

Faculty Newsletter

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Dean's message

The last few weeks have been groundbreaking for Higher Education in South Africa. I salute our students for ensuring that the issue of affordable Higher Education was placed so firmly at the centre of the agenda, and for their moral stance on outsourcing.

I would like to thank everyone for their support and contributions over the last two weeks.

I know that it has not been easy, and that you have sometimes been frustrated with the lack of clarity on the situation. We have done our best with our "EBE Comms Desk", and tried to keep you informed and up to date with the latest in a fast moving situation. I would like to especially thank the members of the faculty who went "above and beyond" in so many ways, in helping each other and in

making things work despite not having access to our normal infrastructure.

We are hoping that consolidation week will begin on 2 November and that exams will begin thereafter. We are meeting this afternoon to discuss all of the issues, and we will communicate any outcomes as soon as we know them.

I have had several meetings with the undergraduate and postgraduate student councils over the past week, and they have played a valuable role in assisting with planning the new exam schedule and highlighting issues that need to be addressed.

I would like to thank them very much for their willing contributions, and to acknowledge their sense of responsibility as student representatives, as well as their loyalty



and dedication to EBE.

Over the next month or two we are going to have to pull together to ensure that we get everything back on track. I have been immensely impressed by the commitment and passion that many staff have shown during this time. I look forward to working with departments to come up with suitable solutions for staff and students.

Eight-year Water Rocket World Altitude Record broken

A team from the Industrial Computational Fluid Dynamics Research Group in the Department of Mechanical Engineering has successfully broken the longstanding Class A Water Rocket World Altitude Record by a massive 33%.

"It is the first world record in rocketry set by a South African university that I am aware of," says Professor Arnaud Malan, DST SARCHI Chair in Industrial Computational Fluid Dynamics, who led the research group, "and definitely the first appearance South Africa has made on the international water rocket scene."

The record was formally ratified on 7 October 2015 after international peer review by the Water Rocket Achievement World Record Association.

The previous record of 623 m, set in 2007 by US Water Rockets, has had no equal for eight years.

Says Malan: "The water rocket competition is very exciting, as it uses only water and air – very environmentally friendly – to reach incredible speeds.

"The competition is truly multidisciplinary in nature and requires pushing state-of-the-art technology in areas ranging from mechanical design and lean manufacture to computer-based mathematical modelling. It is like the Olympics of water rocketry and pits us against the best and brightest in the world. Clearly, we are now the undisputed best of the best."

[Read More](#)



Donovan Changfoot - mathematical modelling and rocket builder, Stuart Swan - lead designed and rocket builder, William Liw Tat Man - launch pad designer and builder, and Prof. Arnaud Malan - Project Manager and co-designer

New SARChI Chair for Minerals Beneficiation

We are delighted to announce that Professor Dee Bradshaw has returned to the Department of Chemical Engineering as the new Minerals Beneficiation SARChI Chair. Dee takes over from Professor J-P Franzidis, who took early retirement at the end of December 2014. She graduated in Chemical Engineering at UCT in 1981 and obtained her PhD in flotation chemistry from the same institution in 1997.

She worked in the Department of Chemical Engineering from graduation to 2008, when she took up a Professorial Research Fellow position at the Julius Kruttschnitt Mineral Research Centre at the University of Queensland. She has also held positions at leading research and education entities such as the universities of Hacettepe (Turkey), Liege (Belgium) and Lulea (Sweden).



She is currently an Honorary Professor and Industrial Research Fellow at the Sustainable Minerals Institute at the University of Queensland (UQ), and a visiting Professor in the Mining Engineering Department at Hacettepe University (HU), Turkey.

The SARChI Chair in Minerals Beneficiation focuses on the development of innovative and integrated knowledge and methods to

generate value from minerals for sustainable development. It addresses South African and global challenges that require both a systemic approach, to ensure that the different processes along the value chain are considered, and a fundamental understanding to underpin their integration. Themes include generating value from waste, novel processes for complex and low-grade or ore deposits, developing methods to minimise water and energy use, addressing acid rock drainage and developing safe and sustainable operational practice.

The chair is embedded in the “Minerals to Metals” signature theme, which also hosts the Master of Philosophy programme specialising in Sustainable Mineral Resource Development, which is in its second year.

Welcome to the new Nano Materials for Catalysis SARChI Chair

Professor Patricia Kooyman, new SARChI Chair in Nano Materials for Catalysis, joined the Department of Chemical Engineering on 15 October. Patricia was at the University of Delft and is known for her unique expertise in the field of in-situ TEM material characterisation, which she will bring to the department.

This Chair was awarded to the DST-NRF Centre of Excellence in Catalysis, c*change, and her activities will be

closely aligned with the various programmes and projects that are being conducted in the Centre of Excellence.



New research unit for CEM



The UCT-Nedbank Urban Real Estate Research Unit is the first research unit in the Department of Construction Economics and Management. The unit aims to provide a unique interdisciplinary research platform for academia that promotes the identification of issues and seeks solutions to urban real-estate investment, finance, economics and management problems in Africa.

