FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT 2 & FACULTY OF SCIENCE 1

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FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT 2 & FACULTY OF SCIENCE 1

ORDER OF PROCEEDINGS

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

The Acting Vice-Chancellor will constitute the congregation.

The National Anthem.

The University Statement of Dedication will be read by a representative of the SRC.

Musical Item.

Welcome by the Deputy Vice-Chancellor, Professor Mall.

Professor Mall will introduce the guest speaker.

Address by the guest speaker.

The graduands will be presented to the Acting Vice-Chancellor by the Deans of the Faculties.

The Acting Vice-Chancellor will congratulate the new graduates.

Professor Mall will make closing announcements and invite the congregation to stand.

The Acting Vice-Chancellor 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.*)

MANNENBERG

The musical piece for the processional march is Mannenberg, composed by Abdullah Ibrahim.

Recorded with Basil 'Manenberg' Coetzee, Paul Michaels, Robbie Jansen, Morris Goldberg and Monty Weber, *Mannenberg* was released in June 1974.

The piece was composed against the backdrop of the District Six forced removals. It is named after the Cape Town township of Manenberg, which was established when the residents of District Six settled there. *Mannenberg* stands out as a uniquely South African piece: it blends together South African musical forms (*marabi*, *mbaqanga* and *langarm*) and American jazz. The song became a rallying cry against the injustices of apartheid and the particular destruction it wrought on communities. With its upbeat melodies and buoyant hook, the piece also serves a celebration of the resilience and endurance of humanity in the face of the brutalities of the apartheid regime.

Mannenberg is arguably South African jazz's most famous export, and still stands as an anthem of hope and of fortitude for oppressed communities. It also serves as a reminder of the inhumanity of what this country and this city endured, and of the legacies of that inhumanity.

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.

DISTINCTIONS IN THE FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

A qualification may be awarded with distinction, honours, and first class honours where a student has shown outstanding academic achievement.

The Bachelor of Architectural Studies (BAS) may be awarded with distinction where a candidate has obtained

a minimum of 75% in the Design and Theory Studio III examination and minimum of 60% in one of the other Design and Theory Studio examinations

and an additional three marks of at least 75% in his or her BAS course work.

The degrees of Bachelor of Science in Engineering and Bachelor of Science in Geomatics may be conferred with

first class honours, where the candidate has obtained at least 75% for the research project and a weighted average of 75% for the degree or,

honours, where the candidate has obtained a minimum of a second class pass in the research project and a weighted average of 65% for the degree.

The degrees of Bachelor of Science in Construction Studies and Bachelor of Science in Property Studies may be awarded with distinction where a candidate obtains a minimum weighted average of 75% for the degree.

DISTINCTIONS IN THE FACULTY OF SCIENCE

Bachelors degrees may be awarded with distinction

in a subject (or major), where the student achieves first class passes in specified courses

in the degree, where the student has both distinction in at least one subject (or major) and first class passes in at least the equivalent of six full courses.

Honours degrees are awarded by class (first, second class division one, second class division two, or third).

Master's degrees may be awarded with distinction

in the degree, (by dissertation) for especially meritorious work

in the degree, (by coursework and minor dissertation) for especially meritorious work for the dissertation as well as achieving 75% or better for the coursework.

NAMES OF GRADUANDS

An asterisk * denotes that the degree will be awarded in the absence of the candidate.

1. FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

Dean: Professor A Lewis

DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING

In Chemical Engineering: Ilyaas Abdullah Sarah Lynn Adam (with first class honours) *Muhammad Nurkhairy Amirudin Rony Mungasia Azegele (with honours) Peter Aaron Beare (with first class honours) Corey Greg Beavon (with honours) *Lelethu Beseti Daniel Jack Bresgi (with first class honours) Darryl Edward Brown (with first class honours) Cody Owen Burcher-Jones (with honours) William Hugh Alexander Cahill (with first class honours) Pierre Louis Cilliers (with first class honours) Ramsay Edward Collins (with first class honours) Caitlin Emily Courtney (with first class honours) Rowan Michael Dalton (with first class honours) Dominic De Oliveira (with first class honours) Amisha Desai (with honours) Claudia Daniella De Sousa (with honours) Didier Jean De Villiers (with first class honours)

