GRADUATION CEREMONY

Faculty of Engineering & the Built Environment

(Ceremony 1)

SARAH BAARTMAN HALL

1 April 2025

FACULTY OF ENGINEERING & THE BUILT ENVIRONMENT (CEREMONY 1)

ORDER OF PROCEEDINGS

Academic Procession.

(The congregation is requested to stand as the procession enters the hall)

The Presiding Officer will constitute the congregation.

The National Anthem.

Welcome by the Master of Ceremonies.

Musical Item.

The graduands and diplomates will be presented to the Presiding Officer by the Dean of the faculty.

The Presiding Officer will congratulate the new graduates and diplomates.

The Master of Ceremonies will make closing announcements and invite the congregation to stand.

The Presiding Officer will dissolve the congregation.

The procession, including the new graduates and diplomates, will leave the hall.

(The congregation is requested to remain standing until the procession has left the hall.)

NATIONAL ANTHEM

Nkosi sikelel' iAfrika
Maluphakanyisw' uphondolwayo,
Yizwa imithandazo yethu,
Nkosi sikelela, thina lusapho lwayo.

Morena boloka etjhaba sa heso,
O fedise dintwa la matshwenyeho,
O se boloke,
O se boloke setjhaba sa heso,
Setjhaba sa South Afrika – South Afrika.

Uit die blou van onse hemel,
Uit die diepte van ons see,
Oor ons ewige gebergtes,
Waar die kranse antwoord gee,

Sounds the call to come together,
And united we shall stand,
Let us live and strive for freedom,
In South Africa our land.

NAMES OF GRADUANDS/DIPLOMATES

FACULTY OF ENGINEERING & THE BUILT ENVIRONMENT

Dean: Professor AE Lewis

POSTGRADUATE DIPLOMA IN POWER PLANT ENGINEERING

Maboe, Diatle Makgopa
Pohotona, Matome Thabang
Tsotetsi, Thabang

DEGREE OF BACHELOR OF ARCHITECTURAL STUDIES HONOURS

Abrahams, Rachel
Abrahams, Simon
Asad, Ayla (in the first class)
Bender, Angelo Joey
Bennett, Drew
Botha, Deirdre
Bove, Dylan Salvatore
Brown, Matthew
Chappel, Georgina Margareta
Coertzen, Erin Anne
Dufrene, Benjamin
Engelbrecht, Kita Ayla
Fox-Martin, Chloe Michaela
Georgieva, Michelle
Harris, Ameer
Hendricks, Aliyah
Johnson, Anrique Marlon
Kamaldien, Imaad
Kgoedi, Lonene Carl
Khan, Aqeel Salim
Kim, Jin
Lesch, Vincent Lincoln
Mason, Benjamin David (in the first class)
Michau, Rachel
Mohamed, Abdullah
Nduku, Esetu Isipho
Nekhondela, Mashudu
Nel, Christian David
Ngqukuvana, Bulelani Sydwell
Nsabua, Banza
Payne, Charles Carlyle
Piprek, Klaus
Riddle-Du Plessis, Joshua Noel (in the first class)
Sinovich, Kendra Danica
Smit, Margiet
Solomons, Tersia Jayne
Theron, Teag Jaedon (in the first class)
Waglay, Amani
Wygers, Isabel Karen

DEGREE OF BACHELOR OF CITY PLANNING HONOURS

Davids, Lailah
Kennedy, Eugene
Khaile, Kutloano
Klitzner, Jethro Josef
Louther, Jemma Ronaldo
Mc Cann, Cait Jenna
Mdedetyana, Kamva
Mhlophe, Nhlakanipho Thuthuka
Mokoatle, Likopo
Moloi, Mokholoane
Muchiri, Melissa Wanjiru
Mugerwa-Sekawabe, Kyaterekera Madeleine
Nana, Nomsa
Nazare, Rugare
Ngonyama, Chulumanco Zisukhanyo
Philipson, Luke
Pinfold, Tavish Nicholas
Snyders, Dylan Matthew
Sompeta, Mkholisi Martin
Tladinyane, Onthatile Mooketsifumani
Vilakazi, Nompumelelo Keamogetswe
Walker, Zoë Jamie

DEGREE OF BACHELOR OF LANDSCAPE ARCHITECTURE HONOURS

Brand, Carolina Taylor
Francke, Ashleigh
Keswa, Indwe Pelokazi
Kotzé, Danika
Krigga, Inge
La Fleur, Eryn Serena
Lovric, Gabriella Kristina
Mabuda, Ndivhuo (in the first class)
Mhletywa, Evuya
Tshungu, Samkelo
Van Wyk, Nekita Amberose

