

Faculty Newsletter

Message from the Dean

I am truly inspired and excited by all the amazing people in this faculty, and the work that is being done. It was not an easy start to the year with the deferred exams adding additional stress and delaying a lot of the processes for the start of a new academic year. Thank you to everyone for the hard work you put in to make sure it all happened.

Over the past few weeks, the Faculty EXCO consisting of the three deputy deans, the finance manager, the assistant finance manager and myself, have met with all the HODs about the austerity plans that need to be developed for us to reach our required savings target of R7.7 million. I am really grateful for the work and creative thinking that each department has put into this process. The plan on how the faculty will make the required savings will be communicated to the faculty before it is submitted to the University Executive.

I would like to thank A/Professor Kobus van Zyl for the role he played as Assistant Dean with the academic development portfolio. He took over from Professor Jenni Case in January 2014 and his term finished at the end of December 2015. Kobus stayed on for the first few months of

this year so that he could hand over the portfolio to A/Professor Collier-Reed, who will now be the Deputy Dean for Academic Development and Undergraduate Studies. CHED has committed funding to this portfolio, which will assist in the development of this portfolio and fund an admin assistant position. Brandon will be working closely with ASPECT and the academic development lecturers in each department, and will be looking at academic development in both the undergraduate and postgraduate areas.

A/Professor Tanja Winkler, the deputy dean with the transformation and social responsiveness portfolio, has been very active in reaching out to staff and students to listen and hear what the pressing needs are and how they can be addressed. Professor Pilate Moyo, with the research and postgraduate portfolio, has been very busy with the URC funding and publication count. I am very thankful to have such a hardworking and supportive team working with me. It certainly makes my job a lot easier.

Before we know it, the mid-year exams will be upon us. Remember to take time to relax, breathe deeply and recharge your batteries.

South African platinum spin-off to take on world markets

South Africa is a step closer to realising the full potential of its enormous platinum reserves with the launch of a spin-off company, HyPlat, able to manufacture high-quality components for the international hydrogen fuel cell industry.

A key component is platinum, a mineral resource South Africa has in abundance but which the country generally exports only as a raw material. All this is set to change with the commercialisation of technology developed at UCT and Mintek in Randburg under the umbrella of HySA Catalysis.

The new spin-off company, HyPlat, will draw on cutting-edge technologies developed during the first five-year incubation period to produce catalysts, membrane electrode assemblies (MEAs) and advanced components needed for fuel cells. The objective now is to bring these to market and to develop a sustainable supply chain.

In terms of an agreement signed on 7 April 2016 with UCT and Mintek, HyPlat now has complete access to the IP and technologies that have been developed by HySA Catalysis. Its flagship products are a PGM-based catalyst (in powder form), which is coated onto a membrane with other subcomponents to create MEAs, which in turn are incorporated into fuel cell stacks needed to build fuel cell systems.



Dr Rebecca Maserumule, Chief Director Hydrogen and Energy, DST; Dr Makhapa Makhafola, General Manager Research and Development at Mintek; Dr Sharon Blair, Director of HySA Catalysis at UCT and CEO of HyPlat; and Mr Piet Barnard, Manager: Research Contracts Services, UCT Innovation

[Read More.](#)

Great support for the Student in Distress Fund

The EBE Student in Distress Fund was given a huge boost thanks to a very generous donation of R100 000 from the Klaus-Jürgen Bathe Leadership Programme. The programme is an initiative that focuses on identifying, educating and nurturing promising UCT students to become leaders in South Africa and on the African continent. In 2016 there are 26 UCT undergraduate students enrolled in the programme.

Professor Alphose Zingoni, the Director of the programme, said, "We share your concern regarding the effects of the current economic climate on the educational aspirations of many thousands of young people in South African universities. Your stories of EBE students who find themselves in challenging financial circumstances,



The Dean thanking Professor Zingoni for the generous donation for the Student in Distress Fund

with no money to pay for accommodation, food, medical care and other basic necessities, are touching. As the KJ Bathe Leadership Programme, we have decided to donate R100 000 to the EBE Student in Distress Fund, and hope our contribution will go some way in alleviating the hardship experienced by some students while striving to get their degree."

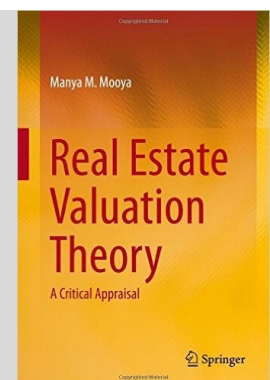
Many staff members have also responded to the

appeal to support the fund. To date we have been able to assist 15 students since we started it in August 2015. A big thank you to everyone who has donated. You have made a difference in a young person's life.

New book for Dr Manya Mooya

Dr Manya Mooya from the Department of Construction Economics and Management, has written a new book which has been printed and is available on Amazon.

This monograph critically reviews and updates real-estate valuation theory, which is based on neoclassical economics, in the light of developments in heterodox economic theory. Building on a comprehensive historical account of the evolution of value theory, the book uses new institutional economics theory and critical realism as lenses through which problems in standard valuation theory and practice are expatiated, and as the foundation for an alternative theory. The new theory is employed to explain major problems in real-estate valuation that are beyond the capability of the standard theory, such as price bubbles in real-estate markets, anchoring bias, client influence and valuation under uncertain market conditions.



Research collaboration across departments

HySA and the Department of Electrical Engineering will be collaborating on a project which has been awarded TIA seed funding.

The project is UCT OBIS technology, which was developed by A/Professor Paul Barendse in electrical engineering, and his PhD candidate Chris De Beer. The goal of the project is to use the technology to monitor the near real-time health status of a fuel-cell stack or a fuel cell with a membrane electrode assembly. Current technologies in the market could provide this state of health information, but can only do

it at a considerable delay, typically 1-4 minutes per stack assessment. The UCT OBIS technology can perform a health assessment of a fuel cell in 4-8 seconds. This translates in to near real-time feedback on critical and abnormal situations and conditions of the fuel cell, which can optimise fuel cell usage and greatly reduce danger situations associated with fuel-cell technology.