Nicola Cassandra Embling (with honours) *Shaun Michael Foulkes (with honours) Usisipho Thabang Gogela Desania Raquel Govender (with honours) *Veleshia Vanishri Govender Genevieve Elizabeth Harding (with first class honours) Dale Ashley Heyns (with honours) Darren Sean Ho (with first class honours) Tanya Hodgson (with first class honours) Cameron George Hoey (with honours) Jade Cindy Holt Mohamed Dawood Jogiat (with first class honours) Wanjiadai Ju (with honours) Chabala Kaongwa (with honours) Hilda Khunoana (with honours) *Lenned Nkwana Kujoana (with honours) Shalisa Lodewyk (with honours) *Luvo Luna Thabo Mabuka Lebogang Lucia Machethe Tshegofatso Florah Maila Kelebogile Joyce Makhema Devin Courtney Marder Nkhulang Tebogo Matsepe Brian Mayengo (with honours) *Mveleli Mbombo Lauren Kim Mc George (with first class honours) Julia Louise Amelung Mc Gregor (with first class honours) Yamkela Mgwebi Nompumelelo Precious Mhlongo (with honours) Kagiso Gladwell Modukanele *Mosetsanagape Mokgosi Maisha Tumelo Molepo (with honours) Christopher Daniel Molteno (with first class honours) Songo Momoti Nontobeko Immaculate Moyo Keith Tafadzwa Mutambirwa *Rutendo Mutsekwa (with honours) Kyle Camden Naidoo (with honours) *Jaishal Dayanandah Naidu *Gilbert Winner Ncube

Dayle Nel (with honours) Sphamandla Ngema Vukile Ndumiso Ntozakhe Brandon Pieters (with honours) Alexander Nicholas Platts (with first class honours) Jenny Louise Robertson (with first class honours) Clare Josephine Rodseth (with first class honours) *Queen Christina Rugaimukamu (with honours) *Zaynab Sadan (with honours) Prelisha Sewnarain *Likoze Simenda (with honours) Yandisa Sojola (with honours) Rosalind Melissa Stegmann (with honours) *Caroline Alexandra Still (with first class honours) Erin Alice Caitlin Trenor (with first class honours) Chelsea Lyn Tucker (with honours) Onawanda Voyi Sigourney Minon Wilson I-Chen Wu (with first class honours) Yuan-Shiun Wu (with honours) Wen Tian Helen Xie (with honours) Christopher Hein Zaayman (with honours) *Felix Rudolf Zimmermann (with honours) Rumbidzai Damita Zireva (with honours)

In Electrical Engineering: *Ezra Luke America (with first class honours) Tebogo Baloyi *Jeanne-Gisele Bamukunde (with honours) Mthokozisi Nkululeko Biyela Bashier Brey (with honours) Johann Burger (with honours) *Ruben De Girardier (with first class honours) Cassidy Gray (with honours) Isma-Eel Khan Aleksa Knezevic (with honours) Chuma Loyiso Madadasana Rebaone Mako *Peter Maluge (with honours) Thumeka Tracy Mbatha (with honours)

Sipho Mbovane Mfundo Julian Mfengwana *Mkhuseli Bruce Mkhaliphi *Bereng Benjamin Moshane *Johnwhite Mukucha Edwin Musoke Lufuno Leon Kevin Mutepe *Kolesi Elizabeth Mwasikakata (with honours) Thabo Johannes Nhlapo Gomolemo Shanon Ntlailane (with honours) Nelson Maanye Ntlou Shane Manuel Palackal Ruvashan Pillay Charles Khotso Pitso Khotso Joseph Ramoreboli (with honours) *Ikesh Reega Ethan Stanley Saayman *Grace Sabuweza Dayne Ryan Sage (with honours) *Thabelang Victor Sefako Motlatsi Cyril Oscar Setsubi Ndapewa Hertha Shikage David Daniel Smith (with honours) *Nelly Wamuyu Thoithi (with honours) Historina Nyalleng Tsolo

In Electrical and Computer Engineering: *(With first class honours) Saul Anstey Jonathan Asiamah *Tighe Barris (with first class honours) Ayeshah Bharoochi (with honours) Gareth Carl Burger Tinashe Wilbrod Chipomho Ashill Chiranjan (with honours) Tasimba Denford David Chirindo (with honours) Alexander Manuel Cohen (with first class honours) Zico Da Silva (with first class honours) Nirav Domah (with honours) Thomas Karl Dusterwald (with first class honours) James Mawuenyega Feli Xavier Frantz Jasper U-hin Jian (with honours) Joshua Karpul (with honours)

Jonathan Marc Levenson (with honours) Fadzai Mandinika (with first class honours) *Nairesiae Sian Meoli (with first class honours) Kavindra Naidoo (with honours) Khagendra Naidoo (with first class honours) Sarah Jane Newnham Christian Nseka Ndala Caitlin Jennifer Peplow (with honours) Khangwelo Marvin Ramatsitsi Gregory John Scott *Faheem Sima (with honours) Werner Heinrich Stoltsz (with first class honours) Aibaki Tembo (with honours) *Teboho Lawrence Thamae (with honours) Bradlee Kenneth Wilson Cyrille Yemeli Tasse