Nedbank has invested R4 million over the next four years and the group will seek integrated solutions to the problems associated with the investment, finance, economics and management of urban real estate in Africa.

The core research team for the unit will comprise Associate Professor Francois Viruly, Associate Professor Kathy Michell and Mr Rob McGaffin.

ECSA accreditation visit

The Engineering Council of South Africa completed its accreditation of the engineering programmes in our faculty yesterday – and I'm pleased to report that all our BSc(Eng) programmes remain accredited. This was one of the largest accreditation delegations we have had visit our faculty, with more than 40 academics and industry professionals participating. Our engineering programmes were placed under close scrutiny and the departments received robust feedback on all aspects of their operation. I received very positive feedback from the various teams about the quality of

the academic staff they engaged with – and they had nothing but praise for our students.

At the feedback session, the Visit Leader identified three areas in the Civil Engineering degree and one common area in the programmes in the Department of Electrical Engineering that will need to be addressed within a timeframe yet to be determined. Fortunately, these areas are minor in nature and will be easily addressed as part of the departments' existing continuous improvement strategies.

SACP accreditation visit

Sacplan (SA Council for Planners) is a statutory committee set up in terms of the Planning Profession Act of 2002. It is required to accredit planning schools every 5 years. Accreditation allows our graduates to register as professional planners with Sacplan and, in terms of new legislation, all planners employed by government need to be registered with Sacplan. So accreditation is an important requirement for securing public sector jobs.

There were nine people on the accrediting panel, made

up of the Registrar, Council members, other planning schools, and representatives of local employing bodies and voluntary planning organisations.

This year they accredited the Master of City and Regional Planning Programme (MCRP) (no conditions) and the Master of City Planning and Urban Design Programme (with conditions). MCRP is also fully accredited by the Royal Town Planning Institute.

Ad-hom promotions

Congratulations to the staff who received their ad-hominem promotions. It is no small achievement to get promoted at UCT. Each one of you has put in many hours of hard work and dedication and it is a pleasure to be able to recognise and acknowledge you in this way. You have also done the faculty proud – so thank you very much for the merit that you have brought to EBE. (Since we now have four new full professors, we can also look forward to a number of inaugural lectures in the faculty.)

Lecturer to Senior Lecturer

Dr Julian Raxworthy (Architecture,)

Dr Bruce Kloot (Mechanical Engineering)



Julian Raxworthy



Belinda McFadzean



Bruce Kloot

Research Officer to Senior Research Officer

Dr Warren Smit (African Centre for Cities,)

Dr Belinda McFadzean (Centre for Minerals Research)

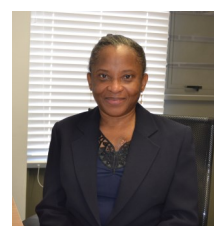
Senior Lecturer to Associate Professor

Dr Abimbola Windapo (CEM)

Dr Amit Mishra (Electrical Engineering)

Dr Olabisi Falowo (Electrical Engineering)

Dr George Vicatos (Mechanical Engineering)



Abimbola Windapo

Associate Professor to full Professor

Associate Professor Aubrey Mainza (Chemical Engineering)

Associate Professor Jochen Petersen (Chemical Engineering)

Associate Professor Komla Folly (Electrical Engineering)

Associate Professor Tunde Bello-Ochende (Mechanical Engineering)



Jochen Petersen



Aubrey Mainza

Revealed: real price of nuclear energy

Business Day Live 29 July 2015

The price of electricity generated by nuclear power is expected to be higher than that from any other technology except for gas and diesel, two separate and independent analyses have found.

The analysis done by the Energy Research Centre at the University of Cape Town also projects high risk that the levelled cost of nuclear energy will come out higher than most other technologies.

Leaving a margin of uncertainty, the levelled costs of coal-fired electricity in 2030 in today's prices is projected to be from R0.54/kWh to R0.84/kWh; solar photovoltaic from R0.54/kWh to R0.78/kWh and nuclear from R0.72/kWh to R1.44/kWh.

The Energy Research Centre model was designed as part of an "uncertainty study" funded by the United Nations Environment Programme.

Among the assumptions it makes is that 9,600MW of nuclear energy would range from \$50bn to \$70bn in overnight costs, which is arrived at using the per kilowatt price in the IRP 2013, an updated version of the Department of Energy's planning document, which

is yet to be adopted by the Cabinet.

Asked to comment on the findings, Department of Energy deputy director-general Zizamele Mbambo said the government had also commissioned an independent modelling exercise on comparative technologies.

"The outcome of this study has shown that nuclear remains competitive in comparison with other base-load technologies such as coal and gas. Commenting on the studies you mention would not be prudent as we have not commissioned them and do not know the context," he said.

Mr Mbambo has stated on several occasions that the government cannot reveal its modelling as it would jeopardise the procurement process. Energy Research Centre researcher Bruno Merven says that the high risks attached to nuclear costs mean that taking a large bet on nuclear — such as 9,600MW all at once — is not prudent and "a flexible, bite-sized approach" is



more advisable.