The design and realisation of the instrument, containing the technology, will be outsourced to an external company and the actual comparison tests will be conducted by the project team



at UCT's HySA centre. HySA will also be involved in the generation of a minimum viable requirement specification for the prototype instrument as it is an end user of the actual device.

Unearthed Hackathon

UCT instrumental in the success of South Africa's first 'Unearthed Hackathon' for the Mining Industry held from 5 to 7 Feb at Workshop 17 in the Waterfront.

The mining industry is facing many economic and technical challenges and innovation is urgently needed to meet them. As Jeannette McGill, event judge and Head of Technology & Innovation at Anglo Platinum, commented, the industry strives to remain both relevant and resilient in rapidly changing times.

Unearthed Hackathon events are unique 54-hour long activities focused on meeting these needs for the resources sector, by adapting the successful innovation ecosystem model most commonly associated with the Silicon Valley. Software developers, designers, and industry insiders come together to develop prototype solutions to resources-sector problems. Unearthed participants have a chance to work on proprietary industry data as well as data from our government partners, even where they have no prior experience in the resources sector. It is this openness that allows novel, often surprising, solutions to surface in a very short time.

Five events were held in Australia in 2015 and the organisers were keen to run an event internationally. Professor Dee Bradshaw, the Minerals Beneficiation SARCHI chair, was able to catalyse the opportunity for Cape Town to host the first International event with UCT's support, and put the organisers in touch with Lianne du Toit of Silicon Cape, just in time to coincide with Africa's largest mining conference, the Mining Indaba.

The first Unearthed Hackathon in Cape Town offered five



Participants of the Unearthed Hackathon

challenges, ranging from practical operation challenges like particle segmentation to more open challenges like 'nano mining'. These were set by De Beers and Anglo American and 17 teams worked all weekend to address them.

Six of the teams contained UCT students from different EBE departments. Although these weren't the winning teams, there was plenty gained by all the participants. For most of the participants, winning was not the end goal – networking with industry professionals, learning more about a fascinating industry and being able to work with other people passionate about making change were the real aims, and these certainly were achieved.

In some cases the projects can be used directly and further discussions with the companies are happening. The participants left the hackathon inspired and buzzing with ideas – not all related to mining - that they were keen to develop further.

Claude Leon Merit Awards for Early-Career Researchers

Congratulations to Dr David Ikumi from the Department of Civil Engineering, and Dr Amir Patel from the Department of Electrical Engineering, who are recipients of the Claude Leon Merit Award for Early-Career Researchers. This award is given to encourage the outstanding scholarly achievements of young researchers. The award is granted annually to young researchers at UCT to support their demonstrated ability of making a significant independent contribution to their field.

It is great to see young researchers from EBE being recognised for their research work.



Dr David Ikumi



Dr Amir Patel

Informality and the urban food system

On 15 February, the African Centre for Cities, together with the Balsillie School of International Affairs at Wilfrid Laurier University, Waterloo, Canada, hosted a workshop on **Informality and the urban food system: Policy, practice and inclusive growth through a food lens**

The informal economy is a critical access point for food for most poor urban communities. This largely unrecognised sector also provides livelihoods: a recent report by the City of Cape Town suggests that this sector could be the City's fifth-largest source of employment (creating more jobs than the construction industry).

Greater attention needs to be paid to the informal economy in the cities of the Global South, where its benefits to the food insecure are potentially enormous. Draconian policing and neglect are among the ways informal trade is restricted and very few city managers embrace this sector. Located in places accessible to the urban poor, such as at taxi ranks, these informal businesses sell food and other goods in affordable quantities, have long operating hours, and offer other advantages to city residents.

Presenters at this conference discussed their research findings about urban food insecurity and informal trade in Cape Town and other cities in the Global South – such as Kingston, Jamaica, and Nanjing, China – with alarming levels of food insecurity. Migrant traders and the role of women were also discussed.



Speakers included Jonathan Crush and Edgar Pieterse, principal investigators in the Hungry Cities Partnership; Jane Battersby, Gareth Haysom, Mary Caesar, Godfrey Tawodzera and Vanya Gastrow.

The Hungry Cities Partnership is a research partnership led by the African Centre for Cities at the University of Cape Town and the Balsillie School of International Affairs at Wilfrid Laurier University, Waterloo, Canada. The cities involved are Bangalore, Cape Town, Kingston, Maputo, Mexico City, Nairobi and Nanjing. The focus of this five-year research programme is a collaborative, inter-disciplinary research, training and knowledge mobilisation programme on urbanisation, food security, informality and inclusive growth.

Alumni coming back to campus

It is always great to see our alumni coming back onto campus. Mr Matlou Mabokano graduated from UCT in 1997 with a BSc in chemical engineering. He is the General Manager: Mining and Minerals at the Technology Innovation Agency (TIA). He worked as a mineral processing engineer at De Beers and in policy and strategy development in the Department of Science and Technology before joining TIA. His vision is to improve the competitiveness of the mining and minerals sector.

Matlou was a judge for the Unearthed Hackathon, where he connected with Professor Dee Bradshaw. Dee invited Matlou to visit UCT to explore collaborative opportunities between UCT and TIA. She put together a comprehensive programme for him where he got an overview of the minerals groups and their research activities. He attended a seminar in the Geology department and ended the day with a presentation on New Business and Entrepreneurship to the fourth-year class of chemical engineering students.

Matlou said, "I am grateful for the opportunity given to



Mr Matlou Mabokano talking to the 4th-year class of chemical engineering

get a feel of the work that the department is doing. We are excited and looking forward to a mutually beneficial relationship. I would also like to express my gratitude for the opportunity to reconnect with my former lecturers and to share what TIA does with the 4th-year students."