DEGREE OF BACHELOR OF SCIENCE HONOURS IN CONSTRUCTION MANAGEMENT

Jack, Joshua
Malindi, Senzo
Myaka, Busisiwe Nolusindiso
Shezi, Luthando
Shomang, Ikageng
Sisilana, Amzolele
Tsara, Gamuchirai Amber

DEGREE OF BACHELOR OF SCIENCE HONOURS IN GEOGRAPHICAL INFORMATION SYSTEMS

Khumalo, Bongumusa
Mawelele, Nkateko Nakkie
Mazibuko, Bongeka
Mbeshu, Solethu
Myeni, Sbonokuhle Khetha
Nyembezi, Siyamthanda Lungile

DEGREE OF BACHELOR OF SCIENCE HONOURS IN MATERIALS SCIENCE

Boetcher, Anthony Robert (in the first class)
Maruma, Tebatjo Whithney
Ntsolloane, Thato Prudence (in the first class)

DEGREE OF BACHELOR OF SCIENCE HONOURS IN PROPERTY STUDIES

Davids, Alexia Kirsten
Kanigowski, Marek Oliver
Khoza, Luyandza Bongiwe
King, Michael Daniel
Macharia, Cynthia Wairimu
Macleod Smith, Matthew Ian
Maiwashe, Ranwedzi
Malapermal, Kirana
Marlie, Raeesa
Masia, Oratile Seth
May, Cameron Oliver
Mdladlamba, Bontle Veronica
Nkonde, Siphokazi Lenhle
Nonkonyana, Luvuyo
Solombela, Mihlali
Stewart, Jake Alexander
Steyn, Tanner Austin (in the first class)
van Dam, Adam Cornelis
van Dam, Michael Cornelis
Waberski, Paige Leigh
Wallace, Kiah Natalie

DEGREE OF BACHELOR OF SCIENCE HONOURS IN QUANTITY SURVEYING

Bowers, Eryne Kayla
Bulbulia, Usaid
Du Toit, Cameron
Hungwe, Tanyaradzwa Thelma
Kumisuku, Mutale Theodore
Limalia, Muhammad Aslam
Makondo, Tlhareane Tintsoalo Hope
Marais, Tyla
Molise, Relebohile
Namugenyi, Aanisha Kakooza
Papiyana, Chulumanco
Parker, Abdul-Baasit
Paruk, Yahya Faisal
Phiri, Joshua
Weidmann, Warren

DEGREE OF MASTER OF ARCHITECTURE

Abdullatif, Muhammad Taariq Husain
Bester, Jacobus Marthinus
Bogner, Leila
Cassim, Shakeena
Charakupa, Ruvimbo Bev
Cholokh, Alexandra Alexandrovna
Daniel, Lindsey
Erasmus, Luke (with distinction)
Heunis, Chloe Megan
Horner, Chloe Grace
Ichilcik, Laraamber
Johnson, Almajuan
Kamuhuza, Katendi
Kingsley-Rizzo, Toto Alessandro
Klingenberg, Lauren Isolde
Lottering, Mario
Madzivire, Tinashe Bendickt (with distinction)
Matlhola, Kealeboga Robert
Mcalpine, David William
Mdlalose, Noluthando Tshegofatso
Mhlakaza, Khumalo Luvuyo
Mila, Phiwe Luyolo (with distinction)
Orangi, Shekinah Imani Sision
Pather, Ashara
Phiri, Evidence (with distinction)
Punchoo, Kaushal
Reimers, Ashleigh Joyce
Rossouw, David Johannes
Sarjoo, Mary Chelsea
Shozi, S'nenhlanhla Anele
Slaghuis, Jonathan
Van Der Schyff, Imaan
Van Zyl, Kira

DEGREE OF MASTER OF CITY AND REGIONAL PLANNING

Alistoun, Seth
Bosman, Francois Cecil
Chobokoane, Bahlakoana
Conjwa, Kwanele Siphelele
Felaar, Lee
Kafera, Humphreys Francis
Lebusa, Teboho Lawrence
Mabalane, Kgosi
Manzini, Sihle
Marx, Phumla Siyathokoza
Molomo, Lindiwe
Nhlangulela, Silindile
Patel, Liam Tristan
Samuels, Abdul-Azeez

DEGREE OF MASTER OF ENGINEERING

Chega, Gift
Lambrechs, Astrid (with distinction)
Pollard, Rudolph Daniel (with distinction)
Ponco, Linamandla (with distinction in the dissertation)
Thanjekwayo, Maxine Nokuthula

DEGREE OF MASTER OF GEOTECHNICAL ENGINEERING

Govender, Santhuri (with distinction)

DEGREE OF MASTER OF LANDSCAPE ARCHITECTURE

de Wet, Isabella Marie
Essack, Inayah
Frank, Paula Elke (with distinction)
Lombard, Colin Paul
Manikam, Kimeshni
Stander, Estelle (with distinction)