In Electro-Mechanical Engineering: Bryden Jack Armstrong Gadziraiushe Bangure Humelton Siviwe Bunge Nicholas Graham Coles (with first class honours) *Anthony Justin Cook (with honours) Aatiqah Fataar Keegan Foreman (with honours) Dale Jacques Noël Huysamen *A-Ciam Merlin Kazadi *Bolae Dennis Machai Keabetswe Mokitle Noe Gaspar Muthemba Mark Ombura Nandi John Ogundiran Geoff Randall Raikes (with first class honours) Yasteel Ramsuran Sitaram (with honours) Rory Sanders (with honours) Tim Dylan Schumann (with honours) Charles William Turnley (with first class honours) Samuel Zvi Van Embden (with first class honours) David Van Wyk (with first class honours) *Michael John Van Wyk (with honours)

Nicola Ann Yatt

In Mechanical Engineering: Mahomed Qaahir Akram Angela Da Silva Alves Rodges Keanon Barendse (with honours) *Timothy Geoffrey Beghin David Stuart Brill (with first class honours) Nicholas James Burge (with honours) *Jonathan Andrew Caine (with first class honours) *Michelle Cecily Cochrane (with honours) Michael Theo William Crosland (with first class honours) James Alexander Crowley (with honours) Alexandros Michael Demetriou Nkululeko Templeton Dlamini Daniel Du Plessis (with honours) Alastair Blaine During (with honours) Aidan Kirstie Fourie (with honours) Nabeel Gool (with honours) *Clara Anne Grant (with first class honours) Ozair Hamdani (with honours) Farai Precious Handina (with honours) Christopher Andrew Herbert (with honours) Raymond Bonnin Hobson (with first class honours) Naeema Hoosain Roy Anthony Devoy Horwitz (with first class honours) Kahueka Sam Huntley Mogammad Bashier Bin Tayb Jabaar Rudi Cavin Johns Christopher Stuart Judd (with honours) Matthew Ivor Kabot (with first class honours) Rendani Yaw-Boateng Sean Khobo (with honours) Samuel Leonard Kigondu Shaun Kriek (with first class honours) *Chin-shen Lai Abigail Charlotte Latimer (with honours) Letlhogonolo Johannes Lesomo

David Ryan Levin (with first class honours) Dustin Lotriet (with honours) Tapfuma Shaun Masunzambwa Collen Wengai Maunganidze Daniel James Mccabe (with honours) *Dean Anthony Miltz *Nomvelo Mkhize Luzuko Mnqatu *Keelan Moore (with honours) Mapitso Mokgadi Morudu (with honours) Akilan Naidoo (with honours) Daskarin Naidu *Safa Kagiso Naraghi Yolan Pillay Palesa Mbali Rammego Matthew James Rice (with first class honours) Siginiseko Colin Richmond *Alex James Rossouw (with honours) *Ross Clive Segers Kutlwano Setshogoe (with honours) *Ephraim Mutemwa Simasiku (with honours) Aloysius Garin Smith (with honours) *Solethu Simthembile Songca *Mark Davies Staples (with honours) *Clyde James Strachan Anthony Michael Strathern (with honours) *Mark Robin Taylor (with first class honours) Seth Mkhanyisi Thompson (with honours) Andrew Blyth Toms Lebohang Tshabalala Dirk Van Heeswijk (with first class honours) Michael Johannes Vermeulen (with honours) Patrick Alexander von Hirschfeld (with first class honours) Michael Ryan Wagner William John Whitelaw (with honours) Amy Leigh Williams James Alexander Wills (with honours)

In Mechatronics: *Mohammed Samir Abdulah David William John Bissett (with honours) Matthew Steven Botha (with honours) *Liam Ian Costa Micha John Donaldson Cross (with honours) *Mzwakhe Didishe (with honours) *Jared Luke Dobbin (with honours) *Charles Gareth Comyns Elfick (with honours) Kyle Epstein (with honours) Michael Ben Fautley Daniel James Godfrey (with first class honours) Tawanda Rodney Gora Tinashe Godknows Gwatiringa (with honours) *Francis Nils Marinier Hamilton (with honours) Jason Hardy Darryn Anton Jordan (with honours) Muhammad Kharbai *Steven Gary Kimmel (with first class honours) *Marc Kruger (with honours) *Melvin Julian Mathew (with honours) Sebastian Stefan Menne (with honours) *Saikiran Mittapalli Makhosonke Mkhize Madimatle Kgauhelo Azael Molatseli Ofentse Thapelo Noko (with honours) Mikaeel Mohammed Murshid Obaray Joshua Washington Perry (with first class honours) *Nathan Nicolas Pilbrough (with first class honours) Brandon Nicolas Piner (with honours) Brett Adrian Pym Cameron Sean Pym Gevashkar Rampersadh (with first class honours) Adrian Reddy Jerry Sam Anotidaishe Shawn Shonhiwa (with honours) Bongani Bernard Sibanda Subha Singh (With honours)