He also cautions that to look at levelled price alone has limitations. When making choices, other factors such as climate change and pollution would also necessarily be factored into energy decisions. This would tip the balance in favour of renewable technology and nuclear energy, although concerns remain over the storage of nuclear waste.

Despite an absence of public and stakeholder discussion over how the choice of technology will affect the price that consumers pay for electricity, the nuclear procurement process is

Visiting Professor in Seoul, South Korea

During the June/July holidays, A/Professor Mark Zuidgeest from the Department of Civil Engineering was a visiting professor at the International Summer School at Sungkyunkwan University (SKKU) in Seoul, South Korea. The university was established in 1398, and Mark has been a visiting professor there since 2011. (QS SKKU is 140, one below UCT (141).)

This year 1252 students from 42 countries around the world attended. Mark teaches two courses, one on Climate Change and Cities, and the second on Urbanisation and the Evolution of Cities. In the Climate Change and Cities course he teaches the science of climate change and international climate change policy, followed by lectures and discussions around mitigation (reduction of greenhouse gases) in cities and adaptation (climate-change preparedness) in cities, with examples from Asia and Africa.

In the Urbanisation and the Evolution of Cities course, he discusses the global urbanisation trend, population growth, rural-urban migration, and the pressures this puts on the



A/Professor Mark Zuidgeest with students from the International Summer School at Sungkyunkwan University

urban economy and its surrounding ecosystems. He also covers city and transport planning approaches to accommodate the challenges of urbanisation, with examples from cities in developed, emerging and developing countries.

Planting the seeds for a more sustainable city

City officials are sometimes so close to what they're doing, that they can't see the wood for the trees, while academics work in a theoretical world where it is easy to lose sight of the practicalities on the ground. Yet both have valuable insights into the problems facing our cities – in particular the hot-button issue of sustainability.

To bridge the divide between the academy and practice, four UCT researchers have spent the last three years (from 2012 to 2015) "embedded" within city council departments to observe how policy is being developed and implemented. The projects they worked on looked at the space economy, climate change adaptation, energy governance and the green economy.

Robert McGaffin, Anna Taylor, Saul Roux and Anton Cartwright (all linked to UCT's African Centre for Cities), were part of an international knowledge transfer project sponsored by Mistra Urban Futures.



Anton Cartwright, Saul Roux, Anna Taylor, Robert McGaffin and Gordon Pirie (Deputy Director of African Centre for Cities)

Read more [here](#).

I draw (from) what I like

Mphethi Morojele was the last speaker in the Space & Transformation lecture series hosted by the School of Architecture, Planning & Geomatics. The first lecture took place in July and over the next few months nine great speakers have spoken around space and transformation.

Professor Iain Low, who was responsible for the lecture series, said we saved the best for last. Mphethi Morojele graduated from UCT in 1990 with a professional degree in Architecture. He went on to complete a post-professional Master of Science in Architecture at the Bartlett School of Architecture in London in 1993. The topic of his talk was ***I draw (from) what I like*** - a take on Steve Biko's "I write what I like". Black people defining themselves and creating space for black people to communicate. Mphethi said, "South Africa is a special place – always something new. Presently there is a collision with our history, environment, geography and origins." He added that what is happening on campuses around the country provides exciting possibilities to find and create new spaces. He shared the experiences and thinking behind some of the amazing projects he has worked on, which include Freedom Park heritage site in Pretoria, two



Fadly Isaacs, Mphethi Morojele, Nivie Stanley, Iain Low and Sonja Spamer

South African embassies abroad, inner-city regeneration projects and many more. His firm, MMA Design Studio, currently has ongoing projects in Mozambique, Lesotho and Botswana. Mphethi was the architect responsible for the coordination of all overlay infrastructure for the funeral of former president Nelson Mandela, including the design of the funeral service stage set.



Young research award

Congratulations to Dr Megan Becker from the Department of Chemical Engineering, who is a recipient of the 2015 College of Fellows Young Researcher Award. The award is granted annually to young academics to support their demonstrated ability in making a significant contribution to their field, and it is intended for research purposes.

First HySA technical meeting

The first HySA technical meeting took place in August to promote technical and commercial interaction between the HySA centres of competence and stakeholders in the hydrogen fuel cell technology (HFCT) sector, with the aim of strengthening public-private partnerships under the HySA programme.

The DST's National HFCT Research, Development and Innovation Strategy, being implemented by three HySA centres of competence, is aimed at stimulating innovation along the value chain of HFCT in the country. The ultimate goal of the strategy is to facilitate the establishment of a South African HFCT industry that captures a significant share of the global market.

Dr Sharon Blair, director of HySA/Catalysis said, "We received very positive feedback from all levels of the DST, and from the DST Advisory Board, as well as from various



Stakeholders, that they value our technical progress to date, our Technology- and Centre Strategy, our structure, our approach to technology localisation (with the proposed advanced manufacturing Special Purpose Vehicle) and the competence of our team."

