

FACULTY NEWSLETTER

ENGINEERING & THE BUILT ENVIRONMENT

MESSAGE FROM THE DEAN



I am delighted to share some faculty news and exceptional highlights within EBE from the third quarter of the year.

The faculty celebrated significant achievements that reflect our commitment to academic excellence, sustainability, and innovation. Congratulations to Professor Brandon Collier-Reed, recipient of UCT's Distinguished Teacher Award, in recognition of his outstanding contributions to engineering education. It is the first time since 2009 that an EBE academic has received this award. We also welcome the appointment of two new Deputy Deans to the faculty: Associate Professor Corrinne Shaw (Social Responsiveness and Transformation) and Professor Paul Barendse (Research and Strategic Initiatives).

I am also pleased to announce that 12 of our colleagues have earned well-deserved Ad Hominem promotions this year. Additionally, Professor Megan Becker delivered her inaugural lecture, titled "Why Minerals Matter: The Role of Mineralogy in the Pursuit of Sustainability," which was very well attended by the university community.

The EBE Transformation Committee also successfully hosted the Heritage Day Potjiekos Competition and the inaugural Fun Day event, demonstrating the faculty's vision to create a connected, collaborative, and inclusive environment for all.

Thank you to each of you for your continued hard work and commitment to EBE.

DEANERY UPDATE



Associate Professor Corrinne Shaw has been appointed to the position of Deputy Dean: Social Responsiveness and Transformation for the term 1 October 2024 – 30 September 2027.



Professor Paul Barendse has been appointed to the position of Deputy Dean: Research and Strategic Initiatives for the term 1 January 2025 – 31 December 2027.

STAFF WELCOME

- **Associate Professor Lukas du Plessis** joined the Department of Mechanical Engineering.
- **Mr Phadi Mabe** joined the School of Architecture, Planning and Geomatics as a Lecturer.
- **Ms Nangamso Lisana** joined the Faculty Office as Senior Secretary.
- **Ms Talisa Fisher** joined the Faculty Office as Postgraduate Administrative Officer.

STAFF FAREWELLS

- **Jamie-Lee Swarts** left the Department of Construction Economics and Management.

AWARDS AND HONOURS

Professor Brandon Collier-Reed Receives Prestigious UCT Distinguished Teacher Award



Congratulations to Professor Brandon Collier-Reed for being awarded as one of UCT's 2023 Distinguished Teacher Award (DTA) recipients.

The Distinguished Teacher Award is the highest accolade given to teaching staff at all levels within the university. Through this award, UCT acknowledges the central role of teaching and learning in the university's work. The last time an EBE academic received this award was in 2009.

His passion for engineering education and his commitment to enhancing the student experience at UCT set him apart.

His willingness to go above and beyond, combined with his expertise in teaching, significantly contributes to students' interest in engineering.

The DTA Committee commended his reflective and critical stance on student feedback, particularly his insights on how evaluations can sometimes be misused, and his commitment to using them productively to improve teaching.

Professor Collier-Reed's influence extends beyond his students to the broader profession. His involvement with the National Academy for the Advancement of Professional Practice and the Engineering Council of South Africa underscores his national impact on teaching and professional development. His innovation in curriculum development, dedication to student success and reflective teaching practice make him a deserving recipient of the Distinguished Teacher Award.

Achieving special teaching awards in engineering is challenging and typically requires years of hard work and dedication, making this recognition a significant achievement of which the faculty is very proud.

AWARDS AND HONOURS

Faculty Ad Hominem Promotions

Congratulations to the following staff members in the faculty whose applications for ad hominem promotion were successful. These well-earned promotions reflect their outstanding impact in teaching, research, academic citizenship, technical domains and social responsiveness in EBE.