*Nicholas Cameron Skeen (with honours)
Jarryd David Son (with first class honours)
Yaniv Swiel (with honours)
Husayn Tayob
Abel Van Dam
*Riccardo Vernetti
Warren Mark Versfeld
Michael Wootton (with honours)
*Abdelrahman Sultan Youssef
Tabassum Zalgaonkir

2. FACULTY OF SCIENCE

Dean: Professor AP le Roex

DEGREE OF BACHELOR OF SCIENCE

Teferi Mekonnen Abay Laylah Albertyn Kevin Nicholas Barends *Ihsaan Bassier Dominic Günther Bauer *Luke Kingsley Bell Febe Beukes *Medio Bindzi Michael Bradley (with distinction in Applied Mathematics, Mathematics and the degree with distinction) Khadija Brey Joshua Ryan Buchalter *Mariam Campbell Hloniphile Nonhlanhla Siphesihle Cebekhulu Takunda Blessing Chirema Mats Wenzel Elliott (with distinction in Philosophy) Marlin Jason Fortuin Zikho Nomaxhosa Godana Jake Eli Blake Gordin (with distinction in Astrophysics) Satchen Nicholas Gurney Gush Robert Hambrock Jacques Jean Heunis (with distinction in Computer Science, Computer Games Development, Mathematics and the degree with distinction)

Robert Alexander Hill (with distinction in Economics, Mathematics and the degree with distinction) Zakiena Hoossen Kirtika Juhi Hurgobin *Tian Yu Lin (with distinction in Mathematics) Sibusiso Tholinhlanhla Luthuli Mpho Mafune (with distinction in Applied Mathematics) Nuraan Majiet Nazir-Ahmed Adam Makda Letlotlo Sephapo Malope (with distinction in Applied Mathematics) *Samyukta Manikumar Masilo Bernedict Mapaila *Bonginkosi Mnisi Tshepo Langelihle Molane Mitch Lee Myburgh (with distinction in Computer Science) Sbahle Lady-Love Mzimela Dylan Richard Nelson (with distinction in Applied Mathematics, Mathematics and the degree with distinction) *Lizelle Niit Neriah Pather *Matthew Pfeifer *Francois-Jean Pieterse Adrian Martin Schwellnus (with distinction in Applied Mathematics) Hlanganani Mthembeni Shange Nina Rae Solomon Kameel Sooknunan *Trudie Spangenberg (with distinction in Applied Mathematics and the degree with distinction) Robert Andrew Spencer (with distinction in Applied Mathematics, Mathematics, Physics and the degree with distinction) *Ian David Stevens Sarah Rose Taylor (with distinction in Applied Mathematics) *Kevin Thiart *Michael Ya-Akov Van Niekerk Garren Wiffen (with distinction in Mathematics)

DEGREE OF BACHELOR OF SCIENCE HONOURS

In Applied Mathematics: (First Class) Kirodh Boodhraj *(First Class) Kyle Michal Levin Miranda Nyathi Cara Pienaar *(First Class) Ruach Pillay Slayen

In Astrophysics and Space Science: *Mxolisi Mlondolozi Nelson Bhengu Anja Genade *Thembaloxolo Gqaza *(First Class) Michael John Heyns Ndinae Nico Masutha Boitumelo Bridgette Matlapeng *Olorato Mosiane Mhlasakhululeka Mvubu *Ethan Alexander Roberts *Michael Roger Saharin *Nicole Lynn Thomas

In Mathematics: *(First Class) Chris Pieter Marais *(First Class) Dean John Rance *(First Class) Sean Jeremy Wentzel

In Mathematics of Computer Science: *(First Class) Jedda Devon Boyle

In Physics: *(First Class) Daniel Mieczyslaw Adamiak *(First Class) Alastair James Grant-Stuart (First Class) Ernst Wilhelm Grunow (First Class) Luke Lippstreu *(First Class) Luke Lippstreu *(First Class) Lara Hannan Mason (First Class) Robert William Moerman (First Class) Kevin Robert Murray (First Class) Jonathan Rayner *Raynette Van Tonder *In Statistics:* (First Class) Ian Paul Laker Robyn Steenekamp

3. FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

Dean: Professor A Lewis

POSTGRADUATE DIPLOMA IN ENGINEERING MANAGEMENT

*Charles Douglas Nduga Kigozi

DEGREE OF BACHELOR OF SCIENCE HONOURS

In Nuclear Power: Morné John Gysman *Dion Malibongwe Mdiniso

In Materials Science Shanle Baron *Anusca Danuta Daries

*(First Class) James Anthony Dicks Matsepo Koyi Saleema Paleker *Robin Peters

DEGREE OF MASTER OF ENGINEERING

In Engineering Management: *John Garthe Freeman *Natasha Afi Narh Richard Thomas Ramplin

DEGREE OF MASTER OF PHILOSOPHY

In Energy Development Studies: Ayanda Candice Fuma *Petrus Jacobus Krog Gamuchirai Thelma Mutezo

In Energy Studies: Whitney Lisa Pailman

In Mechanical Engineering: Godfrey Kabungo Gakingo (with distinction in the dissertation)

In Sustainable Mineral Resource Development: *Ayanda Boy-Boy Manqoyi (with distinction in the dissertation) *Veronica Munyongani

In Radar and Electronic Defence: Sulayman Salie

DEGREE OF MASTER OF SCIENCE IN ENGINEERING

In Chemical Engineering: Matthew Armstrong Burke (with distinction in the dissertation and the degree with distinction) Tadiwanashe Chidzanira Wonder Chimonyo Jennifer Couperthwaite (with distinction in the dissertation and the degree with distinction) Michael Graeme Duncan Garren Chad Edwards Bridget Mary Fundikwa Tamzon Taliza Jacobs (with distinction in the dissertation and the degree with distinction) Mitchel Anthony Jardine (with distinction in the dissertation and the degree with distinction)

Debora Jooste (with distinction in the dissertation and the degree with distinction) *Niels Theo Johan Luchters *Seipati Mabote Chiara Maharaj Riddhi Anubhav Maharaj Tarisayi Martin Matongo Mildred Mutenure Mpendulo Simunye Ncongwane Thulani Mvelo Nyathi (with distinction in the dissertation and the degree with distinction) Prince Owusu Gyebi Shilpa Rumjeet Kathija Bi Bi Shaik *Diane Taggart

In Electrical Engineering: *Paul Amayo Sampath Duminda Jayalath Amarasinghe Danapathi Arachchige Po-Kai Cheng Paul John Emmanuel Kurai Luke Gombiro Abdullah Jabaar Tumisang Legele Mphumuzi Thembinkosi Maziya *Bhavani Morarjee Wesley Scott New Wiseman Nkosingiphile Nyembe (with distinction in the dissertation and the degree with distinction) Javaad Mohamed Patel Nyembe (with distinction in the dissertation and the degree with distinction) *Francois Jacques Retief Dirk Snoeck Henkemans *Ivan Tchekashkin Israel Ridovhona Tshililo

In Mechanical Engineering: Mohammed Nazier Allie Richard Bobby Banda Sean Andrew Davids Maximillian Francisco Finbow Meihua Jin *Christopher Robert Long Oluwafunso Oluwole Osaloni *Andries Johannes Rossouw Naeem Ebrahim Tootla (with distinction in the dissertation) *Matthew Peter Weyer *In Radar and Electronic Defence:* Stephen Thomas Paine

In Sustainable Energy Engineering: *Marvelous Efoli Bam Sarah Anyango Odera Dennis Thiel Rachel Serumun Ugye

4. FACULTY OF SCIENCE

Dean: Professor AP le Roex

DEGREE OF MASTER OF SCIENCE

In Applied Mathematics: Daniel Johannes Burger *(With distinction) Emma Danielle Platts

In Astrophysics and Space Science: *Patrick Ikechekwu Affadi Michael Sipho Hlabathe *Simon Jabulane Malinga Buntu Ngcebetsha *Timothy Oreta

In Decision Sciences and Analytics Mpumelelo Kondlo

In Operational Research: (With distinction) Rosephine Georgina Rakotonirainy

In Physics: Mirette Magdy Adelmageed Fawzy *Sibaliso Mhlanga

In Theoretical Physics: *Charlotte Stephanie Hillebrand-Viljoen *Brandon Michael Viljoen

DEGREE OF DOCTOR OF PHILOSOPHY

In Applied Mathematics:

Sambatra Hagatiana Andrianomena Thesis Title: *Relativistic corrections to weak lensing convergence*

After completing his initial degree in his native Madagascar, Sambatra Andrianomena came to South Africa to study for his Honours qualification as part of the National Astrophysics and Space Science Programme, in which he excelled.