Further acknowledgment was received, with Yi Zhou, Dr JV Fletcher and Niels Luchters from HySA Catalysis receiving first prize for their poster titled *Fuel Processing using Micro-Channel Reactors*.

Engineering News article on HySA/Catalysis Centre

South Africa has great opportunity to develop the fuel cell industry, says Sharon Blair, director of the HySA/Catalysis Centre of Competence in the Department of Chemical Engineering. [Read more](#) in Engineering News.

Two awards for Energy Research Centre (ERC)

A Highly Commended award went to the *Journal of Energy in Southern Africa*, a peer-reviewed energy journal which is the flagship publication of the ERC. Launched in November 1990, it has been in existence for over 24 years. The publication provides the benchmark for energy research in Southern Africa and is the only peer-reviewed energy journal on the Afri-

can continent. An ever-increasing number of academics and researchers now submit papers for peer review from the African continent, and from 17 countries beyond our shores.

Richard Drummond of the ERC also received a Highly Commended award for the *Energy Management News*, a free quarterly newsletter published by the ERC.



Member of an international steering committee



Professor Kobus Van Zyl has been elected to be on the International Steering Committee for the new Open Source EPANET project, which aims to develop the software further. EPANET is a hydraulic and water quality modelling tool for water distribution systems that was developed by the US Environmental Protection Agency and is used extensively in the water distribution field by researchers, commercial soft-

ware developers and researchers. Most hydraulic modelling packages use the EPANET hydraulic engine for their calculations.

Kobus, together with some of the other members of the committee, was asked to deliver the keynote address at the 13th International Conference on Computing and Control for the Water Industry, which took place in September in Leicester, in the UK.

Chemical Engineering students excel at SAIMM conference

Chemical Engineering students excelled at the SAIMM Mineral Processing conference which took place in early August. Three students received Outotec-sponsored awards.

First prize for Sustainability in the Minerals Industry was awarded to Mpendulo Ncongwane for his paper on *A Feasibility Study of the Mineral Carbonation of PGM Tailings*. His supervisors are Dr Jenny Broadhurst and A/Professor Jochen Petersen.

Second prize for Sustainability in the Minerals Industry was awarded to Bridget Fundikwa for her paper on *An Environmental Assessment on the Use of Froth Flotation for Coal Recovery and Sulfur Removal from Fine Coal Waste*. Her supervisors are Dr Jenny Broadhurst and Professor Sue Harrison).

The Outotec Postgraduate scholarship went to Alex Opitz for his PhD project on *The Development of an Integrated Approach for ARD Prediction from Waste Rock*. His supervisors are Dr Megan Becker, Dr Jenny Broadhurst and Professor Sue Harrison.

Dr Jenny Broadhurst said, "I received many favourable comments from conference delegates and was immensely



Alex Opitz, Bridget Fundikwa, Jenny Broadhurst and Mpendulo Ncongwane

proud of all of them. Congratulations to the students and their supervisors. Special thanks go to Dee Bradshaw for sitting with me through hours of 'dry runs' and assisting in the preparation of student presentations and posters."

Architecture students excel at Murray & Roberts Des Baker competition.

Two UCT Architecture teams received the first and third prize for the 2015 Murray & Roberts Des Baker architectural design competition. The teams were asked to imagine an African City of the Future, sited anywhere on the African continent, and to use film as their medium of choice.

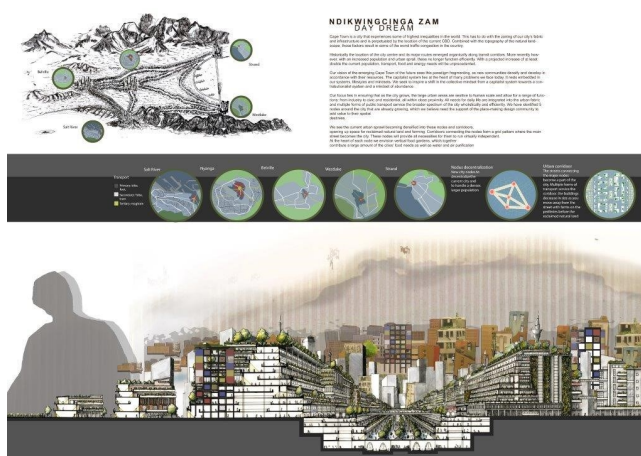
The winners were announced at the Student Architecture Festival, which was held at the University of Johannesburg from 24 to 25 September.

The first prize went to the entry *Day Dream* by Donna Huang, Kyle Mackintosh, Matthew Fourie, Hannah Cook, Blue Benington and Alexandra Wunderlich. They looked at an emerging Cape Town of the future as new communities densify and develop in accordance with their resources. Their focus lies in ensuring that as the city grows, the large urban areas are sensitive to human scale and allow for a range of functions from industry to civic and residents, all within close proximity.