DEGREE OF MASTER OF PHILOSOPHY

Boterere, Revai
Da Silva, Paulo Sousa Neves
Dhansay, Waseefa
Esau, Murad
Fortuin, Chefferino Francois
Fourie, Wouter
Hlubi, Zikhona Ntandoyenkosi
Hope, Shilo Bernadene
Jantjes, Frederick Michael
Mahachi, Jeffrey Tinashe (with distinction)
Scheermeyer, Colette Mavis
Van Jaarsveld, Jan-Hendrik
Williams, Cahlan Sergio

DEGREE OF MASTER OF SCIENCE IN ENGINEERING

Adeyemi, Adedolapo Susannah (with distinction)
Bowden, Nicholas Keith (with distinction)
Buthelezi, Noluthando Zuziwe Motsei
De Wet, Ariana (with distinction)
Garschagen, Emma Nicola Annamarie
Govender, Jarushen (with distinction)
Jones, Michael Evan (with distinction)
Kadir, Uzair
Keche, Tamuka Calvin
Kotzee, Brent
Kumadiro, Lisa Tatenda
Larknath, Bijal (with distinction)
Makombore, Tapuwa
Mammen, Ashlen
Mbhele, Nonjabulo (with distinction)
Mcewen, Steven Thomas
Meyer, Moegamad Rashaad (with distinction)
Meyer, Zakariya (with distinction)
Nkadimeng, Mahlogonolo (with distinction)
Oosthuizen, Mary Katherine
Pitso, Limpho Patricia
Ramsuroop, Jyestha (with distinction)
Schneuwly, Rachelle Dominique (with distinction)
Shamukuni, Thabang Otto (with distinction)
Sinjani, Taonga Mchirwa Natalia
Swait, Hayley Jordyn (with distinction)
Van Der Linde, Frans Johannes
Van Driel, Adrian

DEGREE OF MASTER OF SCIENCE IN PROJECT MANAGEMENT

Ayirebi, Mpumelelo
Lande, Kwanda
Mavela, Ziyanda Lebogang
Ndlovu, Siphamandla Benedict
Sadiki, Ndavheleseni Jeffrey

DEGREE OF MASTER OF SCIENCE IN PROPERTY STUDIES

Berry, Hermanus Johannes
Kruger, Charl (with distinction in the coursework component)
Mphahlele, Mogoshadi Charmaine

DEGREE OF MASTER OF TRANSPORT STUDIES

Jongile, Siviwe Charles

DEGREE OF MASTER OF URBAN DESIGN

Goeieman, Deidré Danielle
Hill, Robert Alex
Jackson, Lizelle Kay (with distinction)
Made, Ayanda (with distinction)
Mokwaledi, Tshepo
Mpanang'ombe, Wrixon
Mthethwa, Lungelo
Persaud, Frieda Verleigh Gwen

DEGREE OF DOCTOR OF PHILOSOPHY

Baufeldt, Jennifer Louisa
Thesis Title: *Investigation of ride-share service decisions with uncertainty and perceived risks: Case study of young adults in Cape Town, South Africa*

Jennifer Louisa Baufeldt completed her BSc (Eng) and MSc (Eng) qualifications at the University of Cape Town, and began full-time study towards her PhD in 2016. After her first year as a full-time student, she changed to a part-time position.

Jennifer Baufeldt's thesis explores how ride-share service decisions by young adults in Cape Town are created rather than recalled based on previous experiences. She investigates how different individuals respond to decisions involving uncertainty in ride-share services 'at night', 'alone' and 'alone at night'. Factors, such as gender and access to a private vehicle, are included. Due to the timing of the surveys, the effects of the COVID-19 pandemic was also explored. The findings were drawn from extensive online surveys that were distributed to the University of Cape Town community. Females showed less willingness to engage in ride-share service trips involving uncertainty and perceived risks and were more likely to take their current frame of mind into their decisions. The findings of the research highlight critical gaps in ride-share service experiences that need to be addressed if the transport system is to truly serve all individuals.

Supervisor: Professor M Vanderschuren (Civil Engineering)

Daras, Nicholas
Thesis Title: *Degradation behaviour of the mechanical properties of bovine cortical bone*

Nicholas Daras completed his undergraduate degree in Mechanical Engineering at the University of Cape Town in 2020. He registered as a full-time MSc (Eng) student in 2021 and upgraded his studies to a PhD in April 2022.