Sambatra Andrianomena's thesis work concerns devising new probes of the Universe on the very largest scales that can be used by the Square Kilometre Array telescope. On these scales, massive superclusters of galaxies suck in neighbouring satellite galaxies in their vicinity, creating a peculiar flow of galaxies. Studying this flow of galaxies can tell us a great deal about the universe we live in, a bit like watching fallen leaves in a breeze. It can determine a lot about Dark Energy and Dark Matter, the great physics problems of our age, as well as the nature of gravity, which binds all things together. The trouble is that this flow of galaxies is very tough to measure robustly. Sambatra Andrianoma's work has been to construct a new technique for measuring this flow using the next generation of telescopes - in particular South Africa's Square Kilometre Array.

Supervisor: A/Professor C Clarkson (Mathematics and Applied Mathematics) Dennis Chinemerem Ikpe Thesis Title: *Compound levy random bridges and credit risky asset pricing*

Dennis Ikpe has a BSc in Mathematics from Michael Okpara University in Nigeria, an MSc in Applied Mathematics from UNISA and an Honours in Advanced Mathematics of Finance from the University of the Witwatersrand. His doctoral research emerged from his working experiences as a credit and market risk analyst at Stanbic IBTC Bank in Lagos, Nigeria.

Dennis Ikpe's thesis extends the new mathematical models for market information and develops some computational techniques for determining prices of credit sensitive assets. The information based framework was initiated in 2004 by researchers at Kings College London. Subsequent evolution led to the development of information models that allow for the pricing of broader asset classes. Dennis Ikpe extends this framework by introducing models of information for a market where assets can default on or before the contracted date. This is carried out through a conditioning method involving a variety of initial market data. The end result is a market consistent theory of credit risky asset pricing with a straightforward computational procedure for This model practitioners. can also be used in pricing other exotic financial assets. The thesis also considers implementation of the models discussed. This is accomplished by using filtering techniques for models involving Levy processes and an example is worked out for the case where the random bridge is Brownian.

Supervisor: Professor H-PA Kunzi (Mathematics and Applied Mathematics) Co-supervisors: Emeritus Professor R Becker (Mathematics & Applied Mathematics); Dr S Mataramvura (Actuarial Science) *Andrea Ross-Gillespie Thesis Title: *Modelling cannibalism and inter-species predation for the Cape hake species Merluccius capensis and M. paradoxus*

Andrea Ross-Gillespie holds BSc and BSc(Hons) degrees in Applied Mathematics from Rhodes University, and an MSc in Applied Mathematics from UCT. She has been a member of UCT's Marine Resource Assessment and Management Group since 2009.

The hake fishery is South Africa's most valuable and two morphologically harvests similar species, the shallow-water Cape hake Merluccius capensis and the deep-water Cape hake M. paradoxus. Cannibalism and inter-species predation form a very large component of hake mortality and food consumption, and Andrea Ross-Gillespie uses mathematical methods to extend assessment the hake model currently used to manage the resource to a multi-species model that explicitly takes into account these sources of mortality in the Cape hake populations. The results of this work have the potential to appreciably change perceptions of stock trajectories for the two hake species, suggesting that the incorporation of cannibalism and inter-species predation into the hake assessment model is an important component for consideration in future hake management.

Supervisor: Emeritus Professor DS Butterworth (Mathematics and Applied Mathematics)

In Mathematics:

Yae Olatoundji Kowowale U Gaba Thesis Title: *Construction of quasi-metrics determined by orders*

Yae Olatoundji Kowowale U Gaba completed his undergraduate degrees in Benin. He then obtained a Master of Science degree at the African University of Science and Technology, AUST-Abuja, in Nigeria. He continued his studies at the African Institute for Mathematical Sciences-AIMS, in Muizenberg, South Africa, before starting his PhD degree at UCT.

Yae Gaba's thesis investigates the interplay between metrics. quasi-pseudometrics and partial orders. In particular he studies those partially ordered metric spaces for which there exists a quasi-metric that produces both the metric and the partial order. The studied problems are related to Nachbin's topological theory of uniform ordered spaces, as it is discussed in Nachbin's book on Topology and Order. But in Yae Gaba's context the topology is replaced by a metric. The investigations of Yae Gaba discuss various explicit computational connections between quasi-metrics and partial orders. In particular he studies the case where the underlying spaces also carry a lattice or group structure. It turns out that the classical topological results were often not precise enough to be really useful in the presented metric context. Nevertheless the classical ideas often helped to better understand the underlying problems and sometimes suggested interesting new conjectures, which then could be verified.

