013. "Deksels" by Leon Kruger. Produced. Theatre. Professional Actors. Woordfees, Stellenbosch Commissioning by The Mechanicals. 03/03/2013 to 06/03/2013.

Weare, C.B. 2013. "Die Koggelaar" by Pieter Fourie. Produced. Theatre. Professional Actors. Woordfees, Stellenbosch Commissioning by The Mechanicals. 07/03/2013 to 10/03/2013.

Weare, C.B. 2013. "Die Rebellie van Lafras Verwey" by Chris Barnard. Produced. Theatre. Professional Actors. KKNK Festival, Oudsthoorn Commissioning by The Mechanicals. Kalsie Feest, Hermanus (09/08/2013). 30/03/2013 to 06/04/2013.

Weare, C.B. 2013. "Fully Committied" by Alan Committie. Directing. Theatre. Professional Actor. Edinburgh Fringe Festival 05/08/2013 to 26/08/2013.

Weare, C.B. 2013. "No Seriously" by Alan Committie. Directing. Theatre. Professional Actor. Montecasino, Johannesburg 09/01/2013 to 16/02/2013.

Weare, C.B. 2013. "Same Time Next Year" by Bernard Slade. Directed and Designed. Theatre. Professional Actors. Kalk Bay Theatre National Arts Festival, Fringe, Grahamstown (27/06/2013-07/07/2013). 22/05/2013 to 22/06/2013.

Weare, C.B. 2013. "Sexual Perversity in Chicago" by David Mamet. Directed and Designed. Theatre. Professional Actors. Intimate Theatre 14/09/2013 to 28/09/2013.

Weare, C.B. 2013. "The Bear" by Anton Checkov. Directed and Designed. Theatre. Professional Actors. Intimate Theatre Commissioning by The Mechanicals. Intimate Theatre, Cape Town (30/10/2013-02/11/2013). 22/08/2013 to 12/09/2013.

Weare, C.B. 2013. "The Colonel Bird" by Hristo Boychev. Directed and Designed. Theatre. Student Actors. Arena Theatre, Cape Town Commissioning by UCT Drama Department. 01/03/2013 to 09/03/2013.

Weare, C.B. 2013. "The Proposal" by Anton Chekhov. Directed and Designed. Theatre. Professional Actors. Intimate Theatre Commissioning by The Mechanicals. Intimate Theatre, Cape Town (30/10/2013-02/11/2013). 22/08/2013 to 12/09/2013.

Weare, C.B. 2013. "The Titanic Orchestra" by Hristo Boychev. Directed and Designed. Theatre. Student Actors. Arena Theatre, Cape Town Commissioning by UCT Drama Department. 12/03/2013 to 20/03/2013.

Weare, C.B. 2013. "Vigil" by Morris Panych. Directed and Designed. Theatre. Professional Actors. Victoria Theatre, National Arts Festival, Grahamstown Fugard Theatre, Cape Town (13/07/2013-03/08/2013) Grindrod Bank Theatre, Hilton Festival, Hilton (13/09/2013-15/09/2013). 13/07/2013 to 03/08/2013.

# DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE

(Including Centre for Creative Writing)

## Head of Department: Associate Professor Meg Samuelson

### Departmental Profile

Members of the department are engaged in research over a wide area, ranging from the literature of the European Renaissance to that of contemporary South Africa. Genres covered include drama, poetry and prose, travel writing, and autobiography. Some of the finest writers in the country teach creative writing at undergraduate and graduate level.

### Departmental Statistics

#### Permanent and long-term contract staff

Professors	2
Associate Professors	4.5
Senior Lecturers	2
Lecturers	6
Administrative and Clerical Staff	3
<b>Permanent Full-Time Academic Staff</b>	<b>23.5</b>

#### Honorary Staff

Professors Emeriti	5
Honorary Professor	1
<b>Total</b>	<b>6</b>

#### Students

Doctoral	14
Master's	78
Honours	102
Undergraduate	1949
<b>Total</b>	<b>2143</b>

#### Research Fields and Staff

##### DR PETER ANDERSON

peter.anderson@uct.ac.za

Poetry, romanticism to modernism, history and literature, 19th-century Cape literature, culture and society, especially the eastern frontier.

##### PROFESSOR CARROL CLARKSON

Carrol.clarkson@uct.ac.za

Post-apartheid South African fiction, literary theory, especially deconstruction and language philosophy as it relates to jurisprudence and contemporary South African fine art.

##### DR VICTORIA COLLIS-BUTHELEZI

victoria.collis-buthelezi@uct.ac.za

African and African Diasporic Literature with particular interest in Anglophone, Hispanophone and Francophone literatures of the Caribbean, African American and African literature, the nineteenth-century, and black radical intellectual histories.

##### ASSOCIATE PROFESSOR IMRAAN COOVADIA

Imraan.coovadia@gmail.com

Eighteenth- and nineteenth century English and American literature, and contemporary fiction.

##### EMERITUS PROFESSOR DOROTHY DRIVER (HONORARY RESEARCH ASSOCIATE)

dorothy.driver@adelaide.edu.au

Topics/authors in South African literature and colonial literature; the construction/deconstruction of the 'feminine' subject in language and literature.

##### ASSOCIATE PROFESSOR RODNEY S. EDGEcombe

Rodney.edgecombe@uct.ac.za

Shakespeare; Herbert; Marvell; Pope; the age of sensibility; Keats; Dickens; selected contemporary novelists and poets.

##### EMERITUS PROFESSOR GAIL FINCHAM

Gail.fincham@uct.ac.za

Modernism, particularly Joseph Conrad; postmodern fiction; narrative theory; postcolonial fiction and theory.

##### ASSOCIATE PROFESSOR HARRY GARUBA

Harry.garuba@uct.ac.za

African Literature, Postcolonial Theory and Criticism, African Modernities, Intellectuals/Intellectual Traditions of African Nationalist Writing.

##### EMERITUS PROFESSOR GEOFFREY HAESNAPE (HONORARY RESEARCH ASSOCIATE)

mwhare@mweb.co.za

Shakespearean poetry and drama; topics/authors in South African literature in English; topics/authors in early 20th-century English poetry; certain other topics/authors by consultation.

##### DR DERRICK HIGGINBOTHAM

Derrick.higginbotham@uct.ac.za

Late Medieval and Early Modern English Theatre, Literary History, Genres, and Cultural Change, Shakespeare and his contemporaries, Queer Theory/LGBT Studies, Feminist Theory, Marxism, Materialism, and the New Economic Criticism.

**PROFESSOR JOHN HIGGINS**

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Literature and society in the 18th century; literature and society in the 20th century; theories of representation; psychoanalysis and cinema; Raymond Williams.

**EMERITUS PROFESSOR GEOFFREY HUGHES (HONORARY RESEARCH ASSOCIATE)**

Hughes\_geoffrey@hotmail.com

The history of English; historical semantics; sociolinguistics; the language of Shakespeare and Chaucer.

**DR PETER KNOX-SHAW (HONORARY RESEARCH ASSOCIATE)**

Peter.knox-shaw@uct.ac.za

The literature of cross-cultural encounter with particular reference to the Romantic and post-Romantic periods; Jane Austen and the Enlightenment; 18th-century studies.

**DR CHRISTOPHER OUMA**

Christopher.ouma@uct.ac.za

Childhood studies, Diasporic studies, East and West African literature, Popular culture, Geographies of reading, Occult economies

**EMERITUS PROFESSOR ROGER LASS (HONORARY RESEARCH ASSOCIATE)**

lass@africa.com

Phonetics and phonology; English and Germanic Linguistics; historical linguistics; evolutionary theory and language; philosophy of science.

**MR BRIAN S. LEE (HONORARY RESEARCH ASSOCIATE)**

Medieval English and Latin literature; British literature to the end of the Victorian period.

**ASSOCIATE PROFESSOR MEG SAMUELSON**

Meg.samuelson@uct.ac.za

(South) African Literatures & Cultural Debates, Gender Studies, Women's Writing & Feminist Theory, Indian Ocean Studies, Oceanic Africa & Thinking from the Cape, Maritime Literatures and Littoral/Beach Cultures, Selected Literary, Cultural and Critical Theory, Nature-Culture & Environmental Studies, Photography in Zanzibar, Southern African Cities, (Post)Colonial Studies

**PROFESSOR KELWYN SOLE**

Kelwyn.sole@uct.ac.za

South African literature (especially black literature); African oral literature; history, narrative and fictionalisation; science fiction; Milton; stylistic and ideological changes in 17th-century poetry.

**DR ERIC STRAND**

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American Literature, American Studies, 20c Anglophone Literature, Travel Writing

**DR HEDLEY TWIDLE**

Hedley.twidle@uct.ac.za

South African literatures in an African context, the colonial and postcolonial and Natural history writing.

**DR SANDY YOUNG**

Sandra.young@uct.ac.za

Early-modern literature and thought; Trans-atlantic colonial literature and theory; The compilation as a form; Travel writing; South African women's prison writing and feminist theory; Narrative and testimony.

**Contact Details**

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UCT General enquiries: +27 21 650 9111

UCT web: <http://www.uct.ac.za>**Research Output****Authored books**

Higgins, J.A. 2013. Academic Freedom in a Democratic South Africa. WITS University Press. 266pp. ISBN 9781868147519.

**Chapters in books**

Clarkson, C.P. 2012. The aesthetics of justice - towards an argument for teaching-led research. In Coetzee, M. et al (eds), Developing Student Graduateness and Employability, pp. 216-218. Randburg: Knowres Publishing. ISBN 9781869221898.

Knox-Shaw, P. 2013. Philosophy. In Janet Todd (eds), The Cambridge Companion to Pride and Prejudice, pp. 27-41. United States: Cambridge University Press. ISBN 9780521279581.

**Articles in peer-reviewed journals**

Clarkson, C.P. 2013. J.M. Coetzee: ethics, politics, and writing. *Novel-A Forum on Fiction*, 46(1): 147-152.

Clarkson, C.P. 2013. Writing and reading: boundaries of identity. *Safundi: Journal of South African and American studies*, 14(3): 263-267.

Dodd, A. 2013. Burning man. *Art South Africa*, 12(1): 57-58.

Dodd, A. and Kurgan, T. 2013. Checking into Hotel Yeoville: public narratives about feeling foreign at home. *Third Text*, 27(3): 343-354.

Edgecombe, R.S. 2013. A debt to Robert Frost in Patrick White's tree of man. *Notes and Queries*, 60(2): 298-299.

Edgecombe, R.S. 2013. A debt to Seneca in Arnold's 'sonnet on Shakespeare'. *Notes and Queries*, 60(2): 257-257.

Edgecombe, R.S. 2013. A dickensian ante-dating of 'shoot' in the sense of a 'photographic session'. *Notes and Queries*, 60(2): 266-266.

Edgecombe, R.S. 2013. A possible debt to the rape of the lock in Victor Hugo's history of a crime. *Notes and Queries*, 60(2): 270-271.

Edgecombe, R.S. 2013. Canning's 'sainte guillotine' and Beddoes's 'comet'. *Keats-Shelley Review*, 27(1): 26-30.

Edgecombe, R.S. 2013. Edward Young and the Ars Moriendi: Contemplative Method in *Night Thoughts*. *Eighteenth-Century Poetry*, 1(1): 39-64.

Edgecombe, R.S. 2013. Hardy's 'Darkling Thrush' and Jane Eyre. *The Hardy Review*, 15(2): 68-70.

Edgecombe, R.S. 2013. Keats and Ivanhoe. *Keats-Shelley Review*, 27(2): 64-65.

Edgecombe, R.S. 2013. Possible reminiscences of Keatss on first looking into Chapman's Homer in *Ivanhoe*. *Keats-Shelley Review*, 27(2): 63-64.

Edgecombe, R.S. 2013. Tennyson, Herbert and the Epilogue to *In Memoriam*. *Tennyson Research Bulletin*, 10(2): 181-184.

Edgecombe, R.S. 2013. The elegiac epithalamium: a romantic topos. *Musical Times*, 154: 47-64.

Edgecombe, R.S. 2013. The magenta moment in AlanBennetts *habeas corpus*. *Notes and Queries*, 60(2): 304-304.

Edgecombe, R.S. 2013. Thomas Hardy and Victor Hugo: The Oxen. *The Hardy Review*, 14(2): 32-35.

Edgecombe, R.S. 2013. Three Augustan allusions in "Oliver Twist". *Notes and Queries*, 60(2): 266-268.

Haresnape, G.L. 2013. The merest puss. *English Academy Review*, 30(1): 130.

Haresnape, G.L. 2013. (Prose) Images of time and death in "Mark Swift". *New Contrast*, 41(2): 8-13.

Haresnape, G.L. 2013. Biko, Shakespeare and black consciousness. *Shakespeare in Southern Africa*, 25: 99-106.

Higginbotham, D.H. 2013. Cardenio's three Rs: revision, rape and rank in Shakespeare and Fletcher's 'lost play'. *Shakespeare in Southern Africa*, 25: 61-72.

Higgins, J.A. 2013. Living out our differences: reflections on Mandela, Marx and my country: an interview with Jakes Gerwel. *Thesis Eleven*, 115(1): 7-24.

Knox-Shaw, P. 2013. David Hume, 'liberal historian'. *Notes and Queries*, 60(4): 593-595.

Knox-Shaw, P. 2013. Pope and Timon. *Essays in Criticism*, 63(4): 411-434.

Minter, L. 2013. Translation and South African English literature: van Niekerk and Heyns' Agaat. *English Today*, 29(1): 53-57.

Ouma, C. 2013. Navigating the Lagos cityscape in Chris Abani's 'Graceland'. *Kunapipi: Journal of Post-Colonial Writing*, 34(1): 141-154.

Powers, D. 2013. Emigration and photography in J M Coetzee's "Slow Man". *Journal of Postcolonial Writing*, 49(4): 458-469.

Powers, D. 2013. Violent histories: J.M. Coetzee's dusklands and Cormac McCarthy's 'blood meridian'. *Safundi: Journal of South African and American studies*, 14(1): 59-76.

Samuelson, M.A. 2012. Crossing the Indian ocean and wading through the littoral: cosmopolitan visions in Amitav Ghosh's 'antique land' and 'tide country'. *Cultural Dynamics*, 24(2-3): 189-205.

Samuelson, M.A. 2013. Narrative cartographies, 'beautiful things' and littoral states in Abdulrazak Gurnah's 'by the sea'. *English Studies in Africa*, 56(1): 78-90.

Samuelson, M.A. 2013. Sea changes, dark tides and littoral states: oceans and coastlines in post-apartheid South African narratives. *Alternation: International Journal for the Study of Southern African Literature and Languages*, 6: 9-28.

Sofianos, K. 2013. Magical nightmare Jo'burg. *Safundi: Journal of South African and American studies*, 14(1): 111-120.

Strand, E.N. 2013. Lighting out for the global territory: postwar revisions of cultural anthropology and Jewish American identity in Bellows 'Henderson the rain King'. *ELH*, 80(1): 287-316.

Strand, E.N. 2013. The last frontier: Burrough's early work and international tourism. *Twentieth Century Literature*, 59(1): 1-36.

Twidle, H.L. 2013. Nothing extraordinary: E.M. Forster and the English limit. *English in Africa*, 40(2): 25-45.

Twidle, H.L. 2013. The sea close by: the coastal diaries of Albert Camus, Athol Fugard and Stephen Watson. *Alternation: International Journal for the Study of Southern African Literature and Languages*, 6: 29-67.

Twidle, H.L. 2013. Writing the company: from VOC 'dagregister' to Sleigh's 'Eiland'. *South African Historical Journal*, 65(1): 125-152.

Young, S.M. 2013. Rehearsing trauma: the reader as interrogator in prison narratives. *Journal of Literary Studies*, 29(2): 101-116.

## Creative Writing

### Poems published in anthologies

Haresnape, G.L. 2013. Black-headed heron. In Gus Ferguson (eds), *Carapace 97*, pp. 30-31. South Africa: African Sun Press.

Haresnape, G.L. 2013. Giant rain frogs. In *The Sol Plaatjie European Union Poetry Anthology*, pp. 83. South Africa: Jacana Media (Pty) Ltd.

Haresnape, G.L. 2013. We are all migrants. In Amitabh Mitra and Naomi Nkealah (eds), *Splinters of a mirage dawn: an anthology of migrant poetry from South Africa*, pp. 84. South Africa: The Poets Printery.

Haresnape, G.L. 2013. Praise song. In Harry Owen (ed.), *For Rhino in a Shrinking World*, pp. 68-69. South Africa: The Poets Printery.

# DEPARTMENT OF HISTORICAL STUDIES

(Including the Centre for Popular Memory and the Isaac and Jessie Kaplan Centre for Jewish Studies and Research)

### Head of Department: Associate Professor Lance van Sittert

### Department Profile

Research and research-linked scholarly work in the Department of Historical Studies concentrates mainly upon modern and contemporary history reflected through written, oral and visual sources, and is both lively and varied in focus. Fields of southern African investigation include environmental history, economic and social history, urban history, medical history, gendered history, the history of war and warfare, film and history, and the history of slavery. There is also a growing research focus on the Indian Ocean world and Africa's role within it and on comparative histories of the early Cape and Australian colonies. The rich research culture of Historical Studies at UCT is fertilised by close links with the Kaplan Centre for Jewish Studies and constantly expanding scholarly links nationally and into the African continent and beyond, and by an active complement of distinguished Honorary Research Associates.

The Centre for Popular Memory focuses on African oral history, research and advocacy while also developing audio-visual archival material for digital dissemination. Its research respects the value of multi-lingual approaches in collecting, preserving and creating access to data, along with technologically relevant outputs through academic journals, exhibitions, film and other portable media platforms. The Centre's African Oral history archive contains over 3000 recordings in 12 languages, many with full transcripts and translations.

### Departmental Statistics

#### Permanent and long-term contract staff

Professors	6
Associate Professors	4
Senior Lecturers	1
Lecturers	3
Technical and Clerical Staff	2
<b>Total</b>	<b>16</b>

### Honorary staff

Honorary Professors	1
Honorary Research Associates	4
Emeritus Professors	2
<b>Total</b>	<b>7</b>

### Students

Post Doctoral	1
Doctoral	9
Master's	10
Honours	22
Undergraduate	1863
<b>Total</b>	<b>1905</b>

### Centre for Popular Memory

Director	1
Deputy Director	1
Digitisation Manager	1
Sound Archivist	1
<b>Total</b>	<b>4</b>

### Research Fields and Staff

#### ASSOCIATE PROFESSOR MOHAMED ADHIKARI

Genocide in settler societies; Coloured identity and politics in the 19th and 20th centuries.

#### PROFESSOR VIVIAN BICKFORD-SMITH

Urban history, Cape Town history, film and history; race and ethnic identity in South Africa.

#### DR SEAN FIELD

Popular memory, oral history, visual history and the archival location and dissemination of stories.

#### ASSOCIATE PROFESSOR SHAMIL JEPPIE

19th century Middle East and North Africa; District Six and Cape Flats history.

#### DR BODHISATTVA KAR

Cultural and intellectual histories (particularly histories of body and senses, objects and materiality, practices and customs, sentiments and emotions, and texts and concepts); transnational and comparative histories of colonialism

#### PROFESSOR ANNE MAGER

Twentieth century gendered history, gender and development, liquor in South Africa in the twentieth century.

**ASSOCIATE PROFESSOR RICHARD MENDELSON**  
South African Jewish history; Film and history; Jewry in the South African War.

#### DR ASHLEY MILLAR

Early modern European views of and encounters with China; Enlightenment intellectual history

#### DR MAANDA MULAUDZI

Rural South African history focusing on land dispossession, agrarian change, identity and chieftainship with particular emphasis on Venda in the Northern Province.

#### PROFESSOR NIGEL PENN

The Cape north-western frontier in the 18th century; Khoisan history; Dutch colonial history; comparative Cape and Australian frontier history.

#### PROFESSOR HOWARD PHILLIPS

Medicine, health and disease in South Africa; history of higher education in South Africa.

#### PROFESSOR MILTON SHAIN

Comparative studies in South African and American Jewry; antisemitism; history of South African Jewry.

#### ASSOCIATE PROFESSOR LANCE VAN SITTERT

Environmental history.

#### PROFESSOR NIGEL WORDEN

Slavery and post-emancipation labour in the Western Cape; 18th century Cape Town; comparative social and cultural history of the Cape and Australia, c.1750-1850.

### Contact Details

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### Research Output

#### Authored books

Delmas, A. 2013. *Les voyages de l'crit culture crte et expansion europenne lpoque moderne - essais sur la compagnie Hollandaise des Indes orientales*. Paris: Editions Honor Champion. 274pp. ISBN 9782745323101.

Van Heyningen, E.B. 2013. *The Concentration Camps of the Anglo-Boer War: A Social History*. Johannesburg, South Africa: Jacana Press. 375pp. ISBN 9781431405428.

## **Edited books**

Sapire, H. and Saunders, C.C. (eds) 2013. Southern African Liberation Struggles: New Local, Regional and Global Perspectives. 304pp. Cape Town, South Africa: UCT Press. ISBN 9781919895932.

## **Chapters in books**

Barton, G. and Bennett, B. 2013. The environment. In Alison Bashford and Stuart Macintyre (eds), *The Cambridge History of Australia*, pp. 452-471. New York: Cambridge University Press. ISBN 9781107011533.

Bennett, B. 2013. Narratives of natural history: Recovering lost lineages in Margaret Levyn's Life-Writing. In Paul Longley Arthur (eds), *International Life Writing: Memory and Identity in Global Context*, pp. 51-66. New York: Routledge. ISBN 9780415522540.

Bickford-Smith, V. 2013. Perceiving the segregated city: representations of Cape Town and its people in the era of segregation. In *People Apart: 1950s Cape Town Revisited*, pp. 178-184. London, UK: Black Dog Publishing. ISBN 9781907317859.

Bickford-Smith, V. 2013. The African past on screen: moving beyond dualism. In *A Companion to the Historical Film*, pp. 468-489. West Sussex, UK: Wiley-Blackwell. ISBN 9781444337242.

Field, S.P. 2013. Windermere people: sensing past places through images and words. In *People Apart: 1950s Cape Town Revisited*, pp. 166-177. London, UK: Black Dog Publishing. ISBN 9781907317859.

Maaba, B. 2013. The Black Consciousness Movement in the early 1990s: perspectives on negotiations. In *The Road to Democracy in South Africa: Volume 6 [1990 - 1996] Part 2*, pp. 1109-1129. Braamfontein: UNISA Press. ISBN 978-1-86888-711-8.

Maaba, B. 2013. The politics of visual arts in the early 1900s. In SADET(eds), *The Road to Democracy in South Africa: Volume 6 [1990 1996] Part 2: 1311-1333*. Braamfontein: UNISA Press. 978-1-86888-711-8.

Saunders, C.C. 2013. Activism in Britain for Namibian independence: The Namibia Support Committee. In *Southern African Liberation Struggles: New Local, Regional and Global Perspectives*, pp. 274-289. Cape Town, South Africa: UCT Press. ISBN 9781919895932.

Saunders, C.C. 2013. 1968 and Apartheid: race and politics in South Africa. In Samantha Christiansen; Zachary A. Scarlett (eds), *The Third World in the Global 1960s*, pp. 133-141. United States of America: Berghahn Books. ISBN 9780857455734.

Saunders, C.C. 2013. Humanitarian aspects of interventions by the United Nations in Southern Africa. In *The History and Practice of Humanitarian Intervention and Aid in Africa*, pp. 158-175. United Kingdom: Palgrave Macmillan. ISBN 9781137270016.

Saunders, C.C. 2013. In conclusion. In *Southern African Liberation Struggles: New Local, Regional and Global Perspectives*, pp. 290-294. Cape Town, South Africa: UCT Press. ISBN 9781919895932.

Saunders, C.C. and Artwell, W. 2013. Liberal influences on the transition, 1990-1994. In *The Road to Democracy in South Africa: Volume 6 [1990 - 1996] Part 2*, pp. 1271-1284. Braamfontein: UNISA Press. ISBN 978-1-86888-711-8.

Saunders, C.C. 2013. Liberation struggles in Southern Africa in context. In *Southern African Liberation Struggles: New Local, Regional and Global Perspectives*, pp. 1-29. Cape Town, South Africa: UCT Press. ISBN 9781919895932.

Shain, M. 2013. Antisemitism and anti-Zionism in the new South Africa: observations and reflections. In Charles Asher Small (eds), *Global Antisemitism: A Crisis of Modernity*, pp. 215-221. Leiden: Martinus Nijhoff Publishers, an imprint of Brill. ISBN 9789004214576.

Van Heyningen, E.B. 2013. Lies, damned lies and statistics: Statistics and the British concentration camps database. In R.J. Constantine (eds), *New Perspectives on the Anglo-Boer War*, pp. 121-136. Bloemfontein, South Africa: The War Museum of the Boer Republics. ISBN 1-874979-46-4.

Van Vuuren, L. 2013. The Africa I know: film and the making of Bushmen in Laurens van der Post's 'Lost World of Kalahari' (1956). In *Recreating First Contact: Expeditions, Anthropology and Popular Culture*, pp. 215-230. Washington DC: Smithsonian Institution Scholarly Press. ISBN 9781935623144.

Worden, N.A. 2013. Forgotten revolutionaries: slave cultural resistance at the Cape, 1760-1808. In *L'atlantique Révolutionnaire: Une perspective ibero-américaine*, pp. 421-446. Becherel, France: Les Perseides. ISBN 9782915596953.

Worden, N.A. 2012. La esclavitud y la memoria publica en Sudáfrica. In Marisa Pineau(eds), *Huellas y legados de la esclavitud en las Américas: Proyecto Unesco La Ruta del Esclavo*, pp. 103-120. Argentina: EDUNTREF. ISBN 9789871172955.

## **Encyclopaedia entries**

Saunders, C.C. 2013. African organisations and meetings. In *The 2013 Annual Register: World Events*, pp. 409-410. 254<sup>th</sup> edition. Cambridge: Proquest. ISBN 9781615402995.

Saunders, C.C. 2013. Angola, Zambia, Malawi. In *The 2013 Annual Register: World Events*, pp. 242-245. 254<sup>th</sup> edition. Cambridge: Proquest. ISBN 9781615402995.

Saunders, C.C. 2013. Botswana Recent History. In *Africa South of the Sahara 2014. The Europa regional surveys of the world*, pp. 130-134. 43<sup>rd</sup> edition. London: Europa Publications. ISBN 9781857436983.

Saunders, C.C. 2013. Cape Verde, Guinea Bissau, Sao Tome. In *The 2013 Annual Register: World Events*, pp. 234-235. 254<sup>th</sup> edition. Cambridge: Proquest. ISBN 9781615402995.

