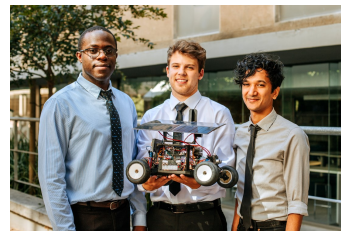


Faculty Newsletter



Happy
Holidays!

Message from the Dean

On Friday 6 December, I hosted an event to celebrate our staff, students and alumni achievements over the past year. We celebrated ad hom promotions, our retirees, NRF ratings, long-service awards, staff who have completed their degrees while working full-time, and other prestigious awards. What a good way to end the year. I am so proud to be part of EBE.

The Faculty Office has done an amazing job in making sure we get conditional offers out to our 2020 applicants. They have made 3043 offers to first-time-entering students, thanks to the hard work of Celeste Wilson and her team. We are aiming to hit our targets.

Over the years, there have been very few engineers who have received an honorary degree from UCT, and this year we have two. Denis Goldberg received his degree in the July

ceremony, and Prof Georges Belfort, a 1963 chemical engineering graduate, is receiving an honorary degree in the Commerce graduation ceremony on 13 December. His wife, Prof Marlene Belfort, a UCT science graduate, will also be receiving an honorary degree at the same ceremony.

To staff who have students graduating on 12 December, I encourage you to be part of the platform party to celebrate the achievements of your students.

I would like to wish you all the best over the holiday season. I hope you will spend time with family and friends, relax and enjoy the holidays without thinking too much about work.

I look forward to seeing you all back on campus, ready for the new year.

Scientific & Technical officers ad hom promotions

Senior Technical Officer to Chief Technical Officer



Tahir Mukaddam and Njabulo Thela from the Department of Civil Engineering.

Chief Technical Officer to Principal Technical Officer



Pierre Smith from Mechanical Engineering



Justin Peard from Electrical Engineering

Celebrating our graduates

Alireza Moghayedi will be graduating with his PhD. He joined the Department of Construction Economics and Management in 2016 with an MSc from the Philippines. He registered for his MPhil in 2016 under the supervision of A/Professor Abimbola Windapo, and in 2017 he upgraded to a PhD. His thesis title is *Modelling uncertainty of cost and time in infrastructure projects*.

In 2017, he was elected to the EBE postgraduate student council, and was the academic representative.

In the Department, he is known as the DigiTech Lab guru. He is involved with the 360° camera, Virtual Reality, BIM, Drone and 3D printing. He is collaborating with people across the university as well as people in industry, and Oxford and MIT universities.

Recently, Ali put the 360° camera on a helmet and, together with Professor Francois Viruly, walked around the campus in the dark to highlight the vulnerable areas that need urgent attention.

Ali loves living in Cape Town with his two children and his wife.



Amanda Mtya, a full-time working mother with two young children, is graduating with her MPhil in Construction Management. The title of her thesis is 'Evaluation of Building Information Modelling (BIM) adoption, capability and maturity within South African consulting and construction firms.' Her supervisor was A/Prof Abimbola Windapo.

Amanda was hoping to graduate last year and was pushing to complete her degree before her second baby was due. However, the baby had other plans and came two months early, so Amanda had to put her studies on hold until she returned this year from her maternity leave.

Amanda had many challenges growing up. As a young girl, she moved around a lot and attended many different schools. She was determined to get a good education and in Grade 10 she was selected to join the Go for Gold programme, which is designed to help learners with maths and science from Grade 11 onwards. She passed her matric with distinction and Go for Gold placed her at NMC Construction company to help her make an informed career choice within the Engineering and the Built Environment sector.

In 2008, she registered at UCT for

her BSc in Construction Studies, which she completed in 2010, and her BSc (Honours) in Construction Management in 2011. She went to work for industry before joining the CEM Department in 2017 as an nGAP lecturer.

Amanda is involved in community work and she tutors learners from different schools. She also visits schools as a motivational speaker and inspires the learners with her incredible story. In an article written by Thulani Magazi of City Vision, Amanda said, "Whether you're in a township school or a rural school, you are beyond capable of achieving anything you dream of. Turn your misfortunes into motivation. Turn your limitations into innovation. Believe in yourself and invest time in your education."

Amanda's application for her PhD has been successful.