Nicholas Daras' research investigates the impact of long-term frozen storage on bovine cortical bone to understand its degradation behaviour. In a medical setting, doctors require accurate material property information of bone for corrective surgery and effective prosthesis design. However, literature, particularly pertaining to the stiffness of the hard outer cortical bone, shows notable scatter, likely due to unreported specimen preparation details; in particular, the time between donor bone retrieval and testing. Cortical bone, being a biological material, is expected to degrade after removal from the donor, affecting its mechanical performance. Nicholas Daras' findings indicate that extended frozen storage significantly affects bone properties, suggesting that degradation contributes to the observed literature scatter. This research defines a post-donor retrieval timeframe during which bone specimens can be considered representative of in-vivo conditions.

Supervisors: Dr TJ Cloete (Mechanical Engineering)
Co-supervisor: Emeritus Professor GN Nurick (Mechanical Engineering)

Familusi, Mary Ajibola
Thesis Title: *Computational modeling of tissue mechanics in rheumatic heart disease patients*

Mary Ajibola Familusi holds a BSc in Statistics from Ladoke Akintola University of Technology, Ogbomoso, Nigeria. She obtained an MSc degree at UCT in 2016 and began full-time study towards her PhD in 2018. Before joining UCT, she obtained a Master's degree at the African Institute for Mathematical Science, South Africa.

Mary Familusi's thesis focuses on the computational modeling of tissue mechanics in patients with rheumatic heart disease (RHD). She examines how the elasticity of myocardial tissue affects biomechanics, focusing on factors such as tissue compliance, muscle fibre angles, and directionally dependent properties. She constructs detailed 3D models of RHD patients and healthy individuals using cardiovascular magnetic resonance imaging data. Additionally, she explores a non-invasive method for estimating ventricular diastolic pressure. The findings show that RHD patients have stiffer left ventricular tissue than healthy people, revealing significant differences in myocardial tissue elasticity between the two groups. This research sheds light on the biomechanics of the heart, deepening understanding of heart function in health and disease. It also offers potential insights for clinical practice and future research.

Supervisor: Professor Sebastian Skatulla (Civil Engineering)
Co-supervisors: Professor N Ntusi (President & CEO of the South African Medical Research Council (SAMRC)); Dr J Hussan (University of Auckland, Auckland Bioengineering Institute), Associate Professor F Gumedze (Statistical Sciences)

Haffejee, Rashid Ahmed
Thesis Title: *A biomass-fuelled combined steam and sCO2 heat and power cycle for Southern African conditions*

Rashid Haffejee completed his BSc (Eng) in 2018, followed by his MSc (Eng) in 2020, both at the University of Cape Town. He started full-time study towards his PhD in 2021.

Rashid Haffejee's thesis focuses on the analysis of a biomass-fuelled combined steam and supercritical-carbon-dioxide (sCO_2) heat and power cycle for Southern African conditions. A sophisticated simulation code was developed to allow for customization and enforcement of boundary conditions and control parameters to characterise the performance of the integrated cycle at various loads. This includes one-dimensional process modelling and high-fidelity computational fluid dynamics (CFD), which was used to calibrate the process model for the sCO_2 heaters. The high efficiency of the sCO_2 cycle led to an increase in overall efficiency and net generation. However, the integration of the sCO2 cycle into the biomass boiler changes the overall boiler heat load profile and fuel requirements. The results of the process model emphasize the need for careful control operation to avoid undesirable rapid changes in cycle performance. These findings highlight the suitability of the proposed configuration to retrofit existing systems.

Supervisor: Professor PG Rousseau (Mechanical Engineering)
Co-supervisor: Professor R Laubscher (Mechanical Engineering)

Jankee, Pitambar
Thesis Title: *Minimising power delivery loss using a novel converter control approach based on the General Power Theory*

Pitambar Jankee completed his BSc (Eng) in 2018 and MSc (Eng) in 2020 at UCT. He began full-time study towards his PhD in 2021.

Pitambar Jankee's thesis aims at minimising power losses and improving the efficiency of power delivery in electrical power systems. In his research, he develops a novel control algorithm for power-electronic converters, based on the General Power Theory (GPT). He investigates the limitations of conventional power theories and control techniques that use the well-established concept of reactive power. He advances his novel contributions through theoretical research, computer simulations, and laboratory experiments at UCT and at the University of Strathclyde in Glasgow, Scotland. The results show that the developed controller did not need the concept of reactive power and that using the GPT for control achieves optimal power delivery efficiency and minimum power loss. The findings challenge conventional power definitions and control applications, and will be useful in future grids with increased penetration of renewables.

Supervisor: Associate Professor D Oyedokun (Electrical Engineering)
Co-supervisor: Dr S Jayalath (Electrical Engineering)

Jennings, Gail Evelyn
Thesis Title: *Triggers, transitions, and trip decisions from 1976 to 2019: why utility cyclists in Cape Town choose to 'ditch their cars', and why bicycle advocacy says they should*

Gail Jennings completed her undergraduate studies (BA Honours) at Rhodes University and her Master's degree in Linguistics (MA) at the University of Stellenbosch. She conducted her PhD research part-time while working as an independent research consultant in the transport sector, with a focus on transport behaviour and advocacy narratives.