Saunders, C.C. 2013. Lesotho recent history. In *The Europa regional surveys of the world*, pp. 672-676. 43<sup>rd</sup> edition. London: Europa Publications. ISBN 9781857436983.

Saunders, C.C. 2013. Malawi recent history. In *The Europa regional surveys of the world*, pp. 748-752. 43<sup>rd</sup> edition. London: Europa Publications. ISBN 9781857436983.

Saunders, C.C. 2013. Namibia recent history. In *The Europa regional surveys of the world*, pp. 879-885. 43<sup>rd</sup> edition. London: Europa Publications. ISBN 9781857436983.

Saunders, C.C. 2013. South Africa Recent History. In *The Europa regional surveys of the world*, pp. 1131-1139. 43<sup>rd</sup> edition. London: Europa Publications. ISBN 9781857436983.

Saunders, C.C. 2013. Zimbabwe recent history. In *The Europa regional surveys of the world*, pp. 1349-1354. 43<sup>rd</sup> edition. London: Europa Publications. ISBN 9781857436983.

## **Articles in peer-reviewed journals**

Bennett, B. and Kruger, F.J. 2013. Ecology, forestry and the debate over exotic trees in South Africa. *Journal of Historical Geography*, 42: 100-109.

Bennett, B. 2013. The rise and demise of South Africa's first school of forestry. *Environment and History*, 19: 63-85.

Bickford-Smith, V. 2013. Cinematic cities: a film and history overview for South Africa's major metropolises from the 1890s to the 1950s. *Journal of Southern African Studies*, 39(3): 681-699.

Field, S.P. 2013. 'Shooting at shadows': private John Field, war stories and why he would not be interviewed. *Oral History*, 41(2): 75-86.

Kruger, F.J. and Bennett, B. 2013. Wood and water: an historical assessment of South Africa's past and present forestry policies as they relate to water conservation. *Transactions of The Royal Society of South Africa*, 68(3): 163-174.

Mager, A.K. 2013. Colonial conquest and the Tamboerie frontier: the story of Mapasa, c.1830-1853. *Journal of Southern African Studies*, 39(2): 251-270.

Molins-Illetas, S. 2013. From Toledo to Timbuktu: the case for a biography of the Ka'ti archive, and its sources. *South African Historical Journal*, 65(1): 105-124.

Penn, N.G. 2012. The Meuron Regiment at the Cape, 1793-1788. *Quarterly Bulletin of the National Library of South Africa*, 66(2): 13-29.

Penn, N.G. 2013. The British and the 'bushmen': the massacre of the Cape San, 1795-1828. *Journal of Genocide Research*, 15(2): 183-200.

Penn, N.G. 2013. Towards a history of convict labour in the nineteenth century Cape. *Workers of the World: International Journal on Strikes and Social Conflicts*, 1(3): 118-138.

Saunders, C.C. 2013. Military intervention in conflict situations in Africa: thoughts on South Africa's role. *Strategic Review for Southern Africa/ Strategiese Oorsig Vir Suider-Afrika*, 35(2): 152-156.

Saunders, C.C. 2013. The ANC's 100 years: more recent work on its history. *Historia*, 58(2): 157-167.

# DEPARTMENT OF PHILOSOPHY

**Head of Department:**  
**Professor David Benatar**

## Departmental Profile

The Department of Philosophy is established in the Faculty of Humanities. The Department focuses on analytic philosophy, offering courses in Moral and Political Philosophy, Philosophy of Language, Epistemology, Metaphysics, Logic, Aesthetics, Applied Ethics, Philosophy of Science, Philosophy of Mathematics; Philosophy of Psychology and Mind, and Critical Thinking.

## Departmental Statistics

### Permanent and long-term contract staff

Professors	2
Senior lecturers	3
Lecturers	3
Administrative staff	2
Visiting lecturers	2
<b>Total</b>	<b>10</b>

### Students

Doctoral	6
Master's	6
Honours (course enrolments)	30
Undergraduate	2705
<b>Total</b>	<b>2747</b>

### Research Fields and Staff

#### Permanent staff

##### DR TOM ANGIER (FROM AUGUST 2013)

Ancient philosophy, ethical and political theory, post-Kantian philosophy

##### PROFESSOR DAVID BENATAR

Moral philosophy; applied ethics; social philosophy.

##### DR GREG FRIED

Social choice theory and other formal methods in philosophy; philosophy of mathematics; history of philosophy, including ancient and early modern thought; aesthetics, including the philosophy of literature; creative writing.

##### DR ELISA GALGUT

Aesthetics; philosophy of literature; philosophy of psychology; philosophy of psychoanalysis.

##### DR GEORGE HULL

Ethics, action theory, political/social philosophy, German philosophy

##### DR JACK RITCHIE

Philosophy of science, naturalism, analytic metaphysics.

##### DR JEREMY WANDERER (LEAVE OF ABSENCE FROM JULY 2012 – JUNE 2013)

Epistemology; philosophy of mind; philosophy of language.

##### PROFESSOR BERNHARD WEISS

Realism and anti-realism; philosophies of language, logic and mathematics; early analytical philosophy.

#### Visiting Lecturers

##### DR LAURENCE BLOOM (1 JAN 2013 TO 31 JUNE 2013)

Ancient Philosophy, Kant, History of Metaphysics, and Ethical and Political Philosophy.

##### DR DEAN CHAPMAN

Epistemology, Ethics and the Philosophy of Logic

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Web: <http://www.philosophy.uct.ac.za>

#### Research output

##### Chapters in books

Benatar, D. 2013. Suicide: A qualified defence. In JS Taylor (eds), *The Metaphysics and Ethics of Death: New Essays*, pp. 222-244. New York, USA: Oxford University Press. ISBN 9780199751136.

##### Encyclopaedia entries

Benatar, D. 2013. Corporal punishment. In *The International Encyclopedia of Ethics*, pp. 1105-1110. UK: Blackwell Publishing Ltd. ISBN 9781444367072.

Benatar, D. 2013. Humor, ethics of. In *The International Encyclopedia of Ethics*, pp. 2497-2499. UK: Blackwell Publishing Ltd. ISBN 9781444367072.

Benatar, D. 2013. Pedophilia. In *The International Encyclopedia of Ethics*, pp. 3829-3831. UK: Blackwell Publishing Ltd. ISBN 9781444367072.

Benatar, D. 2013. Quotidian Ethics. In *The International Encyclopedia of Ethics*, pp. 4281-4285. UK: Blackwell Publishing Ltd. ISBN 9781444367072.

#### Articles in peer-reviewed journals

Benatar, D. 2013. Evaluations of circumcision should be circumscribed by the evidence. *Journal of Medical Ethics*, 39(7): 431-432.

Benatar, D. 2013. Still better never to have been: a reply to (more of) my critics. *Journal of Ethics*, 17: 121-151.

Galgut, E.L. 2012. Hume's aesthetic standard. *Hume Studies*, 38(2): 183-200.

Hull, G. 2013. Reification and social criticism. *Philosophical Papers*, 42(1): 49-77.

Lerm, J. 2013. The agent-relative/agent-neutral distinction: my two sense(s). *South African Journal of Philosophy*, 32(2): 137-148.

Ostrowick, J. 2013. Can Bayes' Theorem, given the evidence of this universe, be used to support theism? *South African Journal of Philosophy*, 32(2): 163-172.

Ostrowick, J. 2013. Does evolution really threaten religion? *Journal of Theology for Southern Africa*, 146: 79-103.

Wanderer, J.R. 2013. Anscombe's 'teachers'. *Journal of Philosophy of Education*, 47(2): 205-221.

Wanderer, J.R. 2013. Testimony and the interpersonal. *International Journal of Philosophical Studies*, 21(1): 92-110.

Wanderer, J.R. and Townsend, L. 2013. Is it rational to trust? *Philosophy Compass*, 8(1): 1-14.

#### Creative writing

##### Poetry

Galgut, E. 2013. Eurydice and the TRC. In Schonstein, P. (ed), *Africa Ablaze! Poems and prose pieces of war and civil conflict*, pp. 336-337, Cape Town: African Sun Press.

#### Short stories published in a collection

Fried, G. and Lazarus, L. 2013. Mapping the interior. In Hichens, Joanne (eds), *Bloody Satisfied*, pp. 132-145. Cape Town: Burnet Media.

Fried, G. and Lazarus, L. 2013. Where in the tenderness? In Jennings, Karen (eds), *Feast, Famine & Potluck*, pp. 139-149. Cape Town: Short Story Day Africa.

# DEPARTMENT OF POLITICAL STUDIES

**Head of Department:**  
**Professor Annette Seegers**

## Departmental Profile

The Department of Political Studies is home to internationally recognised scholars in comparative politics, international relations, political theory, political behaviour, intellectual history, public policy, and public administration. Our staff members have made major intellectual contributions in their respective fields and published widely in international journals. Our academics have also made practical contributions to the policies and politics of our new democracy.

The department is home to one of the bigger postgraduate programmes and boasts a lively and cosmopolitan postgraduate student community. Our postgraduate programmes provide students with a firm academic foundation in political theory; comparative politics; international relations; South African politics; public administration; and public policy, amongst others. Students are encouraged to pursue more specialised study under the close supervision and guidance of faculty.

Our undergraduate courses remain a popular choice and the department is one of the largest departments in the Faculty of Humanities at UCT. Staff and students together comprise a vibrant and intellectually engaged community.

## Departmental Statistics

### Permanent and long-term contract staff

Professors	4
Associate Professors	2
Senior Lecturers	5
Lecturers	2
<b>Administrative and Clerical Staff</b>	<b>3</b>
<b>Total</b>	<b>16</b>

### Honorary staff

Emeritus Professors	2
<b>Total</b>	<b>2</b>

## **Students**

Doctoral	6
Master's	61
Honours	50
Undergraduates	3095
<b>Total</b>	<b>3212</b>

## **Permanent staff**

### **ASSOCIATE PROF JOHN AKOKPARI**

African politics; international relations; political economy; comparative politics.

### **PROF ANTHONY BUTLER**

Politics & public policy in South Africa, including political funding, theories of the state, policy uncertainty, party systems, the politics of HIV/AIDS policy, and black economic empowerment in SA.

### **PROF ROBERT CAMERON**

Comparative local government politics & administration; public sector reform; public administration thought

### **MR ZWELETHU JOLOBE**

Lecturer: Comparative politics; international relations; African politics; political violence; revolutions; contemporary South African politics; democratisation

### **PROF ROBERT MATTES**

Democratisation; political behaviour; public opinion; survey research; research methodology; comparative politics

### **DR VINOTHON NAIDOO**

Senior Lecturer: Public administration, with a special interest in comparative public administration and development management.

### **ASSOCIATE PROF ANDREW NASH**

Senior Lecturer: South African political thought; the history of political thought in the West; the making of a global political vocabulary

### **MS LAUREN PAREMOER**

HIV/AIDS Treatment Politics; Social citizenship; health and global governance; manifestations of and resistance to neoliberal governmentality

### **DR THIVEN REDDY**

Senior Lecturer: Comparative politics; South African politics; regime transition and democratisation; political party systems and political parties; post-colonial theory and identity politics

### **DR KAREN SMITH**

Senior Lecturer: International Relations theory; the developing world (Africa in particular) as an object of IR study and an agent of IR knowledge; South Africa and India as regional powers in the global South

### **MS RAEINETTE TALJAARD**

Senior Lecturer: Public Policy

### **PROF ANNETTE SEEVERS**

Head of Department: Conflict; security; civil military relations in Southern Africa; security among Southern African states; the role of armed forces in democratization.

### **DR HARRY STEPHAN**

Senior Lecturer: International relations; international political economy; comparative governance; international law and organisation.

### **Senior Scholars**

#### **EMERITUS PROFESSOR ROBERT SCHRIRE**

International political economy; globalisation; South African politics

#### **EMERITUS PROFESSOR ANDRÉ DU TOIT**

Intellectual history of South African political thought & traditions; political ethics, ideologies & discourse; philosophical reflections on the Truth and Reconciliation Commission; narrative interpretation of political violence in South Africa

### **Guest Lecturers**

#### **MS LAURA FREEMAN**

International relations; conflict; humanitarian aid; international political economy; political philosophy

#### **MR MARKUS KORHONEN**

Developmental states; democracy and democratisation; politics and development in Botswana.

#### **MS CHANTAL MILNE**

Lecturer: Primary research interests include democratic public administration, local government and public administration theory.

#### **DR FIONA ANCIANO**

South African politics from both a political theory and public administration perspective. She is also a researcher who specialises in democratisation studies. Her areas of focus are civil society, political parties and non-racialism.

#### **DR HUGO VAN DER MERWE**

Transitional justice; post conflict reconstruction; democratization; political violence; research methodology

### **DR ANDREW SIDDLE**

Lecturer: Public management; intergovernmental coordination; decentralisation as a politico-administrative paradigm; local government; public finance; management systems; constitutional and public law.

## **Contact Details**

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E-mail: hum-politics@uct.ac.za  
Web: <http://www.uct.ac.za/depts/politics>

## **Research Output**

### **Chapters in books**

Akokpari, J. 2013. The crisis of social cohesion in Africa: is regionalism the answer? In Moore, Candice (eds), Regional Integration and Social Cohesion. Perspectives from the Developing World, pp. 131-153. Belgium: Peter Lang GmbH. ISSN 2030-8787.

Cameron, R.G. 2013. Conditional grants: municipal (mis)use? In Mcebesi Ndletyana and David Maimela (eds), Essays on the Evolution of the post-apartheid State - Legacies, reforms and prospects, pp. 165-196. Johannesburg: Mapungubwe Institute for Strategic Reflection (Mistra). ISBN 978-1-920655-85-3.

Cameron, R.G. and Milne, C. 2013. Representative Bureaucracy in South Africa. In Patrick von Maravic, B Guy Peters, Eckhard Schroter (eds), Representative Bureaucracy in Action: Country Profiles from the Americas, Europe, Africa and Asia, pp. 171-187. United Kingdom: Edward Elgar Publishing. ISBN 978 0 85793 598 4.

Greenberg, A. and Mattes, R.B. 2013. Does the quality of elections affect the consolidation of Democracy? In Bratton, Michael (eds), Voting and Democratic Citizenship in Africa, pp. 239-252. USA: Lynne Rienner Publ Inc. ISBN 978-1-58826-894-5.

Mattes, R.B. 2013. "Asocial cohesion": political community and social capital in Africa's democratising societies. In Moore, Candice (eds), Regional Integration and Social Cohesion. Perspectives from the Developing World, pp. 73-89. Belgium: Peter Lang GmbH. ISSN 2030-8787.

Mattes, R.B. and Shenga, C. 2013. Uncritical citizenship: Mozambicans in comparative perspective. In Bratton, Michael (eds), Voting and Democratic Citizenship in Africa, pp. 159-177. USA: Lynne Rienner Publ Inc. ISBN 978-1-58826-894-5.

Naidoo, V. 2013. Cadre deployment versus merit? Reviewing politicisation in the public service. In John Daniel, Prishani Naidoo, Devan Pillay, Roger Southall (eds), New South African Review 3, pp. 261-277. Johannesburg, South Africa: WITS University Press. ISBN 978-1-86814-735-9.

Norris, P. and Mattes, R.B. 2013. Does ethnicity determine support for the governing party? In Bratton, Michael (eds), Voting and Democratic Citizenship in Africa, pp. 41-60. USA: Lynne Rienner Publ Inc. ISBN 978-1-58826-894-5.

Reddy, T. 2013. South Africa: racialised discourse in the context of deteriorating performance. In Doorenspleet, Renske & Nikzink, Lia (eds), One-Party Dominance in African Democracies, pp. 73-92. USA: Lynne Rienner Publ Inc. ISBN 978-1-58826-869-3.

Reddy, T. 2013. The dominant party system and democracy: the Congress Party in India. In N de Jager & P DuToit (eds), Friend or Foe? Dominant Party Systems in Southern Africa, pp. 50-67. Cape Town, South Africa: UCT Press. ISBN 978-9280812206.

Seegers, A. 2013. PCRD in historical perspective: international approaches and experiences. In Theo Neethling & Heidi Hudson (eds), Post-Conflict Reconstruction and Development in Africa, pp. 61-88. Cape Town, South Africa: UCT Press. ISBN 978-1-77582-004-8.

Southall, R. 2013. South Africa at large. In John Daniel, Prishani Naidoo, Devan Pillay, Roger Southall (eds), New South African Review 3, pp. 294-296. Johannesburg, South Africa: WITS University Press. ISBN 978-1-86814-735-9.

Southall, R. 2013. The power elite in democratic South Africa: Race and class in a fractured society. In John Daniel, Prishani Naidoo, Devan Pillay, Roger Southall (eds), New South African Review 3, pp. 17-38. Johannesburg, South Africa: WITS University Press. ISBN 978-1-86814-735-9.

## **Articles in peer-reviewed journals**

Akokpari, J. 2013. Environmental Degradation and Human Insecurity in Sub-Saharan Africa. *The Journal of Human Security*, 8(1): 24-46.

Akokpari, J. 2012. Is Electoral Politics a New Source of Human Insecurity in Africa. *Afro Asian Journal of Social Sciences*, 8(1): 24-46.

Butler, A.M. 2013. Resource nationalism and the African National Congress. *Journal of the Southern African Institute of Mining and Metallurgy*, 113: 11-20.

Cameron, R.G. and Milne, C. 2013. Size, efficiency and local democracy in South Africa: a preliminary assessment. *African journal of public affairs*, 6(4): 1-20.

Cameron, R.G. 2013. The state of public administration as an academic field in South Africa. *Politikon*, 40(3): 565-583.

Fuamba, D., Yonekawa, M. and Seegers, A. 2013. Managing spoilers in a hybrid war: the democratic Republic of Congo (1996-2010). *Politikon*, 40(2): 319-338.

Mattes, R.B. 2013. Systematic, quantitative political science in South Africa: the road less travelled. *Politikon*, 40(3): 479-499.

Naidoo, V. 2013. The challenges of policy coordination at a programme level: why joining-up is hard to do. *Development Southern Africa*, 30(3): 386-400.

Naidoo, V. 2013. The politics of anti-corruption enforcement in South Africa. *Journal of Contemporary African Studies*, 31(4): 523-542.

Smith, K. 2013. International relations in South Africa: a case of 'add Africa and stir'. *Politikon*, 40(3): 533-544.

Southall, R. 2013. How and why Zanu-PF won the 2013 Zimbabwe elections. *Strategic Review for Southern Africa*, 35(2): 135-151.

Thom, A. and Conradie, B.I. 2013. Urban agriculture's enterprise potential: exploring vegetable box schemes in Cape Town. *Agrekon*, 52(1): 64-86.

# DEPARTMENT OF PSYCHOLOGY

## Head of Department: Professor Mark Solms

### Departmental Profile

The Department of Psychology has strengths and interests in various research areas, including social and cultural issues pertinent to social change in the Southern African context, basic and applied topics in the brain and cognitive sciences, and a variety of topics in clinical psychology theory and practice. Additional strengths include - but are not limited to - health psychology, gender, intergroup relations, child development, policy development in mental health, programme evaluation, and trauma studies.

### Departmental Statistics

#### Permanent and long term contract staff

Professors	4
Associate Professors	3
Senior Lecturers	4
Lecturers	9
Junior Research Fellow	1
Administrative and Clerical Staff	6
<b>Total</b>	<b>27</b>

#### Honorary Staff

Research Associate	1
<b>Total</b>	<b>1</b>

#### Students

Doctoral	44
Master's	58
Honours	41
Undergraduate	3100
<b>Total</b>	<b>3243</b>

## Research Fields and Staff

### Permanent Staff

#### DR FLORETTA BOONZAIER

My research interests are in critical social psychology (raced, classed, gendered and sexual subjectivities) and in the social psychology of gender. My continuing work involves the examination of gender-based violence through a critical feminist psychological lens, especially constructions of masculinity and femininity, social responses to intimate partner violence in the South African context, sex work/prostitution in South Africa and broader representations of gender and sexuality in childhood and young adulthood.

#### PROFESSOR DONALD FOSTER

Most areas of social and critical psychology: South Africa identities (gender / racial/ class); violence and perpetrators of violence; intergroup relations, history of SA psychology.

#### DR DEBRA KAMINER

The psychological effects of trauma, in particular the impact of continuous and multiple trauma exposure; and interventions to enhance youth resilience, civic participation and empowerment in contexts of adversity and violence.

#### DR SHOSE KESSI

My research interests are in social and critical psychology. I am interested in issues of identity, representations, consciousness, community empowerment and social change. My focus is on qualitative research in general and participatory action research in particular through the use of multimedia methods such as Photovoice.

#### DR DESPINA LEARMONTH

Clinical and community psychology, particularly the synthesis of social and community knowledge with traditional medical knowledge to improve individuals' overall health outcomes. Community empowerment for improved health behaviour and health outcomes. Critical health psychology with a strong focus on the sex trade in South Africa.

#### DR WAHBIE LONG

My broad research interests are in the history, theory and indigenization of psychology. My areas of focus are Afrocentric psychology, psychology in the Muslim world, and the history of psychology in South Africa.

#### PROFESSOR JOHANN LOUW

Two major research areas: firstly, in the history of psychology focusing on: historiography; historical developments in psychological interventions and practices; the history of South African psychology; professionalisation. A second major area of interest

is in programme evaluation: programmes in drug and alcohol prevention; violence prevention in schools and information technology in education.

#### DR SUSAN MALCOLM-SMITH

Main research interest centers on how evolutionarily conserved emotion systems impact on adaptive social function and social cognition. Ongoing projects focus on neuroscientific and neuropsychological investigations of empathy, attachment, and social function in healthy normal populations as well as in psychiatric conditions and developmental disorders.

#### DR ANASTASIA MAW

Psychological trauma and application of trauma theory in southern African context; working with gender based violence; training and consultation models in psychology.

#### DR PROGRESS NJOMBORO

Interested in investigating cognitive deficits in neuropsychiatric samples and their relationship to apathy symptoms and related disorders of goal-directed behaviour. Keen on using lesion studies and brain imaging techniques to map out the underlying functional and neural substrates of these negative symptoms.

#### DR NOKUTHULA SHABALALA

The role of psychology in health care especially in service delivery within primary health care settings, the management of HIV/AIDS and other sexually transmitted infections at various levels, gender issues and race and identity in contemporary South Africa.

#### PROFESSOR MARK SOLMS

Neuropsychology – research and clinical; brain mechanisms of dreaming, emotion, motivation; psychological mechanisms of confabulation and anosognosia syndromes.

#### DR LEIGH SCHRIEFF

Current research involves the implementation and evaluation of an intervention aimed at the remediation of attention deficits following traumatic brain injury (TBI) in children; interest in the broader topic of paediatric TBI in a South African context; paediatric neuropsychology research and rehabilitation; Social Psychology; contact theory and intergroup relations.

#### ASSOCIATE PROFESSOR SALLY SWARTZ

Discourse studies including psychotic speech, language & gender, language and power, language & psychotherapy, conversation analysis; history of psychiatry, including history of South African lunatic asylums; treatment of the insane in South Africa before 1940; social history of insanity in colonial settings.

#### ASSOCIATE PROFESSOR KEVIN THOMAS

Cognitive/Clinical Neuropsychology: neural substrates and assessment of spatial cognition; effects of stress, anxiety, and trauma on memory; effects of age and age-related diseases on cognitive function; cross-cultural neuropsychology.

#### PROFESSOR COLIN TREDOUX

Social psychology (contact theory, social influence); psychology and law (all aspects, but especially eyewitness research, child witness research, legal decision making, false memory syndrome); cognitive psychology (face recognition); methodology and statistics. Philosophy of psychology.

#### ASSOCIATE PROFESSOR CATHERINE WARD

Violence prevention from the perspective of children's development, and particularly in public health approaches to this – in developing evidence-based approaches to violence prevention that have a wide reach and are effective in improving children's development and reducing their likelihood of becoming aggressive.

#### DR LAUREN WILD

Processes of risk and resilience in school-age children and adolescents, including (1) family stress (e.g., family conflict and parental HIV/AIDS), caregiving and child adjustment, and (2) identifying factors associated with risk behaviours in adolescents.

#### DR PEDRO WOLF

Evolutionary psychology (life history theory, assortative mating); methodology and statistics; program evaluation; cross cultural research.

#### DR BUHLE' ZUMA

Social Psychology of Intergroup Relations (particularly the intersectionality of 'race', class, and gender as identity constructing resources at the micro-ecological level of everyday encounters and developing a model that problematizes the single dimensional ocular reading of 'race' on skin). Philosophical Anthropology and specifically the societal construction of desire.

#### Contact Details

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UCT web: <http://www.uct.ac.za>

## Research Output

### Chapters in books

Berry, L., Dawes, A.R.L. and Biersteker, I. 2013. Getting the basics right: an essential package of services and support for ECD. In Berry, Biersteker, dawes, lake and Smith (eds), South African Child Gauge 2013, pp. 26-33. Cape Town: Children's Institute. ISBN 9780799224986.

Casale, M. and Wild, L.G. 2013. Family and community support matters for the health of people living with HIV: A discussion of the existing literature and key areas for future research. In Arrigo Pallottia and Maria Zamponi (eds), HIV/AIDS in Southern Africa: Challenges, Policies. Actors, pp. 89-106. Rimini, Italy: La Pieve Poligrafica Editore. ISBN 9788890616860.

Donald, K.A.M., Hall, D. and Dawes, A.R.L. 2013. International models for prevention, early detection, intervention and professional training: Early Child Development and Detection in South Africa. In F.P. Glascoe, K.P. Marks, J.K. Poon, M.M. Macias (eds), Identifying & Addressing Developmental-Behavioral Problems: A Practical Guide for Medical and Non-Medical Professionals, Trainees, Researchers and Advocates, pp. 405-408. USA: PEDtest.com, LLC. ISBN 978-0-9664323-5-0.

Ebrahim, H., Seleti, J. and Dawes, A.R.L. 2013. Learning begins at birth: improving access to early learning. In Berry, Biersteker, dawes, lake and Smith (eds), South African Child Gauge 2013, pp. 66-71. Cape Town: Children's Institute. ISBN 9780799224986.

Figueiredo, J.F., Olderbak, S., Schloemer, G., Garcia, R. and Wolf, P. 2013. Program evaluation: principles, procedures, and practices. In Todd Little (eds), The Oxford handbook of Quantitative Methods, pp. 332-360. New York: Oxford University Press. ISBN 9780199934874.