Celebrating our graduates



Mathew Dzingai comes from humble beginnings in Gokwe, a rural area in Zimbabwe, about 347 km from Harare. Before he started his formal primary education, he would read novels to his brothers and sisters and was always excited to learn and try new things. Mathew said, “This created a culture of reading and curiosity from a young age. I read a lot of books related to and unrelated to my field.” He walked three kilometres a day to his primary school, where he always ranked in the top three of his class, and at Northlea High School he was the best Physics Advanced-level student in 2011. While at Northlea, Mathew taught junior students so that he could get transport money and buy his stationery while his mother, brothers

and sisters helped with his fees. It was during his time at Northlea that he discovered his interest in chemical engineering, and in 2012 he enrolled in the Department of Chemical Engineering at the National University of Science and Technology (NUST) in Zimbabwe, where he graduated top of his class.

During his undergraduate studies, he would teach O and A level students to raise money for his fees. “I got help here and there from family and friends. Despite economic challenges and dire situations, I was a student by day and a general worker by night to make ends meet. I am grateful to my R&D research supervisor at NUST for her unwavering support and her belief in me,” Mathew said.

While doing his undergraduate degree, he had one-year work experience with Peacocke and Simpson Mineral Processing Engineers, and it was here that he developed his interest in mining. He found Dr Malibongwe Manono, a lecturer in the Department of Chemical Engineering, through LinkedIn and Malibongwe put Mathew in touch with A/Prof Kirsten Corin from the Centre of Minerals Research. In May 2018, he registered to do his master’s degree, which he finished in record time. He received funding from the

European Union’s H2020 Programme for his master’s degree and earlier this year he had the privilege of visiting New Boliden – Kevitsa mine in Finland. The title of his thesis is ‘The effect of ion accumulation owing to water recycling on flotation performance.’

Mathew said, “Coming to UCT was one of the best decisions that I have made in my life. My supervisors always put me in the spotlight and gave me every opportunity to be noticed for my hard work. I am eternally grateful to my supervisors, who made it easy to settle in before I could make friends of my own. I have learnt so much from their experiences and knowledge.”

A/Prof Corin said, “Regardless of the stress he had from home, he remained positive, put his head down and achieved a lot in a short space of time. He is heading for great things!”

Dr Manono added, “Mathew set himself a goal to complete his master’s in record time, and through hard work and dedication he handed in his dissertation in one year and three months. His achievement is an example of what determination can do.”

Mathew has received several exciting offers for his PhD, and he is busy considering his options.

Monica Damane is from a humble background in Lesotho. She grew up with her grandmother in a rural village in Lesotho where all the houses in the area were cracking extensively. She enrolled at UCT for her MSc Eng specialising in geotechnical engineering, under the supervision of Dr Denis Kalumba. For her research, she chose to investigate the reason why all the houses were cracking. She began by collecting large soil samples from the area by herself and taking a long bus trip to Cape Town with them. She had a breakthrough in her research, consequently passing her dissertation with a distinction. But, most importantly, she was able to identify the cause. Her studies were made possible by the generous sponsorship of the Mastercard Scholarship.



International Scientific Advisory Board member



Professor Mark Zuidgeest from the Department of Civil Engineering has been appointed as a member of the International Scientific Advisory Board of the African Centre of Excellence for Development Impact, Regional Transport Research and Education Centre, Kumasi (TRECK) at the Kwame Nkrumah University of Science and Technology in Ghana. The mandate of the Board is to provide academic and strategic direction to the applied research programmes of the Centre to ensure its relevance.

TRECK is focused on strengthening its transport planning and engineering programmes, introducing and delivering new and innovative high-quality postgraduate programmes, conducting and disseminating cutting-edge applied research in transport that addresses the Sustainable Development Goals.

Honoured by biggest university in Croatia

Senior Scholar, Emeritus Professor Mark Alexander was recently honoured by the Faculty of Civil Engineering at the University of Zagreb in Croatia.

Professor Alexander was attending the Faculty's centenary celebrations as a guest, as well as a speaker at their technical symposium on the future of civil engineering.

With over 700 people attending the event, Mark was surprised when he was honoured with a certificate which said, "Faculty of Civil Engineering, University of Zagreb, bestows this special recognition on Emeritus Professor Mark G Alexander, for his contribution to international promotion and affirmation of Faculty of Civil Engineering, University of Zagreb."



African representative on RICS



A/Professor Kathy Michell, HoD of Construction Economics and Management, has been elected to represent Africa on the Governing Council of the Royal Institution of Chartered Surveyors (RICS). There were over 60 nominees from across the world for the 15 places.

RICS is a globally recognised professional body which promotes and enforces the highest professional standards in the development and management of land, real estate, construction and infrastructure.