Supervisor: Professor H-PA Kunzi (Mathematics and Applied Mathematics)

In Physics: Sherry Bremner Thesis Title: *A granular flow model of an annular shear cell*

Sherry Bremner holds a BSc in Physics, Applied Mathematics and Astrophysics, and Honours in Astrophysics and Space Science from the University of Cape Town, as well as an MSc in Physics from the University of KwaZulu-Natal. Her Doctoral research was in the field of Applied Physics.

Sherry Bremner's thesis develops a model of confined granular flow in a horizontal annular shear cell. The derived shear stress and associated power dissipation distribution models were validated using Positron Emission Particle Tracking experiments and Discrete Element Method computational simulations. The model formed the first step in the understanding of particle breakage in minerals processing systems. The thesis complexity the highlights of granular flows seen in minerals processing, noting the necessity of models that are independent of boundary conditions and allow for extrapolation of conditions beyond their window of design.

Supervisor: Dr I Govender (Physics) Siyabonga Ntokozo Thandoluhle Majola

Thesis Title: *Exploring the* spectroscopy of vibrational levels in the 160 mass region

Siyabonga Majola obtained a BSc in Mathematics and Statistics from the University of Zululand, and subsequently completed an MSc in Physics at UCT.

The nucleus of an atom can exist in a state of vibration or rotation, before decaying to lower energy states by emitting gamma rays. These can be studied to establish the principles of nuclear structure, and to explain the forces that hold the protons and neutrons together in a nucleus.

Siyabonga Majola presents a study of the nucleus dysprosium-156, and its neighbours with one more and one fewer neutron. The experiments performed were at large international laboratories in Finland and USA, using the Jurogam II and GAMMASPHERE gamma ray detector arrays. Some 30 new rotational structures are observed in dysprosium-156, and the quantum numbers (spin and parity) are determined for the states in these structures. Together with studies of nuclei made with the AFRODITE gamma ray detector at iThemba LABS, Faure, South Africa, a state-of-the-art analysis uses a five dimensional collective Hamiltonian for quadrupole rotational and vibrational degrees of freedom. For many nuclei with 160 neutrons and protons, a good qualitative agreement is obtained between measured energies and gamma ray transition rates. The work enhances current understanding of nuclei structure in this region, and provides some insight into the nature of the puzzling excited spin zero positive parity states.

Supervisor: Emeritus Professor DG Aschman (Physics) Co-supervisors: Dr RA Bark (iThemba LABS); Dr P Jones (iThemba LABS) Rhyme Kagiso Setshedi Thesis Title: *Structural and electrical characterisation of Silicon and other semiconducting nanoparticle networks for use in sensor and photovoltaic applications*

Rhyme Setshedi holds BSc and a BSc(Hons) degrees from North-West University and an MSc from the University of the Witwatersrand. Beside his PhD studies at the NanoSciences Innovation Centre in the Department of Physics, he held a lectureship at Cape Peninsula University of Technology.

Rhyme Setshedi's thesis uses a laboratory-based Small Angle Light Scattering experiment, built by himself, to extend the low q-range of synchrotron based Ultra Small Angle X-ray Scattering data by an order of magnitude. This new approach allows to increase the sensitivity of Small Angle Scattering in general and is a proof of visibility to enhance capabilities of multiuser facilities, like the Advanced Photon Source (APS) of Argonne National Laboratory in USA. He applies this technique to study morphological features and clustering in different nanoparticulate networks up to submicron size ranges. Furthermore, his studies establish a close agreement between observable morphological and electrical characteristics of the those systems, which provide the basis for advanced studies of nanoparticle clusters for a wide arrange of applications including sensors, photovoltaics and electronics, as well as medical applications.

Supervisor: Emeritus Professor DT Britton (Physics) Co-supervisor: Emeritus Professor M Härting (Physics) In Statistical Ecology *Dorine Yvette Manon Jansen Thesis Title: The use of ringing data in the study of climatic influences on common passerines

Dorine Jansen holds a Master's in Conservation Biology from Manchester Metropolitan University in the UK. Her Doctoral thesis emerged from her interest in quantitative methods applied to population ecology and conservation.