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Solms, M. 2013. "The Unconscious" in psychoanalysis and neuropsychology. In Salma Akhtar and Mary Kay O'Neil (eds), On Freud's "The Unconscious", pp. 101-118. Great Britain: Karnac Books Ltd. ISBN 978-1-7822002-7-7.

Solms, M. 2013. Der Wunsch im Traum - eine neuropsychoanalytische Perspektive. In Brigitte Boothe (eds), Wenn doch nur - ach hatt ich bloß - Die Anatomie

des Wunsches, pp. 126-140. Zurich: ruffer & rub. ISBN 9783907625637.

Swartz, S.G. 2013. Naming and otherness: South African intersubjective psychoanalytic psychotherapy and the negotiation of racialised histories'. In Cora Smith, Glenys Lobban and Michael O' Loughlin (eds), Psychodynamic Psychotherapy in South Africa: Contexts, Theories and Applications, pp. 13-30. South Africa: WITS University Press. ISBN 978 1 86814 603 1.

Ward, C.L. and Wessels, I. 2013. Rising to the challenge: towards effective parenting programmes. In Berry, Biersteker, Dawes, Lake and Smith (eds), South Africa Child Gauge 2013, pp. 62-65. Cape Town: Children's Institute. ISBN 978-0-7992-2498-6.

### Encyclopaedia entries

Panksepp, J., Northoff, G. and Solms, M. 2013. Emotion and Psychopathology. In Encyclopedia of the mind, pp. 304 -308. California: Sage Publications Inc. ISBN 9781412950572.

### Articles in peer-reviewed journals

Amzel, a., Toska, E., Lovich, R., Widjono, m., Patel, P., Foti, C., Dzuiban, E., Phelps, R., Sugandhi, N., Mark, D. and Altschuler, J. 2013. Promoting a combination approach to Paediatric HIV psychosocial support. AIDS, 27(S2): S147 -S157.

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Bradfield, B. 2013. The intergenerational transmission of trauma as a disruption of the dialogical self. Journal of Trauma & Dissociation, 14: 390-403.

Capri, C. 2013. Madness and defence: interventions with sexually abused children in a low-income South African community. European Journal of Psychotherapy and Counselling, 15(1): 32-52.

Carney, T., Myers, B.J., Louw, J., Lombard, C. and Flisher, A.J. 2013. The relationship between substance use and delinquency among high-school students in Cape Town, South Africa. Journal of Adolescence, 36: 447-455.

Casale, M., Wild, L. and Kuo, C. 2013. "They give us hope": HIV-positive caregivers' perspectives on the role of social support for health. AIDS Care, 25(10): 1203-1209.

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Casale, M. and Wild, L. 2013. Effects and processes linking social support to caregiver health among HIV/AIDS-affected carer-child dyads: a critical review of the empirical evidence. AIDS and Behavior, 17(5): 1591-1611.

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- Jackson, M. and Solms, M. 2013. Separation distress in obsessive-compulsive disorder. *Neuro-Psychoanalysis*, 15(2): 117-125.
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- Kaminer, D.B., Du Plessis, B., Hardy, A. and Benjamin, A. 2013. Exposure to violence across multiple sites among young South African adolescents. *Peace and Conflict*, 19(2): 112-124.
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- King, W., Malcolm-Smith, S.M., Jaftha, J., Louw, J. and Tredoux, C.G. 2013. A quasi-experimental comparison of spreadsheet- and classroom-based statistics tutorials. *South African Journal of Psychology*, 43(1): 34-45.
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- Stevens, G., Eagle, G., Kaminer, D.B. and Higson-Smith, C. 2013. Continuous traumatic stress: conceptual conversations in contexts of global conflict, violence and trauma. *Peace and Conflict*, 19(2): 75-84.
- Streb, a., Shefer, T., Stacey, m. and Shabalala, N.J. 2013. Lessons from the evaluation of a public out-patient substance abuse treatment programme in the Western Cape. *Social Work: A Professional Journal for the Social Worker*, 49(1): 38-52.
- Streb, a., Shefer, T., Potgieter, C., Wagner, C. and Shabalala, N.J. 2013. 'She's a slut ... and it's wrong': youth constructions of taxi queens in the Western Cape. *South African Journal of Psychology*, 43(1): 71-80.
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- Swartz, S.G. 2013. Feminism and psychiatric diagnosis: reflections of a feminist practitioner. *Feminism & Psychology*, 23(1): 41-48.
- Tembo, R. and Louw, J. 2013. Conceptualising and implementing two community gardening projects on the Cape Flats, Cape Town. *Development Southern Africa*, 30(2): 224-237.
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Weierstall, R., Hinsberger, M., Kaminer, D.B., Holtzhausen, L., Madikane, S. and Elbert, T. 2013. Appetitive aggression and adaptation to a violent environment among youth offenders. *Peace and Conflict*, 19(2): 138-149.

Wepener, I., Learmonth, D., Mcleod, K. and Chikte, Z. 2013. Beyond the tease: Exploring men's constructions of paying for sex in South Africa. *Research Psychology*, 3(12): 749-761.

Wild, L.G., Flisher, A.J. and Robertson, B.A. 2013. Risk and resilience in orphaned adolescents living in a community affected by AIDS. *Youth & Society*, 45(1): 140-162.

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#### **Peer-reviewed published conference proceedings**

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Mulenga Nkhungulu, C. and Deda, F. 2013. Student perceptions of academic dishonesty at a South African tertiary institution. In Charles A. Shoniregun & Galyna A. Akmayeva(eds), *Proceedings of Canada International conference on Education*, 24-26 June 2013, University of Toronto, Ontario, Canada. United Kingdom: Infonomics Society. ISBN 978-1-908320-14-8.

# **DEPARTMENT OF SOCIAL DEVELOPMENT**

## **Head of Department: Associate Professor Viviene Taylor**

### **Departmental Profile**

The Department of Social Development provides undergraduate social work education and training commensurate with the professional standards laid down by the South African Council for Social Service Professions. It also offers postgraduate specialist taught programmes in Social Development, Social Policy & Management, Probation & Corrections and Clinical Social Work. Postgraduate programmes by research are offered in Social Planning & Administration, Social Work and Social Development. As befits professional education, the Department maintains relationships with a wide variety of community-based organisations where students undergo professional practice based learning.

The Department places great importance on research. Current research interests of the Department include social policy and social protection systems, the social development of emergent communities, clinical intervention strategies, restorative justice, research on gender inequalities and social transformation, human development and capabilities as pathways out of poverty & social exclusion, social work in prisons, child & youth care, social administration and planning, and HIV/AIDS care strategies.

The Department is also involved in a number of extension services at both national and international levels. The Department collaborates with the Western Cape Provincial Government by providing the specialist social work honours courses in the treatment of substance abuse disorders. International research and comparative work is encouraged. At present staff in the Department are involved in international research collaboration in the fields of comparative social policy in Africa, conflict resolution and community development, financial management of the third sector and mapping social protection systems in Africa.

### **Departmental Statistics**

#### **Permanent and Long-term Contract Staff**

Associate Professors	2
Senior Lecturers	4
Research Associate	2
Lecturers	3
Junior Researcher	1
Administrative and Clerical Staff	2
<b>Total</b>	<b>15</b>

#### **Honorary Staff**

Adjunct Associate Professor	1
<b>Total</b>	<b>1</b>

#### **Students**

Doctoral	12
Masters	68
Honours	55
Undergraduate	404
<b>Total</b>	<b>539</b>

### **Research Fields and Staff**

#### **Permanent Staff**

##### **ASSOCIATE PROFESSOR VIVIENE TAYLOR**

Social policy and social protection; human security and social and economic development with emphasis on governance, poverty and gender inequalities.

##### **ASSOCIATE PROFESSOR ANDRÉ DE V SMIT**

Organisational theory; management and administration; social policy; social security; resource allocation.

##### **ADJUNCT ASSOCIATE PROFESSOR ERIC ATMORE**

Organisational theory; leadership and management; non profit sector; early childhood development.

##### **DR MARGARET BOOYENS**

Youth development; social development; community development; poverty alleviation; leadership and management in non-profit organizations.

##### **DR CONNIE O'BRIEN**

Community development; mental health issues; cultural diversities; peace education; conflict resolution/mediation; spirituality/counselling; qualitative research.

##### **DR LEON HOLTZHAUSEN**

Criminal Justice Social Work, Substance Addiction and Transnational Social Work and Migrant Issues.

##### **DR JOHANNES JOHN-LANGBA**

Migration, climate change and health; HIV/AIDS; social policy and social protection; behavioral and community health, social and public health dimensions of mining; sexual and gender-based violence; psycho social well-being; quality of life; mental health; sexual and reproductive health/rights; and programme evaluation.

##### **MR. THULANE GXUBANE**

Crime and society; probation and correctional practice; youth justice, juvenile offending and restorative justice.

##### **MRS FATIMA WILLIAMS**

Casework/psychotherapy; groupwork and group psychotherapy; human development; mental health; professional development.

##### **MR RONALD ADDINALL**

Clinical social work, sexology and psychosexual therapy, sexual health and rights, sexual minorities and human rights, and gender identity variance.

##### **ADMINISTRATIVE AND CLERICAL STAFF**

Ms Marguerite Armstrong – Administrative Officer

##### **MR OLANDO JACOBS – SENIOR SECRETARY**

#### **Contact Details**

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#### **Research Output**

##### **Chapters in books**

Kubeka, A.M. 2013. Visionary response: infusing identity enactment as a component of spiritually relevant pedagogy. In Shirley R Steinberg (eds), *Engaging culture, race and spirituality*, pp. 106-114. New York: Peter Lang. ISBN 978143312327.

##### **Articles in peer-reviewed journals**

Atmore, E., van Niekerk, L. and Ashley-Cooper, M. 2012. Challenges facing the early childhood development sector in South Africa. *South African Journal of Childhood Education*, 2(1): 121-140.

Chideya, Y. and Williams, F. 2013. Adolescent fathers: exploring their perceptions of their role as parent. *Social*

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Shibuya, T. and Taylor, V.E.D. 2013. Alternative care options and policy choices to support orphans: The case of Mozambique in the context of the SADC. International Social Security Review, 66(1): 71-95.

Spiro, M., Becker, L. and Beech, T. 2013. Small and large groups as containers for transformation in a group analytic training programme: Cape Town, South Africa. Group Analysis: The Journal of Group Analytic Psychotherapy, 46(3): 286-298.

Weierstall, R., Hinsberger, M., Kaminer, D.B., Holtzhausen, L., Madikane, S. and Elbert, T. 2013. Appetitive aggression and adaptation to a violent environment among youth offenders. Peace and Conflict, 19(2): 138-149.

#### Peer-reviewed published conference proceedings

Taylor, V.E.D. 2013. Social justice: reframing the "social" in critical discourses in Africa. In Sarah Tangen (eds), Proceedings of African Perspectives on Social Justice, 25-26 October 2012, Uganda. Friedrich Ebert Stiftung. ISBN 9789970914418.

# DEPARTMENT OF SOCIOLOGY

## Head of Department: Associate Professor David Cooper

### Departmental Profile

The Department of Sociology is involved in a variety of key research areas: basic social research, comparative welfare systems, African migrations, industrial and development sociology, gender and global studies. Its focus combines intensively local research and major international collaborations with institutions in the USA, Europe and the Global South (Brazil, Colombia, Mexico, Ghana, Uganda, Kenya, Mozambique and India). It has Masters programmes in General, Industrial, Development Sociology and An international co-badged programme in Global Studies with the Universities of Freiburg and the Jawaharlal University in New Delhi.

### Departmental Statistics

#### Permanent and long-term contract staff

Professor	3
Associate Professor	3
Senior Lecturers	4
Lecturers	2
Adjunct Associate Professor	1
Research Staff	0
Technical Support Staff	0
Administrative and Clerical Staff	2
Departmental Assistant	0
Lab Assistant	0
<b>Total</b>	<b>15</b>

#### Honorary staff

Honorary Research Associates	3
<b>Total</b>	<b>3</b>

#### Students

Postdoctoral	2
Doctoral	36
Masters	42
Honours	23
Undergraduates	2349
<b>Total</b>	<b>2452</b>

### Research Fields and Staff

#### Permanent staff

##### ASSOCIATE PROFESSOR DAVID COOPER

Head of Department. Tertiary Education Studies; Sociology of Education and Science

##### PROFESSOR OWEN CRANKSHAW

Stratification, Race, Class and Inequality; Urban Sociology

##### PROF JEREMY SEEKINGS

Class, race and Inequality, Comparative Social Welfare Systems,

##### PROF ARI SITAS

Culture, Labour and Social Movements, Deviance

##### ASSOCIATE PROFESSOR DAVID LINCOLN

Development Studies and International Division of Labour

##### ASSOCIATE PROFESSOR XOLELA MANGCU

Intellectuals and Society, African Traditions of Social Thinking and Urbanisation

##### DR JACQUES DE WET, SENIOR LECTURER

Development Studies, Development Practice and Poverty

##### DR JONATHAN GROSSMAN, SENIOR LECTURER

Social and Labour Movements in Society

##### DR FRANK MATOSE, SENIOR LECTURER

Environmental Sociology, Agrarian Sociology and Rural Development

##### DR AMRITA PANDE, SENIOR LECTURER

Globalisation, Migrations, Gender, Reproductive Technologies

##### DR JUDITH HEAD, LECTURER

Women in Society, Sociology of Health

##### DR ELENA MOORE, LECTURER

Sociology of the Family, Gender Relations

#### Contract research staff

##### ASSOCIATE PROFESSOR RAJEN GOVENDER

Research Methods and Surveys, Development Problems

#### Adjunct Associate Professor

##### ADJUNCT ASSOCIATE PROFESSOR SHARLENE SWARTZ

Marginalized youth and development outcomes in contexts of adversity; social aspects of restitution and transformation; race and education; participatory and emancipatory research methods

#### Emeritus Professor

##### PROF JOHANN MARÉE,

Trade Unions in Society, Industrial Relations and Workplace Participation

#### Honorary Research Associates

##### DR JOHANN GRAAFF

Development Sociology, Social Psychology

##### ASSOCIATE PROFESSOR, KEN JUBBER

Social Theory

#### Contact Details

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Telephone: +27 21 650 3501

E-mail: Tarayan.stoffels@uct.ac.za

#### Research Output

#### Edited books

Swartz, S. and Arnot, M. (eds) 2013. Youth Citizenship and the Politics of Belonging. 133pp. USA & Canada: Routledge. ISBN 9780415659680.

#### Chapters in books

Arnot, M. and Swartz, S. 2013. Introduction: Youth citizenship and the politics of belonging: introducing contexts, voices, imaginaries. In Sharlene Swartz & Madeleine Arnot (eds), Youth Citizenship and the Politics of Belonging, pp. 1-10. USA & Canada: Routledge. ISBN 9780415659680.

Matebeni, Z. 2013. Deconstructing violence towards black lesbians in South Africa. In Sokari Ekine & Hakima Abbas (eds), Queer African Reader, pp. 343-353. Kenya: Pambazuka Press. ISBN 9780857490995.

Matebeni, Z. 2012. Feminizing lesbians, de-gendering transgender men: a model for building lesbian feminist thinkers and leaders in Africa. In Shaka Mc Glotten & Dana-Ain Davis (eds), Black Genders and Sexualities, pp. 187-193. United States: Palgrave Macmillan. ISBN 9781403977755.

Mutimukuru-Maravanyika, T. and Matose, F. 2013. Learning in contested landscapes: Applying adaptive collaborative management in forested landscapes of Zimbabwe. In Hemant R Ojha, Andy Hall, Rasheed Sulaiman V (eds), Adaptive Collaborative Approaches in Natural Resource Governance: Rethinking Participation, Learning and Innovation, pp. 177-215. New York: Routledge. ISBN 9780415699105.

Pande, A. 2013. La gestation pour autrui transnationale a des fins commerciales en Inde: des dons pour la solidarite mondiale entre les femmes? In Christine Verschuur & Christine Catarino (eds), *Genre, migrations et globalisation de la reproduction sociale*. Geneva: The Graduate Institute. ISBN 9782343014302.

Pande, A. 2013. The "sweat and blood" of womb mothers: commercial surrogates redefining motherhood in India. In Sangha, JK & Gonsalves, T (eds), *South Asian Mothering: Negotiating Culture, Family and Selfhood*, pp. 135-149. Canada: Demeter Press. ISBN 9781927335017.

Schenk, J. and Seekings, J.F. 2013. Locating generation X: taste and identity in transitional South Africa. In Christine Henseler (eds), *Generation X Goes Global: Mapping a Youth Culture in Motion*, pp. 51-72. New York: Routledge. ISBN 9780415699440.

Seekings, J.F. 2013. Social Policy. In Nic Cheeseman, David Anderson & Andrea Scheibler (eds), *Routledge Handbook of African Politics*, pp. 309-321. New York: Routledge, Taylor and Francis Group, London and New York. ISBN 9780415573788.

Swartz, S., Harding, J.H. and De Lannoy, A.M.F.A. 2013. Ikasi style and the quiet violence of dreams: a critique of youth belonging in post-apartheid South Africa. In Sharlene Swartz & Madeleine Arnot (eds), *Youth Citizenship and the Politics of Belonging*, pp. 27-40. USA & Canada: Routledge. ISBN 9780415659680.

Van Wyk, I. 2013. Bad luck, slippery money and the South African lottery. In Rebecca Cassidy, Andrea Pisac and Claire Loussouarn (eds), *Qualitative Research in Gambling: Exploring the production and consumption of risk*, pp. 156-170. Oxon: Routledge. ISBN 9780415659383.

#### Articles in peer-reviewed journals

Cooper, D.D., Moore, E. and Mantell, J.E. 2013. Renegotiating intimate relationships with men: how HIV shapes attitudes and experiences of marriage for South African women living with HIV: 'now in my life, everything I do, looking at my health'. *Acta Juridica*, 13: 218-238.

Hodes, R. 2013. The medical history of abortion in South Africa, c.1970-2000. *Journal of Southern African Studies*, 39(3): 527-542.

Hodes, R. 2013. Understanding AIDS conspiracies: the critical value of postmodernism. *Science As Culture*, 22(2): 261-266.

Jeppie, M.S. 2013. (Not for pub count) Mission response - S Jeppie. *Comparative Studies of South Asia, Africa and the Middle East*, 33(2): 137-139.

Mangcu, X. 2013. Promoting self-help in human settlements policy: towards a progressive development model in informal settlements. *Human Settlements Review*, 2: 77-91.

Matebeni, Z., Reddy, V., Sandfort, T. and Southey-Swartz, I. 2013. "I thought we are safe": Southern African lesbians' experiences of living with HIV. *Culture Health & Sexuality*, 15(S1): S34-S47.

Matebeni, Z. 2013. Intimacy, queerness, race. *Cultural Studies*, 27(3): 404-417.

Moore, E. and Govender, R.A. 2013. Marriage and cohabitation in South Africa: an enriching explanation?. *Journal of Comparative Family Studies*, 44(5): 623-639.

Moore, E. 2013. Transmission and change in South African motherhood: black mothers in three-generational Cape Town families. *Journal of Southern African Studies*, 39(1): 151-170.

Norton, M. 2013. The life and times of snoek. *Ecology and Society*, 18(4): 32(5 pages).

Pande, A. 2013. "The paper that you have in your hand is my freedom": migrant domestic work and the sponsorship (Kafala) system in Lebanon. *International Migration Review*, 47(2): 414-441.

Parnell, S. and Crankshaw, O. 2013. The politics of 'race' and the transformation of the post-apartheid space economy. *Journal of Housing and the Built Environment*, 28(4): 589-603.

Posel, D. 2013. The ANC youth league and the politicization of race. *Thesis Eleven*, 115(1): 58-76.

Sandfort, T., Baumann, L., Matebeni, Z., Reddy, V. and Southey-Swartz, I. 2013. Forced sexual experiences as risk factor for self-reported HIV infection among Southern African lesbian and bisexual women. *PLoS One*, 8(1): e53552.

Seekings, J.F. 2013. Is the South 'Brazilian'? The public realm in urban Brazil through a comparative lens. *Policy and Politics*, 43(3): 351-370.

Swartz, S., Tyler, R. and Versfeld, A. 2013. Emotion as opportunity: reflections on multiple concurrent partnerships among young men in South Africa. *Gender & behaviour*, 11(1): 5197-5207.

Van Wyk, I. 2012. A response. *Anthropology Southern Africa*, 35(3&4): 119-121.

Van Wyk, I. 2013. Beyond ethical imperatives in South African anthropology: morally repugnant and unlikeable subjects. *Anthropology Southern Africa*, 36(1&2): 68-79.

Vranas, L. and Hendry, J. 2013. Discovering the postdoctoral sector at UCT with a view to improving the PDRF experience. *South African Journal of Higher Education*, 27(2): 454-473.

#### Journal editing

Gopauloo, N. and Lincoln, M.D. (eds) 2013. *Journal of Mauritian Studies*. 165pp. Mauritius: The School of Mauritian and Area Studies. ISBN 9789990339604.

## MICHAELIS SCHOOL OF FINE ART

(Including the Centre for Curating the Archive)

### Director and Head of School: Associate Professor Stephen Inggs

#### School Profile

The Michaelis School of Fine Art is primarily involved in research in the field of fine art and the history and discourses of art. The School has a strong research and exhibition profile with all staff participating in both local and international exhibitions. These include exhibitions curated along various themes, major international biennales, as well as individual one-person shows. There is an emphasis on the scholarly and creative interpretation and intellectualisation of artwork. This is reflected in catalogue publications, artists' books and journal articles including *Artworks in Progress*, a journal published by the School. Staff are regularly invited to comment on issues relating to fine arts practice and write review essays in exhibition catalogues.

The School houses the Centre for Curating the Archive, a multidisciplinary research centre focussed on digital archives their exhibition and publication, directed by Pippa Skotnes. The CCA incorporates LLAREC (Lucy Lloyd Archive, Resource and Exhibition Centre) and the Katrine Harries Print Cabinet which publishes artists' books and curates the University's print collection.

The major postgraduate degrees offered at the School include the PhD, Master of Fine Art, Master of Arts in Fine Art, Master of Arts in Art Historical Studies, Honours in Art Historical Studies and Honours in Curatorship. Students undertake advanced study in an aspect of art history, contemporary art discourse, studiowork disciplines or specialist interdisciplinary research.

#### School Statistics

##### Permanent and Long-term Contract Staff

Emeritus Professors	4
Honorary Professors	1
Professors	3
Associate Professors	2
Adjunct Associate Professor	1
Senior Lecturers	7
Lecturers	3
Contract staff	2
Administrative staff	3
Senior Technical Officers	2
Technical Officers	2
Technical Assistant	1
Workshop Assistant	1
<b>Total</b>	<b>32</b>

##### Students

Undergraduates	1143
Postgraduate Diploma in Art	6
Honours in VAH	2
Honours in Curatorship	19
MFA	17
MA	8
PhD	7
<b>Total</b>	<b>1202</b>

#### Research Fileds and Staff

##### PROFESSOR JANE ALEXANDER

Sculpture; photography; photomontage; video  
Emeritus Professor Bruce Arnott  
Fine art; sculpture

##### MS JEAN BRUNDIT

Photography; lesbian sexuality; identity

**MR KURT CAMPBELL**

Graphic Design; Design History; 2d Animation, Postcolonial theory, Subaltern studies, philosophy of technology

**MS ANNEMIE CONRADIE**

Visual studies; commodification of culture; tourism, heritage and local economic development; relationships between theory and practice; body modification and performance

**EMERITUS PROFESSOR MICHAEL GODBY**

19th century colonial artists; contemporary South African artists; documentary photography

**ASSOCIATE PROFESSOR STEPHEN INGS**

Printmaking, photography, artists' books and portfolios, particularly the influence of technology on practice; representation of objects and landscape

**MS SVEA JOSEPHY**

Photography; southern African Photography; contemporary art

**MR ANDREW LAMPRECHT**

Theory/Discourse in Art; curatorship

**ASSOCIATE PROFESSOR FRITHA LANGERMAN**

Printmaking; curatorship and display; art and science

**MS VIRGINIA MACKENNY**

Painting, video; visual theory; contemporary art

**DR SIONA O'CONNELL**

Visual studies; archives and memory

**EMERITUS PROFESSOR MALCOLM PAYNE**

Video art; digital printmaking

**DR. RAÉL JERO SALLEY**

Painting; Modern and Contemporary Art History; Visual Theory and Discourse; African American Art; Theories of Black and African Diaspora

**MR FABIAN SAPTOUW**

Process Art; Materiality; Printmaking; History of bookmaking; Text/Image relationships

**ASSOCIATE PROFESSOR BERNI SEARLE**

Video art; photography; installation

**HONORARY PROFESSOR PENELOPE SIOPIS**

Critical practices in contemporary painting; shame and sexuality in visual art; psychoanalysis and art; archival film and narrative in video art

**PROFESSOR PIPPA SKOTNES**

Visual history and representation; curatorship and the archive; and bookarts

**MS ANNA TIETZE**

History of art collecting and museum policy; 19th century French art and society; the history of the print; history and theory of art training institutions.

**ASSOCIATE PROFESSOR JOHANN VAN DER SCHIJFF**

Sculpture; interactive art installations; computer aided design and manufacturing

**EMERITUS PROFESSOR GAVIN YOUNGE**

Issues of 'Re-wilding' and 'Hyperwilderness' in international contexts; negotiating transnational trauma in sculpture and film

**MS CARINE ZAAJMAN**

New media; film theory; psychoanalysis and notions of subjectivity in art

**Contact Details**

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**Research Output****Chapters in books**

Godby, M.A.P. 2013. A Short History of South African Landscape Photography. In Transition, pp. 158-163. Xavier Barral. Italy: Market Photo Workshop. ISBN 9782365110358.

Godby, M.A.P. 2013. Change without changing: the ethnography of A.M. Duggan-Cronin's "Bantu Tribes" of South Africa. In Tamar Garb (eds), African Photography from the Walther Collection - Distance and Desire: Encounters with the African Archive, pp. 97-103. Germany: Stiedl Publishers. ISBN 9783869306513.

Godby, M.A.P. 2013. Native Studies. In Okwui Enwezor and Rory Bester (eds), Rise and Fall of Apartheid Photography and the Bureaucracy of Everyday Life, pp. 46-65. New York: International Center of Photography. ISBN 9783791352800.

Richards, C. 2013. Retouching apartheid. In Okwui Enwezor and Rory Bester (eds), Rise and Fall of Apartheid Photography and the Bureaucracy of Everyday Life, pp. 234-247. New York: International Center of Photography. ISBN 9783791352800.