Three New Leadership Scholars for the EBE Faculty

A dinner function held on 17 February at the Jonkershuis Restaurant in Constantia saw the induction of ten new scholars into the Klaus-Jürgen Bathe Leadership Programme, bringing to 26 the total number of UCT undergraduate students now enrolled in the programme.

The Klaus-Jürgen Bathe Leadership Programme, launched in 2014, is an initiative that focuses on identifying, educating and nurturing promising UCT students to become leaders in South Africa and on the African continent. Undergraduate students who are registered for full-time degree studies at UCT, in any of the six faculties of the university, are eligible for enrolment in the programme, which provides full-cost scholarships as well as overseas leadership internships. The scholars are selected via a rigorous process that culminates in final interviews and oral presentations. A total of 150 applications were received in the 2015 round, for only ten places on offer.

Of the new awards for the year 2016, three each went to the EBE, Commerce and Humanities faculties, and one to the Science faculty. The EBE students who received awards for 2016 are Carla Wilby (Electrical and Computer Engineering),



Klaus-Jürgen Bathe scholars enjoying dinner on 17 February

Natalie Mangondo (Mechanical Engineering) and Tafadzwa Kwaramba (Chemical Engineering), all second-year students.

They join the inaugural quintet of EBE scholars: Keabetswe Skee (Chemical Engineering), Nozipo Gwaza (Civil Engineering), Namhla Mabombo (Mechatronics), Ryan Hudson (Mechanical Engineering), and Matthias Schulz (Electrical Engineering). A

special award was also made to Architecture student Hazel Moyo.

Hosted by the Programme Director, Professor Alphose Zingoni, and the Programme Founder, Professor Klaus-Jürgen Bathe, the function was attended by all 26 scholars, the Executive Director of the Department of Alumni and Development, Dr Russell Ally and the Vice-Rector of Stellenbosch University, Professor Arnold Schoonwinkel, as well as several other guests, including Mr Simon Mantell, founder of the premium biscuit brand Mantelli's.

Speaking at the dinner, Programme Director Prof. Zingoni congratulated the new scholars, and complimented the inaugural scholars for the mentoring role they were already playing. Guest speaker Simon Mantell challenged the scholars to seize opportunities and make a difference in transforming the fortunes of South Africa and the continent as a whole.

Centre for Imaging Analysis

Miranda Waldron has been involved in some interesting research work on grapes, using equipment in the Centre for Imaging Analysis.

The grapes were part of a project by Florent Weiller, a student in the Institute of Wine Biotechnology, University of Stellenbosch. Florent is looking at the rate of fungal growth on different varieties of grape under different environmental conditions, and needed to see if the grape skin was infected with a fungus, and how far the infection had progressed.

Fresh grapes are difficult to image with an electron microscope because they contain so much water. One of the more successful techniques is to plunge-



freeze the grapes in liquid nitrogen at temperatures below -190°C , transfer the frozen grapes into the SEM chamber using the cryo transfer equipment and view them on a cold stage. At the beginning of the year, we equipped the LEO1450 SEM with a cryo stage and transfer chamber,

and the grape project was the first one to use the cryo equipment. They used the cryo equipment several times during the harvesting season and got some nice images for Florent.



Image of an infected sauvignon grape

Visit from a retired Vice Chancellor

In November 2015 Daniel O'Hagan of the UCT Radar Remote Sensing Group (hosted Professor Terence Kealey during his visit to the university. Terence Kealey is the recently retired Vice Chancellor of the University of Buckingham, UK. A practicing biochemist and renowned economic-strategist, Kealey has been praised by bestselling author Nassim Nicholas Taleb (*The Black Swan*, *Antifragile*) for having skin in the game. That is to say, he's personally affected by the ideas he advocates.

Professor Kealey was in South Africa to deliver a plenary talk at the opening of the 2015 IEEE Radar Conference – hence the UCT Radar Group link. If Kealey's central idea were compressed to a single sentence, it would be that *governments should not be funding scientific research*. Though such ideas may cause academics to fidget – especially the public-funded ones, – his book *Sex, Science & Profits* lays bare many fallacies surrounding the benefits of government funded research. Kealey also slays a few sacred cows along the way – not least that science is a public good.

The present and most common model of government-funded scientific research is the Baconian model, first proposed by Sir Francis Bacon (1561–1626). Prior to Bacon, history was largely believed to have been circular – it was sly Sir Francis that gave it direction, thus giving formal birth to the concept of *progress*. Bacon's fascination with the power and wealth of the Portuguese drove his scholarship and brought him to the view that that governments should fund basic research. The Baconian model can be described as:

Government → science → technology → wealth

In other words: governments fund basic research that spawns scientific knowledge leading to practical implementation, ultimately resulting in economic growth. Kealey argues that, whilst being logical and linear, the Baconian model is entirely wrong – even counterproductive.

Whilst it is possible to retort with Baconian success stories such as the Manhattan Project and the Space Race, the evidence stretching back hundreds of years supports Kealey's hypothesis: that economic growth does not follow the linear model. The model that Kealey convincingly pro-



Professor Terence Kealey in discussion with Dr. David Klatzow and Justin Pead

notes is “that it is business, not public, R&D that drives economic growth, and that the public funding of research and development displaces its business funding. Consequently, the public funding of research and development actually damages economic growth.” Kealey's in good company – a 2003 OECD report states that “publicly performed R&D crowds out resources that could be alternatively used by the private sector, including private R&D”.

Prof. Kealey prefers, and the evidence tends to agree, the model offered by the free-market high-priest Adam Smith (1723–90):

Academic science ← new technology → wealth



industrial money + old technology

In Kealey's words, “science flows out of, not into, technology.”