Gail Jennings' thesis focuses on individuals in Cape Town who own motor cars but who instead choose to cycle as their main mode of transport. Her work considers how these individuals frame their reasons for starting to cycle as transport, and how these reasons shift across their life-course as they continue to cycle rather than drive. She uses in-depth interviews and thematic analysis. She compares the motivations given by individuals with the reasons used in efforts by bicycle activists and City of Cape Town policy to promote bicycle transport to car-owners. Amongst other sources, she uses media articles, speeches, official policy, and letters to the press. The research finds a mismatch between advocacy and individuals' motivations. These insights will assist in developing evidence-based behaviour-change programmes.

Supervisor: Professor R Behrens (Civil Engineering, Centre for Transport Studies)
Co-supervisor: Professor M Zuidgeest (Civil Engineering, Centre for Transport Studies)

Maluleke, Dumisani Musa
Thesis Title: *Bioleaching as a unit operation for the recovery of copper and other metals of value from waste electrical and electronic equipment (WEEE)*

Dumisani Musa Maluleke completed his BSc, BSc (Hons), and MSc qualifications in chemistry at the University of Venda, and thereafter joined UCT for full-time study towards his PhD.

Dumisani Maluleke investigated the recycling of critical base metals from waste printed circuit boards (PCBs), core components of all electronic waste, through a microbially-assisted bioleaching process. His thesis focuses on achieving high metal extraction from PCBs through seeking to balance the rapid ferric leaching of the elemental metals with the slower regeneration of the ferric leach agent. This required quantification of individual rates and influencing factors, while minimising toxicity of metals and PCB components on microorganisms to sustain microbial activity. Using these, he proposes and experimentally validates a two-stage bioleaching reactor system in which the metal extraction phase is coupled to a microbial phase to regenerate the leach agent. His thesis successfully achieved high base metal extraction and maintained microbial activity post-metal extraction at high concentrations of PCBs. These findings are significant to inform development and commercialisation

of the bioleaching of PCBs as a metal recycling practice.

Supervisor: Professor STL Harrison (Chemical Engineering)
Co-supervisors: Dr A Kotsiopoulos and Dr E Govender-Opitz (Chemical Engineering)

Musungu, Kevin
Thesis Title: *Evaluating the suitability of UAV data for mapping dominant plant species in a heterogenous fynbos seep wetland*

Kevin Musungu completed his BSc (Eng) Geomatics and MSc (Eng) in Geomatics at UCT. He worked as a Professional Land Surveyor in Cape Town before joining academia and embarking on studies towards his PhD.

Kevin Musungu's thesis focuses on the use of high-resolution unmanned aerial vehicle (UAV) aerial photographs for semi-automatic detection of fynbos wetland plant species in the Steenbras Nature Reserve, Cape Town. UAVs are preferable because the inundated nature of wetlands makes fieldwork difficult. He starts by investigating ideal methods for gathering UAV data across different seasons. He investigates methods to heighten relative differences in the appearance of the plant species in the aerial photos. Then, he compares various machine learning and deep learning techniques to map the extent of each species in the wetland, and identifies the optimum time of year for data collection. He finds that UAV data are highly suited to mapping fynbos species, and that late August / early September is an ideal period when the species are most discernible from each other. The results provide actionable insights for conservation and management strategies of fynbos wetlands.

Supervisor: Dr M Shoko (Geomatics)

Nchupang, Mojalefa Prince
Thesis Title: *A provably stable and high-order accurate finite difference approximation for the incompressible boundary layer equations*

Prince Nchupang obtained a BSc degree in Mathematics & Applied Mathematics in 2016, a BSc (Hons) degree in Applied Mathematics in 2018, and an MSc (Eng) degree in Mechanical Engineering in 2020, all at UCT. He commenced his PhD studies in 2020.

Prince Nchupang's thesis focuses on the accurate mathematical modelling of incompressible fluid flow, ubiquitous in nature and of key interest to scientists and engineers. He develops the first provably stable and high order accuracy solution methodology to the canonical incompressible boundary layer equation problem, and thereby contributes significantly to a new foundation for the study of fluid flow. The newly developed mathematical framework addresses the underlying governing equations in continuous form by deriving provably stable boundary conditions. These are then transcribed to the high order finite difference method which allows solution via digital computers. He proves the new numerical framework to be stable via considering the eigenvalues of the problem, the first researcher to achieve this. Building on this, the numerical scheme is coded and applied to several benchmark problems, achieving both numerical stability and high order accuracy.