**Articles in peer-reviewed journals**

Campbell, K.D. 2013. The sociogenic imperative of typography a 'face' for the new South Africa. European Journal of English Studies, 17(1): 72-91.

Conradie, A. 2013. Tribal-esque: Evermore the rage. Art South Africa, 12(01): 66-67.

Davison, P. and Mahashe, G. 2012. Visualizing the realm of a rain-queen: the production and circulation of Eileen and Jack Krige's lobedu fieldwork photographs from the 1930s. *Kronos: Southern African Histories (Kronos: Journal of Cape History)*, 38(1): 47-81.

Dhlomo-Mautloa, B., Goldblatt, D., Warne, P. and Weinberg, P. 2013. Umhlabi 19132013. Social Dynamics-A Journal of the Centre for African Studies University of Cape Town, 39(2): 327-352.

Klopper, S. 2013. Art and culture in contemporary South Africa: the present future. Thesis Eleven, 115(1): 127-140.

Lamprecht, A. 2013. Berlin: the beautiful ones. Art South Africa, 12(01): 30-31.

Lamprecht, A. 2013. Paul Edmunds. Art South Africa, 12(1): 84.

MacKenny, V. 2013. Waymarker - a painter's notes. Art South Africa, 11(03): 27-28.

MacKenny, V. 2013. Land matters. Art South Africa, 11(04): 42-44.

Martin, M. 2013. Subject as Matter. Art South Africa, 11(03): 65.

Martin, M. 2013. documenta (13). De Arte, 87: 51-60.

Putter, A. 2012. Native Work: an artwork by Andrew Putter consisting of 38 portrait photographs (with photography by Hylton Boucher, Kyle Weeks and Andrew Putter). *Kronos: Southern African Histories (Kronos: Journal of Cape History)*, 38(1): 249-260.

Salley, R. 2013. Charting dreams. Art South Africa, 11(4): 35-39.

Salley, R. 2013. 'I who speak here am'. Art South Africa, 11(03): 54-57.

Salley, R. 2013. The changing now of things. Third Text, 27(3): 355-366.

Younge, J.G.F. 2013. Cradle of Humankind: No Picnics Allowed. Art South Africa, 12(1): 70-71.

**Exhibition catalogues, catalogue essays and works of a popular nature**

Brundrit, J. 2013. Following the threads: thoughts and processes in my recent work - 'The Space Inside' and 'Making the Waves'. In Annemarie Conradie (eds), *Out of Site: representations of identity in the work of Jean Brundrit*, pp. 49-55. Cape Town: SoSo Press. ISBN 9781920022044.

Campbell, K.D. 2013. Textual Ideation and the Digital in South Africa. MCD Magazine. Digital Africa Issue. #71.

Josephy, S. 2013. Standing out: a play of lesbian identities in the work of Jean Brundrit. In Annemarie Conradie (eds), *Out of Site: representations of identity in the work of Jean Brundrit*, pp. 57-73. Cape Town: SoSo Press. ISBN 9781920022044.

Lamprecht, A. 2013. Baudelaire's Albatross: 'To Find Out if the Sea's Heart Still is Hardened'. In Annemarie Conradie (eds), *Out of Site: representations of identity in the work of Jean Brundrit*, pp. 89-95. Cape Town: SoSo Press. ISBN 9781920022044.

Liebenberg, N. 2013. Suspicious Mind curator's essay. <http://suspiciousmind.co.za/curators-essay-nina-liebenberg>

O'Connell, S. (ed) 2013. *Martyrs, Saints & Sell-outs*. 57pp. Cape Town: Centre for Curating the Archive. ISBN 9780620576888.

O'Connell, S. (ed) 2013. *Spring Queen*. 57pp. Cape Town: Centre for Curating the Archive. ISBN 9780620576895.

Saptouw, F. 2013. Suspicious Mind curator's essay. <http://suspiciousmind.co.za/curators-essay-fabian-saptouw>

**Creative work****Artistic works**

Skotnes, P. 2013. Breath. Permanent Installation in the Psychology Department, PD Hahn Building, University of Cape Town.

## **Exhibitions**

### **Solo Exhibitions**

Alexander, J. 2013. Survey: Cape of Good Hope (2005-9) Infantry with beast (2008-10). Stevenson Gallery, Johannesburg 18/11/2013 to 07/02/2014.

Alexander, J. 2013. Surveys (From the Cape of Good Hope). Cathedral Church of St John the Divine, New York 18/04/2013 to 29/07/2013.

Brundrit, J. 2013. Out of Site. AVA Gallery, Cape Town 26/08/2013 to 19/09/2013.

Searle, B.C. 2013. Refuge. La Galerie Particuliere, Paris, France 06/06/2013 to 10/08/2013.

### **Curated Exhibitions**

Inggs, S.C. 2013. Works of Art, New Engineering Building. New Engineering Building, University of Cape Town. From 18/11/2013.

Lamprecht, A. 2013. Nelson Mandela in Kimberley. Oliewenhuis Art Museum, Bloemfontein 06/12/2013 to 27/01/2014.

Liebenberg, N. and Saptouw, F 2013. Suspicious Mind: artists' explore mind and matter. Michaelis Main Gallery, Cape Town 09/08/2013 to 31/08/2013.

O'Connell, S. 2013. Extraordinary Lives: Portraits from a Divided Land. The District Six Museum 23/03/2013 to 14/06/2013.

O'Connell, S. 2013. Curated Exhibition: Martyrs, Saints and Sell-outs: The Photographs of Benny Gool, Adil Bradlow and Zubeida Vallie. The National Arts Festival, Grahamstown 27/06/2013 to 07/07/2013; Iziko Castle of Good Hope, Cape Town 06/09/2013 to 11/10/2013 and South Campus Auditorium, NNMU, Port Elizabeth 25/10/2013.

O'Connell, S. 2013. Spring Queen: The staging of the glittering proletariat. The District Six Museum 19/01/2013 to 04/03/2013.

### **Group exhibitions (Curated)**

Alexander, J., Edmunds, P., Bopape, D.S., Adams, I., Nitegeka, S.A. and Hlobo, N. 2013. A Sculptural Premise. Curated by Stevenson Gallery, Cape Town 28/11/2013 to 11/01/2014.

Alexander, J., Boshoff, W., Chiurai, K., Marx, G., Bopape, D.S. and Barker, W. 2013. My Joburg.

Curated by Paula Aisemberg, France. Staatliche Kunstsammlungen Dresden, Kunsthalle im Lipsiusbau, Dresden 26/10/2013 to 05/01/2014 and Maison Rouge, Paris 20/06/2013 to 22/09/2013.

Brundrit, J., Ciurysek, S. and Mangalanayagam, N. 2013. At Sea in 'Land/Home'. Curated by Michaelis Galleries, Cape Town 16/07/2013 to 03/08/2013.

Inggs, S.C., MacKenny, V., Sibande, M., Kentridge, W., Slingsby, R., Botha, L. and Ngqinambi, N. 2013. Dinner Collection. Curated by Alastair Whitton Barnard Gallery, Cape Town 12/12/2013 to 15/01/2014.

Inggs, S.C., Kukama, G., Setshogo, T., Azza, H. and Diedericks, C. 2013. Graphic Arts from the World - Africa. Curated by Monika Wanyura-Kurosad International Centre for Graphic Arts, Krakow, Poland 26/02/2013 to 21/03/2013.

Inggs, S.C., Josephy, S., Botha, L., Southwood, D., Williams, G. and van Wyk, G. 2013. Point of View: Contemporary South African Photography. Curated by Alistair Whitton Barnard Gallery, Cape Town 25/07/2013 to 28/08/2013.

Liebenberg, N., de Villiers, L., Tshikhuthula, J., Fourie, H. and Bezuidenhout, V. 2013. ABSA L'Atelier Art Finalists Exhibition. Aardklop Festival, Potchefstroom 23/09/2013 to 28/09/2013; ABSA Gallery, Johannesburg 18/07/2013 to 22/08/2013 and Entre-Vues. Camac Art Centre, Marnay-sur-Seine, France 26/09/2013 to 20/10/2013.

Liebenberg, N., Hearn, R., de Jager, R., de Villiers, W. and Bryer, C. 2013. MUSE: Portrait. Landscape. Still Life. Curated by Margie Murgatroyd Antonia Labia and Cate Wood Hunter. Casa Labia, Muizenberg 12/12/2013 to 23/02/2014.

Liebenberg, N., Hugo, D., le Roux, J., Diedericks, C. and du Toit, J. 2013. Pentimenti and More. Curated by Louis Jansen van Vuuren and Elizabeth Mille-Vermuelen Art b Gallery, Bellville 24/04/2013 to 17/05/2013.

Liebenberg, N., Trapani, A., Aikman, J. and Mbili, D. 2013. The Seven Deadly Virtues. Curated by Dr Paul Bayliss Prince Vincent Building, Oudtshoorn Arts Festival 29/03/2013 to 06/04/2013 and Fried Contemporary Gallery, Pretoria 08/06/2013 to 22/06/2013.

MacKenny, V., Bailey, B., Mullins, N., Nel, L. and Blignaut, C. 2013. Possessed. Curated by Everard Read, Cape Town 31/07/2013 to 21/08/2013.

MacKenny, V., Marx, G., Bell, D., Brenner, J., Cianfanelli, M. and Cullberg, T. 2013. Shimmering. Curated by Julia Meintjes Cavalli Estate, New Commercial Gallery 13/10/2013 to 31/01/2014.

MacKenny, V., Kentridge, W., Arenson, R., Hobbs, S. and Victor, D. 2013. The Benediction of Shade. Curated by Jacqueline Nurse David Krut Projects, Cape Town 11/05/2013 to 31/08/2013.

MacKenny, V., Diedericks, C., Menck, C., Clark-Brown, G. and Brown, D. 2013. Velvet. Curated by Chris Diedericks KKNK National Arts Festival, Oudtshoorn 29/03/2013 to 06/04/2013.

Saptouw, F., Khoza, M., Keiskamma Art Project, Jefferies, J., Mabb, D., Rigg, R. and Wakeford, N. 2013. Difference loom. Curated by Winnie Sze. South African National Gallery Annex, Cape Town 21/08/2013 to 27/09/2013.

Saptouw, F. and Khoza, M. 2013. Regions A-G. Curated by Ruth Sacks Johannesburg City Library, Johannesburg 09/11/2013 to 09/12/2013.

Searle, B.C. 2013. Distance and Desire: Encounters with the African Archive. Curated by Tamar Garb. The Walther Collection, Ulm, Germany 09/06/2013 to 17/05/2015.

Searle, B.C., Putter, A., Petros, D., Phokompe, T., Osodi, G. and Racliffe, J. 2013. Earth Matters. Curated by Karen Milbourne. National Museum of African Art, Smithsonian Institution 13/04/2013 to 04/01/2014.

Searle, B.C., Walters, A., Josephy, S., Southwood, D. and Weinberg, P. 2013. LAND. Various spaces throughout City of Cape Town 21/11/2013 to 24/11/2013.

Younge, G. 2013. After the Rainbow Nation 2013. Curated by Mary-Jane Darrol. NIROX Sculpture Park, Cradle of Humankind. 4/2013- 6/2013.

Younge, G. 2013. Summer of Sculpture II. Curated by David Tripp and Charles Field. Grounds of Mount Nelson Hotel, Cape Town.11/ 2013 -03/2014.

Younge, G. 2013. Everard Read Centenary Sculpture. Curated by David Tripp and Charles Field. Everard Read Gallery, Cape Town. 12/2013 -1/2014.

Younge, G. 2013. Inaugural exhibition Youngblood Galerie – Köln, Germany. Curated by Ralph Seipel. 8/2013-12/2013.

# SCHOOL OF AFRICAN AND GENDER STUDIES, ANTHROPOLOGY & LINGUISTICS

### **Director of School: Associate Professor Jane Bennett**

The School of African and Gender Studies, Anthropology & Linguistics is a new school of the Faculty of Humanities, formed in 2012 with the Departments of Social Anthropology, Gender Studies, African Studies and Linguistics coming together to form the School. It comprises now of four Sections (ex-departments), each with their own relative autonomy with respect to their curricula, and Seven Research groupings (units and chairs) which are linked in terms of their research and postgraduate supervision with the respective sections to which they are attached. This is an exciting structure of sections and research groupings: all under one 'umbrella' and seeking to enhance their academic synergies across sections and research groupings, and to streamline certain aspects of administration under one director of school.

### **AFRICAN STUDIES SECTION**

**(Including the Centre for African Studies)**

### **Director of Centre for African Studies): Professor Lungisile Ntsebeza, AC Jordan Chair in African Studies**

### **Head of Section: Associate Professor Nick Shepherd**

#### **Profile**

The goals of the African Studies Section and the Centre for African Studies are to encourage and co-ordinate teaching and research in the various fields concerned with people in Africa, as well as developing African Studies graduate courses and programmes. We also provide service courses for non-Humanities students, such as Engineers and Architects, at both undergraduate and postgraduate levels. At the core of our teaching and research is our intellectual project of examining the ways in which knowledge of Africa has been constructed in a range of discourses that cut across a number of disciplines. Within this forum, our courses cover themes such as the representation of

Africa across a number of media in both popular culture and in academic disciplines. In this regard, we provide a critical understanding of how knowledge in and about Africa has been filtered through the colonial library. In addition, the Centre's activities include producing our journal, Social Dynamics, holding regular seminars, workshops and forums for debate and providing a venue for performances, art exhibitions and film.

## Statistics

### Permanent and long-term contract staff

Professors	2
Associate Professors	2
Lecturers	1
Senior Secretary	1
Permanent Administrative Staff	2
<b>Total</b>	<b>8</b>

### Honorary Staff

Emeritus Professor	1
Honorary Professor	1
Honorary Research Associate	1
<b>Total</b>	<b>3</b>

### Students

Diploma	4
Honours	8
Master's	12
Doctoral	11
Undergraduate	251
<b>Total</b>	<b>286</b>

### Research Fields and Staff

#### Permanent and long-term contract staff

Associate Professor Harry Garuba  
Associate Professor Nick Shepherd  
Professor Lungisile Ntsebeza  
Professor Crain Soudien  
Dr Norman Chitonge  
Mr Nkululeko Mabandla

#### Emeritus Professors

Professor Brenda Cooper (MA Birmingham) (PhD Sussex)

#### Honorary Professor

Professor Anthony Bogues (Brown University, United States)

### Honorary Research Associates

Louise Green (University of Stellenbosch)

### Visiting Research Associates

Cheryl-Ann Michael (University of Western Cape)

Steven Robins (University of Stellenbosch)

Isaac Ndlovu (University of Venda)

Kylie Thomas (Rhodes University)

Rushil Ranchod

Diana Martin

Kogila Moodley (University of British Columbia)

Heribert Adam (Simon Fraser University)

Martin Plaut (London)

David Moore (University of Johannesburg)

Walton Johnson (Rutgers University)

Fiona Nqarachu (University of Southampton)

Orleans Mfune (University of Zambia)

Ksenia Robbe (Netherlands)

### Postdoctoral Fellows

Jeremiah Arowosegbe

Femke Brandt

Grasian Mkodzongi

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## ANTHROPOLOGY SECTION

### Head of Section: Prof Francis Nyamnjoh

#### Section Profile

The Department's research has a wide theoretical range with a particular, but not exclusive, focus on southern Africa. Study areas include child labour, citizenship, domestic dynamics, ethnicity, gender and sexuality, marginality, memory, migration, narrative, urban processes, violence, Truth and Reconciliation. Other topics include comparative pedagogies, identity construction, medical anthropology, anthropology of knowledge, anthropology of the environment.

### Departmental Statistics

#### Permanent and long-term contract staff

Professors	3
Associate Professors	2
Senior Lecturers	3
Lecturers	0
Technical and Clerical Staff	2
<b>Total</b>	<b>10</b>

#### Honorary staff

Honorary Professors	4
Honorary Research Associates	20
<b>Total</b>	<b>24</b>

#### Students

Post Doctoral	3
Doctoral	21
Master's	15
Honours	26
Undergraduate	725
<b>Total</b>	<b>790</b>

#### Research Fields and Staff

##### Dr. Divine Fuh (Senior Lecturer)

Joined the University of Cape Town in March 2012 from the University of Basel in Switzerland where he was senior researcher at the Chair for Research and Methodology in the Institute for Sociology. His research mainly focuses on questions relating to youth, agency and transitions in West and Southern African cities with particular thematic focus on consumption, popular culture, sports, masculinities, elites, space and transnational citizenship. He is currently researching on how young people contribute towards transforming urban communities in Johannesburg and Cape Town, and how they make youth an end rather than stagnated transitional stage?

##### ASSOCIATE PROFESSOR LESLEY GREEN

Anthropology of knowledge; anthropology of the environment; lowland South America; cultural astronomy; public archaeology; ethnographic research methodologies.

##### PROFESSOR CAROLYN HAMILTON

Carolyn Hamilton is the National Research Foundation (NRF) Professor in Archive and Public Culture at the University of Cape Town and a member of the Public Life of Ideas Research Network. Formerly director of

the Constitution of Public Intellectual Life Research Project and the Graduate School for the Humanities at the University of the Witwatersrand, she has published widely on the history and theory of archive; ethnography of memory-work; the production of history; the history of pre-industrial southern Africa; the public life of ideas; public culture.

##### DR SUSAN LEVINE (SENIOR LECTURER)

Child labour; children's health; visual anthropology; political economy; medical anthropology; gender and sexuality; HIV/AIDS; community development.

##### DR HELEN MACDONALD (SENIOR LECTURER)

Violence, narrative, scepticism and the everyday, pluralistic health, and magico-religious knowledge, witchcraft in India, transformation in Higher Education

##### PROFESSOR FRANCIS NYAMNJOH

Joined the University of Cape Town in August 2009 from the Council for the Development of Social Science Research in Africa (CODESRIA), where he served as Head of Publications from July 2003 to July 2009. Dr Nyamnjoh is a 2010 B2 NRF rated researcher, and a fellow of the Cameroon Academy of Science since August 2011. He is currently researching "ICTs, Mobility and Marginality", and has published widely on globalisation, citizenship, media and the politics of identity in Africa. He has also published ethnographic novels.

##### PROFESSOR FIONA ROSS

Ethnographies of and the marginal, domestic worlds; violence, loss and the recuperation of social worlds; gender, testimony and voice; Truth and Reconciliation.

##### ASSOCIATE PROFESSOR ANDREW SPIEGEL

Housing and migration patterns and family relationships; urban water and sanitation management - South Africa; comparative pedagogies; racism; history of South African anthropology.

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## GENDER STUDIES SECTION

(Including the African Gender Institute)

### Head of Section: Dr Helen Scanlon

#### Profile

Gender Studies offers an undergraduate major in Gender Studies, a postgraduate Honours programme in Gender and Transformation, and Masters and PhD level programmes in Gender Studies. Faculty research interests cover questions of African feminist theory, militarism, transitional justice, law and policy, women's peace-building activism, the psychology of violence, sexual and reproductive rights, histories of movement building, and queer politics.

The Gender Studies undergraduate programme offers a broad-based introduction to fundamental theoretical research in the field, with a special interest in African contexts. The Honours programme is geared towards providing participants with excellent grounding in the kinds of research training needed to work in fields which draw heavily on gender analysis and theory (such as development, conflict studies, sociology and social anthropology).

The section regularly hosts academics and visitors; last year, Gender Studies hosted (with the AGI) visits from Prof Jacqueline Rose, Prof Pumla Qqola and Shereen Essof.

#### Departmental Statistics

##### Permanent and long-term contract staff

Head of Section	1
Lecturers	3
Academic Programme Administrator	1
Total	5

##### Students

Doctoral	2
Masters	19
Honours	51
Undergraduate	1047
Total	1119

##### Research Fields and Staff

###### DR HELEN SCANLON

Head of Section: Gender and history, transitional justice and peace building, women's human rights

###### ASSOCIATE PROFESSOR JANE BENNETT

Gender-based violence and conflict; African feminist theory; representation; sexuality and queer studies

###### MS YALIWE CLARKE

Gender conflict and peace-building; gender analysis and development; African feminisms.

###### DR ADELENE AFRICA

Women perpetrators of violence, gendered representations of violence, feminist methodologies.

#### Contact Details

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## AFRICAN GENDER INSTITUTE (AGI)

### Director: Associate Professor Jane Bennett

#### Profile

The AGI's mission is to contribute to the attainment of gender justice in Africa by participating, through research, networking, and capacity-building in the transformation of inequitable institutions and social practices. The AGI's work is directed through four themes: sexual and reproductive health and rights; feminist processes in e-technologies; transitional justice, peace activism and gender; and gender, entrepreneurship and livelihoods. Each theme's work is driven by four interlocking principles: the importance of driving strong research, the integration of capacity-building work in all our projects, the value of working in partnerships within and beyond the university, and the need to support robust public intellectual debate. The AGI also published *Feminist Africa*, a DHET-accredited academic journal.

In 2013, the AGI worked in three of our four thematic areas, engaging researchers and policy advocates. The outputs of the work can be found on our website: [www.agi.ac.za](http://www.agi.ac.za). They include digital documentaries, research articles, reports on project workshops and seminars, and two issues of *Feminist Africa*. *Feminist Africa* 17's theme was on young women researching sexuality and gender in SADC higher education contexts, and was

uploaded to [www.agi.ac.za](http://www.agi.ac.za) in 2013, edited by Jane Bennett and Hope Chigudu. *Feminist Africa* 18, edited by Jennifer Radloff, on African feminist engagement with e-technologies, was published in 2013.

The AGI has also responded to diverse requests for input to policy, training and development, within South Africa, internationally and on the continent. In 2013, the AGI directed CODESRIA's annual three-week residential Gender Institute, ran a research seminar for senior experts in transitional justice with the International Centre for Transitional Justice, and convened a SADC-wide project on leadership and sexual/reproductive health and rights with participation among faculty and students from universities in Zimbabwe, Botswana, Namibia, Mozambique and South Africa. The AGI, in partnership with JASS (Just Associates Southern Africa) created a documentary – *Shemurenga* – in support of the book of the same name, written by Shereen Essof (director of JASS, and a graduate of the AGI's academic programmes); we also created new research partnerships with WISH (Women in Sexual Health), PATH and HAICU at UCT, in the design of a new advocacy programme on the new female condom. Overall, we have worked with continental and local NGOs, working on a range of issues: intersexuality, violence against women, women's peace activism, transitional justice, and sex work. This work is funded by a range of donors, including the Ford Foundation, HIVOS, and the Rockefeller Foundation.

#### Statistics

##### Permanent and long-term contract staff

Director	1
Senior Office Manager	1
Programme Convenors	3
Programme Administrator	1
Total	6

##### Honorary staff

Research Associates	2
Total	2

##### Research Fields and Staff

###### ASSOCIATE PROFESSOR JANE BENNETT

Director; gender-based violence and conflict; African feminist epistemology; representation; sexuality.

###### MS JENNIFER RADLOFF

Programme Convenor:  
Information and Communication Technology (ICT) for social change, feminist practices and politics of

technology, digital storytelling for transformation, secure online communications, internet rights as human rights.

###### MS SELINA MUDAHVANHU

Programme Convenor: Media, Gender and Development; Media representations and audience analysis.

###### DR BARBARA BOSWELL

Programme Convenor: sexualities, sexual and reproductive health rights, youth sexuality, and black South African women's literature

###### MS MARION STEVENS

Honorary Research Associate, women's health, sexual and reproductive health and rights, most at risk and marginalized populations and health systems.

###### DR TIM MURITHI

Honorary Research Associate, Gender, peace and security in Africa; African Union Solemn Declaration on Gender Equality; Gender-based violence, transitional justice and the International Criminal Court; Feminist critical theory.

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## LINGUISTICS SECTION

### Head of Section: Associate Professor Ana Deumert

#### Profile

Staff in Linguistics contribute to a wide range of research areas within the discipline, ranging from language philosophy and linguistic theory to extensive data-driven work in sociolinguistics, including multilingualism and African languages, digital writing and new media, as well as cutting-edge work in sociophonetics.

## Section Statistics

### Permanent and long-term contract staff

Professors	1
Associate Professors	2
Senior Lecturers	1
Lecturers	1
Administrative and Clerical Staff	2
<b>Total</b>	<b>7</b>

### Honorary Staff

Professors Emeriti	2
Honorary Research Associate	1
<b>Total</b>	<b>3</b>

### Students

Doctoral	10
Master's	6
Honours	8
Undergraduate	515
<b>Total</b>	<b>539</b>

### Research Fields and Staff

**DR MARY BOCK (HONORARY RESEARCH ASSOCIATE)**  
Analysis of verbal and non-verbal aspects of discourse, critical discourse analysis, narrative analysis with particular reference to the language and structure of testimonies from the Truth and Reconciliation Commission.

**MR SEAN BOWERMAN**  
Syntactic theory; morphology; formal semantics; History of Linguistics; Sociolinguistics.

**DR MATTHIAS BRENZINGER**  
African languages; language endangerment and revitalisation; anthropological linguistics; language policy; language documentation; language ideologies.

**ASSOCIATE PROFESSOR ANA DEUMERT (HEAD OF SECTION: LINGUISTICS)**  
Sociolinguistics; language contact in Southern Africa; language policy; language and migration; electronic communication (SMS, Facebook, Mxit).

**EMERITUS PROFESSOR ROGER LASS**  
Phonetics and phonology; English and Germanic Linguistics; historical linguistics; evolutionary theory and language; philosophy of science.

### ASSOCIATE PROFESSOR NIGEL LOVE

Philosophy of language; phonology; general linguistics theory; romance linguistics; Celtic linguistics; language and the law.

### EMERITUS PROFESSOR KAY MCCORMICK

Sociolinguistics; Language contact; Language policy; Discourse Analysis; Linguistic approaches to oral narrative.

### PROFESSOR RAJEND MESTHRIE

Sociolinguistics; Dialect syntax; Historical Linguistics; Migration and language contact in South Africa; Pidgins and Creoles; South Asian linguistics.

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### Research output

#### Authored books

Byala, S. 2013. A place that matters yet: John Gubbins museum Africa in the postcolonial world. Chicago: The University of Chicago Press. 317pp. ISBN 9780226030272.

Green, L.J. and Green, D. 2013. Knowing the Day, Knowing the World: Engaging Amerindian Thought in Public Archaeology. Tuscon: The University of Arizona Press. 300pp. ISBN 978-0-8165-3037-3.

Green, L.J. and Green, D. 2013. WARAWI. A Cobra Grande. Brazil: Brazil IEPE - Institute for Research on Indigenous Education. 83pp. ISBN 9788598046136.