Article by A/Prof Daniel O'Hagan

Cape Talk visits the Radar Group

Daniel O'Hagan of the UCT Radar Group hosted Kieno Kammies and his Cape Talk research and production team at UCT in February. Kieno and his team were given a presentation on passive radar and its accessibility, even to the hobbyist.

In addition, the team received a demonstration on the gadgetry that can open up the world of electronics to the amateur. Tools such as LittleBits have been described as “Electronic Lego” and are a great means of discovery through the use of electronic devices.

With all the bad news in the media around higher education, it was a great to have a positive report. The visit exposed the work of the group to the public and got people talking about radar.



UCT students save two young men

Ross Murray, a final-year mechanical engineering student, was a referee for the Standard Bank Ironman 70.3 South Africa which took place in East London in January this year. As Murray was cycling along the course he heard cries for help from the sea. He saw two local teenagers who had been caught in a rip tide. Without hesitation, Murray jumped into action to save them. Two athletes in the Iron Man, Martin Potgieter from Port Elizabeth and Dylan Hartwig, a UCT accounting student, saw what was happening and left the race to assist Murray.

Murray works as a volunteer lifeguard and, though he has never saved anyone, everything he has learned about keeping calm during a rescue came into play. "It was only when I got to them that I realised it would be impossible for me to swim them both in to shore. At this point, I knew all I could do was tread water and keep their heads up," he recalls. Murray said it was nerve racking having two people relying on him to keep them at the surface, while at the same time they both tried



Ross Murray

to climb on him in a blind panic: "I had to keep pushing them off me and telling them to calm down. It was a huge relief to see someone else swimming out to help."

Although they have no contact with the men they saved that day, they will always have the gratification of knowing they saved two lives. "I am young, physically fit and a strong swimmer," said Murray. "I couldn't stand on the beach and watch someone get into trouble and not assist, knowing I am capable of helping out."

For the two athletes-turned-heroes, the finisher medals came with an extra dose of satisfaction. They were able to dig a bit deeper to find extra energy to help when needed—something they'll carry with them during the next tough workout or rough patch during a race.

Article from <http://eu.ironman.com/triathlon/news/articles/2016/03/selfless-in-south-africa.aspx#ixzz43ht8livY>

Best paper at international conference

Congratulations to Moses Kiliswa, who received the KEYS award for the best paper presentation at the Advances in Cement and Concrete Technology in Africa 2016 International Conference which took place in Dar es Salaam, Tanzania. Moses is a PhD candidate under the supervision of A/Professor Hans Beushausen in the Concrete Materials and Structural Integrity Research Unit.

KEYS is an initiative for young scientists from countries in Africa and from Germany to enhance their skills in innovative research in the field of cement and concrete construction technology. It targets young postgraduate and young post-doctoral scientists and offers the unique opportunity to network with international high-profile researchers and industry representatives. It also fosters networking of young scientists with peers in an international forum that promotes their role as future decision makers.

Authors of the best abstracts are sponsored with a return flight and full-board accommodation to participate in a symposium. In June, Moses will be attending the Sustainable Cement and Concrete Construction 2016 symposium which is being held in Ghana.



Moses Kiliswa in the Oxygen Permeability Index Testing lab for concrete.

Visiting engineering education scholar

A/Prof Siegfried Rouvrais from the Institut Mines-Telecom Bretagne in France was a visiting engineering education scholar from 7 March to 8 April. He was hosted by Dr Bruce Kloot from the Department of Mechanical Engineering and the Centre for Research in Engineering Education (CREE). His trip was made possible thanks to a European Erasmus Mundus Scholarship.

He met researchers CREE to find out more about engineering education programme structures, ASPECT programmes, and ongoing related challenges.

During his visit, he gave two seminars. The first to the Faculty of Engineering & the Built Environment, titled *Complexity and Diversity of Engineering Education Models in France*, introduced the French engineering education landscape and provided some details on the French *Grande Ecole* system, which is internationally recognised for its selectivity. The second seminar, titled *How to introduce a Generalist Flavour in Engineering Education Models? Some examples from France*, he gave to the Department of Mechanical Engineering curriculum development group. It covered how to address integrated and flexible curriculum structure, including a variety of project-based learning and breadth courses.



Siegfried Rouvrais, PhD, is a computer scientist, affiliated with the IRISA research unit of the French *Centre National de la Recherche Scientifique*. He is also Associate Professor in the computer engineering department of Telecom Bretagne, where he has been teaching software engineering for nearly 15 years. Created in 1977, Telecom Bretagne is a sister school of Telecom ParisTech, formerly known as *Ecole Nationale Supérieure des Telecommunications*,

originating from the French High School of Telegraphy (1878). Both institutions are member of the French Institut Mines Télécom, dedicated to Higher Education and Research for Innovation in the fields of engineering and digital technology.

Dr Rouvrais is a member of the French Transdisciplinary Research in Engineering Education group. Author of various publications in engineering education, his current scholarly interests are in Higher Education Quality Enhancement and models and processes for curriculum design and transformation.

Launch of BYG

On Tuesday 5 April, a group of passionate young civil engineering students and graduates got together with A/Professor Hans Beushausen from the Department of Civil Engineering to launch BYG – Black, Young & Gifted.

BYG is an initiative in the Department of Civil Engineering which is going to be driven by the students and alumni to encourage young students of colour to consider postgraduate studies and careers in academia. Currently only 10% of civil engineering undergraduates are pursuing master's degrees and even fewer are going on to do a PhD. Out of this small group, there are a very few South African students of colour. The initiative aims to raise awareness around the postgraduate research and funding opportunities, and offer mentoring programmes to suitable candidates.

17 important industry players attended the launch and were very impressed by the initiative and the students' passion to see transformation happen in the aca-



Back left to right: Chad Ludwig, Hans Beushausen, Zane Bana, Kelly Blair, and Nyasha Chitate. Front : Manoj Gihwala, Nabeel Omar and Itumeleng Ragoleka

demical staff profile in civil engineering. This is a pilot programme and they hope to be able to extend it to the other departments. They are now going on a fund-

raising drive to raise money so they can attract students into postgraduate studies.

