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. Rawatlal 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.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. OLAOFEE (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
PATENTS

Filed applications


Granted applications


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

<table>
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<th>Position</th>
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<tr>
<td>Professors</td>
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Students

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Research Fields and Staff

DR MAHMOUD ABDEL-GEILL
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

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 serves human needs while also protecting our resources for future generations, trans-disciplinarity and systems thinking.

MS TARNIA KLITZNER
Part time Lecturer – MLA Proramme

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 WHITTAL
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

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

School of Architecture, Planning and Geomatics, University of Cape Town, Private Bag X3, Rondebosch, 7701, Republic of South Africa
Telephone and Fax:
Architecture: Tel: SA (21) 650-2374 and Fax: SA (21) 650-2383
Planning: Tel: SA (21) 650-2359 and Fax: SA (21) 689-9466
Geomatics: Tel: SA (21) 650-3577 and Fax: SA (21) 650-3572
Webpage: http://www.apg.uct.ac.za

Research Output

Authored books


Edited books


Chapters in books


Haysom, G., Kelly, C., Schulschenk, J. and Landman, A. 2012. Food - a sustainable system for Stellenbosch. In M. Swilling, B. Sebrosi and R. Loots (eds),


Articles in peer-reviewed journals


**Peer-reviewed published conference proceedings**


**Creative Works**

**Artistic works**

Farouk, I. 2013. Smaaklik: Permanent public artwork, produced for the City of Ghent and Africalia, located at Jenaplan De Kleurdoos.


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. Received award of merit for 2013 from the Cape Institute for Architecture for Extensions to St Cyprians School in Oranjezicht, Cape Town.


**Exhibitions**

Noero, M.F.J. 2013. Exhibition of work - Alghero School of Architecture. Sardinia, Italy 01/03/2013 to 01/06/2013.


**DEPARTMENT OF CHEMICAL ENGINEERING**

(Including the Centre for Bioprocess Engineering Research (CeBER), the Centre for Catalysis Research, c*change – DST-NRF Centre of Excellence in Catalysis, HySA/catalysis – National Hydrogen Catalysis Competence Centre, the Centre for Minerals Research, the Centre for Research in Engineering Education and the Crystallization and Precipitation Research Unit)

**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

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Honorary Staff

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Students

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Research Fields and Staff

Academic staff and research fields

**DR LAWRENCE BBOSA**
Centre for Minerals Research - Comminution, DEM modelling

**MR PAUL BEPSWA**
Centre for Minerals Research - Metal Accounting, Comminution

**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/keerosene 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 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 Catalysis 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 - Comminution, 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, biomanufacture of pigments, enzymes and nutraceuticals, yeast handling, mineral biobleaching 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 - Commination, Classification, CFD/DEM Modelling, PEPT

DR BELINDA MCFADZEAN
Centre for Minerals Research - Flotation Chemistry

DR ANDREW MCBRIDE
Centre for Minerals Research - Commination, CFD/DEM Modelling

PROFESSOR KLAAUSSÖLLER

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 - Commination, 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 MARIJKE 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 SALES 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 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

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 LYNNE MACASKIE, UNIVERSITY OF QUEENSLAND, AUSTRALIA
DR ANGELA MURRAY, UNIVERSITY OF BIRMINGHAM, UNITED KINGDOM

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

Postal Address: Department of Chemical Engineering, University of Cape Town, Private Bag X3, Rondebosch, 7701
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Web: http://www.chemeng.uct.ac.za/
UCT main phone number: +27 21 650 9111
UCT web site: http://www.uct.ac.za

Research Output

Authored books


Chapters in books


Articles in peer-reviewed journals


Peer-reviewed published conference proceedings


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

<table>
<thead>
<tr>
<th>Position</th>
<th>Count</th>
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<tbody>
<tr>
<td>Professors</td>
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<tr>
<td>Associate Professors</td>
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<tr>
<td>Senior Lecturers</td>
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<td>Research Officers</td>
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<td>Technical Support Staff</td>
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<td>Administrative Support Staff</td>
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Emeritus and Honorary Staff