"It is such an incredible honour and privilege to receive this recognition from RICS members (both industry and academic) across the continent for my contribution to the professions in terms of both research and teaching," said Kathy.

Best Poster Award

Eugene Fotso Simo, a postgraduate student in the Water Research Group in the Department of Civil Engineering, received the Adrian Puigarnau Best Poster Award at the 6th Young Water Professionals Biennial Conference held in Durban in October.

The award was awarded for his commendable research and articulation of his area of interest. Eugene's supervisor is Dr David Ikumi and his co-supervisor is Professor George Ekama. The title of his poster was *Development of a Dynamic Simulation Model of an Equalization Tank*.

As a recipient of the award, Eugene receives partial funding to attend the next YWP conference in 2021 funded by the USAID Resilient Waters Programme.

Eugene is a MasterCard Found scholar, and this year was a member of the postgraduate EBE student council.



New research group in Smart Sensors and Environment Monitoring



Thanks to the initiatives taken by Dr Simon Winberg during his sabbatical, UCT has entered into a new [Erasmus+ project](#) with the [University of West Attica](#) in Greece.

Through this new initiative, Dr

Winberg and Professor Amit Mishra, both from the Department of Electrical Engineering, will work with the new collaborators in areas related to smart sensors for automatic automobiles, environment pollution profiling and IR4

sensing technologies for urban and rural environment monitoring. Building on this direction, and the interest shown from both international and local industry partners, Dr Winberg has started a new research group on Embedded Smart Sensor Engineering (ESSE) that will benefit from this new collaboration, and provide a means to consolidate this focus area.

Members of this new group will be using a combination of computer engineering principles, particularly embedded systems development and edge computing, combined with signal processing and machine learning techniques, to develop specialised sensing systems and the associated data science application needed to leverage this sensor data. The projects will generally be interdisciplinary in nature, drawing on knowledge from other disciplines to deliver the desired operation.

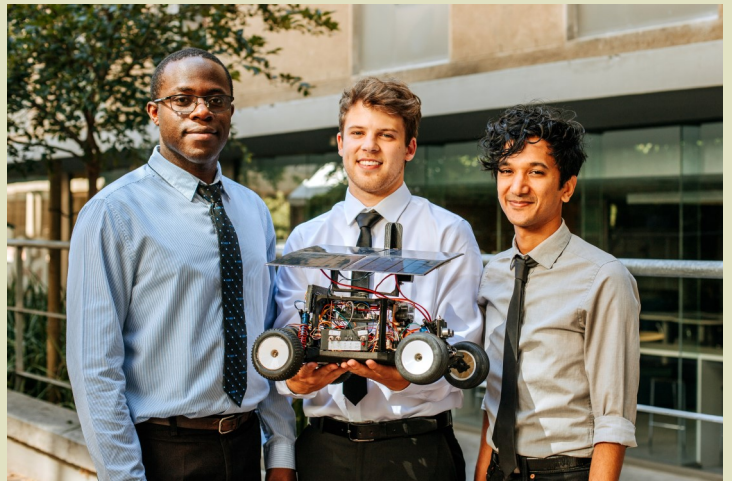
Solar Car wins national award

UCT electrical engineering students came out tops at the annual SAIEE Student Project Competition.

Each year, final-year students of electrical, electronic and computer engineering at South African academic universities and universities of technology are required to complete an intensive design project. The best student projects are nominated by the institutions to compete in the annual South African Institute of Electrical Engineers (SAIEE) Regional Student Project Competition.

Nicholas Anderson, supervised by Dr Amir Patel, came first with his project titled *Generating the Ollie Manoeuvre: Trajectory Optimization and its Application to Skateboarding*, and Kai Goodall, supervised by Dr David Oyedokun, came second. Kai's project was on a *Solar Car for renewable energy*. Kai developed a remote-controlled car, equipped with an external solar panel, that through a dual-axis dynamic functionality system could track sunlight both horizontally and vertically to attract the optimal position of the sun for maximum solar energy, thus powering the car without disrupting its course. The car can also detect and avoid obstacles, using the concept of "sense, think and act" inherent in engineering.

Kai went on to represent UCT at the national competition which was held in Potchefstroom on 21 November. He competed against seven students from six universities across South Africa and walked away with first place. The



Dr David Oyedokun, Kai Goodall and Dr Amir Patel with Kai's solar car model.

adjudicators noted, as the reasons for the award, the interplay between engineering fields (mechatronics, electrical and mechanical) necessary in the concept generation as well as its educational potential. But perhaps most prominent was the symbiosis between the technology designed and the urgent need for South Africa to pursue innovation in the area of renewable resources as generational capacity at Eskom remains critical.