The future is in your hands – choose wisely by Claire Barry, Christine Botha, Rese Boshoff, Sonali Chetty, Ohna Clark and Jess Goldring was awarded the third prize. Mr Mike Louw and Mr Jonathan Green were the academic staff who led the teams.

"I believe that these entries point to the excellence and diversity of approaches our undergraduate programme helps

to shape. The growing exposure to a variety of means of representation which is enabled in our teaching allows our students to investigate and question our current world in convincing and meaningful ways," said Tomà Berlanda, the director of the School of Architecture, Planning and Geomatics at the University of Cape Town.



First prize Day Dream

Chinese version of a published book for Dr Chowdhury

The Chinese version of the research book *Microgrids and Active Distribution Networks* has just been published. It is co-authored by Dr S. Chowdhury from the Department of Electrical Engineering, S.P. Chowdhury, and P. Crossley. The original book in English was published in July 2009 by the IET (UK) and has enjoyed 369 citations.

The book provides a sound understanding of the technical concepts of operation, management, protection and control of microgrids and active distribution networks with renewable distributed generation. It also discusses impacts of implementation and grid integration, economic viability, and market participation of such systems. The original book was aimed at practicing engineers, academics, researchers and students in the power and energy sector who are contributing in the fields of renewable energy system and microgrid design and the implementation for clean power generation and energy poverty alleviation.

A need was felt in China for the publication of this book in



Dr S Chowdhury

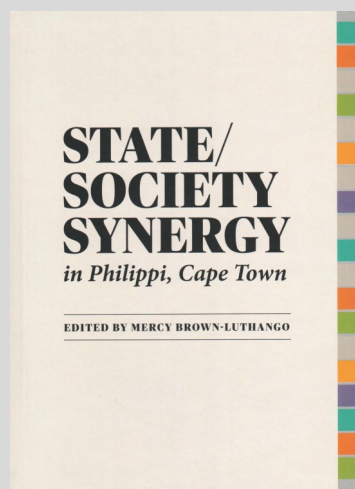
the local language which would be easier to follow in the country. The Chinese book is also meant to attract a wider range of the same type of audience as that for the original book.

New book for Mercy Brown-Luthango of the ACC

ACC's newest book from its CityLab programme is the climax of the three-year-long Philippi CityLab led by Mercy Brown-Luthango.

The book features essays prepared by urbanists and members of the Philippi community. Interviews with a land developer, a ward councillor, a resident, a farmer, a community leader and an activist enrich the coverage. The texts and images peel back the relationships between the local government and the community in a part of Cape Town characterised by disagreements about land, and by marginality of all kinds. The lavishly illustrated hardback book stretches across 314 pages.

The contributors to the book were Tau Tavengwa and Rob McGaffin



WRC prestigious award for the Dean



In August, Professor Alison Lewis received a prestigious WRC award in the category of New Products and Services for Economic Development. The award was for the work she and her research group have been doing in the field of eutectic-freeze-crystallisation-technology.

The technique freezes acidic water or brine to produce potable or drinking water as well as useful salts, such as sodium and calcium sulphate. Professor Lewis has led the research since 2007, and she claims that 99.9 % of polluted water can be reused after applying the new technique. Unlike other water cleaning methods, it produces hardly any toxic waste.

EBE student council launches a Student in Distress Fund

With the poor economic climate and the changes in the funding criteria for NSFAS funding, there are a number of EBE students on campus who have no money for food, accommodation or just basic necessities.

With this in mind, on Friday 14 August the EBE Student Council launched a fundraising campaign to raise money for a Student in Distress Fund. They have so far raised R6 600. Two entrepreneurs, James Shin and Jason Hardy, final-year mechatronics students, who started UniCafe on campus, donated R5 000 towards the fund and they hope to continue to donate monthly.

So far, six students who were in dire need of assistance have received funding. One of them, a final-year chemical engineering student, said, "I would like to thank the fund for giving me an opportunity to graduate and make my family proud. I believe words of gratitude are not enough to show how grateful I am, but I totally am. I am glad that I will now focus on design without worrying about having access to the computer labs and the library."

"Through the fund, we hope to relieve the students of some of their financial burdens and help them to complete their degrees and graduate," said Sister Kashala, the EBE 2015

student council member who was driving the fundraising campaign. Anyone interested in contributing to the fund should contact Mandisa.Zitha@uct.ac.za.



Chris Sexwale, Itumeleng Ragoleka, Sister Kashala, Zain Bana (EBESC members) and James Shin from UniCafe`

Two top prizes for ChemEng's brewery team

This August, the UCT team bagged the two top prizes at the annual brewing intervarsity competition in Johannesburg, and had glasses raised for the Best Lager, and overall Best Beer. This was their best result to date, and the first time the team managed to pick up the best lager award, said Brian Willis, a PhD candidate in the Centre for Bioprocess Engineering and one of the master brewers.

Thanks to an array of drinks they brewed in 2014, the team managed to win a category in last year's competition too. This was for the cider category, with their "Intang-Apple Cider" finding its way to the top of the tree.