Chief Technical Officer to Principal Technical Officer

- **Mrs Portia Johnston**
(Department of Chemical Engineering)
- **Mr Maysam Soltanian**
(Department of Electrical Engineering)



Lecturer to Senior Lecturer

- **Dr Sampath Amarasinghe Danapathi Ara**
(Department of Electrical Engineering)
- **Ms Heidi Boulanger**
(School of Architecture, Planning and Geomatics)
- **Dr Stephen Paine**
(Department of Electrical Engineering)



Senior Lecturer to Associate Professor

- **Dr Anita Campbell** (A.S.P.E.C.T)



Senior Research Officer to Associate Professor

- **Dr Liza Cirolia**
(School of Architecture, Planning and Geomatics)



Associate Professor to Professor

- **Associate Professor Thorsten Becker**
(Department of Mechanical Engineering)
- **Associate Professor Jennifer Broadhurst**
(Department of Chemical Engineering)
- **Associate Professor Kirsten Corin**
(Department of Chemical Engineering)
- **Associate Professor Kathy Michell** (Department of Construction Economics and Management)
- **Associate Professor Malebogo Ngoepe**
(Department of Mechanical Engineering)



AWARDS AND HONOURS

A Champion on the Track and Beyond



Chemical engineering PhD candidate and Paralympian Mpumelelo Mhlongo brought home a gold and bronze medal along with two world and Paralympic records from the Paralympic Games in Paris.

Although Mhlongo has competed in two previous Paralympic Games – the first in Rio de Janeiro, Brazil, in 2016; and the second in Tokyo, Japan, in 2020 – this event was particularly memorable for him. And not just because of the medals and records he secured.

Despite the waves that he's made in his disciplines, Mhlongo's journey to the Paralympics wasn't one borne out of an early ambition to become an athlete.

Rather, it was shaped by a desire to overcome the stigma surrounding disabilities that's so often rampant in small-town South Africa.

Mhlongo's academic career mirrors his athletic one; not only because of the Paralympian's outstanding achievements, but also how he came to find himself in his field of study.

[Read more](#)

Gundo Maswime Scoops 2024 SANRAL SAICE Academic Staff Award



Gundo Maswime, from the Department of Civil Engineering has been awarded the prestigious 2024 Academic Staff Award at the SANRAL SAICE Awards.

The SANRAL SAICE National Awards promote excellence in civil engineering and built environment professions, and honour members who have delivered outstanding service to the profession and who have made a notable contribution to the field.

His award highlights UCT's role as a leading institution shaping the future of engineering in South Africa and on the continent. [Read more.](#)

AWARDS AND HONOURS

CEM Victorious at the African Real Estate Society Organization Conference

The Department of Construction Economics and Management attended the African Real Estate Society Organization Conference in Livingstone, Zambia. At the conference the department won best papers in the following award categories:

Valuation Stream - *"Streamlining municipal property transactions in South Africa for enhanced social value creation"* - Dr Louie Van Schalkwyk and Ms Liezl Emsley.

Edge Research Award - *"Investigating the drivers and barriers to implementing Green Building Features and Initiatives (GBFIs) in South Africa's Private Housing Sector"* - Mr Raphael Madzingaidzo, Dr Louie Van Schalkwyk and Dr Saul Nurick.



Pictured from left: Dayni Sanderson, Dr Frank Ametefe, Dr Liz Musvoto, Dr Louie van Schalkwyk, Prof Manya Mooya, Dr Saul Nurick, A/Prof Francois Viruly.

Dr Sara Burness Wins a Young Author Award at the International Mineral Processing Congress

Congratulations to Dr Sara Burness from the Department of Chemical Engineering who was awarded one of the International Mineral Processing Congress Young Author Awards for her paper on characterising diamond breakage, based on a historical collection of diamonds from the Roberts Victor Mine. The International Mineral Processing Congress (IMPC) brings together the world's leading experts to further the latest advances in the science and technology of mineral processing.



AWARDS AND HONOURS



EBE researchers in Stanford's list of Top 2% scientists in the world

Stanford University released an update to its prestigious list of the top 2% most-cited scientists in their fields in September 2024. The list, widely regarded as a reliable indicator of academic influence and impact, includes more than 100 000 scientists globally, based on their citation impact.

UCT had 160 academics on the list while EBE featured 20 academics.