2016 Mandela Washington Fellow

Adele Boadzo, a 2015 electrical engineering master's graduate, has been selected as a 2016 Mandela Washington Fellow. She completed her BSc in electrical engineering in 2010 and her MSc in 2015 under the supervision of Dr Sunetra Chowdhury.

Her MSc focused on distributed renewable-energy systems to electrify South Africa's rural areas. Her research at UCT fuelled her passion for renewable-energy projects and highlighted the importance of research in growing Africa's knowledge and capabilities in the renewable-energy sector. She was supported and encouraged by the UCT Electrical Engineering Department to co-author papers focused on harnessing biogas, wind and solar technologies. Consequently, she has worked in this field as both an electrical engineer and a management consultant. She is currently a project manager at a renewable-energy company based in Johannesburg, where she delivers clean-energy solutions to increase the continent's renewable-energy footprint and electrify Africa's rural population.

The Mandela Washington Fellowship is the flagship programme of President Obama's Young African Leaders Initiative. The Fellowship will be held in summer 2016 and provides 1,000 outstanding young leaders from Sub-Saharan Africa with the opportunity to hone their skills at US higher-education institutions. Host institutes focus on leadership and skills development in one of three tracks: Business and Entrepreneurship, Civic Leadership, or Public Management. New in 2016 will be a pilot Institute focused on Energy. Mandela Washington Fellows are between the ages of 25 and 35, have established records of accomplishment in promoting innovation and bringing positive change in their or-

ganisations, institutions, communities and countries.

As a Mandela Washington Fellow, Adele will spend six weeks at the Energy Institute hosted by the University of California -Davis. There, she has the opportunity

to gain skills around the design, evaluation and commercial viability of clean-energy projects as well as to increase her understanding of innovative policy, regulatory and entrepreneurial approaches to clean energy. After her academic residency, she will travel to Washington, DC, to participate in the three-day Mandela Washington Fellowship Summit hosted by President Obama. During the Summit, she will have the opportunity to interact with US leaders in the fields of business, government, and the non-profit sector.

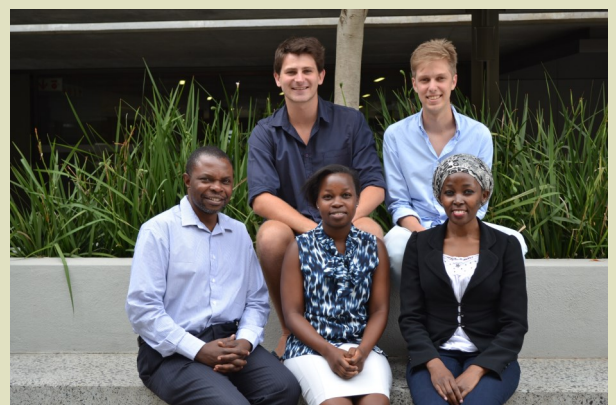
Adele said "My ultimate goal is to confront Africa's electrification challenges by running a solar technology distribution company, *Hope Rises Solar*, managed by women in rural areas to electrify at least 1 million households in ten years. After completing the Mandela Washington Fellowship, I will continue my work in growing Africa's renewable-energy sector, while building my organisation that brings light and clean energy to Africa's darkest countries."



Great news from the Geotechnical Engineering Group

Sam Wegener, Byron Mawer and Angella Lekea made history in the Geotechnical Engineering Group in December 2015 by becoming the first postgraduate students to obtain a pass with Distinction under the new programme of MSc (Eng) specialising in Geotechnical Engineering. Dr Denis Kalumba and Ms Faridah Chebet were the supervisors.

In February 2016, the Geotechnical Engineering Group started a new course-work and project-oriented master's degree in Geotechnical Engineering (MGeotech). This professional master's degree programme is designed to aid in the development of graduates in their careers as geotechnical engineers through courses that offer in-depth understanding of the principles of geotechnical engineering as well as the necessary knowledge and skills to engage effectively in providing solutions to engineering challenges involving the ground control and ground stability in civil engineering construction projects.



*Back left to right: Sam Wegener and Byron Mawer
Seated left to right: Dr Denis Kalumba, Angella Lekea and Faridah Chebet*

Congratulations

Congratulations to May Ka Wai Ho, who married Matthew Ca-wood on 5 March. Matthew is an alumnus from the Department of Electrical Engineering. The staff in the faculty office organised a surprise party to celebrate with May.



*Samantha Reizenburg, Theo Rossouw, Bianca Cleenwerck, Isha Dilraj, Zakiya Chikte, Denise Botha.
Seated: Gita Valodia, May Ka Wai Ho and Debby Chuter.*



Congratulations to Anamaré Burmeister, who has successfully completed her LLB through UNISA. It is Anamaré's second degree that she has done part-time while working full-time at UCT. This is not an easy feat. Anamaré will graduate on 15 June 2016.

Congratulations to Dr Amir Patel from the Department of Electrical Engineering and his wife Ilhaam on the birth of their baby girl, Tahlia, who was born on 7 March 2016.



Welcome to new postgraduates

The EBE postgraduate student council hosted an event to welcome all the new postgraduates to the Faculty. The Dean, Prof Alison Lewis, Deputy Dean for research and postgraduate studies, Prof Pilate Moyo, and Prof Peter Messiner, director for postgraduate studies, spoke to the students about their studies. They were encouraged to be part of the student cohort and not to isolate themselves. They were advised of all the resources that are available for them during their studies. And they were encouraged to think about academia as a career.