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<td>Emeritus Associate Professors</td>
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<tr>
<td>Honorary Research Associates</td>
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Students

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<th>Level</th>
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<tr>
<td>Doctoral</td>
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<td>Master’s and Diplomas</td>
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<td>Undergraduate</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>

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 FARIDAH 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

Postal Address:
Department of Civil Engineering, University of Cape Town, Private Bag X3, Rondebosch, 7701
Tel: +27 21 650 2584
E-mail:civil@ebe.uct.ac.za
Web: http://www.civil.uct.ac.za/
UCT general phone number: +27 21 650 9111
UCT web site: http://www.uct.ac.za

Research Output

Chapters in books


Articles in peer-reviewed journals


Peer-reviewed published conference proceedings


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.
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

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<th>Position</th>
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<tr>
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<td>Administrative and Clerical Staff</td>
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<td>Departmental Assistant</td>
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Students

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<td>Undergraduate</td>
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<td><strong>TOTAL</strong></td>
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Research Fields and Staff

Permanent Staff

PROFESSOR KS CATTELL
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
Postal address: Department of Construction Economics & Management, University of Cape Town, Private Bag X3, Rondebosch, 7701, South Africa
Telephone: +27 21 650 3443
Fax: +27 21 689 7564
E-mail: Mareldia.Fagodien@uct.ac.za
Web: http://www.cons.uct.ac.za

Research Output

Authored books

Chapters in books

Articles in peer-reviewed journals


Peer-reviewed published conference proceedings


**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)

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<th>Position</th>
<th>Number</th>
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<tr>
<td>Professors</td>
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<td>Adjunct Professors</td>
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<td>Emeritus Professor</td>
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<td>Part-time Lecturer</td>
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<td>Academic Development Lecturer</td>
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<td>Teaching Assistants</td>
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<td>Workshop Apprentices</td>
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Students

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<td>Doctoral</td>
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<td>Master’s</td>
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<td>Honours</td>
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<td>Undergraduate</td>
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<td><strong>Total</strong></td>
<td><strong>782</strong></td>
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</table>

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
Brandon.Collier-Reed@uct.ac.za

MR TREVOR CLOETE
Senior Lecturer; BISRU, CERECAM; deformation and tearing of blast loaded metal plates; high strain rate plasticity; constitutive modeling
Trevor.Cloete@uct.ac.za

MR DIRK FINDEIS
Senior Lecturer; non-destructive testing; portable ESPI and shearography
Dirk.Findis@uct.ac.za

DR SARAH GEORGE
Senior Lecturer; CME, physical metallurgy.
Sarah.George@uct.ac.za

DR REUBEN GOVENDER
Senior Lecturer; BISRU; high strain rate material characterisation; composite materials; blast and impact loading of structures and materials
Reuben.Govender@uct.ac.za

MR ERNESTO ISMAIL
Lecturer; BISRU, CERECAM; meshless methods, non-linear elasticity
Ernesto.Ismail@uct.ac.za

PROFESSOR DORA KARAGIOZOVA
Honorary Professor; BISRU; analytical and computational analysis of dynamic systems
D.Karagiozova@gmail.com

ASSOCIATE PROFESSOR FRANZ-JOSEF KAHLEN
Lean/advanced manufacturing; laser materials processing; laser diagnostics
Fj.Kahlen@uct.ac.za

DR BRUCE KLOOT
Academic Development Lecturer; sociology of education; higher education studies; foundation and extended curriculum programmes; student success and progression
Bruce.Kloot@uct.ac.za

ASSOCIATE PROFESSOR RAMESH KUPPUSWAMY
Advanced manufacturing; micro/nano systems
Ramesh.Kuppuswamy@uct.ac.za