Supervisor: Professor A Malan (Mechanical Engineering)
Co-supervisor: Professor J Nordström (Linköping University, Mathematics)

Ngobeni, Lulama Ntombana
Thesis Title: *Using urban facilities management principles to promote sustainable water management in informal settlements in South Africa*

Lulama Ngobeni holds a BSc(Eng) (Civil, 2013) and an MComm (Information Systems, 2015) from UCT. She commenced her PhD in Construction Economics and Management in 2017, considering the suburb of Hout Bay, Cape Town and its associated informal settlement, Imizamo Yethu, as case study sites for her research.

Lulama Ngobeni's thesis investigates the potential of Urban Facilities Management in the promotion of sustainable water management practices in South African informal settlements. The thesis focuses on financing and implementation of stormwater management projects. Hout Bay and Imizamo Yethu informal settlements were selected as the case study sites for the research. Lulama Ngobeni conducted a Willingness to Pay (WTP) survey to establish the willingness of Hout Bay residents to pay for stormwater management projects in Imizamo Yethu. She also conducted interviews with experts to establish key practices and processes for successful stormwater management projects. Analysis of the data provided statistical evidence of the factors affecting WTP and key components of successful stormwater projects. The study fills a gap in Urban Facilities Management research on promoting sustainable development in informal settlements through the implementation of Water Sensitive Design.

Supervisor: Associate Professor K Michell (Construction Economics and Management)
Co-Supervisor: Associate Professor K Carden (Civil Engineering)

Nyoni, Bukhosi Raphael
Thesis Title: *Finite element model updating of concrete arch dams affected by alkali-silica reaction using ambient vibration monitoring and dam surveillance data*

Bukhosi Nyoni holds a BSc (Eng) in Civil Engineering and MSc (Eng) in Structural Engineering and Materials, both from the University of Cape Town.

Bukhosi Nyoni's thesis focuses on understanding the structural behaviour of concrete arch dams by considering the complex loading (hydrostatic load, thermal load and swelling due to chemical reactions) imposed on concrete arch dams, and the complex interactions between dam

wall and foundation, and dam wall and water reservoir. His research emphasises the integration of measurement data and numerical modelling to develop numerical models that closely mimic the in-service behaviour of concrete arch dams. Such models are essential for reliable structural evaluation of concrete arch dams. The integration of ambient vibration monitoring and dam surveillance dam has resulted in the most reliable numerical models.

Supervisor: Professor P Moyo (Civil Engineering)

Peck, Mogamat Adli
Thesis Title: *The magnetocatalytic effect: an in situ study of selected processes*

Adli Peck completed his BSc and BSc (Hons) in Chemistry at Stellenbosch University, graduating top in his class. He completed his MSc in Mössbauer spectroscopy at the University of Johannesburg in 2016, before pursuing his PhD at the University of Cape Town.

Adli Peck's thesis investigates a 90-year-old phenomenon to understand and prove the relationship between magnetism and catalysis, termed the *magnetocatalytic effect*. Using a unique instrument, the in-situ magnetometer, the magnetic properties of catalysts could be measured and varied whilst simultaneously performing catalytic reactions. Three important industrial reactions were studied, namely methanation, methanol oxidation and Fischer-Tropsch synthesis using appropriate magnetically active catalysts. In all three systems, he discovered that the rates of the reaction were perturbed by the magnetic phase change of the catalyst from ferromagnetic to paramagnetic or vice versa. He further observed that the application of an external magnetic field could influence the catalytic activity and selectivity of the reaction. In conjunction with the experimental work, he conducted a baseline computational study confirming the relation between chemisorption and the magnetic properties of metallic surfaces. These discoveries mark a significant breakthrough in the field of catalysis.

Supervisor: Professor M Claeys (Chemical Engineering)
Co-supervisor: Professor N Fischer (Chemical Engineering)

Stevens, Dylan Troy
Thesis Title: *Transient heterologous protein expression in green microalgae*

Dylan Stevens completed his BSc in Human Genetics, and BSc (Hons) in Molecular Biology and Population Genetics, at the University of Pretoria. He then obtained an MSc in Genetics from the University of Gothenburg, Sweden. After working in industry, he started his PhD in bioprocess engineering at UCT.

Dylan Stevens' thesis reports on the development of a microalgal collection originating from Mpumalanga, into one containing no biological contaminants, that is cryostable and grows without light. Simultaneously, he develops a patented matrix-based system, allowing for harvesting and maintaining microalgal biomass. The microalgal collection and the column system were then combined, allowing for both transient transfection and stable transformation of several microalgae to be assessed for various applications, which include production of proteins of non-microalgal origin using *Rhizobium radiobacter*-mediated gene insertion. These proteins include several reporter proteins, but also the industrially-relevant enzyme, Horse Radish Peroxidase, and a vaccine-candidate peptide against Human Papilloma Virus.