Architecture in Top 100

Architecture/built environment is one of the subjects at UCT that has been ranked among the top 100 in **the 2020 Times Higher Education Rankings by subject**

"Rankings aren't – and cannot be – everything to everyone. And they certainly aren't the only thing guiding or driving UCT's research," says Deputy Vice-Chancellor for Research and Internationalisation Professor Sue Harrison.

Read the [article](#) at UCT News



First-year Architecture class

#CoCreateMyCity



Olivier Nsengiyumva and Thandeka Chehore

In mid-November, seven UCT EBE students participated in the #CoCreateMyCity challenge organised by the Dutch government.

In this challenge 20 South African and 20 Dutch students worked together in ten teams supervised by mentors from industry and government to co-create solutions to tangible and usable business cases that solve the City of Cape Town's most urgent urban challenges in water, transport and logistics, energy, agriculture and healthcare.

On 21 November, in two nerve-wracking "dragons' den" sessions, the teams had to pitch their projects in two minutes to a panel of industry leaders and investors. Attending the pitches were the WC premier, the City of Cape Town's executive mayor, the Dutch vice minister of foreign affairs, the Netherlands ambassador and the consul general, and a large audience.

Professor Mark Zuidgeest said, "I am very proud of the six civil engineering students and the mechanical engineering student who competed in the challenge, they all did a great job!"

The first, second and third prize winning teams included a civil engineering student. Thandeka Chehore who graduated in April this year, and is doing her MPhil in Financial Technology, was part of the winning team, whose challenge was agriculture. Olivier Nsengiyumva graduated last year and is doing his master's in water quality. He was part of the team that came second and the challenge was around water.

Tracy Mutugi is registered for her master's in transport studies and was part of the team that came third and



Tracy Mutugi

their challenge was on transport. All three won a trip to the Netherlands. The other civil engineering students participating were Keletso Mogashoa, Kgothatso Tshikane and Nora Ehujuo, and Tebogo Moloto was the mechanical engineering student.

Thandeka said, "All team members came from different backgrounds and saw things very differently. Language was a barrier but we found that we could communicate through infographics and flow charts." Olivier added, "We had to try to explain the situation in Cape Town, and found that most of the ideas were fleshed out during tea breaks."

Farewell



Professor Genevieve Langdon has resigned from UCT and will be returning to the UK with her husband and two

sons to take up a professorial position at the University of Sheffield.

Before coming to UCT, Genevieve worked at the University of Liverpool's Impact Research Centre from 1999 to 2004 and was awarded her PhD in Mechanical Engineering in 2003.

In 2000 she met Professor Nurick at a conference in Cambridge and discovered that the research she was doing was very similar to the work Professor Nurick was involved in, and he invited her to come and visit him at UCT. In 2001 she took up his offer and

visited the university for the first time and decided to apply for a post doc at the newly established Blast Impact and Survivability Research Unit (BISRU). In 2004, she was appointed as a research fellow in BISRU, and in 2006, she became a permanent member of the academic staff in the Department of Mechanical Engineering. Genevieve is the HoD of Mechanical Engineering and is currently the Director of BISRU.

She will be leaving UCT at the end of February. She will be sorely missed by the Department and the Faculty.

ChemEng team

Tokoloho Rampai is proud of her women team who were part of SCALE (Southern oCean seAsonal Experiment), a novel interdisciplinary experiment that spans seasonal to decadal time scales in the south-east Atlantic sector of the Southern Ocean.