PROFESSOR ROBERT KNUTSEN
Head of Department; Director, Centre for Materials Engineering; physical metallurgy; thermo-mechanical processing; texture; microstructure; microscopy
Robert.Knutsen@uct.ac.za
ASSOCIATE PROFESSOR GENEVIEVE LANGDON
BISRU; CREE; blast response of structures and materials; high strain rate behaviour; structural impact
Genevieve.Langdon@uct.ac.za

ASSOCIATE PROFESSOR ARNAUD MALAN
Computational Fluid Dynamics
Arnaud.Malan@uct.ac.za

MR STEPHEN MARAIS
Senior Lecturer; Electro Mechanical design
Stephen.Marais@uct.ac.za

ASSOCIATE PROFESSOR HENNIE MOUTON
Lecturer; control systems and related fields modelling and research
Hennie.Mouton@uct.ac.za

PROFESSOR GERALD NURICK
Director, BISRU; structural impact; crashworthiness; high strain rates; impact biomechanics
Gerald.Nurick@uct.ac.za

PROFESSOR CHRIS REDELINGHUYS
Autonomously guided parafoils, airliners in formation flight
Christiaan.Redelinghuys@uct.ac.za

MR PAUL SCHABERG
Lecturer, SASOL Advanced Fuel Lab, engines and fuels research
Paul.Schaberg@Sasol.com

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
Andrew.Mcbride@uct.ac.za

PROFESSOR BERNHARD SONDEREGGER
Centre for Materials Engineering, creep, damage and mechanical behaviour of power plant materials
Bernhard.Sonderegger@uct.ac.za

Adjunct Professor

PROFESSOR ANDY YATES
Adjunct Professor, SASOL Advanced Fuels Lab, engines and fuels
Andy.Yates@Sasol.com

PROFESSOR LOUIS JESTIN
Power Generation systems design and operation
Louis.Jestin@uct.ac.za

Emeritus Professors

Professor Kevin Bennett
Energy Research Centre; energy research
Kevin.Bennett@uct.ac.za

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
Jasson.Gryzagoridis@uct.ac.za

Contract Research Staff

MR VICTOR BALDEN
Research Officer, BISRU; impact dynamics

MS ANYA BOYD
Assistant Research Officer, ERC; energy, environment and climate change

Contract Staff

MS TRACY BOOYSEN
Lecturer, Electro Mechanical engineering, robotics and agents
Tracy.Booysen@uct.ac.za

DR CORRINNE SHAW
Senior lecturer; engineering Management; management and engineering education, systems theory and practice
Corrinne.Shaw@uct.ac.za

ASSOCIATE PROFESSOR CHRIS VON KLEMPERER
Composite materials; processing and modelling of composite materials and structures
Chris.vonKlemperer@uct.ac.za
**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

**Contact Details**

Postal Address: Department of Mechanical Engineering, University of Cape Town, Private Bag X3, Rondebosch, 7701  
Telephone: +27 21 650 3231  
Facsimile +27 21 650 3240  
E-mail: MEC-mechanicalengineering@uct.ac.za  
Web: http://www.mecheng.uct.ac.za/
Research Output

Chapters in books


Articles in peer-reviewed journals


Peer-reviewed published conference proceedings


**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**

<table>
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<th>Category</th>
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<td>Associate Professors</td>
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<th>Category</th>
<th>Number</th>
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<tbody>
<tr>
<td>Emeritus Professors</td>
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**Students**

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<tr>
<td>Doctoral</td>
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<tr>
<td>Masters</td>
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<td>Undergraduates</td>
<td>758</td>
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<td>Total</td>
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</table>

**Research Fields and Staff**

**PROFESSOR A. BAGHAI-WADJII**
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**
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 interference; 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. BARENDSE
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. BALOGUN
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 re-configurable 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
Computational Intelligence
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E-mail: ElecEng@uct.ac.za
Web: http://www.ee.uct.ac.za

Research Output
Articles in peer-reviewed journals


Peer-reviewed published conference proceedings


Campbell, A. and Smit, R. 2013. Introduction to engineering: an investigation into the first year experience in an electrical engineering course. In B.