Tea for new staff



*Dee Bradshaw, Amir Patel, Joyce Mwangama, Leanne Raw, Ipelegeng Ntshwanti, Jan Schabert, Patrica Kooyman, Marijke Fagan-Endres, the Dean, Daniel O'Hagan, Shireen Sabodien.
Seated: Sarojini Pillay and Kenny Mudenda*

The Dean held a tea for staff who had joined the faculty over the past couple of months. The tea was an opportunity for the staff to meet the Dean and to network and meet people from across the faculty. It is great to see a number of alumni coming back to work in the faculty.

- Ms Thulile Khoza has joined HySA as a Scientific Officer. She did a BSc in chemistry followed by Materials Science honours and a MSc in chemical engineering.
- Mrs Leanne Raw has been appointed as a lecturer in the Mechanical Engineering Department. Leanne completed her undergraduate and in 2013 her MSC studies in the department.
- Mr Kenny Mudenda graduated from civil engineering in 2008. He joined the Department of Civil Engineering as a senior lecturer.

Welcome to new staff

Mr Kenny Mudenda joined the Department of Civil Engineering as a senior lecturer on 1 January.

Mr Sadiq Toffa joined the School of Architecture, Planning & Geomatics as a lecturer on 1 January.

Miss Tokoloho Rampai, a lecturer in the Department of Chemical Engineering, became a permanent member of staff on 1 January.

Mrs Leanne Raw joined the Department of Mechanical Engineering as a lecturer on 1 January.

Dr Mokone Roberts joined the Energy Research Centre as a Senior Research Officer on 1 January.

Dr Marijke Fagan-Endres, a senior lecturer in the Department of Chemical Engineering, became a permanent member of staff on 1 January.

Mrs Shireen Sabodien, an admin assistant, became a permanent member of staff in the Department of Electrical Engineering on 1 January.

Mr Niven Stanley moved from being a departmental assistant to a technical assistant in the School of Architecture, Planning & Geomatics on 1 January.

Mr Jan Schabert joined the School of Architecture, Planning & Geomatics as a senior lecturer on 1 January.

A/Prof Wim Fuls became a permanent member of staff as an A/Professor in the Department of Mechanical Engineering on 1 February.

Mrs Julie Thompsett left the School of Architecture, Planning & Geomatics and joined the Department of Construction Economics & Management as the departmental manager on 1 February.

Prof Sophie Oldfield joined the African Centre for Cities on 1 February.

Ms Ipelegeng Ntshwanti joined the Centre for Materials Engineering as an admin assistant on 1 March.

Ms Shireen Heugh joined the Centre for Catalysis Research as a finance admin assistant on 7 March.

Mr Lerato Mohapi joined the Department of Electrical Engineering as a research officer on 19 March.

Mr Guy Cunliffe joined the Energy Research Centre as an assistant research officer on 31 March.

Mr Mogamat Ahjum joined the Energy Research Centre as a research officer on 31 March.

Mrs Nuraan Hartley joined the Faculty Office as the new receptionist on 13 April 2016.

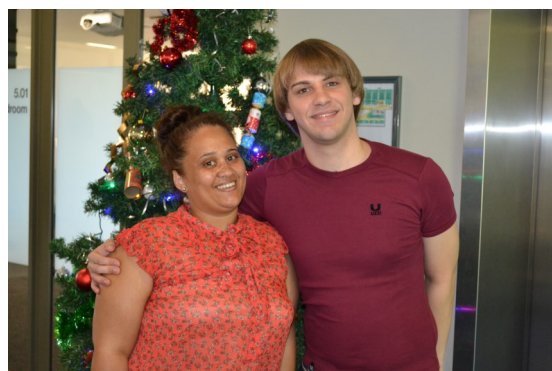
Resignations

Mr Adrian Stone, a senior research officer in the Energy Research Centre, resigned at the end of December.

A/Prof Franz-Josef Kahlen in the Department of Mechanical Engineering resigned at the end of December.

Dr Andrew McBride, senior research officer in CERECAM, resigned at the end of December.

Ms Alta Du Plooy, senior secretary in Geomatics, resigned on 19 February.



In April, Samantha Reizenburg moved from the Faculty Office to the Department of Mechanical Engineering as their new receptionist. Matthew van der Westhuizen left the Faculty Office in December to join Electrical Engineering as their undergraduate admin officer.

Obituary

Mr Sivuyile Kolisi, who registered for his Master's in Telecommunications, was tragically killed during a hijacking in Gauteng on the weekend of 21 February 2016.

His funeral took place on 5 March 2016 at Port Alfred in the Eastern Cape.



Screening of *The Shore Break*

On Tuesday 19 April, the Dean and EWB hosted the screening of *The Shore Break* to EBE students and staff. Odette Geldenhuys, one of the co-producers, introduced the documentary and held a discussion after the screening on the subsequent development and the situation now.

Despite being essential to modern living, the mining industry has long been associated with environmental disasters and human-rights violations. The late 1990s witnessed the emergence of the Corporate Social Responsibility (CSR) movement, in response to growing public demand for the industry to be more socially and environmentally responsible. Most large multinational mining companies have responded to this pressure by stepping up their efforts in the area of CSR. These companies have operationalised their CSR agenda through corporate philanthropy, responsible business practices and active community engagement. Unfortunately, the reputation of the industry continues to be undermined by the corrupt business practices of a few organisations who attempt to profit by fuelling conflict and corruption in rural communities and local government.

The documentary relates the story of one such mining company's attempts to gain the rights to mine on South Africa's Wild Coast, and the conflicts that this gives rise to amongst the local people.

The discussion after the screening was on how to find the balance between industrial development, the community and the environment. Communities need to be equipped with the necessary information which they are able to understand in order to engage with the mining companies. And the mining companies need to be equipped to be able to deal with these situations. They need to develop with the people.



Odette ended by challenging the engineering students to go into these communities and make a difference—change the culture in the companies.