8 EBE members are full-time serving academics. Six are retired colleagues (Cyril O'Connor, Trevor Gaunt, Michael Inggs, Mark Alexander, Gerald Nurick & JP Franzidis), while another six are deceased (Antony Ball, Mark Dry, Vanessa Watson, Dee Bradshaw, George Ekama & Geoff Hansford).

Researcher and Primary Field

- **Prof Megan Becker** - Mining & Metallurgy
- **Prof Hans Beushausen** - Building & Construction
- **Prof David Deglon** - Mining & Metallurgy
- **Prof Alison Lewis** - Chemical Engineering
- **Prof Jochen Petersen** - Mining & Metallurgy
- **Prof Harro von Blottnitz** - Environmental Sciences
- **Prof Harald Winkler** - Environmental Sciences
- **Prof Alphose Zingoni** - Civil Engineering

Citation-based metrics provide insights into a researcher's work, but they offer only a partial picture. The Stanford rankings, based on the Scopus database, may not include all research outputs such as authored books and patents.

[View the full Stanford list here.](#)

To have your news featured in our EBE Newsletter, please send it through to Justin.Marthinus@uct.ac.za

Book Launch

Macassar: An Anthology of Stories - Book launch



In commemoration of Heritage Month Macassar launched a groundbreaking community storybook celebrating unity, cultural diversity and social cohesion.

“The one-of-a-kind book offers the ordinary person’s perspective of their hometown and focuses on celebrating the making of contemporary culture by unexpected people and places,” shared Clint Abrahams, senior lecturer at the School of Architecture, Planning and Geomatics and Macassar native.

According to Abrahams the community storybook, *Macassar: An Anthology of Stories*, builds on two award-winning projects conducted in Macassar, an exhibition and the refurbishment of a local shack for storytelling and other community gatherings.

It all started when 20 youngsters came together under Abrahams’ guidance for a street photography project in 2018. The aim was to challenge deeply ingrained perceptions of Macassar and inspire residents to embrace responsible citizenship. The exhibition, “Macassar: Who We Are,” showcased photographs from the community, sparking conversations among residents.

The installation was spread across three local sites: the Macassar Library, Thomas Adonis’ shack (known locally as Bong’s Inn or Bong se Yard), and Paul Swartz’s home in Ring Avenue. Adonis’ shack’s leaking roof led to a community-driven refurbishment project involving students and staff from UCT, CPUT, RWTH Aachen, and PBSA Dusseldorf, Germany.

[Read the full article.](#)

FACULTY NEWS



UCT-Led Project Creates Pipeline for Sustainable Food Waste Management System

To bolster sustainable practices on campus and ensure everyone remains eco-conscious, the Centre for Bioprocess Engineering Research (CeBER) in EBE has devised a one-of-a-kind project that breaks down waste: to use it as an energy source for cooking or to produce fit-for-purpose water that can later be used to irrigate on-campus vegetable gardens. Wrapping your head around the Waste-Energy-Food-Water Nexus project's scientific nitty gritty might take a bit of time, especially for a non-scientific mind. [Read more](#)



Prof Hans Beushausen Elected to Lead Global Construction Research Organisation

Professor Hans Beushausen has been confirmed as president-elect of the International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM), headquartered in France.

RILEM is a leading international organisation dedicated to advancing the science and practice of construction materials and engineering. The organisation's main focus is to foster collaboration and innovation in the field through research and standardisation, as well as the dissemination of knowledge. [Read more](#)



Pioneering Women in Robotics

Dr Stacey Shield, a trailblazer in the field of robotics and a lecturer at UCT's Electrical Engineering Department. Dr Shield's research in the African Robotics Unit focuses on the movement of fast-legged animals, like cheetahs, to develop more manoeuvrable robots.

Dr Shield is passionate about challenging the cultural norms surrounding women in science and engineering. Her goal is to inspire the next generation of female scientists to embrace their femininity while excelling in their fields. [Read more](#)

FACULTY NEWS

Space | Spatial | Links Showcase

The Space | Spatial | Links Showcase, a collaborative initiative between the Department of Civil Engineering and Geomatics, featured presentations from several research groups utilizing spatial technologies across a range of applications. Topics covered during the event included urban remote sensing, transport research, heritage applications, Antarctic research, and urban water resources.