Levine, S. 2013. Children of a bitter harvest. Child labour in the Cape winelands. South Africa: BestRed. 125pp. ISBN 9780992208516.

Modisane, L. 2013. South Africa's renegade reels the making and public lives of black-centered films. Hampsire: Palgrave Macmillan. 221pp. ISBN 9781137027023.

#### Edited books

Bennett, J. and Pereira, C. (eds) 2013. Jacketed Women: Qualitative Research Methodologies on Sexualities and Gender in Africa. 191pp. Cape Town: UCT Press. ISBN 9781919895581.

Bock, M. and Gordon, J. (eds) 2013. St George's Cathedral - heritage and witness. Essays and reflections on the story of Cape Town Cathedral. 254pp. South Africa: Pretext Publishing. ISBN 9780987004291.

Green, L.J. (eds) 2013. Contested Ecologies: Dialogues in the South on Nature and Knowledge. 275pp. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.

Hendricks, F., Ntsebeza, L. and Helliker, K. (eds) 2013. The Promise of Land: Undoing a Century of Dispossession in South Africa. 366pp. Auckland Park: Jacana Media (Pty) Ltd. ISBN 978-1-4314-0816-0.

Mesthrie, R., Aboh, E.O., Ansaldi, U., Angelo, D., Baker, P. and Bakker, P. (eds) 2013. The Atlas of pidgin and creole language structures. 505pp. United Kingdom: Oxford University Press. ISBN 9780199691395.

Nhlapo, R.T., aragundade, e. and Garuba, H.O. (eds) 2013. Celebrating Africa Series: African Culture, Human Rights and Modern Constitutions. 77pp. Cape Town: University of Cape Town. ISBN 978-0-7992-2494-8.

Pillay, U., Hagg, G. and Nyamnjoh, F.B. (eds) 2013. State of the Nation: South Africa 2012-2013. 683pp. South Africa: HSRC Press. ISBN 978-07969-2422-3.

#### Chapters in books

Anderson, T., Draper, K., Duggan, G., Green, L.J., Jarre, A.C., Rogerson, J., Ragaller, S. and Norton, M. 2013. Conservation conversations: improving the dialogue between fishers and fisheries science along the Benguela coast. In Lesley Green (eds), Contested Ecologies: Dialogues in the South on Nature and Knowledge, pp. 187-201. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.

Bennett, J. 2013. 'Jacketed Women': the politics of researching gender and sexualities in African contexts. In Jane Bennett (eds), Jacketed Women: Qualitative Research Methodologies on Sexualities and Gender in Africa, pp. 171-187. Cape Town: UCT press. ISBN 9781919895581.

Bennett, J. and Pereira, C. 2013. Sexualities and gender-research methodologies and the questions which compel us. In Jane Bennett (eds), Jacketed Women: Qualitative Research Methodologies on Sexualities and Gender in Africa, pp. 1-19. Cape Town: UCT press. ISBN 9781919895581.

Bock, M. 2012. What is a cathedral? In M Bock and J Gordon (eds), St George's Cathedral - heritage and witness. Essays and reflections on the story of Cape Town Cathedral, pp. 148-173. South Africa: Pretext Publishing. ISBN 9780987004291.

Bowerman, S. 2013. White South African English. In B Kortmann and K Lunkenheimer (eds), The Mouton World Atlas of Variation in English, pp. 511-519. Germany: De Gruyter. ISBN 9783110279887.

Brenzinger, M. 2013. Foreword. In Khwe: place names and their meanings, pp. 5-9. Botswana: Letloa Trust (LLHC), Kuru Family of Organisations. ISBN 9789991295695.

Brenzinger, M. and Heinrich, P. 2013. Matthias Brenzinger - shi ni kiku. Afurika nanbu ni okeru gengo no kiki, gengo no kiroku, soshite intaanetto [Questions to Matthias Brenzinger: languages in Southern Africa, language documentation and the Internet]. In Kotoba to Syakai 15-g (Language and Society No.15), pp. 155-174. Tokyo: Sangensha publishers Inc. ISBN 9784883033454.

Brenzinger, M. and Fehn, A. 2013. From body to knowledge: perception and cognition in khwe-lani and ts'ixa. In AY Aikhenvald and A Storch (eds), Perception and cognition in language and culture, pp. 161-191. Leiden and Boston: Brill. ISBN 9789004233676.

Cohen, J. 2013. Cultivating 'krag', refreshing 'gees': ecologies of wellbeing in Namaqualand. In Lesley Green(eds), Contested Ecologies: Dialogues in the South on Nature and Knowledge, pp. 90-109. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.

Deumert, A. 2013. Language, culture, and society. In K Allen (eds), The Oxford Handbook of the history of Linguistics, pp. 655-673. United Kingdom: Oxford University Press. ISBN 978-019-958-5847.

Garuba, H.O. 2013. On animism, modernity/colonialism and the African order of knowledge: provisional reflections. In Lesley Green (eds), Contested Ecologies: Dialogues in the South on Nature and Knowledge, pp. 42-51. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.

Green, D. and Green, L.J. 2013. Uma leitura de waramwi: a cobra grande. In Prof Lux Vidal (eds), WARAWI. A Cobra Grande, pp. 84-92. Brazil: Brazil IEPE - Institute for Research on Indigenous Education. ISBN 9788598046136.

Green, L.J. 2013. Contested ecologies: nature and knowledge. In Lesley Green (eds), Contested Ecologies: Dialogues in the South on Nature and Knowledge, pp. 1-9. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.

Green, L.J. 2013. The day-world 'hawkri' and its topologies: on Palikur alternatives to the idea of space. In Lesley Green (eds), Contested Ecologies: Dialogues in the South on Nature and Knowledge, pp. 69-89. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.

- Hendricks, F., Ntsebeza, L. and Helliker, K. 2013. Colonial pasts and democratic futures in South Africa. In Fred Hendricks, Lungisile Ntsebeza & Kirk Helliker (eds), *The Promise of Land: Undoing a Century of Dispossession in South Africa*, pp. 341-358. Auckland Park: Jacana Media (Pty) Ltd. ISBN 978-1-4314-0816-0.
- Hendricks, F., Ntsebeza, L. and Helliker, K. 2013. Land questions in South Africa. In Fred Hendricks, Lungisile Ntsebeza & Kirk Helliker (eds), *The Promise of Land: Undoing a Century of Dispossession in South Africa*, pp. 1-23. Auckland Park: Jacana Media (Pty) Ltd. ISBN 978-1-4314-0816-0.
- Herwitz, D. 2013. World cup finale on Long Street. In Peter Alegi & Chris Bolsman (eds), *Africa's World Cup: Critical Reflections on Play, Patriotism, Spectatorship, and Space*, pp. 21-30. USA: The University of Michigan Press. ISBN 978-0-472-07194-4.
- Mabenza, C. 2013. Metaphors for climate adaption from Zimbabwe: Zephaniah Phiri Maseko and the marriage of water and soil. In Lesley Green (eds), *Contested Ecologies: Dialogues in the South on Nature and Knowledge*, pp. 126-137. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.
- Mesthrie, R. 2013. Black South African English. In B Kortmann and K Lunkenheimer (eds), *The Mouton World Atlas of Variation in English*, pp. 493-500. Germany: De Gruyter. ISBN 9783110279887.
- Mesthrie, R. and Surek-Clark, C. 2013. Fanakalo. In SM Michaelis, P Maurer, M Haspelmath and M Huber (eds), *The Survey of Pidgin and Creole Languages*, pp. 34-41. United Kingdom: Oxford University Press. ISBN 9780199691425.
- Mesthrie, R. 2013. Indian South African English. In B Kortmann and K Lunkenheimer (eds), *The Mouton World Atlas of Variation in English*, pp. 501-510. Germany: De Gruyter. ISBN 9783110279887.
- Mesthrie, R. 2013. Regional profile: Asia. In B Kortmann and K Lunkenheimer (eds), *The Mouton World Atlas of Variation in English*, pp. 784-805. Germany: De Gruyter. ISBN 9783110279887.
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- Mesthrie, R. 2013. Vignette 5b: Fieldwork in migrant and diasporic communities. In C Mallinson, B Childs, G van Herk (eds), *Data collection in sociolinguistics: methods and applications*, pp. 84-86. New York and London: Routledge (Taylor & Francis Group). ISBN 9780415898577.
- Morrow, S. and Saunders, C.C. 2013. 'Part of one whole': Anthropology and History in the work of Monica Wilson. In Andrew Bank; Leslie J. Bank (eds), *Inside African Anthropology: Monica Wilson and her interpreters*, pp. 283-307. United States of America: Cambridge University Press. ISBN 9781107029385.
- Murithi, T. 2013. The role of regional organisations. In Adam Lupen and Ernesto Vereja (eds), *Responding to Genocide: The Politics of International Action*, pp. 157-179. Colorado: Lynne Rienner Publ Inc. ISBN 9781588269300.
- Nhemachena, A. 2013. Are petitioners makers of rain? Rains, worlds and survival in conflict-torn Buhera, Zimbabwe. In Lesley Green (eds), *Contested Ecologies: Dialogues in the South on Nature and Knowledge*, pp. 110-125. Cape Town: HSRC Press. ISBN 978-0-7969-2428-5.
- Ntsebeza, L. 2013. South Africa's countryside: prospects for change from below. In Fred Hendricks, Lungisile Ntsebeza & Kirk Helliker (eds), *The Promise of Land: Undoing a Century of Dispossession in South Africa*, pp. 130-156. Auckland Park: Jacana Media (Pty) Ltd. ISBN 978-1-4314-0816-0.
- Ntsebeza, L. 2013. The more things change, the more they remain the same: rural land tenure and democracy in the former Bantustans. In Fred Hendricks, Lungisile Ntsebeza & Kirk Helliker (eds), *The Promise of Land: Undoing a Century of Dispossession in South Africa*, pp. 54-75. Auckland Park: Jacana Media (Pty) Ltd. ISBN 978-1-4314-0816-0.
- Ntsebeza, L. 2013. The re-incorporation of Transkei into South Africa, 1987-1994: turning against the master? In Bridget Theron (eds), *The Road to Democracy in South Africa: Volume 6 [1990 - 1996] Part 1*, pp. 407-432. South Africa: UNISA Press. ISBN 978-1-86888-501-5.
- Nyamnjoh, F.B. 2013. Freedom day on SAfm: introducing South African society. In Udes Pillay, Gerard Hagg and Francis Nyamnjoh (eds), *State of the Nation: South Africa 2012-2013*, pp. 305-332. South Africa: HSRC Press. ISBN 978-07969-2422-3.
- Ross, F.C. 2013. Ethnographies of poverty. In Udes Pillay, Gerard Hagg and Francis Nyamnjoh (eds), *State of the Nation: South Africa 2012-2013*, pp. 446-465. South Africa: HSRC Press. ISBN 978-07969-2422-3.
- Saunders, C.C. 2013. Albert Luthuli: the black Moses. In Dr Adekeye Adebajo (eds), *Africa's Peacemakers: Nobel Laureates of African Descent*, pp. 121-136. United Kingdom: Zed books. ISBN 9781780329437.
- Shepherd, N. 2013. Archaeology in the Postcolonial Disciplinary Entrapments, Subaltern Epistemologies. In Paul Graves-Brown, Rodney Harrison, Angela Piccini (eds), *The Oxford Handbook of the Archaeology of the Contemporary World*, pp. 425-436. United Kingdom: OUP Oxford. ISBN 9780199602001.
- Shepherd, N. 2013. Ruin memory: A hauntology of Cape Town. In Alfredo Gonzalez-Rubial (eds), *Reclaiming Archaeology: Beyond the tropes of modernity*, pp. 233-243. UK: Routledge (Taylor & Francis Group). ISBN 978-0-415-67392-1.
- ### Articles in peer-reviewed journals
- Brenzinger, M. and Heinrich, P. 2013. The return of Hawaiian: language networks of the revival movement. *Current issues in language planning*, 14(2): 1-17.
- Byala, S. 2013. MuseumAfrica: colonial past, postcolonial present. *South African Historical Journal*, 65(1): 90-104.
- Chitonge, H. 2013. Land Use and Rural Livelihoods in South Africa: Emerging Evidence from the Eastern Cape. *Agrarian South: Journal of Political Economy*, 2(1): 1-40.
- Chitonge, H. 2013. Who will foot the bill? Water services infrastructure backlog in Sub-Saharan Africa. *Journal of African Studies and Development*, 5(3): 41-56.
- Clarke, Y. 2013. Gender and Peacebuilding in Africa: Seeking Conceptual Clarity. *Africa Peace and Conflict Journal*, 6(1): 87-91.
- Deumert, A. and Mabandla, N. 2013. 'Every day a new shop pops up' - South Africa's 'new' Chinese diaspora and the multilingual transformation of rural towns. *English Today*, 29(1): 44-52.
- Deumert, A. and Vold Lexander, K. 2013. Texting Africa: writing as performance. *Journal of Sociolinguistics*, 17(4): 522-546.
- Deumert, A. 2013. Xhosa in town (revisited) - space, place, and language. *International Journal of the Sociology of Language*, 222: 51-75.
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- Hamilton, C.A. 2013. Forged and continually refashioned in the crucible of ongoing social and political life: archives and custodial practices as subjects of enquiry. *South African Historical Journal*, 65(1): 1-22.
- Hartnack, A. 2013. On gaining access: a response to Francis Nyamnjoh's "Blinded by sight: divining the future of anthropology in Africa". *Africa Spectrum*, 48(1): 107-112.
- Hartnack, A. 2012. Points of departure: reflections on Shannon Morreira's "keynote address: 'anthropological futures'? thoughts on social research and the ethics of engagement". *Anthropology Southern Africa*, 35(3&4): 105-107.
- Hurst, E.J. and Mesthrie, R. 2013. 'When you hang out with the guys they keep you in style': the case of considering style in descriptions of South African tsotsitaals. *Language Matters*, 44(1): 3-20.
- MacDonald, H.M. and Spiegel, A.D. 2013. Distraction from the real difficulties: ethical deliberations in international health research. *Anthropology Southern Africa*, 36(3&4): 146-154.
- MacDonald, H.M. 2013. Inviting discomfort: foregrounding emotional labour in teaching anthropology in post-apartheid South Africa. *Teaching in Higher Education*, 18(6): 670-682.
- MacDonald, H.M. 2013. Transforming cognitive and emotional dissonance for physiotherapy students learning medical anthropology. *South African Journal of Physiotherapy*, 69(2): 20-25.
- McNulty, G. 2013. Archival aspirations and anxieties: contemporary preservation and production of the past in Umbumbulu, KwaZulu-Natal. *South African Historical Journal*, 65(1): 44-69.
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- Mesthrie, R. 2013. Where does a new English dictionary stop? on the making of the dictionary of South African Indian English. *English Today*, 29(1): 36-43.
- Morreia, S.K. 2012. 'Anthropological futures'? thoughts on social research and the ethics of engagement. *Anthropology Southern Africa*, 35(3&4): 100-104.

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Mudavanhu, S.L. and Radloff, J. 2013. Taking feminist activism online: reflections on the 'keep Saartjie Baartman centre open' e-campaign. *Gender and Development*, 21(2): 327-341.

Murithi, T. 2013. International Criminal Justice, the African Union and the International Criminal Court. *Journal of African Union Studies*, 1(2 and 3): 9-24.

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Ntsebeza, L. 2013. Land Reform: Colonial pasts and democratic futures. *South African Labour Bulletin*, 37(4): 31-34.

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Taing, L., Pan, S., Hilligan, J., Spiegel, A.D. and Armitage, N.P. 2013. Challenges facing sanitation-provision partnerships for informal settlements: a South African case study. *Journal of Water, Sanitation and Hygiene for Development*, 3(2): 230-239.

Weintraub, J. 2013. On biography and archive: Dorothea Bleek and the making of the Bleek collection. *South African Historical Journal*, 65(1): 70-89.

### Peer-reviewed published conference proceedings

Brenzinger, M. 2013. The twelve modern Khoisan languages. In A Witzlack-Makarevich and M Ernszt (eds), *Proceedings of the 3rd International Symposium July 6-10, 2008, Riezlern/Kleinwalsertal, July 6-10, 2008, Riezlern/Kleinwalsertal, Austria*. Cologne: Rudiger Koppe Verlag. ISBN 978-389645-8735.

## SCHOOL OF EDUCATION

(Including the Schools Development Unit (SDU) and the Centre for Applied Language and Literacy Studies and Services in Africa (CALLSSA))

### Head of School: Professor Pam Christie

### School Profile

The School of Education is a largely post-graduate interdisciplinary department with research activity across a number of important fields. These include studies in curriculum and pedagogy (curriculum development, learning and acquisition, scientific literacy, mathematics, science and technology education, primary education, history education), policy and evaluation (research into school reform evaluation studies), student learning in higher education, and studies in race, culture, identity and language. A number of members of staff lead and participate in large collaborative research projects. Significant numbers of staff act as consultants to local and national government, to national commissions as well as to important education NGOs. A number of staff members are involved in materials development for a range of school learning areas.

## School Statistics

### Permanent and long-term Contract Staff

Professors	2
Associate Professors	5
Senior Lecturers	9
Lecturers	1
Administrative & Clerical Staff	2
Technical Support Staff	1
<b>Total</b>	<b>20</b>

### Honorary Staff

Honorary Research Associates	3
Emeritus Professors	3
Total	6

### Students

Doctoral	39
Masters	97
Postgraduate Diploma in Education	92
B.Ed. Honours	47
Postgraduate Certificate in Education	144
Advance Certificate in Education	333
<b>Total</b>	<b>752</b>

### Research Fields and Staff

#### Permanent Staff

##### MR NIGEL BAKER

English; English in education; teaching; imagination in the curriculum

##### PROF PAM CHRISTIE

Sociology of education; education policy; school organisation and change; ethics and social justice in education.

##### DR ANNA CROWE

The interface between secondary and tertiary education, assessment, cognitive demand, science teacher development and training, policy issues related to the provision of teaching and learning in science, particularly in Life Sciences.

##### DR ZAIN DAVIS

Language and mathematics; textual analysis; continuing professional development of mathematics teachers.

##### PROFESSOR PAULA ENSOR

Mathematics education sociology of education (especially with respect to curriculum and pedagogy);

professional education (including teacher education) and the recontextualising of professional practices.

##### DAVE GILMOUR

Economics of education, education and the labour market; educational planning; educational evaluation; social theory and education. Co-ordinator BEd (Hons)

##### ASSOCIATE PROFESSOR ANNEMARIE HATTINGH

Physical science teacher education, with a special focus on curriculum design for authentic learning in problem-based learning environments; teacher effectiveness in constraining contexts; doctoral learning communities of practice.

##### DR JOANNE HARDMAN

Sociocultural and Activity theory; Learning and cognition; developmental psychology; mediation of scientific concepts at a foundation phase; ICT's as pedagogical tools.

##### ASSOCIATE PROFESSOR URSULA HOADLEY

Curriculum, teachers work and the sociological study of pedagogy.

##### MS SHAHEEDA JAFFER

Mathematics education, sociology of curriculum and pedagogy, teacher education

##### DR HEATHER JACKLIN

The relation between pedagogic practice and the broader contexts of the school, education system and society. School leadership. Research design.

##### ASSOCIATE PROFESSOR RÜDIGER LAUGKSCH

Scientific literacy or public understanding of science, science teacher development and training at in-service level, policy issues related to the provision of teaching and learning in the natural sciences, teaching and learning in Biology.

##### DR CAROLYN MCKINNEY

Language and literacy in education; identity/subjectivity and learning; race, class and gender in schooling.

##### EMERITUS PROFESSOR JOHAN MULLER

Curriculum studies; sociology of knowledge; education policy.

##### ASSOCIATE PROFESSOR KARIN MURRIS

Philosophy of Education, Philosophy with Children, Child and Childhood Studies, Children's Literature, School Ethics, Ethical Decision-making, Censorship, Corporal Punishment, Early literacy.

##### DR AZWIHANGWISI MUTHIVHI

Developmental psychology; cognitive development; primary schooling, culture and classroom teaching and learning

#### **ASSOCIATE PROFESSOR MASTIN PRINSLOO**

Literacy and language in schools, institutions and in everyday use.

#### **ASSOCIATE PROFESSOR ROB SIEBÖRGER**

History education; curriculum development; materials development; assessment.

#### **PROFESSOR CRAIN SOUDIEN**

Sociology of education; race, class and gender; policy shifts in education

#### **DR CLARE VERBEEK**

Literacy; teaching reading and writing in the early years; family literacy; foundation phase teaching; adult and community education; models for teacher development.

#### **Research Associates**

##### **DR MIGNONNE BREIER**

Education and the profession

##### **DR JEANNE GAMBLE**

Vocational education, sociology of work.

##### **EMERITUS PROFESSOR PETER KALLAWAY**

Education and development, education policy, history of education.

##### **PROF ROBERT MORRELL**

Masculinities; gender and education.

##### **EMERITUS PROFESSOR JOHAN MULLER**

Curriculum studies; sociology of knowledge; education policy.

Emeritus Professor Shirley Pendlebury

#### **Visiting fellow**

##### **DR CHARLES DORN**

#### **Contact Details**

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Telephone: SA (21) 650 2769  
Fax: SA (21) 650 3489  
E-mail: pam.christie@uct.ac.za

#### **Research Output**

##### **Edited books**

Prinsloo, M.H. and Baynham, M. (eds) 2013. Literacy Studies. London: Sage Publications Ltd. ISBN 9781446253151.

#### **Chapters in books**

Hoadley, U.K. 2013. Building strong foundations: improving the quality of early education. In Berry, Biersteker, Dawes, Lake and Smith (eds), South Africa Child Gauge 2013, pp. 72-77. Cape Town: Children's Institute. ISBN 978-0-7992-2498-6.

Muller, J.P. and Hoadley, U.K. 2013. Knowledge mobilisation in education in South Africa. In Ben Levin, Jie Qi, Hilary Edelstein and Jacqueline Sohn (eds), The impact of research in education, pp. 165-182. Great Britain: The Policy Press, Great Britain. ISBN 978-1-44730-620-7.

Soudien, C.A. 2013. The change balance sheet in South African education: a post-apartheid assessment. In Yusuf Sayed, Anil Kanjee and Mokubung Nkomo (eds), The search for quality education in post-apartheid South Africa, pp. 103-120. Cape Town, South Africa: HSRC Press. ISBN 978-0-7969-2407-0.

#### **Encyclopaedia entries**

Prinsloo, M.H. 2013. Literacy in Community Settings. In The encyclopaedia of Applied Linguistics Blackwell Publishing LTD.

#### **Articles in peer-reviewed journals**

Aploon-Zokufa, K. 2013. Locating the difference: A comparison of pedagogic strategies in high and low performing schools. South African journal of childhood education, 3(2): 19.

Christie, P. 2013. Space, place, and social justice: developing a rhythmanalysis of education in South Africa. Qualitative Inquiry, 19(10): 775-785.

Cooper, L.H. 2013. Recognition of prior learning as radical pedagogy: A case study of the workers College in South Africa. McGill Journal of Education, 48(3): 19.

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Dunkle, K., Jewkes, R., Murdock, W., Sikweyiya, Y. and Morrell, R.G. 2013. Prevalence of consensual male-male sex and sexual violence, and associations with HIV in South Africa: a population-based cross-sectional study. PLoS Medicine, 10(6): e1001472.

Etkin, E. 2013. Using narrative communication in a mass-produced youth magazine as an HIV prevention intervention. Journal of African Media Studies, 5(1): 3-17.

Galant, J. 2013. Selecting and sequencing mathematics tasks: seeking mathematical knowledge for teaching. Perspectives in Education, 31(3): 34-48.

Harrison, G. and Muthivhi, A. 2013. Mediating self-regulation in kindergarten classrooms: an exploratory case study of early childhood education in South Africa. Journal of Education, 57: 79-101.

Haynes, J. and Murris, K. 2013. Child as educator: introduction to the special issue. Studies in Philosophy and Education, 32(3): 217-227.

Haynes, J. and Murris, K. 2013. The realm of meaning: imagination, narrative and playfulness in philosophical exploration with young children. Early Child Development and Care, 183(8): 1084-1100.

Kuhne, C., Lombard, A.P. and Moodley, T. 2013. A learning pathway for whole numbers that informs mathematics teaching in the early years. South African journal of childhood education, 3(2): 19.

Lillis, T. and McKinney, C.W. 2013. The sociolinguistics of writing in a global context: objects, lenses, consequences. Journal of Sociolinguistics, 17(4): 415-439.

McKinney, C.W. 2013. Orientations to English in post-apartheid schooling. English Today, 29(1): 22-27.

Mhlongo, Z.S. and O'Neill, V.C. 2013. Family influences on career decisions by black first-year UKZN students. South African Journal of Higher Education, 27(4): 953-965.

Morrell, R.G., Jewkes, R., Lindeger, G. and Hamllall, V. 2013. Hegemonic Masculinity: reviewing the gendered analysis of mens power in South Africa. South African Review of Sociology, 44(1): 3-21.

Murris, K. 2013. Reading the world, reading the word: why not now, Bernard is not a case of suicide, but self-killing. Perspectives in Education, 31(4): 85-99.

Murris, K. 2013. The epistemic challenge of hearing child's voice. Studies in Philosophy and Education, 32(3): 245-259.

Muthivhi, A.E. 2013. Development of verbal thinking and problem-solving among TshiVenda-speaking primary school children. Perspectives in Education, 31(2): 22-32.

Oliver, M.H. 2013. Language mapping for education policy realisation from below. Language Matters, 44(3): 6-32.

Peter, J., Theron, G., Pooran, A., Thomas, J.G., Pascoe, M.D. and Dheda, K. 2013. Comparison of two methods for acquisition of sputum samples for diagnosis of suspected tuberculosis in smear-negative or sputum-scarce people: a randomised controlled trial. The Lancet Respiratory Medicine, 1(6): 471-478.

Shefer, T., Bhana, D. and Morrell, R.G. 2013. Teenage pregnancy and parenting at school in contemporary South African contexts: deconstructing school narratives and understanding policy implementation. Perspectives in Education, 31(1): 1-10.

Soudien, C.A. 2013. Global Education Inc: new policy networks and the neo-liberal imaginary. British Journal of Sociology of Education, 34(3): 453-457.

Soudien, C.A. 2013. A politics of intellectual engagement: six key debates. Education as Change, 17(2): 165-179.

Soudien, C.A. 2013. Race and its contemporary confusions towards a re-statement. Theoria: A Journal of Social and Political Theory, 60(3): 15-37.

Soudien, C.A. 2013. The making of white schooling in the Cape Colony in the late nineteenth century. Southern African Review of Education, 19(2): 111-124.