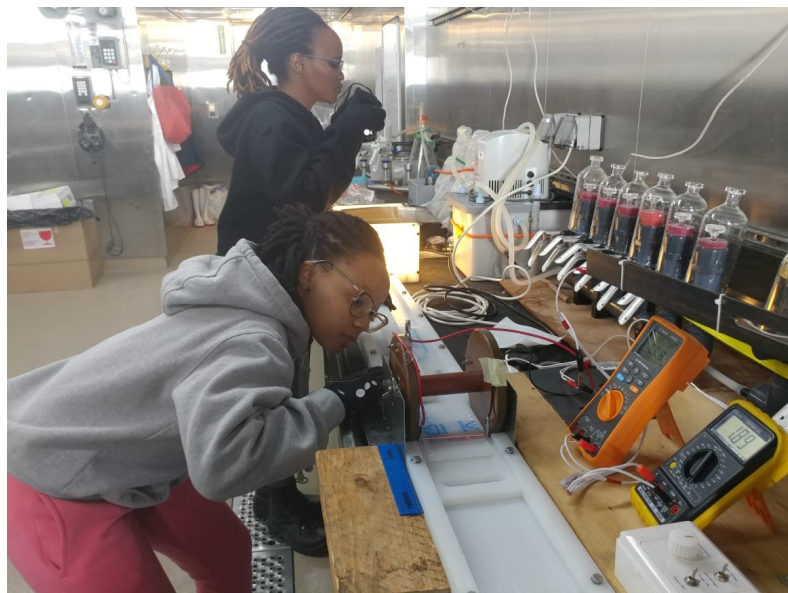
A multidisciplinary team consisting of 93 scientists from around the world spent six weeks on the SA Agulhas II. The trip provided an interdisciplinary platform to sample ocean surface and interior through a CTD transect and three experimental sites coinciding with glider stations. Justin Pead, chief technical officer in the Department of Electrical Engineering was the team leader of SEAICE, which consisted of 13 members. Seven were EBE students from chemical, electrical and civil engineering.



Siobhan Johnson (MSc), Boitumelo Matlakala (final-year), Tsepang Khoboko (final year) and Tokoloho Rampai, lecturer in the Department of Chemical Engineering. The photograph was taken before the students set off on the trip.



Siobhan Johnson with Mark Hambrock (MSc in Chemical Engineering) snow sampling for trace metals and plastics in Antarctic sea ice



Boitumelo Matlakala and Tsepang Khoboko taking measurements during the trip. They were testing the change of the morphology of sea ice along the 0 degrees latitude up to 59 degrees south. They went coring on the ice as well. Boitumelo is keen to do her master's degree next year on ice under the supervision of Tokoloho Rampai.



Justin Pead, team leader for the SEAICE team



UCT Space Studies in Washington

UCT SpaceLab in the Department of Electrical Engineering attracts postgraduate students from a wide range of backgrounds and from around the world. Recently members of the SpaceLab attended the 70th International Astronautical Congress in Washington.

Attending the conference from left to right is **Victor Hertel**, an international affiliate who spent six months at UCT from the University of Stuttgart. UCT SpaceLab and Stuttgart University have an MOU in place which allows the exchange of students.

Asanda Sangoni has applied to do a MPhil with UCT SpaceLab. She presently works for South African National Space Agency.

Barbara King is a journalist who has done documentaries for the SABC and worked on Oliver Tambo's biography. She lived in Johannesburg for a while before returning to the States. She is hoping to graduate in April 2020 with her MPhil in Space Studies.

Professor Peter Martinez, the founder of UCT Spacelab and still very involved, is currently working for the Secure World Foundation.

David Lindgren is based in the USA and will be graduating with his MPhil in Space Studies in December 2019.

Ani Vermeulen is the true SA ambassador for UCT SpaceLab. She will be graduating in December 2019.

Professor Rene Laufer is an active professor for UCT SpaceLab and works at Baylor University in Texas, USA.



Chair of the Africa Regional Network

Earlier this year, Associate Professor Jenny Whittal from the Division of Geomatics was appointed the Chair of the Africa Regional Network (ARN) of the international Federation of Surveyors (FIG). The FIG (www.fig.net) represents professional associations and academic institutions across the globe in all aspects of geomatics (GIS, positioning and measurement, engineering and hydrographic surveys, cadastre and land management) as well as valuation and real estate, construction economics and management, and spatial planning and development.

The Africa and the Asia-Pacific regional capacity development networks aim to support African affiliates using a networking approach. Jenny has instituted a distributed leadership model for her term, which runs until 2022. Co-leaders have been identified in west, east and north/central Africa. Partnering in leadership are the enthusiastic regional leaders of

the Young Surveyors Africa Network (YSAN) who are involved in decision-making and planning of ARN activities. There are some important aims for Jenny's term of office – bridging the language divide with particular attention to Francophone and Portuguese speaking countries; helping African nations realise a unitary geodetic framework; creating an African community of surveying educators initially through information sharing; partnering with the FIG commission work on African water governance; and identifying the needs of member professional associations in order to plan meaningful capacity-building workshops. An additional aim is reaching out to those country professional associations not represented.

At the annual FIG working week meetings the ARN also meets along with its YSAN partners. There is considerable goodwill for African development



demonstrated at these meetings. The UN, World Bank and UNGGIM as FIG partners, along with professional organisation and industry partners, are very supportive and well represented at ARN meetings.

A combined conference with the Fédération des géomètres francophones was held in Dakar in November, while capacity-building workshops are planned for Nigeria and Uganda in the subsequent two years.