FACULTY NEWS

Built Environment Infrastructure Lecture Explores Future Outlook of the Sector

The Department of Civil Engineering hosted a Public Infrastructure lecture in September with the theme *“Reflecting on Industry Trends, Challenges, and Future Outlooks within the South African Built Environment Sector”*.

Council for the Built Environment (CBE) CEO, Dr. Msizi Myeza along with industry experts, academics, and policy leaders came together to discuss topics ranging from policy paradoxes to climate change response in infrastructure projects. The session emphasised the critical role of collaboration between academia, policy makers, and industry professionals in driving sustainable growth.



Pictured here are Prof Mark Zuidgeest, Dr Msizi Myeza (CBE CEO) and Mr Gundo Maswime.

CEM launches its Masakhe Magazine

The Department of Construction Economics and Management recently launched the inaugural issue of *Masakhe*, the department's digital magazine. This issue, themed 'CEM in Space and Time,' aims to showcase a dynamic department - one in spatial and temporal motion, cognizant of its role and position as the leading department of its kind on the African continent.

[View the full issue here.](#)



FACULTY EVENTS

UCT Inaugural Lecture by Professor Megan Becker



Professor Megan Becker delivered her inaugural lecture in October addressing sustainability within the mining industry. Her lecture, titled *“Why Minerals Matter: The Role of Mineralogy in the Pursuit of Sustainability”* explored the essential but complex relationship between mining and sustainability, particularly in the context of a low-carbon future.

UCT’s vice-chancellor (VC), Professor Mosa Moshabela, opened the evening by reflecting on the significance of inaugural lectures: “Inaugural lectures mark the ascent to full professorship, the highest academic rank. It provides universities with an opportunity to celebrate the achievements of the academics. They also, importantly, provide an opportunity for the inaugural lecturer to share his or her insights into their scholarly work in a manner accessible to us, the broader audience.”

Professor Alison Lewis, also praised Professor Becker for her commitment to addressing critical issues within the mining industry and for leading efforts toward more sustainable mining practices.

Becker explained that mineralogical research can help mining companies unlock new sources of these critical metals by improving the efficiency of extraction processes.

[Read more.](#)

FACULTY EVENTS

EBE Heritage Day Potjiekos Competition

The EBE Heritage Day Potjiekos Competition took place in September and was well attended, with six teams competing. The competition was won by the EBE Faculty Office, followed by the Department of Civil Engineering and Electrical Engineering in joint 2nd place and CEM in 3rd place.



FACULTY EVENTS

EBE Inaugural Fun Day

The EBE Transformation Committee hosted the inaugural Fun Day event in October, which was open to all faculty staff and students. The day was filled with exciting activities, games, and opportunities to connect. The event provided a platform to reinforce collaboration among faculty staff and students.



RESEARCH VISITS

Centre for Minerals Research hosts BGRIMM and Jiangxi Copper Company



The Centre for Minerals Research (CMR) in the Department of Chemical Engineering recently hosted a Chinese delegation from Jiangxi Copper Company (JCC), the largest copper producer in Mainland China and BGRIMM Machinery & Automation Technology Co.

The meeting brought together representatives from CMR, JCC, and BGRIMM for a collaborative exchange on advancements in mineral processing and mining technology. Highlights included Dr. Song Tao from BGRIMM's review of China's National Key Research & Development Program on fault diagnosis and quality control for mineral processing, along with overviews from CMR's Prof David Deglon and Martin Harris on key research results and digital techniques in mining and metallurgy. Dr. Song Tao also presented smart control applications in Chinese mines, attracting discussions on future technical needs and international collaboration opportunities. The session concluded with a visit to the Department of Chemical Engineering and the CMR research facilities.