Professor Harro Von Blottnitz, who attended the screening, said: "Great attendance, and great discussion after the film, with the co-producer. For those who could attend, it was a special, timeous, profound evening in the life of our faculty. Whether we are concerned with new mines, roads or power lines, we need to learn to grapple with conflict, and with the ethical dimensions of whether we can serve any paymaster or only offer our technical expertise to the pursuit of real advancement and upliftment."

Panel discussion on mixed-use property developments

On Wednesday 30 March, the UCT–Nedbank Urban Real Estate Research Unit hosted a panel discussion on The Opportunities and Challenges of Large Mixed-Use Property Developments.

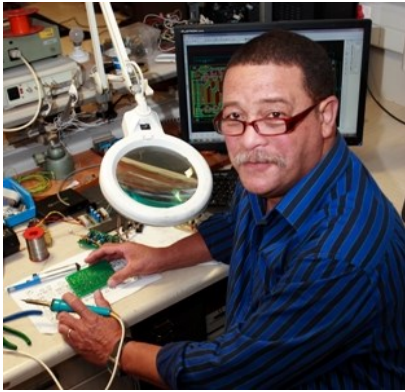
The panellists were John Chapman (Rabie – Century City), David Marais (City of Cape Town), Barbara Southworth (GAPP architects and Urban Designers), and Anthony Diepenbroek (Zendai – Modderfontein City). The audience were staff, property students (undergraduate and postgraduate) and students doing their master's degree in Project Management.

Three of the panellists gave a brief overview of the work they are involved in, and this was followed by discussion on the complexities and opportunities associated with large, mixed-use developments. Mixed-use developments create environments for the people. They typically include residential, office blocks, shopping centres, parks, transport, and community facilities. The new urbanisation is looking at how people can live, work and play without having to travel long distances.



John Chapman, David Marais and Anthony Diepenbroek in discussion with A/Prof Francois Viruly

Sad farewell to Granville de la Cruz



Mr Granville de la Cruz passed away peacefully on the evening of 31 March 2016 after a long battle with cancer. Granville had been with the Department of Chemical Engineering for 46 years.

He first joined the department at the age of 17 and was responsible for the photocopying. Under the mentor-

ship of Bill Randall, he grew and developed into the position of Technical Officer in the Electronics Workshop, where he supported both the teaching and research activities of the department. He was instrumental in the development of the UCT Bubble Size Analyser, an instrument that was a UCT innovation, and that is now used in floatation research all over the world. He was extensively involved in the development of the equipment and electronics for numerous other projects, including the electrical resistance tomography project.

Besides the technical aspects, Granville was well known to staff and students alike. HOD Professor Eric Van described him as the being the embodiment of the spirit of the Department. He knew everyone by name and could greet a graduate who had graduated 16 years ago by his name.

At a memorial held for him in the Chemical Engineering Department on Friday 8 April, many people described Granville as being a humane man, who always put himself at the service of others. He was always willing to help. He had a wonderful and naughty sense of humour and was uplifting and affirming.

The Dean said "Granville was a very special kind of UCT person. He devoted his life to UCT, specifically to ChemEng and, even through his long illness, continued to come to work every day. He bore his illness with great courage and humour."

He is sadly missed by his wife Charmaine, children Cindy, Bradley, Jean-Paul and Yolanda, and granddaughters Maddison and Cassidy, his mom and his sister as well as staff and students in the Department of Chemical Engineering and across the faculty.

Occupy Woodstock—Vertical Studio

On Friday 8 April, the School of Architecture, Planning & Geomatics held its annual Vertical Studio event with the theme OCCUPY. The event was organised by an organising committee of students and the architecture third-year class.

The event was a showcase of undergraduate architecture students' week-long work of collaborative design, installations, performances and films with guest artists.

The subject of the project was Woodstock and The City and it comprised nine chapters, which were showcased on the evening.

1. Street Life
2. Life of a Tenant/Owner/Homeless
3. The Commuter's Life
4. The Life of Buildings
5. The Life of Neglected Spaces
6. The Life of the Public Realm
7. The Gentrified Life
8. The Gentrified Life
9. The Future Life

Khensani de Klerk, one of the organising committee members, said, "Thank you to the School of Architecture, Planning & Geomatics for enabling us the physical and creative space for all undergraduate students to flourish."

OCCUPY

WOODSTOCK

INSTALLATION, FILM AND PERFORMANCE
BY UCT ARCHITECTURE UNDERGRADS '16

FEATURING GUEST ARTISTS

[IAS]

INTRINSIC AUDIO SESSIONS

PUPIL VISUALS

ATOM

FOREST GUMPTION (SEARCH)
SCHUMI & MIKEY WEINBERG (*ATOM, IAS)
MISCH B (*ATOM)
PUPIL VISUALS (*ATOM)

8 APRIL 2016

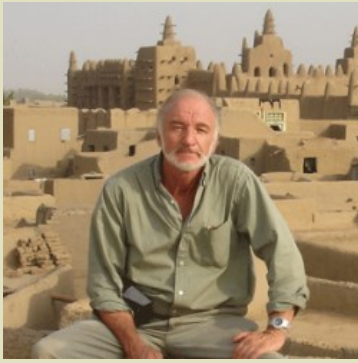
CENTLIVRES BUILDING

18:30 for 19:00 UNIVERSITY AVENUE SOUTH R30.00

EVENT PHOTOGRAPHY & FILM BY LOLO NDLOVU + JEMSE MORAN + ASHIQ JOHNSON
+ SPECIAL THANKS TO OUR SPONSORS

FACEBOOK EVENT: <https://www.facebook.com/events/569053146604095/>

Great honour for Em. Prof Heinz Ruther



Emeritus Professor Heinz Ruther has been invited to become a member of "The White Elephant Club", which is

recognised as an International Scientific Society for Photogrammetry and Remote Sensing (ISPRS) ad-hoc committee "Knowledge Transfer." It consists of previously or still-active senior officers of ISPRS and other recognised persons with close relations to ISPRS. The aims of the club are to support the missions and goals of ISPRS and to communicate and encourage young generations to grow into potential "elephants" through their own activity.