After last year's competition, SAB announced that they would provide funding for the maintenance and technical upgrades for all the universities' microbreweries, and UCT earned the maximum sum of R25 000 for a



From left: SAB Trade Brewer Newlands Brewery, Denis da Silva, with University of Cape Town team members Brian Willis, Catherine Edwards, Alex Opitz (team leaders); Bronwyn White and Rob Huddy; and SAB Director Supply Chain and Technical, Stanislav Maar.

"proposal of the highest order". The brewers proposed upgrades for the modernisation of the brewery control systems and fermenter monitoring, to improve the quality and consistency of the beers.

"The upgrades on the brewery took place from Feb to July this year, and as a result we were not able to brew for

most of the year, except for getting the competition beers ready for the 2015 Intervarsity," reports Willis. "Even with the tight time frames and new control systems we have managed to produce three great beers and a stunning pear cider, often called a perrie. The first beer category this year was the Winter Warmer (a 7% + ABV beer), for which we brewed a foreign extra stout."

For the lager category, they made a Munich Dunkel, which is a dark lager with very strong malt and toasty aroma. Finally, for the speciality category, the competition organisers specified a Belgium Wit with a South African twist.

"We decided to make a Marula Wit beer," said Willis.

Compiled by Yusuf Omar. Photo from SAB.

PPS Refurbishment



Professor Collier-Reed, Zain Bana and Roxanne Jones from PPS at the launch of the refurbished student council office.

Zain Bana, the chair of the 2015 undergraduate student council, secured funding from PPS to refurbish the student council's meeting room on the 3rd floor of the Menzies Building. The room was repainted, and new carpets, blinds and new furniture were supplied.

Grad Ball

UCT EBE Grad Ball - 2015



Civil Engineering students with Dr Sebastian Skatulla

The undergraduate student council organised a great final-year grad ball, which was held on 18 September at Suikerbossie Restaurant. It was great to see over 40 staff from departments across the faculty attending the event.

Trip to a conference in Israel for four students

In August, Samuel Ginsberg, a senior lecturer in the Department of Electrical Engineering, took four UCT students to the World Science Conference Israel – WSCI-2015 — which was held in Jerusalem. The conference attracted 15 Nobel Prize winners and over 400 students and leading scholars from over 71 countries across the world, as well as industry leaders from Israel. It gave the opportunity to discuss and explore ways to advance ties between science and its practical applications in several fields and exposed the delegates to the Israeli innovative and creative spirit. The programme included plenary sessions, round table discussions, Nobel Laureate master-class sessions, a science workshop competition, social events and excursions around the country.

Johan Janse Van Vuuren (2nd year electrical engineering), Thalia Pillay (1st year electrical engineering), Rene Nsanzubuhoro (master's student in civil engineering) and Thomas Bruse-Chwatt from the Science Faculty attended the conference. Rene said, "The conference was an incredible experience. We had the opportunity to have dialogues with promi-



Rene Nsanzubuhoro, Thomas Bruse-Chwatt, Thalia Pillay and Johan Janse Van Vurren

nent people who have changed the world. It was very inspiring to see Nobel Prize winners and where they are today."

ABES doing a great work in CEM

ABES (Association of Built Environment students) is based in the Department of Construction Economics and Management. This year it is celebrating its 10th year anniversary and to mark this achievement it is holding a hands-on Do-it-Day on Saturday 24 October at Tembeletu School for Learners with special educational needs. The day will include activities such as painting, fixing hooks and shelves to walls, minor concrete work, replanting of vegetables in the tyre garden and general cleaning.

ABES does amazing work in the department and is responsible for organising the first-year construction studies build. It organises a raffle to raise funds for the build and this year it raised R47 110 to build a spectator pavilion at the Imizamo Yethu sports ground in Hout Bay (in conjunction with the architecture students).

In August ABES organised a highly successful Speed Connecting event. Nine industry companies participated in the event and students were able to interact with industry professionals and find out more about the world of work, and what different careers are available.



ABES build in Imizamo Yethu



Ivan Bawden received the first prize for the raffle from Shingirayi Zimunhu, the 2015 ABES chair.



ABES Speed Connecting event in the NEB foyer

Three MechEng students in SA Navy

The SA Navy runs a University Reserve Training (URTP) programme targeting mechanical engineering students, as it has a severe shortage of these skills. This year it has three third-year mechanical engineering students enlisted, and in January they attended the URTP at Naval College in Gordon's Bay.

It is a pilot programme and the objective is to ensure that students with much-needed qualifications graduate within their specialisation while also qualifying as naval officers. On graduation, they should also qualify as naval officers and can contribute to the functioning of the SA Navy as active reservists. To accomplish this, they volunteer to spend their vacations completing military training as well as practical engineering work required for their degrees.