Supervisor: Professor STL Harrison (Chemical Engineering)
Co-supervisor: Professor EP Rybicki (Molecular and Cell Biology)

Wali, Avuyile
Thesis Title: *An investigation into the floatability of platinum group arsenides and tellurides under varying collector and solution chemistries*

Avuyile Wali obtained a BSc (Eng) in Chemical Engineering from the University of Cape Town in 2019. He joined the Centre for Minerals Research at UCT in 2020 and studied towards his MSc (Eng), which was upgraded to a PhD in 2022.

Avuyile Wali's doctoral research focuses on the important platinum group mineral, sperrylite ($PtAs_2$). Sperrylite is economically important to South Africa as a major source of platinum, especially with the transition to green energy where platinum is in high demand. This mineral is recovered via a separation process that depends on induced surface hydrophobicity. His study found that sperrylite is resistant to this process and is therefore poorly recovered. Through various advanced spectroscopic and electrochemical techniques, he proposes a theory for the underlying reasons behind this behaviour. His research offers a remediation process for the improved recovery of sperrylite as well as improved mineral processing techniques for the platinum industry.

Supervisor: Associate Professor B McFadzean (Chemical Engineering)
Co-supervisor: Emeritus Professor C O'Connor (Chemical Engineering)

HISTORICAL SKETCH

Founded as the South African College (a boys' school that aimed to provide higher education as well) in 1829, the University was established as the University of Cape Town in 1918.

The early history was one of great expectations and hard times and it was not until the early years of the twentieth century that the University was developed into a fully-fledged tertiary institution. A significant and pioneering development in the 19th century was the admission of women as degree students in 1886, many years ahead of most universities in the world.

At the start of the 20th century the University incorporated the Diocesan College, the teacher training classes of the Normal College, the South African College of Music and the Cape Town Schools of Fine Art and Architecture.

The Medical School was established and in the 1920s the University began a partnership with the local health authority (now the Provincial Government's health department) that saw the Medical School move from the Hiddingh Campus and the Green Point Somerset Hospital to Observatory (the rest of UCT's Upper Campus moved from Hiddingh to its present site, on part of Cecil Rhodes' estate, in 1928). This partnership allowed for the construction of the first Groote Schuur Hospital on a University site. The partnership continues to this day and now involves not only Groote Schuur as a teaching hospital but Red Cross Children's Hospital, Valkenberg and a growing number of primary health care sites.

The period between the end of World War II and 1994 was marked by two themes. Firstly, the University recognised that if it was to be fully South African, it would have to move beyond academic non-segregation to be fully inclusive. It would have to face the consequential and increasing clashes with a government determined to legislate for segregation and enforce the doctrine of apartheid. And secondly, the University intended to transform into a leading research institution.

Before World War II, the University was largely a teaching university and its students were mostly undergraduates. The research undertaken was sporadic, though in some cases notable. A research committee was appointed for the first time in 1945. The next 75 years saw a great expansion of research and scholarly work such that the UCT of 2014 has a greater proportion of highly rated researchers and gains significantly more research grants and awards than any other South African University.

The 1980s and 1990s were characterized by the deliberate and planned transformation of the student body. This was aided by the establishment of the Academic Development Programme aimed at helping students from disadvantaged educational and social backgrounds to succeed and the desegregation of student residences. As a result, a student body that was 90% white in 1979, when UCT marked its 150th anniversary, is in 2014 more than 50% black. The total student enrolment of just above 26 000, includes international students drawn from over 100 countries, a significant proportion of which are from SADC states. Particular emphasis is placed on postgraduate studies and more than 20% of these students will be enrolled in master's and doctoral programmes. A growing number of postdoctoral fellows contribute substantially to the research endeavours and reputation of the University (UCT has more than a third of the total number of post docs in South Africa).

UCT continues to work towards its goal to be Africa's leading research university. Its success can be measured by the scope of study it offers and the calibre of its graduates.

VISION AND MISSION
UNIVERSITY OF CAPE TOWN

Vision

An inclusive and engaged research-intensive African university that inspires creativity through outstanding achievements in learning, discovery and citizenship; enhancing the lives of its students and staff, advancing a more equitable and sustainable social order and influencing the global higher education landscape.

Mission

UCT is committed to engaging with the key issues of our natural and social worlds through outstanding teaching, research and scholarship. We seek to advance the status and distinctiveness of scholarship in Africa through building strategic partnerships across the continent, the global south and the rest of the world.

UCT provides a vibrant and supportive intellectual environment that attracts and connects people from all over the world.