Heinz was an ISPRS Council member from 2000 to 2004 and Chair of the Financial Commission from 2004 to 2008. He is now a Fellow of ISPRS. The group is called "The White Elephant Club" because its founder is the recipient of the Order of the White Elephant, the highest Order which is awarded by King of Thailand to a foreign national. There are only 27 members, and membership is considered quite an honour.

Top downloaded paper

Well done to Professors Kobus Van Zyl and Daya Reddy and Eva SSouzi for their paper titled *Numerical Investigation of the Influence of Viscoelastic Deformation on the Pressure-Leakage Behavior of Plastic Pipes*. It is the [top downloaded paper](#) of all 38 ASCE journals over the last 12 months!



Climate Change Mitigation in Developing Countries—online course

Sign up [here](#) for an online course on Climate Change Mitigation in Developing Countries. It is free, and based on experiences in the [MAPS programme](#). Please pass this information on to others who may be interested.

This course challenges you to consider how one might lift societies out of poverty while also mitigating greenhouse-gas emissions. We explore the inherent complexity of developing-country governments wanting to grow their economies in a climate-friendly way. You will be introduced to an approach with which to address this challenge. The approach consists of a facilitated process whereby academic researchers and high-level influential actors within society co-produce knowledge. You will track this process in four Latin American countries - Brazil, Chile, Colombia, Peru, - and South Africa. You will hear from various professionals about their contexts and the different challenges and opportunities the process includes. This course will cover topics such as facilitation-process techniques, energy modeling, scenario building, innovation and policy making. You will have the opportunity to respond to these topics with ideas and reflection from your own context. Whether you are a climate change practitioner, work in development or are simply curious about how climate mitigation is understood, this course will give you insights into the complexity of how countries from the South pursue development goals while addressing climate mitigation.



News from the Transformation and Social Responsiveness (SR) "desk"

There's been much activity on the transformation and SR front in the faculty during the first quarter of 2016, and we'll continue to work hard for the purpose of enabling *real* and meaningful change.

An action-oriented *Transformation and Social Responsiveness Framework* has been established, that focuses on six key areas of intervention:

1. identifying creative fundraising initiatives to implement transformation and SR projects;
2. recruiting and retaining black South African scholars;
3. establishing support for all PASS and academic staff;
4. establishing support for all under- and postgraduate students;
5. exploring the idea of "popular education"; and
6. transforming the institutional culture of the university by challenging dominant and taken-for-granted discourses. In the future we hope to begin discussions with our diverse professional accrediting institutions and relevant funders in order to explore transformative initiatives with them (including financial support for extended curriculum options).

Transformation and SR are purposefully integrated in this five-

pronged *Framework*; and the role of EBE's Transformation Committee—which is chaired by Associate Professor Abimbola Windapo and supported by a dedicated team of PASS and academic staff from each of the six departments/schools in the faculty—remains central to our overarching goal of enabling meaningful and ongoing change. Transformation and SR are thus no longer conceptualised from an instrumental standpoint alone. Rather, both transformation and SR equally concern our teaching, learning and research activities, as well as our diverse and multiple ways of moving through the world.

Some of the actions implemented thus far (that are identified in the *Framework*) include, first, defining SR for the EBE faculty by establishing five SR categories that take cognisance of colleagues' varied and wide-ranging engagements with external, non-academic constituencies. We also established SR assessment criteria for this year's ad hominem promotion cycle.

Next, we started the process of empowering EBE master's and PhD students by running a workshop on how to apply for research funding. This workshop was facilitated by Kate le Roux and Lucia Thesen from CHED, and follow-up workshops are envis-

aged. Twenty-six students participated in this introductory workshop.

Third, the faculty hosted a day-long, EBE-specific, Engaged Scholarship workshop (on 1 April 2016) for academics who are exploring opportunities to integrate their scholarly activities with their socially responsive projects. This EBE-specific workshop was facilitated by David Cooper (Emeritus Associate Professor, Sociology), Shirley Pendlebury (Emeritus Professor, Education), Judy Favish (Director, Institutional Planning) and Sonwabo Ngcelwane (Senior Planning Officer, Social Responsiveness), and Associate Professors Gina Ziervogel and Roger Behrens, Kirsty Carden and Professor Harro Von Blottnitz shared some of their engaged scholarship insights with participants. A significant number of EBE academics are also involved in the university-wide Engaged Scholarship Programme (ESP).

Fourth, we are in the process of revising and refining our Employment Equity Plan.

Finally, we are working closely with our inspirational student councils so that we may support student initiatives, including the undergraduate council's invaluable Student in Distress Fund. But there's more to come. In the interim, please feel free to send your thoughts and suggestions to

Tanja.Winkler@uct.ac.za.

EBE staff joined the Lifestyle challenge

A group of EBE colleagues are participating in the UCT Lifestyle Challenge. For three months, they attend a lunch-time exercise programme three times a week with a personal trainer. A dietician talks to them about healthy eating and the programme includes the Quinhealth nurses' wellness screening and measuring the staff on a monthly basis.

Participants will also receive health-point cards with recipes to guide them through the programme, and a Facebook community page has been created and is available for staff which gives the basic tips and recipes. The Lifestyle Challenge

cost them R150 and it also covers a year's membership at the UCT gym.

Civil Engineering has the biggest group, with five staff members attending, Chemical Engineering has four and there are two from the Faculty Office. Many have lost weight and say they feel fabulous.

Rowen Geswindt from civil engineering, said: "I love the programme. As a mother of two young children I never find the time to do any exercise. Now I go during my lunch time. It is perfect. I wish they would continue it."

OPEN DAY 2016



Great Open Day 2016.
Thank you to EBE staff and students for
making the day such a success.