Soudien, C.A. 2013. What's being overlooked in the post-2015 agenda for education? Compare-A Journal of Comparative and International Education, 43(6): 838-842.

Theron, L. and Donald, D. 2013. Educational psychology and resilience in developing contexts: a rejoinder to Toland and Carrigan (2011). School Psychology International, 34(1): 51-66.

#### **Peer-reviewed published conference proceedings**

Davis, Z. 2013. Constructing descriptions and analyses of Mathematics constituted in pedagogic situations, with particular reference to an instance of addition over the reals. In Margot Berger, Karin Brodie, Vera Frith and Kate le Roux (eds), Proceedings of the Seventh International Mathematics Education and Society Conference, 2-7 April 2013, Cape Town. Cape Town: MES 7. ISSN 2077-9933.

Davis, Z. 2013. The use of the idea of coherence in descriptions and analyses of school mathematics curricula, textbooks and pedagogy. In Zain Davis and Shaheeda Jaffer (eds), Proceedings of the 19th Annual Congress of the Association for Mathematics Education of South Africa (AMESA), 24-28 June

2013, University of the Western Cape. Bellville, Cape Town, Western Cape: Association of Mathematics Education of South Africa (AMESA). ISBN 978-0-620-56776-3.

Haynes, J. and Murris, K. 2012. A "mensagem errada": risco, censura e luta por democracia na escola primária. In Proceedings of Filosofar: aprender e ensinar. Brazil: Autentica Editora LTDA. ISBN 9788582170304.

Haynes, J. and Murris, K. 2012. Escuta, hospitalidade e ensino filosófico. In Proceedings of Filosofar: aprender e ensinar. Brazil: Autentica Editora LTDA. ISBN 9788582170304.

Jaffer, S. 2013. Maintaining the focus on Mathematics and the social in Mathematics education research. In Margot Berger, Karin Brodie, Vera Frith and Kate le Roux (eds), Proceedings of the Seventh International Mathematics Education and Society Conference, 2-7 April 2013, Cape Town. Cape Town: MES 7. ISSN 2077-9933.

Jaffer, S. 2013. Response to Swapna Mukhopadhyay: the mathematical practices of those without power. In Margot Berger, Karin Brodie, Vera Frith and Kate le Roux (eds), Proceedings of the Seventh International Mathematics Education and Society Conference, 2-7 April 2013, Cape Town. Cape Town: MES 7. ISSN 2077-9933.

Mackay, R.D. 2013. An examination of pupil difficulties in solving geometry problems. In M Ogunniyi, O Amosun, K Langenhoven, S Kwofie and S Dinie (eds), Proceedings of the 21st annual meeting of the Southern African Association for Research in Mathematics, Science and Technology Education (SAARMSTE 2013), 14-17 January 2013, University of the Western Cape, Bellville, South Africa. Bellville: SAARMSTE3640. ISBN 978-0-9869800-7-7.

Soudien, C.A. 2013. Indigenous knowledge modernity and the South African university: the democratisation of knowledge. In Gideon de Wet (eds), Proceedings: Beyond the Apartheid University: critical voices on transformation in the university sector, Fort Hare University. Alice, Eastern Cape: University of Fort Hare Press. ISBN 978-1-86810-714.

## Creative Writing

### Novels

Donald, D. 2013. Yiza, Thabo! A story of great pain and even greater love. USA: Xlibris Corporation, USA. 92pp.

# SCHOOL OF LANGUAGES & LITERATURE

## Head of School: Associate Professor Yasin Dutton

### School Profile

The School of Languages and Literatures was formed in 2002 through the amalgamation of the Department of Southern African Languages and the Department of Modern and Classical Languages and Literatures. The School brings into one organisational unit the teaching of languages and literatures (excluding English Language and Literature) at the University of Cape Town.

We recognize the complexity of our position at the southern end of Africa, in a University which strives to be fully part of Africa and the wider world. The range of languages taught in the School and the research done by staff and students of the School reflect this.

The teaching and research area of the School is wide, covering language, literatures and cultural studies in Afrikaans, Arabic, Dutch, French, Business French, German, Classical Greek, Hebrew, Italian, Latin, Portuguese, Sotho, Spanish, and Xhosa, and Special Purposes teaching in Afrikaans and Xhosa. There is also a strong emphasis on the role that these languages and literatures and the cultures they embody, have played and continue to play in Africa. Research in the School also encompasses Literary Semantics, Literary Theory, Afrikaans Media Studies, Creative Writing in Afrikaans and Xhosa, Xhosa Lexicography, Historiography, Multimedia, Literature and the Internet, War Literature, Ancient Literature, Philosophy and Rhetoric, French literature from 17<sup>th</sup> century to the present, French Linguistics and Sociolinguistics, Teaching French as a Foreign Language, German Colonialism and Postcolonial Literature and Theory, Contemporary German Literature, Literary Theory and Women's Studies, Italian and German post-war Cinema, Italian Literature of the 19<sup>th</sup> and 20<sup>th</sup> centuries, Asian Cinema, Italian Renaissance Literature, Modern and Ancient Hebrew Literature, Classical Arabic Literature and Islamic Studies, Modern Arabic Literature and Political discourse, and Hispanic Literature.

The School's awareness of its location in Africa is reflected in many of its research projects. Among these are studies of language learning in the African context, Xhosa linguistics, African oral traditions and orature, Literature and Cinema in Francophone West Africa, the Translation of Southern African Literature into French,

Sephardi Women Writers from the Maghreb, German Colonial Discourse in Africa and German Missionary Writings, Comparative Perspectives on German/Afrikaans Literature.

The School has a number of formal and informal links with universities elsewhere in Africa (e.g. National University of the Ivory Coast at Abidjan, University of St Denis in Réunion, University of Zimbabwe), and further afield (e.g. ENS Cachan – Grenoble 3 Stendhal, University of Bologna). The School is also a founder member of L'Ecole doctorale régionale (Afrique australe – Océan indien).

### School Statistics

#### Permanent and long-term contract staff

Professors	4
Associate Professors	5
Senior Lecturers	7
Full-time Lecturers	8
Part-time Lecturers	10
Administrative Staff	3
<b>Total</b>	<b>37</b>

### Students

Doctoral	12
Master's	60
Honours	55
Undergraduate	3725
<b>Total</b>	<b>3852</b>

### Honorary staff

Honorary Research Associates	3
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### Research Fields and Staff

#### Permanent staff

##### ASSOCIATE PROFESSOR CLIVE CHANDLER

Ancient philosophy and rhetoric; Philodemus; Homer commentaries; madness in antiquity.

##### PROFESSOR JEAN-LOUIS CORNILLE

Section Head (French); 19th - 20th century French literature.

##### DR JAY CORWIN

Section Head (Spanish); Senior Lecturer; Latin American literature.

##### DR RUTH DE OLIVEIRA

Lecturer; didactics of French as a foreign and second language; French Linguistics.

##### MS SOMIKAZI DEYI

Lecturer; multilingualism in higher education with a particular focus on the teaching of mathematics and science in the home language.

##### DR TESSA DOWLING

Senior Lecturer; Second language teaching and learning; sociolinguistics.

##### ASSOCIATE PROFESSOR YASIN DUTTON

Director of School; early Islamic law; early Koranic manuscripts; Islamic law in the modern world.

##### ASSOCIATE PROFESSOR VANESSA EVERSON

Women writers from the Maghreb (1990 onwards); translation; modern language methodology.

##### PROFESSOR JOAN HAMBIDGE

Section Head (Afrikaans); poetry; theory of literature and criticism; gender studies; creative writing.

##### MRS SONJA LOOTS

Lecturer; Afrikaans literature; Dutch literature; Afrikaans archive; commemorating the past; Afrikaans writers writing about apartheid; memory and history in Afrikaans prose; museum practices in recent Afrikaans novels; social anthropological approaches in Afrikaans prose.

##### DR PASQUALE MACALUSO

Section Head (Arabic); Lecturer; Modern Arabic literature; 20<sup>th</sup> century Syrian discourse; Arab nationalism.

##### MS ANNABELLE MARIE

Lecturer; didactics of foreign language and analysis of French literature, especially from the Caribbean and French-speaking Africa.

##### ASSOCIATE PROFESSOR ABNER NYAMENDE

African Literature; Oral Literature; Xhosa Clan Names.

##### MS RETHABILE POSSA

Lecturer; Sesotho Literature; Folklore, riddles and onomastics.

##### DR AZILA REISENBERGER

Section Head (Hebrew); Senior Lecturer; Modern and Ancient Hebrew literature.

##### DR ROMAN ROTH

Section Head (Classics); Senior Lecturer; Classical Archaeology and material culture of the Mediterranean world.

**MS BRIGITTE SELZER**

Section Head (German); Lecturer; German language and literature; woman/gender studies; satire; language skepticism 19<sup>th</sup>/20<sup>th</sup> century; turn-of-the-century literature; German Romanticism.

**DR WILHELM SNYMAN**

Senior Lecturer; German and Italian 20<sup>th</sup> century literature and post-war cinema; Asian cinema; colonial literature and history of Asia and Africa; paedagogics of German & Italian.

**DR MANTOA ROSE SMOUSE**

Section Head (African Languages); Senior Lecturer; Child language acquisition, Second language teaching.

**MRS GAIL SYMINGTON**

Senior Lecturer; paedagogics of Latin; language acquisition for second language speakers; the teaching of etymology.

**ASSOCIATE PROFESSOR GIONA TUCCINI**

Section Head (Italian); Medieval and Renaissance lyric poetry and prose; mysticism and religious writings; 20<sup>th</sup> century literature, cinema and drama.

**PROFESSOR ETIENNE VAN HEERDEN**

Historiography and fiction; Caribbean Dutch literature in the former Dutch colonies; theory of literature; creative writing; the Internet as educational medium.

**DR IAN VAN ROOYEN**

Lecturer; second language acquisition and teaching; special purposes language teaching; contemporary theory of metaphor.

**PROFESSOR DAVID WARDLE**

Roman history and historiography; Roman exemplary literature; Roman religion and ruler cult.

**Distinguished visitors****DR D CULPIN, ST ANDREWS, SCOTLAND****PROFESSOR MARIA GIUSEPPINA MUZZARELLI (UNIVERSITY OF BOLOGNA)****PROFESSOR MIA COUTO (MOZAMBIQUE)****PATRICK CHAMOISEAU (MARTINIQUE)****DR KATHLEN GYSELLES (UNIVERSITY OF ANTWERP)****Honorary Research Associates****DR L. GOCHIN RAFFAELLI. ITALIAN LITERATURE****DR A SEBA-COLLETT. FRENCH LITERATURE**

Associate Professor A. Wynchank. French Literature.

**Research Output****Authored books**

Cornille, J.-L. 2012. *Les récits de Georges Bataille*. Paris, France: L'Harmattan. 116pp. ISBN 978-2-296-99069-2.

**Chapters in books**

Atkinson, J.E. 2013. Introduction and notes to Arrian's Alexander the Great: The Anabasis and the Indica. In Arrian Alexander the Great: The anabasis and the Indica. Oxford, UK: Oxford Univ Press. ISBN 978-0-19-958724-7.

De Oliveira, R.L. 2013. Manifestations motionnelles de la dislocation: le cas de l'agacement. In F. Baider and G. Cislaru (eds), *Cartographie des motions: Propositions linguistiques et sociolinguistiques*, pp. 211-222. Paris, France: Presses Sorbonne Nouvelle. ISBN 978-2-87854-592-0.

Reisenberger, A. 2013. Mothers of the nation as pounds of flesh. In J.T. Greene and M.M. Caspi (eds), *In the Arms of Biblical Women*, pp. 195-212. New Jersey, USA: Gorgias Press. ISBN 978-1-4632-0231-6.

Roth, R. 2013. Before sigillata: black-gloss pottery and its cultural dimensions. In J. D. Evans (eds), *A Companion to the Archaeology of the Roman Republic*, pp. 81-96. United Kingdom: Wiley-Blackwell Publishing, Inc. ISBN 978-1-4051-9966-7.

Roth, R. 2013. Trading identities? Regionalism and commerce in mid-Republic Italy (third to early second century BC). In A. Gardner, E. Herring and K. Lomas (eds), *Creating ethnicities and identities in the Roman world*, pp. 93-111. Exeter, UK: Short Run Press Limited. ISBN 978-1-905670-46-8.

Snyman, J.W.O. 2013. *Terra immane: Etica e poetica nelle opere di J. M. Coetzee*. In D. Dotari (eds), *Terra immane: Etica e poetica nelle opere di J. M. Coetzee*. Rome, Italy: ARACNE editrice S.r.l. ISBN 978-88-548-6727-7.

Tuccini, G. 2012. *Voce del silenzio, luce sul sentiero*. In G. Losito (eds), *La crisi modernista nella cultura europea*. Rome, Italy: Instituto della Enciclopedia Italiana. ISBN 978-88-12-00169-9.

**Encyclopaedia entries**

Wardle, D. 2013. Client Kings. In *Encyclopedia of the Bible and its reception* vol. 5, pp. 440-441. Germany: De Gruyter. ISBN 978-3-11-018373-3.

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**Articles in peer-reviewed journals**

Cornille, J.-L. 2012. Post-scriptum à une méthode post-textuelle. *Acta Fabula*, 13(9): 245-263.

Cornille, J.-L. 2013. Mémoires d'océans et d'ailleurs: traversées interocéaniques. *Tydskrif vir letterkunde*, 50(1): 86-96.

Cornille, J.-L. 2013. Soul limbo féérique (Chamoiseau avec Céline). *Nouvelles Etudes Francophones*, 28(1): 32-43.

Corwin, J.A. 2013. Introduction in *Theory in Action*. *Theory in Action*, 6(1): 1-7.

Dowling, T. 2013. 'Hola, my new cherry!' two case studies of isiXhosa advertising in print media. *South African Journal of African Languages/ Suid-Afrikaanse Tydskrif Vir Afrikatale*, 33(2): 173-188.

Gwekwerere, T., Possa, R.M. and Nyamende, M.A.B. 2013. The African cultural grounding and historical provenance of the Afrotriumphalist perspective. *Southern African Journal for Folklore Studies*, 23(1): 1-23.

Hambidge, J.H. 2013. Emily Hobhouse kaleidoskop. *Literator*, 34(2): 1040.

Le Roux, S. 2013. Représentations culturelles et simulation globale: le cas du scénario pédagogique <<creation d'entreprise au Sngal>> à l'Université du Cap. *French Studies in Southern Africa*, 43: 63-86.

Marie, A.C. 2013. La mémoire longue de porc-épic (à propos d'un roman d'Alain Mabanckou). *Nouvelles Etudes Francophones*, 28(1): 77-88.

Nyamende, M.A.B. 2013. The role of the missionaries in the creation of new black elite in South Africa modeled by Isaac Wauchope. *Online Journal of African Affairs*, 2(1): 1-9.

Raffaelli, L.S. 2013. From heavenly virtue to cardinal sin: Dante's Beatrice and D'Annunzio's Elena. *Italica*, 90(4): 567-580.

Reisenberger, A. 2013. On the seam between spirituality and activism. *Journal for the Study of Religion*, 26(2): 13-23.

Reisenberger, A. 2013. Two Poets and 1.1 poem. *New Contrast*, 41(1): 64-68.

Roth, R. 2012. (Review) M. Bentz and C. Reusser, Marzabotto. *Planstadt der Etrusker*. *Ancient West and East*, 11: 315-316.

Roth, R. 2013. Fragmented images: the last tomb paintings of Tarquinia. *Oxford Journal of Archaeology*, 32(2): 187-201.

Smouse, M.R. 2013. Uninterpretable features in comprehension: subject-verb agreement in isiXhosa. *South African Journal of African Languages/ Suid-Afrikaanse Tydskrif Vir Afrikatale*, 33(1): 65-74.

Williams, H. 2013. Shattering tradition: a rejection of analysis by genre in Horace's *Ars Poetica*. *Akroterion: Journal for the Classics in South*, 58: 61-77.

Wynchank, A. 2013. German and French colonisers in the words of a Cameroonian witness. *Wissenskonstruktion und Wissenstransfer in der deutschen kolonialen Reisliteratur zu Afrika*, 9: 119-134.

Wynchank, A. 2013. In the beginning was a school: The Alliance Israélite Universelle and its legacy. *Jewish Affairs*, 68(3): 25-32.

**Peer-reviewed published conference proceedings**

Cornille, J.-L. 2013. Bataille prestidigitateur ou comment brouiller les cartes. In G. Ernst and J.-F. Louette (eds), *Proceedings of ditions Nouvelles Ccile Defaut: Georges Bataille, cinquante and aprs, 7-8 December 2012, Paris, France*. Paris, France: ditions Nouvelles Ccile Defaut. ISBN 978-2-35018-341-1.

Macaluso, P. 2013. Arab nationalist propaganda in an international perspective: The Arab National Office for Public Enlightenment (1934-1939). In A. Cilardo (eds), *Proceedings of 25th Congres of L'Union Europenne des Arabisants et Islamisants, 8-12 September 2010, Naples, Itlay*. Leuven: Peeters Press. ISBN 978-90-429-2941-8.

Roth, R. 2013. The internal frontier: an African model for culture change in South Central Italy (fourth-third centuries B.C.). In A. Bokern, M. Bolder-Boos, S.K.D. Maschek and S. Page (eds), *Proceedings of the Twenty-Second Annual Theoretical Roman Archaeology Conference (TRAC 2012)*, 29 March 2012-1 April 2012, Frankfurt, Germany. Oxford, Great Britain: Oxbow Books. ISBN 978-1-78297-197-9.

Seba-Collett, A. 2013. Cline en bataille avec... la Guerre: L'Allemagne: catalyseur d'un pacifisme, d'une posie. In Francois Gibault (eds), *Proceedings of 19th International Conference Louis-Ferdinand Cline, 6-8 July 2012, Berlin, Germany*. Paris, France: Societ d'tudes cliniques. ISBN 978-2-913193-23-4.

Solomons, G.D. 2013. Techno or retro: Towards a blend of the old and the new. In L. Chova, A. Martinez and I.

Torres (eds), Proceedings of 5th International Conference on Education and New Learning Technologies (EDULEARN 13), 1-3 July 2013, Barcelona, Spain. Spain: IATED. ISBN 978-84-616-3822-2.

Van Zyl, M. 2013. The integration of language learning within the Faculty of Health Science: The difference between theoretical teaching and the practical application of language skills. In L. Chova, A. Martinez and I. Torres (eds), Proceedings of 5th International Conference on Education and New Learning Technologies (EDULEARN 13), 1-3 July 2013, Barcelona, Spain. Spain: IATED. ISBN 978-84-616-3822-2.

### Creative writing

#### Anthology of poems

Hambidge, J.H. 2013. Meditases. Cape Town: Human and Rousseau.

#### Novels

Van Heerden, E.R. 2013. Gifkaroo. Cape Town: Houtstraat Publishers.

Van Heerden, E.R. 2013. In Love's Place. Johannesburg: Penguin Books.

Van Heerden, E.R. 2013. Klimtol. Cape Town: Tafelberg Publishers.

#### Poems published in anthologies

Hambidge, J.H. 2013. Brief vir Eep. In P. Liebregts, O. Praamstra and W. van Zyl (eds), Zo ver & zo dischtfbij: Literaire betrekkingen tussen Nederland en Zuid-Afrika, pp. 317-320. Amsterdam, Netherlands: Suid-Afrikaanse Instituut.

Whitaker, R.A. 2013. The earth was soaked with bloodThe cloak she wore was redA superpower intervenes in an African conflictIn ancient Libya, the giant Antaeus, son of Earth, fights against HerculesAnd all the women mourned. In P. Schonstein (eds), Africa ablaze!, pp. 1-430. Cape Town, South Africa: African Sun Press.

#### Short stories published in a collection

Hambidge, J.H. 2013. Abbastanza. In K. Eloff and P. van Noord (eds), Skarlakenkoors, pp. 194-202. Cape Town, South Africa: Tafelberg Publishers.

Hambidge, J.H. 2013. Die lenteleoop. In R. Scheepers and L. Kleyn (eds), Spoort: Jeugherinneringe van Afrikaanse skrywers, pp. 130-133. Pretoria, South Africa: Lapa Uitgewers.

Hambidge, J.H. 2013. Om in Madrid te smul. In N.J. Strauss (eds), Kos Blik, pp. 104-106. Cape Town: NB-Uitgewers.

Hambidge, J.H. 2013. Strange bedfellows. In K. Eloff and P. van Noord (eds), Skarlakenkoors, pp. 182-185. Cape Town, South Africa: Tafelberg Publishers.

## UCT LIBRARIES

(Including Library and Information Studies Centre)

#### Executive Director: Ms Gwenda Thomas

#### Departmental Profile

In addition to the University Libraries providing academic information services that form a strategically strong research, teaching and learning environment to support staff and students, librarians contribute to research in their areas of subject specialisation, aspects of research librarianship and information literacy and related areas such as visual archives, digital collections and assessment in academic libraries.

#### Research Fields and Staff

##### DR COLIN DARCH

Senior Information Specialist, current affairs in central and southern Africa; academic libraries; assessment; information facilities; academic and research libraries, South Africa.

##### DR RAJANDREN (REGGIE) RAJU

Senior strategic leader in academic librarianship: thought leader in open access and advancing scholarly communication: research librarianship: digital curatorship: information literacy training: Library and Information Sector continuing professional development: National and international library associations.

##### MR PAUL WEINBERG

Senior curator, photography; visual archives; exhibition curation; digital collections; land and environment, South Africa.

#### Contact details

Postal address: UCT Libraries, University of Cape Town, Private Bag, Rondebosch 7701, South Africa

Telephone: +27 (0)21 650 3096

E-mail: [libraries@uct.ac.za](mailto:libraries@uct.ac.za)

Web home page: <http://www.lib.uct.ac.za/lisc/>

## LIBRARY AND INFORMATION STUDIES CENTRE

#### Head: Associate Professor Jaya Raju

#### Centre Profile

The Library and Information Studies Centre (LISC) is organisationally located within UCT Libraries but administered academically via the Humanities Faculty. Its mission is to provide dynamic and innovative library and information studies programmes informed by global scholarship and its location in Africa. LISC offers, through the Faculty of Humanities, a suite of academic programmes in library and information studies, ranging from the Postgraduate Diploma in Library and Information Studies to the PhD, with specialisation in academic and research libraries, and public libraries. Its leadership foci in LIS education and research are in the areas of digital curation, research librarianship, and impact analysis and assessment. Staff research interests range over a wide number of important fields, ranging from the identification of relevant skills sets for different contexts to performance measurement.

#### Centre Statistics

##### Staff (including contract staff)

Associate Professors	1
Lecturers	1
Administrative Staff	1
<b>TOTAL</b>	<b>3</b>

#### Honorary Staff

Emeritus Professors	1
Emeritus Associate Professors	2
<b>Total</b>	<b>3</b>

#### Students

Doctoral	4
Masters	19
Occasional students (Digital Curation - masters)	11
Postgraduate Diploma	23
<b>TOTAL</b>	<b>57</b>

#### Research Fields and Staff

##### ASSOCIATE PROFESSOR JAYA RAJU

LIS education in the African Diaspora; general/liberal arts education in the higher education context; higher education information provision in the current knowledge context; developing LIS skills statements for the digital age; research theory and methodology

##### DR CONSTANCE BITSO

Knowledge management; metadata; collaborative learning in an online environment; use of social media in scholarly communication; Information-seeking and retrieval; internet censorship

##### ASSOCIATE PROFESSOR KARIN DE JAGER

Library performance measurement and evaluation in academic and public libraries; establishing benchmarks for information literacy; databases

##### ASSOCIATE PROFESSOR MARY NASSIMBENI

Information society, information literacy; national library and information policy; performance measures for public libraries in South Africa

##### PROFESSOR PETER G. UNDERWOOD

Soft systems analysis; systems management; information systems design; change management; strategic management, information literacy

##### DR CHARLES A. MASANGO (ASSOCIATE)

Intellectual property rights (copyright); digital licensing agreements; contemporary copyright fair dealing management issues; First Sale Doctrine; public lending rights; indigenous traditional knowledge

#### Contact details

Postal address: UCT Libraries, University of Cape Town, Private Bag, Rondebosch 7701, South Africa

Telephone: +27 (0)21 650 4546

E-mail: [lisc@uct.ac.za](mailto:lisc@uct.ac.za)

Web home page: <http://www.lib.uct.ac.za/lisc/>

#### Research Output

##### Chapters in books

Darch, C. 2013. Statistics, Indicators and Access to Information in African Countries. In F.Diallo and R.Calland (eds), Access to information in Africa, pp. 110-125. Netherlands: IDC Publishers and Martinus Nijhoff Publishers. ISBN 978-90-04-25065-9.

Darch, C. 2013. The Problem of Access to Information in African Jurisdictions: Constitutionalism, Citizenship and

Human Rights. In F.Diallo and R.Calland (eds), Access to information in Africa, pp, 27-53. Netherlands: IDC Publishers and Martinus Nijhoff Publishers. ISBN 978-90-04-25065-9.

#### Articles in peer-reviewed journals

Bitso, C. 2013. Designing and implementing an information service model for geography teachers in a developing country: the case for Lesotho. *Libri*, 63(4): 345-358.

Dhlomo-Mautloa, B., Goldblatt, D., Warne, P. and Weinberg, P. 2013. Umhlabi 1913-2013. Social Dynamics-A Journal of the Centre for African Studies University of Cape Town, 39(2): 327-352.

Hart, G. and Nassimbeni, M. 2013. From borders and landscape to ecosystem: reconfiguring library services to meet the needs of South African youth. *South African Journal of Libraries and Information Science*, 79(1): 13-21.

Kahn, M. and Underwood, P.G. 2013. Issues related to the adoption of e-books in academic libraries: a literature review. *South African Journal of Libraries and Information Science*, 79(2): 10-17.

Raju, J. 2013. The LIS school in the ICT age: a casualty, or a catalyst for a paradigm shift? - the case of South Africa. *Libri*, 63(3): 250-258.

Raju, J. 2013. Viewing higher education information literacy through the African context lens. *African Journal of Library Archives and Information Science*, 23(2): 105-111.

#### Peer-reviewed published conference proceedings

Masango, C.A., Mbarika, V.W.A. and Ngwa, O.A. 2013. Major challenge and constraint of documenting indigenous knowledge about Africa's complementary and alternative medicine (e-ACAM). In Victor W Mbarika, Waswa Balunywa, Adekunle Okunoye (eds), *Proceedings of ICT4 Africa 2013 Harare-Zimbabwe*. State of Louisiana: The International Center for Information Technology Development. ISBN 978 99560 202.