Retirees



Kehinde Awodele, Janine Buxey, Debbie Singh, Jane English, Carol Koonin, Nicole Moodley and Isabel Ncube at Jane's farewell

Jane English joined UCT in the Professional Communication Unit in 1984 as a part-timer while working as

an industrial editor. Jane has spent 36 years with UCT in different capacities with PCU and then PCS, EBE, which she

was asked to create by the then dean, Prof O'Connor, to focus on EBE students' needs. She has enjoyed a varied teaching career which has encompassed Health Sciences, Humanities, Science, Music, GSB and the Research Office. A family with four sons, they have nine degrees from UCT, six of them from EBE! While Jane is retiring from UCT, she is not retiring from doing what she loves and will continue as Jane English Consulting.

She and her husband are developing the small family-owned olive farm above the Devon Valley in Stellenbosch into a hotel and training centre. Once it is complete, it will offer a beautiful and affordable site for off-campus training and workshops. There she hopes to see her UCT colleagues again!

Professor Iain Low from the School of Architecture, Planning & Geomatics came from Wits University to join UCT in 1998. He has been the convenor for the architecture postgraduate programmes.

Iain was a Fulbright scholar at the University of Pennsylvania, a Pew Fellow in the Arts in Philadelphia and a visiting scholar at the American Academy in Rome.

Iain will be an Emeritus Professor and will spend some time at the School, as well as being involved in a number of projects off campus.



Philip Titus joined the Department of Electrical Engineering when he was 16 years old – 47 years ago! He left UCT for a while but returned 15 years ago. He is a senior technical officer in the Machines Lab.

Philip will keep himself busy during his retirement fixing anything electrical. He has two grandchildren, India and Tatum, and he is looking forward to spending some time with them.

Retirees

A/Professor Hennie Mouton had 37 years of industrial experience at Kentron/Denel Dynamics before he joined the Department of Mechanical Engineering in 2013. During his time at UCT he served as a programme convenor for five years and taught MMT flavour courses in the department. In 2015, he was responsible for the ECSA accreditation for the Mechanical and Mechatronics programme.

Professor Genevieve Langdon said, "He is a very dedicated teacher that the students love to spend one-on-one time with as he tutored them selflessly for many hours beyond what the job

would ask. His warm demeanour and caring nature will be missed by staff and students alike. He leaves a hole that will be difficult to fill."

Hennie will still be around and may teach Control Systems in the second semester. He and his wife plan to do a lot of travelling through Southern Africa, and to visit their daughter, her husband and their grandson in New Zealand. He is grateful that his other three daughters and their children are still in South Africa. Hennie is busy publishing a textbook on Control Systems, and he and his wife are also working on other books, mostly connected to the Christian faith.



He still hopes to do some academic research, which he feels he was not very successful with during his years at UCT.



Ian Jay joined the Department of Construction Economics and Management in 2008 as a senior lecturer. His field of interest is project management. During his time at UCT, he taught Project Communication and HR Management, and Project Finance and Procurement at postgraduate level.

Ian is going to be very busy in his retirement. His background is in geology, and he loves going fossil hunting with the Friends of the Museum, which takes him exploring exciting sites. He is presently the Chair of the Constantia Art Society, which encourages and offers a space for amateur artists to exhibit their work at an annual exhibition, and attend art discussions and events. Ian is a photographer, an illustrator and a painter. He is also an avid model-plane builder. Professor Kathy Michell, head of the department, said, "Ian brought a wealth of experience to the department and he made the project management course the best course in Africa!"

Dr Alexandru Murgu joined the Department of Electrical Engineering in 2009 as a senior lecturer. His research interests are in the fields of Telecommunications, Networks, IP and Network Reliability. He is taking early retirement.



Terry Boxall has been a senior scholar in the Department of Construction Economics and Management. He lectured law courses to the construction and property studies students. He joined the department part-time in 2003, and will be retiring at the end of the year. Professor Kathy Michell said they would miss his wise council.



Welcome to new staff



Ms Lumka Johannes is joining postgraduate admin in the Faculty Office from 10 December. Lumka has been the receptionist in the Department of Electrical Engineering, and before that she worked for SuperCare.

Ms Therona Moodley joined the Professional Communication Studies on 1 November.

Resignations

Dr Carlo Van Niekerk resigned from the Department of Electrical Engineering at the end of November to return to America.

Mrs Zulfa Le Riche resigned from the Chemical Engineering Analytical Lab at the end of November.