STUDENT NEWS

Mechanical Engineering PhD candidate Wins the Susanne Ihlen Award

PhD Engineering Education student, Shameela Arbi, won the Susanne Ihlen Award for a best paper in SEFI Best Paper Awards. Her topic is: "Using Narratives to Explore Social Influences on the Identities of Women Students in Engineering: Two Case Studies". She is supervised by A/Prof Bruce Kloot and A/Prof Corrinne Shaw in Mechanical Engineering.

STUDENT NEWS

Dedication, passion and hard work bags SAICE UCT Student Chapter a UCT Student Leadership Award



The SAICE UCT Student Chapter were awarded a team leadership award for exceptional leadership at the 2024 UCT Student Leadership Awards. This achievement reflects the dedication, passion, and hard work of our team throughout a year filled with growth and positive impact.

Throughout 2024, the chapter organized several key events aimed at enhancing the academic and professional experiences of civil engineering students. Some of the highlights included:

- **Industry Engagement:** The chapter hosted major events like the SAICE Presidential Visit, where they had the privilege of welcoming SAICE CEO Sekadi Phayane and President Andrew Clothier to UCT. The Annual Cocktail Career Expo brought together close to 200 attendees and 13 companies from the infrastructure and built environment sectors, providing students with great networking opportunities. Many students secured vacation work, bursaries, and job interviews through these interactions.
- **Pecha Kucha Presentation:** This event featured three of UCT's postgraduate students who presented their research alongside other industry projects. The goal was to connect academic research with real-world civil engineering challenges, giving students and professionals a chance to learn from each other.
- **STEM Outreach:** Committed to inspiring the next generation, they visited high schools like Sinenjongo High School to promote STEM subjects and encourage learners to consider careers in civil engineering.

The success of the Student Chapter is attributed to the hard work and commitment of all the committee members. Together with the support of staff from the Dept of Civil Engineering and SAICE Western Cape, opportunities for students has been the driving force behind the achievements, and they look forward to continuing this journey.

STUDENT NEWS

MSc Student Awarded the Max Price & Deborah Posel Masters Scholarship

Alyssa Ramwell, a MSc in Mechanical Engineering student, was awarded the Max Price & Deborah Posel Masters Scholarship for 2024.

The Max Price and Deborah Posel Scholarship is a nomination-only postgraduate scholarship from ex-vice chancellor Dr Max Price and Professor Deborah Posel. Candidates are nominated by their HODs or senior department academics on the basis of their academic excellence, future intentions, leadership capabilities, community engagement, and evidence of being able to complete the degree. Alyssa was nominated by A/Professor Malebogo Ngoepe.



Alyssa's research project forms part of a larger initiative: Project ARC (Aerial Robotics Capability development), a collaboration between UCT and the Council for Scientific and Industrial Research. Now in its first year, the project aims to put in place the building blocks needed for research into unmanned aerial vehicles, beginning with subject matter knowledge and experience. The project focuses on GPS-free pose estimation and trajectory planning, with the current aim being the implementation of a monocular Visual-Inertial Navigation System (VINS) in an environment peppered with fiducial markers.

Civil Engineering Post Grad Transport Student Excels in UCTs 3MT Competition



Congratulations to Dime P. Kekana for achieving second place in the UCT Three Minute Thesis (3MT) competition. This is an annual event organised by the UCT Postgraduate Funding Office. This academic year (2024) the competition was hybrid (for the first time), comprising both in person and online presenters and audience.

He won the second place (Runner-up) under PhD STEM competing against 11 brilliant minds. Presenting his thesis, with the title "Understanding Travel Demand in the Rural South African Context: Assessing Hitchhiking, Paratransit and e-Hailing", under the supervision of Prof Marianne Vanderschuren in the Centre for Transport Studies (CfTS), Civil Engineering Department.

SEPTEMBER GRADUATION

For the September 2024 Graduation Ceremony, a total of 260 EBE graduates were honoured across the ceremony.

- Undergraduate Bachelors: 136
- Honours: 31
- Master's: 78
- PhD's: 15



Pictured here is Nicole Moodley from the Department of Electrical Engineering and her son, Rishay Moodley, who graduated with an MSc in Civil Engineering with distinction.