The Centre for Higher Education Development, as a cross-faculty academic unit, offers research-informed educational development programmes and services across the institution. Its main goal is to engage in research and teaching that contributes to the development of scholarship in the relevant fields of education.



# DEAN'S REPORT

## ASSOCIATE PROFESSOR SUELLEN SHAY



OUR RESEARCH IS DRIVEN BY OUR MISSION TO PROMOTE EQUITY OF ACCESS, EFFECTIVENESS OF TEACHING AND LEARNING, AND THE ENHANCEMENT OF CURRICULUM.

6<sup>+</sup>

NRF-RATED RESEARCHERS

R4.44M

VALUE OF RESEARCH CONTRACTS

36<sup>+</sup>

RESEARCH CONTRACTS

The Centre for Higher Education Development (CHED) has at its core the twin aim of improving student success and ensuring that UCT's graduates are globally competitive, locally relevant, socially responsive and fully representative of South Africa's diverse population. Our research is driven by our mission to promote equity of access, effectiveness of teaching and learning, and the enhancement of curriculum.

To strengthen its research, CHED has, following an external review conducted in 2012, formulated a Strategic Plan for Research. The ultimate aim of this plan is to develop CHED's research capacity and improve its research output and dissemination. Accordingly, the strategic plan has the following key goals: to identify and develop research areas and groups addressing critical concerns in higher education at institutional, local, national and international levels; to produce excellent research by building and enhancing the capacity of CHED staff; to facilitate and promote the dissemination of CHED research through participation in research-led teaching and learning interventions, institutional decision-making, planning processes, and higher education policy work; and publication and participation at conferences to establish a viable and sustainable funding base for CHED research.

While it is too early to assess the success of this strategic plan, there is no doubt that it has helped to provide strategic research direction for CHED's five units. In 2013, CHED saw an increase in the number of its research outputs. Although the number of peer-reviewed articles remained almost the same

as in previous years, there was a significant increase in the number of books, book chapters and conference proceedings published. Most of the journal articles and book chapters published during 2013 deal with diverse themes pertinent to CHED's mission and goals. The Academic Development Programme (ADP) and Centre for Innovation in Learning (CILT) published the most journal articles, book chapters and conference proceedings. ADP, as the biggest unit of CHED, made a significant contribution to educational development scholarship through its peer-reviewed articles, book chapters and conference proceedings.

These research outputs covered a wide range of themes in academic development and support. They included analysis of the textual practices of undergraduate and postgraduate students, evaluation of the impact of academic development intervention programmes in different disciplines, student identities and learning, risk in postgraduate studies, academic literacies and multimodality, and tutoring and higher education policies and practices. However, their main focus was on the use of educational technology and higher education studies, including topics such as emerging technologies and changing learning/teaching practices, interactive mobile lecturing models, the use and effectiveness of educational technology in African higher education, development of online teaching material, educational technology pedagogic strategies, digital literacy, curriculum studies, and open access. Themes published by other units such as The Centre for Educational Testing for Access and Placement (CETAP) included the development of assessments that enable alternative access and appropriate placement of students in different academic programmes.

CHED also ran various research projects during the period under review. One of these projects was the Research on Open Educational Resources for Development (ROER4D), convened by Cheryl Hodgkinson-Williams in CILT. This is a three-year international project worth C\$2 million, spanning Latin America, Sub-Saharan Africa and Central, South and South-East Asia. It addresses the research question: in what ways and under what circumstances can the adoption of OER address the increasing demand for accessible, relevant, high-quality and affordable post-secondary education in the Global South? ROER4D comprises 12 research projects, and includes desktop reviews, a cross-regional survey, case studies on OER adoption by academics, teacher educators and students, mapping studies on educational expenditure, impact studies of OER in various contexts and one complete country study. As well as South Africa, other countries in the project include Ghana, Kenya, Brazil, Colombia,

Chile, India, Indonesia, Malaysia and Mongolia. The project also involves a number of capacity-building activities around quantitative and qualitative data analysis, using qualitative software analysis tools and evaluation and research communication methodologies.

Another CHED highlight was the Emerging Information and Communication Technologies (ICTs) in Higher Education and Large Classes Project. This was a joint project by a number of institutions of higher education in South Africa: in addition to UCT, it included the University of the Western Cape, the Cape Peninsula University of Technology, Stellenbosch University, the University of Pretoria, the University of the Witwatersrand, Rhodes University and the University of Fort Hare. This project investigated how qualitative outcomes in education could be realised through the use of emerging technologies to transform teaching and learning interactions and paradigms across differently positioned higher education institutions in South Africa. The Large Classes Teaching Project was launched in September 2008 with an Andrew Mellon Foundation grant of US\$330 000 to be used over four years. The aim of the project was to understand what was required to improve student performance in South African higher education.

THERE WAS A SIGNIFICANT INCREASE IN THE NUMBER OF BOOKS, BOOK CHAPTERS AND CONFERENCE PROCEEDINGS PUBLISHED.



To enhance CHED research capacity, 12 staff members participated in the "Writers' Development Workshop" organised by the Research Office, the purpose of which was to assist staff to prepare their articles for publication and rewrite chapters of their theses. This was intended to provide writers with critique and feedback on prepared papers and thesis chapters and give them time in a congenial environment to amend and improve these, as well as to provide them with time for discussion and dialogue to enhance creativity and promote fresh ideas for writing and research. The "Writers' Development Workshops" and other research capacity-building initiatives proposed in the CHED Strategic Plan for Research augur well for the future growth and development of CHED's research.



## NEW BOOKS REFLECT CHED SCHOLARSHIP

CHED celebrated the publication of two new books that reflect scholarship in educational development and support at both undergraduate and postgraduate levels.

The first, *Risk in Academic Writing: Postgraduate teachers, their students and the making of knowledge*, was edited by Lucia Thesen and Linda Cooper of CHED and funded by a grant from the Programme for the Enhancement of Research Capacity (PERC). The result of almost five years of collaboration, the book argues that the writing of research raises many dilemmas for both students and supervisors. Framed as risk-taking, these dilemmas should be seen as a productive force in teaching, learning and writing that can challenge the silences and erasures in academic traditions and conventions of writing. Widening participation and the internationalisation of higher education make questions of language, register, agency and identity in postgraduate writing all the more pressing. The book offers a powerful argument against the further reinforcement of anglophone understanding of knowledge and its production and dissemination.



The second book, titled *Surfacing Possibilities: What it means to work with first generation higher education students*, was edited by June Pym and Moragh Paxton, both from CHED. This book offers a case study of an effective education development initiative at UCT. It focuses on the challenges faced by first-generation undergraduate students who come from a diversity of linguistic, social, and cultural backgrounds and have often experienced disadvantage, which calls for different directions in teaching, learning and support. The book emphasises the importance of harnessing student agency rather than working with a deficit model, and contains varied contributions that describe the diverse and innovative ways in which the challenges faced by first-generation undergraduate students have been addressed.

## ADDRESSING THE NEGLECTED ISSUE OF MULTILINGUALISM

CHED Associate Professor Moragh Paxton has dedicated much of her research energy in the past decade to understand the experiences and practices of students from diverse social groups who have been historically excluded from higher education.

"My specialisation is in the area now described as academic literacies research, which is recognised internationally as a significant field of enquiry. My intellectual project has been to use critical discourse analysis alongside ethnographic methods to analyse students' hybrid 'interim literacies', " she says.

Her work addresses CHED's mission to promote equity of access, effectiveness of teaching and learning and the enhancement of the curriculum across UCT, and has provided a more multilayered understanding of the linguistic and cultural resources that South African students from rural and working-class backgrounds bring to their academic studies. It has brought to light the complex discursive processes by which students "learn" their subject. Further, by focusing on the historical and



social context of a particular discipline (economics, which is what her PhD focused on), a discipline that has been underrepresented in research, her work has made a significant contribution to the field.

"More recently, my research could be described as extending the theory and methods used in my doctoral research to other levels and other disciplines. My particular contribution has been to use theoretical perspectives on discourse, genre and voice to explore genre acquisition at the postgraduate level. During this period, I also developed an interest in the theory and methodology of academic literacies research."

## ACADEMIC DEVELOPMENT PROGRAMME

**Director: Professor Ian Scott**

### Departmental Profile

Over the last decade the focus of the Academic Development Programme (ADP) has changed from primarily providing direct assistance to individuals from educationally disadvantaged groups to efforts to improve the effectiveness of mainstream academic programmes in catering for student diversity. This involves such means as curriculum restructuring, integrating AD approaches into mainstream courses, and seeking to enable regular academic teaching staff to refine their practice in accordance with the changing environment of Higher Education. The research interests of ADP staff are, in the main, focused on understanding and improving key aspects of learning, teaching and assessment in Higher Education, analysing conditions at institutional and national level that affect learning and teaching, and contributing to educational policy development and implementation. Many ADP staff members have a particular interest in the effects of students' prior educational experiences.

### Departmental Statistics

#### Permanent and Long-term contract staff

Professors	1
Associate Professors	5
Senior Lecturers	17
Lecturers	21
Part-time Lecturers	3
Professional and Administrative Staff	25
Total	72

### Research Fields and Staff

#### MS MICHELLE ABRAHAMS

Academic Development Officer, Education Development Unit, Faculty of Commerce. Impact of mentoring and student leadership.

#### ASSOCIATE PROFESSOR SAALIH ALLIE

ADP Co-ordinator, Faculty of Science. Curriculum Development; Physics Education Research.

#### MS MELANIE ALPERSTEIN

Senior Lecturer; Curriculum Development Officer, Education Development Unit, Faculty of Health Sciences. Introducing Primary Health Care in clinical teaching and assessment; Problem based learning; Inter-professional community-based education/service learning; new graduates in rural health community service.

#### DR ARLENE ARCHER

Senior Lecturer; Co-ordinator, Writing Centre, Language Development Group. Academic Literacies; Multimodality; Cultural Studies.

#### MR MOEAIN AREND

Lecturer, Language Development Group. Academic literacy; Language and literacy across contexts; Apprenticeship and collaborative learning practices.

#### DR ABONGWE BANGENI

Senior Lecturer, Language Development Group. Academic Literacy; Writing in the Disciplines; Postgraduate literacies; Multilingualism; Language Development; Writing and Identity.

#### MS ANITA CAMPBELL

Lecturer, ASPECT, Faculty of Engineering and the Built Environment. Factors affecting first year success; Dr Math tutoring; facilitation of learning groups using mobile technology; e-learning.

#### MR JUMANI CLARKE

Lecturer, Numeracy Centre. Excel as a learning environment; Academic literacies. Student identities in academic writing.

#### DR ALAN CLIFF

Senior Lecturer, Alternative Admissions Research Project (AARP). Academic Literacy and Student Learning; Students' Conceptions of Learning; Admissions Testing; Diagnostic Profiling of Students' Academic Literacies and Numeracies.

#### DR TRACY CRAIG

Senior Lecturer, ASPECT, Faculty of Engineering and the Built Environment. Tertiary mathematics education; Mathematical problem-solving; Language and mathematics; Engineering mathematics education; Academic development.

#### ASSOCIATE PROFESSOR BETTE DAVIDOWITZ

Chemistry. Chemical Education; Curriculum Design; Learning in Laboratories; Writing across the Curriculum; Improving Adjustment to Higher Education, Using student-generated drawings to probe understanding of basic concepts in chemistry.

**MS CARLA FOURIE**

Senior Lecturer, Convenor Financial Accounting and Financial Reporting 1 (EDU: Commerce). Academic teaching post

**MS VERA FRITH**

Senior Lecturer, Co-ordinator Numeracy Centre. Quantitative Literacy in Higher Education curricula; Academic Literacies.

**MS TARRYN GRINAKER**

Lecturer, Financial Reporting 2 (Commerce). Financial Reporting – IFRS for SMEs; Higher Education in Accounting; Teaching Methodology; Teaching and Learning Structures; Action Research.

**DR NADIA HARTMAN**

Senior Lecturer, Director: Education Development Unit, Faculty of Health Sciences. Curriculum and Institutional Development; Social Responsiveness; Health Professional Development.

**PROFESSOR NIKOLAAS J HENDRI HEIDEMAN**

Lecturer, Mathematics, Academic Development Programme (ADP) Science.

**DR ADITI HUMNA**

Assistant Lecturer, Foundation courses tutoring and evaluation; research into curriculum development for the teaching of reading and writing in the Humanities.

**MS CATHERINE HUTCHINGS**

Lecturer, Language Development Group. Academic Literacy; Mentorship in Education; Language and Diversity; Writing, language and Identity; Narrative theory; Reflective Literacy.

**MR JACOB JAFTHA**

Lecturer, Numeracy Centre. Online learning environments (supporting tutorial activities); Adaptive feedback; Operator theory and its applications.

**ASSOCIATE PROFESSOR ROCHELLE KAPP**

First-Year Experience Project and Language Development Group. Academic Literacy; English as a Second Language; student development

**MR PIERRE LE ROUX**

Lecturer, ASPECT, Faculty of Engineering and the Built Environment. Engineering Physics Education; Teaching and Learning.

**DR KATE LE ROUX**

Senior Lecturer, Numeracy Centre. Mathematics education research; School/university transition; Mathematics learning in extended curricula; Contexts in the teaching and learning of mathematics.

**MS PAM LLOYD**

Lecturer (part-time), Numeracy Centre. Curriculum Development for quantitative literacy in higher education.

**MR TIM LOW**

Senior Lecturer, Statistics/Mathematics, Education Development Unit, Faculty of Commerce. Mathematics Education; Technology for teaching and learning mathematics.

**MS JEAN LUYT**

Clinical Psychologist and Student Development Practitioner, Education Development Unit, Faculty of Commerce. Impact of affective factors on student success and student support and development practice.

**ASSOCIATE PROFESSOR KATHY LUCKETT**

Director, EDU, Faculty of Humanities; Curriculum Development, Educational Evaluation, Sociology of Knowledge and curriculum, Functional Linguistics.

**DR ROISIN KELLY-LAUBSCHER,**

Lecturer in Biological Sciences. Research interests: Biology Education, Academic Literacies, Sociology of Knowledge.

**DR DUNCAN MHAKURE**

Lecturer, Numeracy Centre. Mathematics Education research; Quantitative/ mathematical Literacy research; Teacher Education.

**MR DANIEL MUNENE**

Lecturer, ADP Co-ordinator: Education Development Unit, Faculty of Commerce. Teaching and Learning; Disadvantage and Support; Culture, identity and learning; Institutional Economics; Economics Education; Financial markets and regulation.

**MS NISREEN NARKER**

Lecturer, Economics. Education Development Unit, Faculty of Commerce. Economics Education.

**MS KALPANA NATHOO**

Lecturer, ASPECT, Faculty of Engineering and the Built Environment. Teaching and Learning in Mathematics and Engineering Education; Effective learning systems.

**MR GIDEON NOMDO**

Lecturer, Language Development Group. Academic Literacy; Language and Identity; Curriculum Development; Mentorship.

**DR BOB OSANO**

Senior Lecturer, Mathematics. Mathematics Education Research; Theoretical Cosmology.

**ASSOCIATE PROFESSOR MORAGH PAXTON**

Language Development Group. Impact of prior discourses on acquisition of new discourses; Literacy Practices in Higher Education; Multilingualism for learning; Affordances and Barriers to acquisition of postgraduate research genres.

**DR HOWARD PEARCE**

Senior Lecturer, Co-ordinator, ASPECT, Faculty of Engineering and the Built Environment. Quantitative and Qualitative Learning in Physics; Assessment of student learning in Mathematics, Physics and Engineering; Mathematics for Engineering students; Curriculum development.

**MR ROBERT PRINCE**

Deputy Director, Academic Development Programme. Algebraic Number Theory; Commutative Algebra; Mathematics Education; Computers in Teaching Mathematics and Quantitative Literacy, Admissions Testing.

**ASSOCIATE PROFESSOR JUNE PYM**

Director: Education Development Unit, Faculty of Commerce. Barriers to learning; Effect of prior educational experience and context on student learning; the impact of the teaching and learning environment, Identity and agency.

**DR SHEENA RUGHUBAR-REDDY**

Lecturer, Numeracy Centre. Mathematics Education; Quantitative/Mathematics Literacy; Curriculum Development; Student learning (Extended programmes); Teacher development.

**MS MEGAN RILEY**

Writing Consultant (part-time), Education Development Unit, Faculty of Commerce. Academic literacy.

**PROFESSOR IAN SCOTT**

Director, Academic Development Programme. Higher Education Policy related to Teaching and Learning; Widening Participation in Higher Education; Curriculum Development; Professional Development.

**MS RIASHNA SITHALDEEN**

Lecturer, Biological, Earth and Environmental Sciences.

**DR LEONARD SMITH**

Senior Lecturer, Economics. Education Development Unit, Faculty of Commerce. Economics Education; Academic development.

**MS SHERRY STUART**

Academic Development Officer, Education Development Unit, Faculty of Commerce. Impact of affective factors on student success.

**MR GARY STEWART**

Lecturer, Computer Science. Computer Education.

**MS DALE TAYLOR**

Lecturer, Physics. Physics Education Research; Teacher Education.

**DR LUCIA THESEN**

Senior Lecturer, Language Development Group. Access to Academic Literacies; Postgraduate literacies; Multimodal communicative practices.

**DR MATHILDE VAN DER MERWE**

Lecturer, Language Development Group. Postgraduate quantitative literacies, Postgraduate publication patterns: Biological Sciences.

**ASSOCIATE PROFESSOR ERMENI VAN PLETZEN**

Coordinator, Language Development Group. Academic Literacy; Medical Education; Public Health.

**MS EVELYN VICATOS**

Lecturer (part-time), ASPECT, Faculty of Engineering and the Built Environment. Introduction to academic literacy and scientific writing for 1<sup>st</sup> year engineering students in the academic support programme.

**Contact Details**

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**Research output****Chapters in books**

Archer, A. 2013. Voice as design: exploring academic voice in multimodal texts in higher education. In M. Bock and N. Pachler (eds), *Multimodality and Social Semiosis*, pp. 150-161. New York, USA: Routledge (Taylor & Francis Group). ISBN 9780415508148.

Arend, M. 2013. 'It was hardly about writing': translations of experience on entering postgraduate studies. In L. Thesen and L. Cooper (eds), *Risk in Academic Writing: Postgraduate Students, their*

- Teachers and the Making of Knowledge, pp. 219-233. Bristol, UK: Multilingual Matters. ISBN 9781783091058.
- Fourie, C.J. 2013. Innovations in a financial accounting course. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 58-82. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Hunma, A.B. and Sibomana, E. 2013. Academic writing and research at an Afropolitan university: an international student perspective. In L. Thesen and L. Cooper (eds), Risk in Academic Writing: Postgraduate Students, their Teachers and the Making of Knowledge, pp. 100-128. Bristol, UK: Multilingual Matters. ISBN 9781783091058.
- Low, T.C.C. 2013. Thinking out of the box in mathematics and statistics. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students. pp. 83-92. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Luyt, J., Abrahams, M. and Stuart, S.W.R. 2013. Student support and wellbeing. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 160-183. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Luyt, J. 2013. Theorising student support. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 149-159. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Nomdo, G. 2013. Collaborating by design: language embedded in an economics course. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 100-122. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Paxton, M.I.J. 2013. Genre: a pigeonhole or a pigeon? Case studies of the dilemmas posed by the writing of academic research proposals. In L. Thesen and L. Cooper (eds), Risk in Academic Writing: Postgraduate Students, their Teachers and the Making of Knowledge, pp. 148-165. Bristol, UK: Multilingual Matters. ISBN 9781783091058.
- Paxton, M.I.J. 2013. Theorising the language and literacy vision. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-generation Higher Education Students, pp. 95-99. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Paxton, M.I.J. 2013. Valuing linguistic diversity. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 137-146. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Pym, J.M. 2013. Introducing the commerce education development unit and its work. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 1-13. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Pym, J.M. 2013. Leadership that can make a difference. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 29-40. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Pym, J.M. 2013. Teaching can make a difference: why do we teach the way we do? In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 43-49. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Riley, M.M. 2013. Possibilities and challenges in faculty-based writing centre. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 123-136. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Scott, I.R. and Luckett, K.M. 2013. Enhancement or transformation? The significance and dimensions of quality enhancement in higher education in South Africa. In R. Land and G. Gordon (eds), Enhancing Quality in Higher Education, pp. 165-176. Abingdon, Oxon, UK: Routledge. ISBN 9780415809245.
- Scott, I.R. 2013. Paving the way for systemic change: curriculum change for development and equity. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 14-25. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Smith, L. 2013. Teaching approach to a first-year economics course. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-generation Higher Education Students, pp. 50-57. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Stuart, S.W.R. and Abrahams, M. 2013. The living experience of student success. In J. Pym and M. Paxton (eds), Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students, pp. 184-194. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Thesen, L.K. and Chihota, C.M. 2013. Rehearsing 'the postgraduate condition' in writers' circles. In L. Thesen and L. Cooper (eds), Risk in Academic Writing: Postgraduate Students, their Teachers and the Making of Knowledge, pp. 131-147. Bristol, UK: Multilingual Matters. ISBN 9781783091058.
- Thesen, L.K. 2013. Risk as Productive: Working with Dilemmas in the Writing of Research. In L. Thesen and L. Cooper (eds), Risk in Academic Writing: Postgraduate Students, their Teachers and the Making of Knowledge, pp. 1-24. Bristol, UK: Multilingual Matters. ISBN 9781783091058.
- Edited books**
- Pym, J. and Paxton, M. (eds) 2013. Surfacing Possibilities: What it Means to Work with First-Generation Higher Education Students. 222pp. Champaign, Illinois, USA: Common Ground Publishing. ISBN 9781612291925.
- Thesen, L. and Cooper, L. (eds) 2013. Risk in Academic Writing: Postgraduate Students, their Teachers and the Making of Knowledge. 272pp. Bristol, UK: Multilingual Matters. ISBN 9781783091058.
- Articles in peer-reviewed journals**
- Badenhorst, E.S. and Kapp, R. 2013. Negotiation of learning and identity among first-year medical students. *Teaching in Higher Education*, 18(5): 465-476.
- Bangeni, A. and Greenbaum, L. 2013. An analysis of the textual practices of undergraduate and postgraduate novice writers in law. *Per Linguam: A Journal of Language Learning*, 29(2): 72-84.
- Bangeni, A. 2013. An exploration of the impact of students' prior genre knowledge on their constructions of 'audience' in a marketing course at postgraduate level. *English for Specific Purposes*, 32(1): 248-257.
- Campbell, A. and Rajaratnam, K. 2013. Avoiding frustrations of unprepared students with online quizzes. *International Business and Economics Research Journal*, 12(8): 969-977.
- Craig, T.S. 2013. Conceptions of mathematics and student identity: implications for engineering education. *International Journal of Mathematical Education in Science and Technology*, 44(7): 1020-1029.
- Lloyd, P.J. and Frith, V. 2013. Proportional reasoning as a threshold to numeracy at university: a framework for analysis. *Pythagoras*, 34(2): 234(9pp).
- Osano, O. 2013. School, subject and gender: a case study of the validity of traditional performance markers in the South African education sector. *International Journal of Science Commerce and Humanities*: 1(5): 261-271.
- Pym, J.M. 2013. From fixing to possibility: changing a learning model for undergraduate students. *South African Journal of Higher Education*, 27(2): 353-367.
- Pym, J.M. and Kapp, R. 2013. Harnessing agency: towards a learning model for undergraduate students. *Studies in Higher Education*, 38(2): 272-284.
- Rajaratnam, K. and Campbell, A. 2013. Enhancing students' learning through practical knowledge taught by industry professionals. *International Business and Economics Research Journal*, 12(6): 717-724.
- Smith, L. 2012. Measuring the impact of educational interventions on the academic performance of black academic development students. *Southern African Review of Education*, 18(1): 85-113.
- Smith, L. 2013. Measuring the Impact of Academic Development Courses in First-and Second-Year Chemistry. *South African Journal of Chemistry-Suid-Afrikaanse Tydskrif Vir Chemie*, 66(1): 189-199.
- Thesen, L.K. 2013. Risk in postgraduate writing: voice, discourse and edgework. *Critical Studies in Teaching & Learning*, 1(1): 103-122.
- Winfield, J.H. and Luyt, J. 2013. An evaluation of an exploratory intervention to improve progression in a first-year accounting course. *SA Journal of Accounting Research*, 27(1): 1-36.
- Wolff, K. and Luckett, K.M. 2013. Integrating multidisciplinary engineering knowledge. *Teaching in Higher Education*, 18(1): 78-92.
- Peer-reviewed published conference proceedings**
- Campbell, A. 2013. Building a multi-language database of video explanations for first year

mathematics. In N. Tisani and M. Madiba (eds), Proceedings of the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) 2012 Conference, 28-30 November 2012, University of Stellenbosch, South Africa. South Africa: University of Stellenbosch. ISBN 9780-620555401.

Campbell, A. and Smit, R. 2013. Introduction to engineering: an investigation into the first year experience in an electrical engineering course. In B. Collier-Reed (ed), Proceedings of the Second Biennial Conference of the South African Society for Engineering Education (SASEE), 11-12 June 2013, Cape Town, South Africa. Cape Town: the South African Society for Engineering Education (SASEE). ISBN 9780620571234.

Campbell, A. and D'Oliviera Pio, M. 2013. Learning mathematics through the making of video explanations for a multi-language database. In Z. Davis and S. Jaffer (eds), Proceedings of the 19th Annual Congress of the Association for Mathematics Education of South Africa (AMESA), 24-28 June 2013, University of the Western Cape, Bellville, Cape Town, Western Cape: Association of Mathematics Education of South Africa (AMESA). ISBN 9780620567763.

Campbell, A. 2013. The role of voluntary online tutoring in building students' identities as community participants. In V. Frith and K. le Roux (eds), Proceedings of 7th International Mathematics Education and Society Conference, 2-7 April 2013, Cape Town, South Africa. Cape Town: MES 7. ISSN 20779933.

Campbell, A., Rafel, K.T.P. and Vezi, T.E. 2013. The use of technology in addressing the mathematics education crisis in South Africa. In Z. Davis and S. Jaffer (eds), Proceedings of the 19th Annual Congress of the Association for Mathematics Education of South Africa (AMESA), 24-28 June 2013, University of the Western Cape, Bellville, Cape Town, Western Cape: Association of Mathematics Education of South Africa (AMESA). ISBN 9780620567763.