We aim to produce graduates and future leaders who are influential locally and globally. Our qualifications are locally applicable and internationally acclaimed, underpinned by values of engaged citizenship and social justice. Our scholarship and research have a positive impact on our society and our environment.

We will actively advance the pace of transformation within our University and beyond, nurturing an inclusive institutional culture which embraces diversity.

OFFICERS OF THE UNIVERSITY

Chancellor
Precious Moloi-Motsepe, MBBCh DCH *Witwatersrand* Dip in Women's and Reproductive Health *Stellenbosch*

Vice-Chancellor
Matlagolo Mosa Moshabela, MBChB *Natal* Dip in HIV Management (SA) *CMSA* MMed *Limpopo (MEDUNSA)*
MSc *LSHTM* PhD *Witwatersrand* MASSAf

Chair of Council
Norman Martin Arendse SC, BA LLB *Cape Town* LLM *UCL*

President of Convocation
Naadiya Moosajee, BSc(Eng)Civ MSc(Eng) *Cape Town*

Deputy Vice-Chancellors
Brandon Ian Collier-Reed, PrEng BSc(Eng) MSc(Eng) PhD *Cape Town* FSAIMechE
Jeffrey Murugan (Acting), MSc PhD *Cape Town*
Elelwani Ramugondo, BSc (Occupational Therapy) MSc (Occupational Therapy) PhD *Cape Town*

Registrar
Kathleen Idensohn (Interim), BA LLB *Cape Town* LLM *Cantab* PhD *Cape Town* Advocate of the High Court

Chief Operating Officer
Mughtar Parker (Acting), (MCR) (SLCR) *Atlanta USA* B.Comm (Acc) *Western Cape*

Deans of Faculties

Commerce:	Suki Lesley Goodman, BSocSc(Hons) MBusSc PhD *Cape Town*
Engineering & the Built Environment:	Alison Emslie Lewis, PrEng BSc(Eng)Chem MSc(Eng) PhD *Cape Town* FSAIChE FSAIMM MASSAf FSAAE FIChemE
Health Sciences:	Lionel Patrick Green-Thompson, DA FCA *CMSA* MBBCh MMed PhD *Witwatersrand*
Humanities:	Shose Kessi, PDBA *Witwatersrand* BA(Hons) *London* MSc PhD *LSE*
Law:	Danwood Mzikenge Chirwa, LLB(Hons) *Malawi* LLM *Pretoria* PhD *Western Cape* Practitioner of the High Court of Malawi
Science:	Hussein Suleman, MSc *Durban-Westville* PhD *Virginia Tech*

Dean of Higher Education Development
Kasturi Behari-Leak, BA(Hons) HDE BEd *Durban-Westville* MEd *Cape Town* PhD *Rhodes*

Director of the Graduate School of Business
Catherine Duggan, BA *Brown* PhD *Stanford*

JOIN UCT ALUMNI CONNECT

Today is not the end of your relationship with the university - its the beginning of a new phase in your continuing relationship with UCT. It's a journey you share with the global UCT community of over 200 000 alumni. Wherever you choose to go, fellow UCT alumni will be there. Join UCT Alumni Connect, our bespoke social networking site for alumni. Membership is free and provides access to a global network of like-minded professionals, innovators, thought leaders and entrepreneurs. Join our virtual alumni community today and enjoy these member benefits:

- Expand your professional network
- Stay in touch with your alma mater
- Connect with thousands of UCT alumni
- Locate UCT alumni in your area using mobile GPS
- Access career mentorship opportunities
- Share images from your reunions and alumni events
- View notifications of UCT events taking place in your city
- Access UCT Careers Service support

You can sign-up in less than 2 minutes, utilizing your Facebook, LinkedIn or email credentials. Visit www.uctalumniconnect.com or scan the QR code, then click on the 'Join' link to sign up. It is that easy. Membership verification is fast.

SCAN ME

To remain in contact with former UCT classmates and to keep abreast of important developments taking place at your alma mater, make sure that you update your contact details on our website: www.alumni@uct.ac.za. Here are some of the other ways you can stay in touch with us:

- Attend UCT alumni events hosted in your region
- Participate in the AGM of Convocation
- Join UCT Alumni Connect today
- Find and follow us on social media @UCTalumni
- Visit the Alumni Relations team in the Old Admin Building, located on UCT Lower Campus
- We love to profile our alumni. Email your news to: alumni@uct.ac.za

UCT benefits from a global network of alumni ambassadors, chapters and affinity groups, with an increasing number of volunteer networks across Africa. Our international UCT offices are focal points for leveraging institutional and research relationships, as well as donor opportunities. You can connect with one of our regional offices:

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The Development and Alumni Department looks forward to meeting you. Join us at one of the many alumni events hosted around the world, on campus at a UCT public lecture, at UCT Summer School or at your class reunion. Let's stay connected.