Due to the restructuring of the ERC, several staff members left at the end of October.

Ms Fazlin Harribi - Postgrad Administration.

Mr Tim James - Communications

Mr Alfred Moyo—Research Officer

Congratulations



Welcome to little Lara Skatulla who was born on 1 November to Dr Sebastian Skatulla and his wife Agnes.



Congratulations to John and Sarah Okedi on the birth of their son, born 3 December 2019.

Long-service awards

Congratulations to all the staff on their long service-awards

10 years

Vanessa Daries
Maryam Waglay
Niven Stanley

Construction Economics and Management
African Centre for Cities
Architecture, Planning & Geomatics

Senior Secretary
Admin Assistant
Technical Assistant

15 years

Emmanuel Ngoma
Monde Bekhapi
Nicky Davies
Yolanda Amsterdam

CeBER
Centre for Minerals Research
Centre for Minerals Research
Catalysis Institute

Technical Officer
Lab Assistant
Project Administrator
Finance and Admin Officer

35 years

Willie Slaverse

Mechanical Engineering

Technical Assistant



Green Talent

Kathryn Arnold, a postgrad student in Geomatics, was named as one of the 2019 Green Talent awardees. She is supervised by Dr Julian Smit and her CSIR co-supervisor where she works. Her research focus is on geoinformatics and advanced geospatial analysis for urban and regional planning support.

Every year, the German Federal Ministry of Education and Research hosts the prestigious Green Talents – International Forum for High Potentials in Sustainable Development” to promote the international exchange of innovative green ideas. The award, under the patronage of Minister Anja Karliczek, honours young researchers each year. The winners come from numerous countries and scientific disciplines and are recognised for their outstanding achievements in making our societies more sustainable. Selected by a jury of German experts, the award winners are granted unique access to the country’s research community.

[Read more](#)



Kathryn Arnold with the Parliamentary State Secretary, Dr Michael Meister
Photograph by BMBF/BILDKRAFTWERK

L’Oreal-UNESCO award

Chelsea Tucker, a PhD candidate in the Department of Chemical Engineering, was one of seven researchers who were recognised by the L’Oréal-UNESCO For Women in Science South African National Programme for their excellent contributions to science.

Chelsea’s thesis is titled *Designing a catalyst with improved fuel selectivity for decentralised waste-to-fuel production in Africa*

Her research is focused on designing a catalyst for a simple, cheap, small-scale waste-to-fuel process that converts organic waste from communities into low-carbon diesel and electricity.

Through the course of her studies, Chelsea has had the opportunity to join the Mark Shuttleworth Foundation, where she got to meet Shuttleworth himself and Siyabulela Xuzza – a rocket scientist whose experiments in his mother’s kitchen culminated in him developing a cheaper and safer rocket fuel.



Gilles Antoine (L’Oréal South Africa), Professor Martiale Zabaze-Kana (UNESCO), Chelsea Tucker and Dr Phil Mjwara (South African Department of Science & Innovation).

“These two South African-born scientists changed the game for me,” Chelsea says. “It was then that I realised that science had the power to solve problems, benefit communities and change the world.”

UCT News [Read More](#)

Engineering Greenovate award

Tarie Mufunde, a final-year civil engineering student, received third place at the 2019 Greenovate Awards, which recognise student green building projects with a passion for creating better, more sustainable cities, towns and neighbourhoods.

Tarie's supervisor was Dr Dyllon Randall from the wastewater lab. The title of her thesis was *Carbon Dioxide sequestration using algae cultivation from commercial buildings*. With the Sustainable Development Goals and climate change in mind, and the need to remove carbon dioxide from the environment, Tarie grew algae in her simulated handwashing greywater. After 15 days, the water was clean as the algae had eaten up the nutrients in the greywater and had sequestered carbon dioxide from the environment.

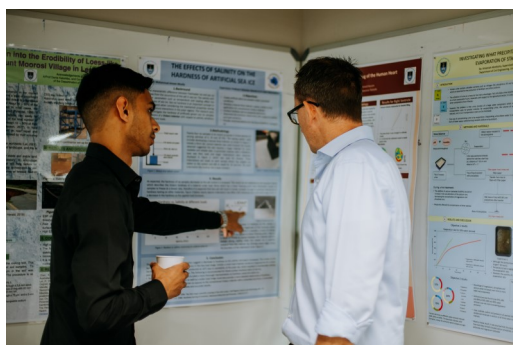
Tarie's recommendation is that, if this was applied to a 1000-person commercial building, you could possibly remove 262 tons of carbon dioxide in a year. The water is not clean enough to drink but may be used for flushing toilets, irrigation, etc.