Campbell, A. 2013. What Threats and Benefits do Free Online Mathematics Courses Pose to Traditional Universities? In Z. Davis and S. Jaffer (eds), Proceedings of the 19th Annual Congress of the Association for Mathematics Education of South Africa (AMESA), 24-28 June 2013, University of the Western Cape, Bellville, Cape Town, Western Cape: Association of Mathematics Education of South Africa (AMESA). ISBN 9780620567763.

Craig, T.S. and Cloete, T.J. 2013. Observations and conclusions of dynamics student's mathematical

fluency. In B. Collier-Reed (eds), Proceedings of the Second Biennial Conference of the South African Society for Engineering Education (SASEE), 11-12 June 2013, Cape Town, South Africa. Cape Town: the South African Society for Engineering Education (SASEE). ISBN 9780620571234.

Craig, T.S. and Campbell, A. 2013. The Development of Engineering Students' Algebra Skills: Findings from an Algebra Skills Test Refined by Rasch Analysis. In Z. Davis and S. Jaffer (eds), Proceedings of the 19th Annual Congress of the Association for Mathematics Education of South Africa (AMESA), 24-28 June 2013, University of the Western Cape, Bellville, Cape Town, Western Cape: Association of Mathematics Education of South Africa (AMESA). ISBN 9780620567763.

John, I. and Allie, M.S. 2013. DC circuits: context dependence of student responses. In P.V. Engelhardt, A.D. Churukian and N.S. Rebello (eds), Proceedings of 2012 Physics Education Research Conference, 1-2 August 2012, Philadelphia, USA. Melville, New York: American Institute of Physics. ISBN 9780735411340.

Frith, V. and Lloyd, P.J. 2013. Quantitative literacy and epistemological access at university: reflections on using the threshold concept framework for research. In M. Berger, K. Brodie, V. Frith and K. le Roux (eds), Proceedings of the Seventh International Mathematics Education and Society Conference, 2-7 April 2013, Cape Town, South Africa. Cape Town: MES 7. ISSN 20779933.

Jawitz, J.P., Williams, K., Pym, J.M. and Cox, G. 2013. Why we do what we do: interrogating our academic staff development practice. In N. Tisani and M. Madiba (eds), Proceedings of the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) 2012 Conference, 28-30 November 2012, University of Stellenbosch, South Africa: University of Stellenbosch. ISBN 9780620555401.

Le Roux, K. 2013. "I just make sure that I got for it": a mathematics student's transition to and through university. In M. Berger, K. Brodie, V. Frith and K. le Roux (eds), Proceedings of the Seventh International Mathematics Education and Society Conference, 2-7 April 2013, Cape Town. Cape Town: MES 7. ISSN 20779933.

Mhakure, D., Jaftha, J. and Rughubar - Reddy, S. 2013. A Framework to Understand the Contribution of Quantitative Literacy to the Social Justice Agenda: A Pilot Study. In M. Berger, K. Brodie, V. Frith and K. le Roux (eds), Proceedings of the Seventh International Mathematics Education and Society

Conference, 2-7 April 2013, Cape Town. Cape Town: MES 7. ISSN 20779933.

Mhakure, D., Musaikwa, N. and Goodman, L. 2013. Exploring the nature of knowledge building amongst teachers using the argumentation instructional strategy: reflections from a community of practice. In M. Oggunniyi, O. Amosun, K. Langenhoven, S. Kwofie and S. Dinie (eds), Proceedings of the 21st Annual Meeting of the Southern African Association for Research in Mathematics, Science and Technology Education (SAARMSTE 2013), 14-17 January 2013, University of the Western Cape, Bellville, South Africa. Bellville: SAARMSTE. ISBN 9780986980077.

Mhakure, D. 2013. Sustainable development and indigenous knowledge: an education perspective. In M.B. Oggunniyi (ed), Proceedings of Fourth International Conference of the Science and Indigenous Knowledge Systems Project/South African-Mozambican Collaborative Research Programme, 29-31 October 2013, Cape Town. Cape Town: University of Western Cape. ISBN 9780868087474.

Nwosu, V., Allie, M.S., Demaree, D. and Deacon, A. 2013. A study of postgraduate students in an astrophysics bridging year: identifying contradictions in a complex system. In P.V. Engelhardt, A.D. Churukian and N. Sanjay Rebello (eds), Proceedings of 2012 Physics Education Research Conference, 1-2 August, Philadelphia, USA. Melville, New York: American Institute of Physics. ISBN 9780735411340.

Torr, S. and Craig, T.S. 2013. Addressing dualism in mathematical abstraction: an argument for the role of construal level theory in mathematics education. In D. King, B. Loch and L. Rylands (eds), Proceedings of the 9th Delta Conference on Teaching and Learning of Undergraduate Mathematics and Statistics, 24-29 November 2013, Kiama, Australia. Melbourne, Australia: The University of Western Sydney, School of computing, Engineering and Mathematics. ISBN 9781741082890.

## CENTRE FOR EDUCATIONAL TECHNOLOGY

**Acting Director: Dr Cheryl Brown**

### Centre Profile

The Centre for Educational Technology has been an established unit in CHED since 2005. While the Centre has a broad focus, its core activities focus on encouraging and supporting the innovative and effective use of ICTs for educational purposes. CET's work focuses on the areas of learning technologies, staff development, curriculum projects, postgraduate teaching, and also includes research and special projects. Research in CET has largely been centred on the professional interests of individuals and the focus of funded projects. It can be grouped into some dominant themes including: access to and use of ICTs; academic literacies; learning design; mobile learning; lecture recording and podcasting; innovation by educators; teaching with new media; the educational technology profession; open educational resources; open research; communities of practice in staff development; the effects of organisational cultures on technology adoption; the rhetoric of staff development; and online conferences for professional development. In 2013 CET was invited to lead an international project, convened by Cheryl Hodgkinson-Williams on Research on Open Educational Resources for Development (ROER4D). The project is a 3-year, 2 million Canadian dollars, IDRC-funded project spanning Latin America, Sub-Saharan Africa, Central, South and South-East Asia.

### Departmental Statistics

#### Permanent and Long Term Contract Staff

Associate Professors	3
Senior Lecturers	3
Lecturers	1
Support, administrative and technical staff	11
<b>TOTAL</b>	<b>18</b>

#### Research Fields and Staff

##### MR LUBABALO BADI

Learning Technologies Consultant: promotion of and support for the use of educational technologies among staff.

**DR CHERYL BROWN**

Lecturer: digital identity, first year students' experiences of ICTs at university, discourses of ICTs and access to ICTs.

**MR ROGER BROWN**

Educational Technology Consultant; promotion of and support for the use of educational technologies among staff.

**MR TONY CARR**

Senior Lecturer; Co-ordinator Staff Development; on-line conferences, online communities of practice, use of interactive computer-mediated approaches for teaching and learning.

**MR TINASHE MAKWANDE**

Digital Learning Materials Designer; use of video in curriculum development.

**MS GLENDA COX**

Lecturer; Curriculum Projects; teaching and learning with technology, curriculum development; Open Education Resources.

**ASSOCIATE PROFESSOR LAURA CZERNIEWICZ**

Seconded to OpenUCT; open scholarship broadly, scholarly communication, students' digitally-mediated practices, digital identities and the field of learning technology as a scholarly domain.

**MR ANDREW DEACON**

Instructional Designer; learning environments, evaluation of interactive computer mediated approaches for teaching and learning, learning analytics.

**ASSOCIATE PROFESSOR CHERYL HODGKINSON-WILLIAMS**

Online learning design, interactive whiteboards, open scholarship, open education resources and electronic portfolios.

**MR DAVID HORWITZ**

Online Learning Environments developer, design of interactive environments and the effective use of databases to support interactive computer-mediated approaches for teaching and learning.

**MS SETA JACKSON**

Learning Technologies Consultant: promotion of and support for the use of educational technologies among staff.

**MR STEPHEN MARQUARD**

Senior Lecturer: Learning Technologies Coordinator: design, implementation and support of online environments for effective teaching and learning,

group collaboration and personal workspaces and portfolios, higher education ICT strategy and governance.

**MR EDMORE MOYO**

Online Learning Environments developer, design of interactive environments and the effective use of databases to support interactive computer-mediated approaches for teaching and learning.

**ASSOCIATE PROFESSOR DICK NG'AMBI**

Coordinator – postgraduate programme (ICT in Education); mobile learning, ubiquitous technologies, emerging technologies, open educational resources, podcasting, social networking, and informal learning.

**MR IAN SCHROEDER**

Staff development, use of interactive computer-mediated approaches for teaching and learning, peer instruction and collaborative learning.

**MS MICHELLE WILLMERS**

Programme Manager, Scholarly Communication in Africa Programme; scholarly Communication.

**Ms Rondine Carstens**

Graphics and animation designer. teaching with images, visual literacy.

**Honorary Research Associate****MS EVE GRAY**

Conducts donor-funded research projects on policy and strategy for ICT and scholarly communications in Africa, with a specific focus on open access and new publishing models.

**Contact Details**

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Web: <http://www.cet.uct.ac.za>

**Research output****Chapters in books**

Brown, C. and Hart, M.L. 2013. Exploring higher education students technological identities using critical discourse analysis. In P. Isaias and M. Baptista-Nunes (eds), Information Systems Research and Exploring Sozial Artifacts: Approaches and Methodologies, pp. 181-198. University of Sheffield, UK: IGI Global. ISBN 97814666249.

Chan, L. and Gray, E. 2013. Centering the knowledge peripheries through open access: implications for future research and discourse on knowledge for development. In M.L. Smith and K.M.A. Riley (eds), Open Development - Networked Innovations in International Development, pp. 197-222. Cambridge, Massachusetts: The MIT Press. ISBN 9780262525411.

Hodgkinson-Williams, C.A., Paskevicius, M., Cox, G., Shaikh, S., Czerniewicz, L. and Lee Pan, S. 2013. 365 days of openness: the emergence of OER at the University of Cape Town. In R. McGreal, W. Kinuthia and S. Marshall (eds), Open Educational Resources: Innovation, Research and Practice, pp. 33-45. Canada: Commonwealth of Learning. ISBN 9781894975629.

Ng'ambi, D. and Luo, A. 2013. Towards a sustainable inter-institutional collaborative framework for open educational resources (OER). In R. McGreal, W. K. and S. Marshall (eds), Open Educational Resources: Innovation, Research and Practice, pp. 223-239. Canada: Commonwealth of Learning. ISBN 9781894975629.

**Articles in peer-reviewed journals**

Boyinbode, O., Ng'ambi, D. and Bagula, A.B. 2013. An interactive mobile lecturing model: enhancing student engagement with face-to-face sessions. International Journal of Mobile and Blended Learning, 3(2): 1-21.

Bozalek, V., Ng'ambi, D. and Gachago, D. 2013. Transforming teaching with emerging technologies: Implications for higher education institutions. South African Journal of Higher Education, 27(2): 419-436.

Carr, A.M. 2013. e/merging across Africa: five papers on the use of educational technology in African higher education. African Journal of Information and Systems, 5(3): 65-70.

Cox, G. 2013. Researching resistance to open education resource contribution: an activity theory approach. E-Learning and Digital, 10(2): 148-160.

Czerniewicz, L. 2013. The online visibility of South African knowledge: searching for poverty alleviation. The African Journal of Information and communication, 1(13): 1-12.

Czerniewicz, L. and Brown, C. 2013. The habitus of digital "strangers" in higher education. British Journal of Educational Technology, 44(1): 44-53.

Gachago, D., Backhouse, J., Bozalek, V., Ivala, E., Bosman, J. and Ng'ambi, D. 2013. Towards a shared understanding of emerging technologies: experiences in a collaborative research project in South Africa. African Journal of Information Systems, 5(3): 94-105.

Hodgkinson-Williams, C.A. and Deacon, A. 2013. Pedagogic strategies to support learning design thinking in a master's course. Educational Research for Social Change, 2(1): 82-97.

Hodgkinson-Williams, C.A. and Paskevicius, M. 2013. 'It's not their job to share content': a case study of the role of senior students in adapting teaching materials as open educational resources at the University of Cape Town. E-Learning and Digital, 10(2): 135-147.

Ng'ambi, D. 2013. Effective and ineffective uses of emerging technologies: towards a transformative pedagogical model. British Journal of Educational Technology, 44(4): 652-661.

Ng'ambi, D. and Bozalek, V. 2013. Emerging technologies and changing learning/teaching practices. British Journal of Educational Technology, 44(4): 531-535.

Ng'ambi, D. and Bozalek, V. 2013. Leveraging informal leadership in higher education institutions: a case of diffusion of emerging technologies in a southern context. British Journal of Educational Technology, 44(6): 940-950.

**Peer-reviewed published conference proceedings**

Deacon, A. and Hodgkinson-Williams, C. 2013. Cultivating learning design thinking with e-portfolios in a master's course. In E. Ivala (ed), Proceedings of the 8th International Conference on e-Learning, 27-28 June 2013, Cape Peninsula University of Technology, Cape Town, South Africa. United Kingdom: Academic Conferences and Publishing International Limited Reading (UK). ISBN 9781909507289.

Jawitz, J.P., Williams, K., Pym, J.M. and Cox, G. 2013. Why we do what we do: interrogating our academic staff development practice. In N. Tisani and M. Madiba (eds), Proceedings of the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) 2012 Conference, 28-30 November 2012, University of Stellenbosch. South Africa: University of Stellenbosch. ISBN 9780620555401.

Magunje, C. and Brown, C. 2013. From cellphone to computer: university students' use of technology in first year. In E. Ivala (ed), Proceedings of the 8th International Conference on e-Learning, 27-28 June 2013, Cape Peninsula University of Technology, Cape Town, South Africa. United Kingdom: Academic Conferences and Publishing International Limited Reading (UK). ISBN 9781909507289.

Mbogho, A. and Marquard, S.C. 2013. Improving the Transcription of Academic Lectures for Information Retrieval, Proceedings of 2013 12th International Conference on Machine Learning and Applications, 4-7 December 2013, Miami, Florida, USA, , 8. USA: IEEE. ISBN 978076955144-9.

Ng'ambi, D., Bozalek, V. and Gachago, D. 2013. Empowering educators to teach using emerging technologies in higher education: a case of facilitating a course across institutional boundaries. In E. Ivala (ed), Proceedings of the 8th International Conference on e-Learning, 27-28 June 2013, Cape Peninsula University of Technology, 2, 7. United Kingdom: Academic Conferences and Publishing International Limited Reading (UK). ISBN 9781909507289.

Noakes, T., Czerniewicz, L. and Brown, C. 2013. Students as creative producers. In E. Ivala (ed), Proceedings of the 8th International Conference on e-Learning, 27-28 June 2013, Cape Peninsula University of Technology. United Kingdom: Academic Conferences and Publishing International Limited Reading (UK). ISBN 9781909507289.

Nwosu, V., Allie, M.S., Demaree, D. and Deacon, A. 2013. A study of postgraduate students in an astrophysics bridging year: identifying contradictions in a complex system. In P.V. Engelhardt, A.D. Churukian and N. Sanjay Rebello (eds), Proceedings of 2012 Physics Education Research Conference, 1-2 August, Philadelphia, USA. Melville, New York: American Institute of Physics. ISBN 9780735411340.

# HIGHER AND ADULT EDUCATION STUDIES AND DEVELOPMENT UNIT

## **Unit Head: Associate Professor Jeff Jawitz**

### **Unit Profile**

Until 2013 the Higher & Adult Education Development & Studies Unit forms part of the Centre for Higher Education Development at the University of Cape Town. HAESDU has supported the on-going professional development of both higher education professionals and adult education practitioners through a range of courses, research and development projects.

During the course of 2013 three major developments have taken place, namely, the transfer of the HAESDU colleagues working on Adult Learning to the School of Education in July 2013 the transfer of two members of COL to HAESDU and the preparation for the merger of the remaining staff in HAESDU with those in CET to form the new Centre for Innovation in Learning and Teaching (CILT) on January 2014.

HAESDU recognizes the importance of its work being research-led, and all staff are actively engaged in research. There are two NRF rated researchers in the unit – Associate Professors Suellen Shay and Jeff Jawitz.

### **Unit Statistics**

#### **Permanent and long-term contract staff**

January – June 2013

Associate Professors	3
Senior Lecturers	3
Lecturers	2
Professional Administrative and Support Staff	1
<b>Total</b>	<b>9</b>

July 2013 – Dec 2013

Associate Professors	1
Senior Lecturers	3
Lecturers	2
Professional Administrative and Support Staff	2
<b>Total</b>	<b>8</b>

### **Research Fields and Staff**

#### **DR ALAN CLIFF**

Senior lecturer: Academic literacy and student learning; admissions testing; diagnostic profiling of students' academic literacies and numeracies; understanding how adults learn; assessment of academic potential. MCQ assessment: design and impact; assessment and evaluation in adult and continuing education contexts.

#### **ASSOCIATE PROFESSOR LINDA COOPER**

Theorising different forms of knowledge; impact of changes in the broader political economy and labour markets on knowledge and pedagogy; relationship between higher education and the workplace; RPL and continuing professional education within higher education; worker education and training: the role of education in workplace and social change.

#### **DR JEANNE GAMBLE**

Senior Lecturer: The relation between knowledge and practice in curriculum, pedagogy and assessment; vocational and professional education; education and training policy

#### **DR SALMA ISMAIL**

Senior Lecturer: Adult education curriculum and changing student needs, challenges of retaining a critical transformative educational practice and inclusion of feminist pedagogy; relationship of indigenous knowledge to adult education; learning in social movement contexts; staff experiences of institutional culture in a changing university context.

#### **MS KASTURI BEHARI-LEAK**

Lecturer: Academic identity and social agency; nascent academics – 'being and becoming'; knowledge and knower structures; social inclusion and difference; structure, culture and agency; the power of performative texts.

#### **ASSOCIATE PROFESSOR JEFF JAWITZ**

Professional development of academics in teaching; the impact of race on academic practice; the academic identity and the academic workplace; educational development initiatives and large class teaching

#### **DR JANICE MCMILLAN**

Senior Lecturer: Social responsiveness in teaching and learning; building university-community partnerships; citizenship and ethics in service learning; role of critical reflection in service learning; theorizing service learning from a social justice perspective

#### **MS JUNE SALDANHA**

Lecturer: Understanding the challenges which women encounter when trying to pursue further learning in formal and informal contexts; investigating the opportunities that exist for adult learners who have completed the Diploma in Education.

#### **ASSOCIATE PROFESSOR SUELLEN SHAY**

Developing an understanding of assessment as a socially-situated practice; understanding the formative influences on curriculum which influence what is valued in assessment; the relationship between disciplinary knowledge and curriculum; curriculum differentiation and progression.

### **Contact Details**

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### **Research output**

#### **Chapters in books**

Cooper, L.H. 2013. 'Does my experience count?' The role of experiential knowledge in the research writing of postgraduate adult learners. In L. Thesen and L. Cooper (eds), Risk in Academic Writing: Postgraduate Students, their Teachers and the Making of Knowledge, pp. 27-47. Bristol, UK: Multilingual Matters, United Kingdom. ISBN 9781783091058.

Gamble, J. 2013. Why improved formal teaching and learning are important in technical and vocational education and training (TVET), Revisiting global trends in TVET: Reflections on theory and practise, pp. 1-340. Germany: United Nations Educational, Scientific and Cultural Organization. ISBN 9789295071575.

## Articles in peer-reviewed journals

Cooper, L.H. and Harris, J. 2013. Recognition of prior learning: exploring the 'knowledge question'. *International Journal of Lifelong Education*, 32(4): 447-463.

Kilpert, L. and Shay, S.B. 2013. Kindling fires: examining the potential for cumulative learning in a Journalism curriculum. *Teaching in Higher Education*, 18(1): 40-52.

Shay, S.B. 2013. Conceptualizing curriculum differentiation in higher education: a sociology knowledge point of view. *British Journal of Sociology of Education*, 34(4): 563-582.

## Peer-reviewed published conference proceedings

Jawitz, J.P. 2013. Do engineering educators teach the way they were taught? Engagement of engineering academics with teaching development opportunities. In B. Collier-Reed (ed), *Proceedings of Second Biennial Conference of the South African Society for Engineering Education*, 11-12 June 2013, Vineyard Hotel Cape Town. Cape Town: the South African Society for Engineering Education (SASSEE). ISBN 9780620571234.

Jawitz, J.P., Williams, K., Pym, J.M. and Cox, G. 2013. Why we do what we do: interrogating our academic staff development practice. In N. Tisani & M. Madiba (eds), *Proceedings of the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) 2012 Conference*, 28-30 November 2012, University of Stellenbosch. South Africa: University of Stellenbosch. ISBN 9780620555401.

# CENTRE FOR OPEN LEARNING

## Acting Director: Ms Medéé Rall

### Centre Profile

The Centre for Open Learning comprises two divisions: the Third Term and the Public and Continuing Education Divisions. The Public and Continuing Education Division is responsible for the annual Summer School programme. This programme encourages a diverse community of students to enjoy adult study by making University research available to the general public, by drawing on different disciplines and by stimulating debate about important issues. The Public and Continuing Education Division also offers continuing education opportunities to the general public, work-related courses aimed at career development and customised courses designed for specific organisations. It also makes focused interventions in the adult education and cultural sector, working with other partners. The Third Term Division offers University accredited courses to University students during the University's winter and summer vacations. This division draws on the University's academic resources for its courses.

### Centre Statistics

#### Permanent and long-term contract staff

Professor	1
Senior Lecturers	2
Technical and Support Staff	1
Administrative and Clerical Staff	9
Total	13

### Research Fields and Staff

#### DR KEVIN WILLIAMS

Senior Lecturer: Social agency and student learning; Heideggarian insights on being in relation to research ethics.

#### PROFESSOR INGRID FISKE

Adult education provision, adult education practices at cultural institutions such as museums, contemporary South African literary practices, poetry writing.

#### MS MEDEÉ RALL

Senior Lecturer: Adult education provision, multimodality, museum studies.

## Contact Details

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## Research output

### Peer-reviewed published conference proceedings

Jawitz, J.P., Williams, K., Pym, J.M. and Cox, G. 2013. Why we do what we do: interrogating our academic staff development practice. In N. Tisani and M. Madiba (eds), *Proceedings of the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) 2012 Conference*, 28-30 November 2012, University of Stellenbosch. South Africa: University of Stellenbosch. ISBN 9780620555401.

### Creative Works

#### Artistic works

Fiske, I.J. and Kentridge, W. 2013. *For All We Know Nothing is Working*.

#### Anthology of poems

Fiske, I.J. 2013. *Aubade*. Saint-Martin-d'Hères: Biennale international des poètes en Val-de-Marne. 124.

Fiske, I.J. 2013. *Aujourd'hui je n'aime pas mon pays* (Today I do not love my country). Saint-Martin-d'Hères: Biennale international des poètes en Val-de-Marne. 132.

Fiske, I.J. 2013. *Histoplasmose: Conseil d'un guide à la grotte*. Saint-Martin-d'Hères: Biennale international des poètes en Val-de-Marne. 127.

Fiske, I.J. 2013. *Notes pour cette semaine* (Notes for that week). Saint-Martin-d'Hères: Biennale international des poètes en Val-de-Marne. 128.

Fiske, I.J. 2013. *Quel genre d'homme* (What kind of man?). Saint-Martin-d'Hères: Biennale international des poètes en Val-de-Marne. 130.

Fiske, I.J. 2013. *Reste ici* (Stay here). Saint-Martin-d'Hères: Biennale international des poètes en Val-de-Marne. 125.

Fiske, I.J. 2013. The Archbishop chairs the first session. Goodwood: Oxford University Press Southern Africa. 1.

Fiske, I.J. 2013. *Une mort annoncée* (A death foretold). Saint-Martin-d'Hères: Biennale international des poètes en Val-de-Marne. 126.

## Collection of poems

Fiske, I.J. 2013. *Brush Stroke*. South Africa: Timbila. 29.

Fiske, I.J. 2013. *Mending*. South Africa: Timbila. 30.

Fiske, I.J. 2013. *Night Space*. South Africa: Timbila. 28.

Fiske, I.J. 2013. The Archbishop Chairs the First Session. Johannesburg: The English Experience. 28.

Fiske, I.J. 2013. *The Head of the Household*. Aldeburgh: The Poetry Trust. 5.

## Screenplays and plays

Fiske, I.J. 2013. *Women and Children First*. Directed by Jane Ramseyer Miller and Carol Bauer. Minnesota: Hamline University School of Law

# DEAN'S OFFICE

## Dean: Associate Professor Nan Yeld (until 1 July 2013)

### Profile

Apart from its central leadership, management and administrative role in CHED, the Dean's Office houses special projects, including the Multilingualism Education Project, headed by Associate Professor Mbulungeni Madiba, the OpenUCT Initiative (OUI) under the directorship of Associate Professor Laura Czerniewicz, the Confucius Institute, and student fellowship and scholarship programmes that comprise the Equity Development Programme.

### Office Statistics

#### Permanent and long-term contract staff

Associate Professors	3
Professional staff	1
<b>Total</b>	<b>3</b>

#### Research Fields and Staff

Associate Professor Nan Yeld (until 1 July 2013)  
Admissions; educational measurement; academic literacy; higher education policy.

Associate Professor Mbulungeni Madiba  
Language policy and planning; sociolinguistics; terminology and terminography; corpus linguistics, human language technology, concept literacy, language acquisition, politics of language; phonology.

Associate Professor Laura Czerniewicz  
Educational technology in higher education; academics' and students' digitally mediated scholarship and educational practices; scholarly communication

Ms Nolubabalo Tyam  
Second language acquisition; second language teaching; intercultural communication; code-switching.

### Contact Details

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### Research output

#### Chapters in books

Van Wyk, A. and Yeld, N. 2013. Academic literacy and language development. In C. B. Kandiko and M. Weyers (eds), *The Global Student Experience*, pp. 62-77. Oxon, London and New York, USA: Routledge, Taylor and Francis Group, London and New York. ISBN 9780415809269.

#### Articles in peer-reviewed journals

Madiba, M.R. 2013. Multilingual education in South African universities: policies, pedagogy and practicality. *Linguistics and Education*, 24(4): 385-395.

Pitonjak, M.J. and Yeld, N. 2013. Standard setting lessons learned in the South African context: implications for international implementation. *International Journal of Testing*, 13(1): 19-31.

#### Peer-reviewed published conference proceedings

Madiba, M.R. 2013. Implementing multilingual education at a historically English-medium university in South Africa: policies, pedagogy and strategies. In S. May (ed), *Refereed Conference Proceedings of the 3rd International Conference on Language, Education and Diversity*, 22-25 November 2011, Auckland, New Zealand. Auckland: University of Auckland, Faculty of Education. ISBN 9780473240219.