The three MechEng students are first left back: Sea Oliver Wale, second left front: Sea Brian Sokhulu, and first back right: Sea Arron Graham

Article and photos by Lt Cdr Glenn von Zeil PB JCD

EBE shines at leadership awards

The 2015 EBE Postgraduate Council, under the great leadership of Rene Nsanzubuhoro, received the award for being the Most Outstanding Postgraduate Student Council for 2015. It's certainly well-deserved. During their term, they were dedicated and committed to improving the postgraduate experience in the Faculty. We are delighted that the university recognised this great team. The council members and their portfolios are:

Rene Nsanzubuhoro - Chair
 Mburu Mwangi - Vice-Chair
 Sibongile Muziki - Secretary-General
 Ntandoyenkosi Hlabangana - Treasurer
 Wonder Chimonyo - Corporate Liaison
 Chizya Chibulu - Outreach
 Wadzanai Nyabeze - Marketing and Communications
 Dennis Kiptoo - International students
 Takunda Chitaka - Academics
 Claire Birungi - Events coordinator



Zain Bana received a Leadership Excellence Award for his role as chair of the undergraduate student council. Not only did Zain ensure that his council achieved the goals that they had set for themselves, but he was also a first-year engineering tutor and he managed to maintain his excellent academic standing while doing his 3rd year of civil engineering. He is certainly an exceptional young man.

Women in engineering

As part of Women's Month celebration, A/Professor Marianne Vanderschuren organised a Women in Engineering talk for civil engineering students and staff. Shameez Papathanasiou, a 2013 graduate, and Aideen Carolus, a 2003 graduate, both work at SMEC and gave a talk on their experiences in working in the industry.

Shameez is working in the roads and highway division and said that it had been the most stressful and busiest time of her life. She added that after graduation, the learning curve is very steep. She told the students that she hadn't found it difficult being a woman in the industry. Her advice to the students was, "Be confident in your skills and don't be offended when



Marianne Vanderschuren, Aideen Carolus and Shameez Papathanasiou

they think your husband is the engineer and you are the date." She added

that, for the older engineers, things have changed and they are getting used to adapting to women in engineering.

Aideen, who has been twelve years in the industry, said she had a good mentor whose opening words were, "Don't let anyone walk over you." She is a design engineer and engineer on site for projects. When she started there were two females and now there are seven, so things are slowly changing. She feels much more confident in herself and does not feel any discrimination. She said, "You grow and develop your confidence and men are changing their perceptions about women in engineering."

Thank you to Professor Sue Harrison

On 31 August 2015, after four years in the position, Professor Sue Harrison handed the portfolio of Deputy Dean responsible for postgraduate studies and research to Professor Pilate Moyo.

Sue has been instrumental in strengthening the faculty's research agenda. Through her passion and drive, there has been an increase in the number of publications, development of research awards for staff and students, fair and transparent processes for distributing URC funds, development of a research strategy and much more. Sue showed great commitment and passion to improving research and postgraduate studies. She already had a very heavy work load with her research group and SARCHI chair, but she always found the time and energy for her deputy dean portfolio.

We wish Professor Moyo all the best in his new position.



Professors Pilate Moyo, Sue Harrison and Vanessa Watson with Dr Marilet Sienaert, executive director of the Research Office.

46 years of service



Patrick Kanye celebrated **46 years of service on 13 October—the longest service that anyone has served in architecture and planning.**

"Congratulations and well done, Patrick, and thank you for everything you do for all of us. Your dedication to this department has been unwavering, you are well known by staff and students alike (past and present) and you have seen some staff members pass through the department since studenthood. We are going to miss you dearly next year, but again thank you from all of us for always being our go-to person when we have a logistical crisis to solve.," said Janine Meyer, departmental manager in the School.

Levelling up on personal leadership and finances

To celebrate Women's Month, staff and postgraduate students were invited to a talk by Lelemba Phiri on *Levelling up on personal leadership and finances*. The talk was kindly sponsored by Sanlam.

Lelemba Phiri is an award-winning financial educator, writer, keynote speaker and finance and development professional. She is the Group Head of Talent and Managing Director for Zoona Zambia and Malawi, an African mobile payments business that helps people in Africa send and receive money when they need to most so that communities can thrive. She is also the co-founder of Africa Trust Academy.

Lelemba has a Master's of Commerce in Development Finance (with distinction) from the Graduate School of Business (University of Cape Town) and is a Chartered Accountant (FCCA, FZICA). She also holds a Bachelor of Science in Applied Accounting (Hon) from the Oxford Brookes University (UK).



Lelemba Phiri, Erica Le Roux, Mandisa Zitha, Sandra Jemaar and Margie Khumalo

WELCOME TO NEW STAFF

JULY

Lesley Sibanda joined the African Centre for Cities as a research officer.

Alistair Stewart, a senior energy efficiency engineer in the Energy Research Centre, had his contract renewed.

Alvira Mentoor joined the Department of Chemical Engineering as a departmental lab manager.

AUGUST

Dr Malebogo Ngoepe joined the Department of Mechanical Engineering as a lecturer.

SEPTEMBER

Mr Shu'aib Kriel joined the Faculty Office as the assistant finance manager.

Mr Arthur Mabentsela had his contract renewed as a lecturer in the Department of Chemical Engineering.