"Tarie did an amazing job in pushing the boundaries of sustainable green building solutions with her thesis work. I look forward to supervising her next year for her master's degree," said Dr Dyllon Randall.

The Greenovate Awards is a joint venture initiative between Growthpoint Properties and the Green Building Council South Africa launched in 2015. This student programme aims to educate and reward the young minds and future leaders of South Africa for innovation and green building in the built environment.



Civil Engineering 4th-year poster session



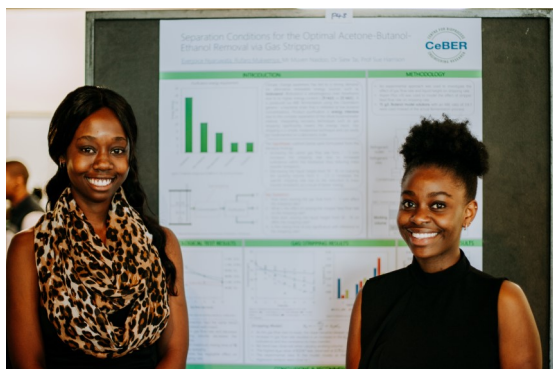
Photographs by Candice Lowin

ElecEng final-year poster display



Photographs by Candice Lowin

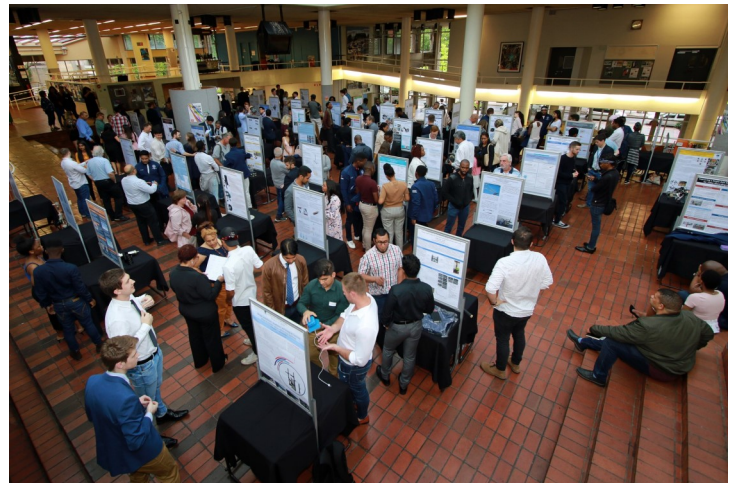
ChemEng final-year poster session



Photographs by Candice Lowin

MechEng final-year poster day

Photographs by Angus Rule



MArch (Prof) and Master's in Landscape

Photographs by Candice Lowin



Pop-up exhibition and book launch

On Thursday 5 December, the African Centre for Cities held a pop-up exhibition and book launch of the *Youth, Identity and the City* project together with Rosca Warries, Kirstin Warries, Dane Van Rooyen and TPA Youth for Change.

It all starts with me was a one-day exhibition based on the African Centre for Cities research project *Youth, Identity and the City* led by researcher Mercy Brown-Luthango, which engaged 13 out-of-school and unemployed young people from Mitchell's Plain,

Philippi and Gugulethu in a process of self-reflection using photography as a tool. The focus was on the role of young people in cities; how they understand their position, community, identity and location (spatially, emotionally and socially) in relation to the city as a whole, in this case Cape Town.

As part of this process, led by *noDREAD Productions* and their photography workshop design *Image vs Truth*, each participant was furnished with two disposable cameras to capture photographs of the communities where they live as well as historical places

visited in the city. As one of the final outputs of the project, with guidance from Rosca Warries, Kirstin Warries and Dane Van Rooyen, the young people undertook a process of curating an exhibition of these photographs. All the photographs are part of a moving exhibition from the University of Cape Town, for the launch, to Philippi Village and Tafelsig Library, where the participants' peers and community can engage with and encounter their messages and photographs of hope.

www.africancentreforcities.net/



Successful Santa Shoebox project

Thank you to everyone who contributed to the Santa Shoebox project which was coordinated by Professor Marianne Vanderschuren, Deputy Dean for Transformation and Social Responsiveness, and Bridgette Cloete, deputy chair of the Transformation Committee.

The original aim was 50 shoeboxes, but thanks to the response 65 boxes were packed and delivered to 50 children from a primary school in Malmesbury, and 15 children from a creche in Philippi. There were lots of happy faces.