OCTOBER

Ms Zakiya Chikte joined the Faculty Office as a postgrad admin assistant.

Ms Vuyokazi Mafanya joined the African Centre for Cities as a finance assistant.

Professor Dee Bradshaw joined the Department of Chemical Engineering as the new SARCHI Minerals Beneficiation chair.

Professor Patricia Kooyman joined the Department of Chemical Engineering as the new SARCHI Nano Materials for Catalysis chair.

RESIGNATIONS

Ms Mamahloko Senatla, a research officer in the Energy Research Centre, resigned at the end of July.

Mrs Karin Van Wyk, undergraduate admin officer in the Department of Electrical Engineering, resigned at the end of August.

Farewell



Karin Van Wyk with three of the HODs she has worked with: Em. Professors Trevor Gaunt and Barry Downing, and Ed Boje. Missing is Martin Braae.

After 16 years in the Department of Electrical Engineering, Karin Van Wyk resigned to go and teach English in Shaanxi Province in China. At a farewell function Karin said, "The department has been like a home away from home. I am very loyal and did not want to work in any other department. They supported me during my hard time."



Farewell to Sandra Naidoo (centre), who has been in the postgraduate section for the past four years. And welcome to Zakiya Chikte (left), who has taken Sandra's place. They are seen with Isha Dilraj, the Post-graduate Admin Manager.

Obituary

It is with great sadness to inform you about the death of Mr Kehilwe Shuping, who was hit by a car on the M3 and died on 22 August. His body was returned to ThabaNchu and his funeral took place on Saturday 5 September. Kehilwe was an ASPECT student in 2012 and was registered for electrical and computer engineering.



Eskom Expo for young scientists



It was great to see so many EBE staff and postgraduate students involved in the annual Eskom Expo for young scientists. The expo opened with the Dean welcoming everyone. The staff and postgraduate students were judges and engaged with the high school pupils around their projects. By participating at Expo the pupils increase their awareness of the wonders of science, add to their knowledge and broaden their scientific horizons.

The Expo's mission is to develop young scientists who are able to identify a problem, analyse information, find solutions and communicate findings effectively.

Students for a Better Future

Students for a Better Future (SBF) is an NPO which enables academically gifted but financially needy pupils to attend some of the best high schools in the Cape Town area.

Eleven Grade 11 pupils from SBF spent a Friday afternoon during their holidays in the EBE Faculty. They spent time learning more about the different fields of engineering and the built environment. Saul Nurick from CEM, with some of their first year students, introduced them to the property and construction studies degrees. They then got to spend some time with Andrew

Roginsky, a MechEng master's student, in the Red Lab, where Andrew showed them Solidworks and how you can create an object. They then visited the workshop to see how the drawings translate into objects before spending time in the Department of Electrical Engineering. Charles Bradshaw, Callen Fisher and Arnold Pretorius, all master's students, and David Oyedokun, a lecturer in the department, showed them projects they have worked on. It was a great interactive session with the pupils asking lots of questions and encouraged by the interesting projects.



David Oyedokun with some of the SBF students

In support of a colleague



*Standing: Abimbola Windapo, Charlene January, Abby Street, Sylvia April and Betsie Koch
Sitting: Anastacia Haddon, Karen Le Jeune, Kathy Michell and Vanessa Daries.*

In support of one of their colleagues, the staff from the Department of Construction Economics and Management wore bandanas on Monday 12 October. Bandana day is a fund-raising event for the Sunflower Fund, which raises funds for stem cell donors and at the same time raises awareness around cancer.

2016 EBE undergraduate student council



Chair:	Dominic Schorr
Vice Chair:	Khensani de Klerk
Treasurer:	Navya George
Academic Chair:	Christopher Vrettos
Secretary General:	Tafadzwa Kwaramba
Transformation & Memorabilia:	Gcinisizwe Dlamini
Marketing & Publications:	Craig Plaatjes
IT & Events:	Juliana Diniz
Outreach & Student Life:	Chloë Bolton
Corporate Relations & Career Development:	Ismaila Bojang

2016 Association of Built Environment Student (ABES)



Alain Alexander (Chairperson) — Construction Studies
 Robyn Campbell (Vice Chairperson) — Property Studies
 Brendan Ardagh — Construction Studies
 Daniela Aldera — Construction Studies
 Karen Mapiye — Construction Studies
 Hyderally Lallmamode — Construction Studies

Carel Swarts — Construction Studies
 Tario Mhere — Construction Studies
 Michaela Webb — Property Studies
 Eric Xiao — Construction Studies
 Kudzai Zinyengere — Property Studies
 Rumbidzwai Mhinga — Property Studies

EBE statement of solidarity

The Faculty of Engineering & the Built Environment stands in solidarity with the students in their struggle for affordable higher education for all South Africans. We recognise that we are a public university and should be funded by the state. We are aware of the larger systemic problems facing students and commit ourselves to continue to address these issues to enable all students to graduate with a quality education, so that they can contribute positively to the challenges facing our society today.