What conservation managers ultimately almost always need to know is whether certain populations decline or not, and what causes fluctuations in population size. Dorine Jansen's thesis addresses these questions for a range of bird taxa in Southern Africa, using modern statistical tools. Based on citizen science data and data collected during long-term scientific studies, she examined climatic drivers of change in survival of individual birds, and whether these drivers have the capacity to induce spatial and temporal synchrony in survival across populations.

Supervisor: A/Professor R Altwegg (Statistical Sciences)

In Tertiary Physics Education: Ignatius John Thesis title: DC circuits: contextual variation of student responses.

Ignatius John holds a MSc from Kerala University (India), an LLB from Calicut University (India), and an HDE from Walter Sisulu University. He has been an academic staff member at CPUT since 2005. His doctoral research arose out of his interest in trying to understand student difficulties in learning physics.

Ignatius John's thesis takes a novel approach to probing student difficulties in an important topic in introductory physics: direct current circuits. By considering a simple

resistive circuit, he carried out a detailed and systematic study of how fine-grained contextual variations influence student responses. These included changing a pure resistor with a light bulb or heater, rotating the circuit diagrams from vertical to horizontal and changing descriptive phrases. Although none of these variations have any bearing on the physics, only a small percentage of the students studied, came to the expected conclusions. The thesis thus demonstrated clearly that student engagement is highly context dependent. Furthermore, the results clearly indicate that an explanation in which incorrect responses are attributed to "misconceptions" is deeply flawed. Rather, a model that is based on a "knowledge in pieces" perspective that is driven by sense-making derived from prior experiences, better describes the data.

Supervisor: A/Professor MS Allie (Physics)

5. FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

Dean: Professor A Lewis

DEGREE OF DOCTOR OF PHILOSOPHY

In Chemical Engineering: Paul Aaron Bepswa Thesis Title: Development of a Heuristic Methodology for Designing Measurement Networks for Precise Metal Accounting

Paul Bepswa has a BSc Metallurgical Engineering degree from the University of Zimbabwe, and is currently a Research Officer in the Department of Chemical Engineering at UCT.

Paul Bepswa's thesis proposed a relatively new area of research called 'measurement network design'; specifically the use of heuristics in designing measurement networks for the precise accounting of material flows in processing operations. In this context, measurement network design refers to placing measurements in a process network in order to maximise precisions on stream(s) of interest. The heuristics developed are applied to metal accounting which is defined as the estimation of (saleable) metal from raw material sources and subsequent process streams over a defined time period. One of the greatest challenges facing metal accounting is 'uncertainty' that is caused by random errors which tend to degrade the quality of measured data and its derivatives. The study found that the prevailing practice in the industry is to minimise accounting variance by directly sampling and weighing key terminal streams with high precision, a costly approach reliant on measurement technology and stringent procedures. Mathematical heuristics developed in this study

however illustrate the benefits of direct and precise measurement of internal streams in order to maximise precision on terminal streams through the 'no-cost' option of data reconciliation. They assist the design decision process by informing on network choices that maximise the precisions of key accounting measurements at the conceptual stage of process network design.

Supervisor: Professor D Deglon (Chemical Engineering)

*John Themba Mc Coy Thesis Title: *Development of a computationally efficient model for the control of Ziegler-Natta catalysed industrial production of high density polyethylene*

John McCoy completed his BSc(Eng) at UCT 2008, and subsequently upgraded his MSc in Chemical Engineering to a PhD. He is currently working as a Process Engineer in Technical Support at Sasol.

In his thesis, John McCoy studies the production of high density polyethylene (HDPE) from a reactor modelling perspective. HDPE is a light-weight, non-toxic and recyclable plastic which is widely used in packaging and piping applications. HDPE is produced by the slurry-phase copolymerisation of ethylene and other alkenes, using heterogeneous Ziegler-Natta catalysts. Significant quantities of low-value polymer material are produced during grade transitions, when the conditions in the reactor are deliberately changed to adjust the properties of the plastic product. John McCoy developed a dynamic simulation of an industrial reactor which can be used to optimise the operation of the reactor, particularly during grade transitions, reducing the amount of waste material that is produced. The reactor model was based on a fundamental understanding of polymerisation reaction kinetics developed during

a laboratory study, and model predictions matched both laboratory and industrial data. The model simulated 30-40 hours of real time in 15-25 seconds of calculation time, making it ideal for real-time control and optimisation applications. John McCoy demonstrated through a number of case studies that the reactor simulation could be used to reduce the amount of waste produced during grade transitions by as much as 40%.

Supervisor: Professor R Rawatlal (Chemical Engineering) Co-supervisor: Professor JBP Soares (Chemical and Materials Engineering, University of Alberta, Canada)

Rhiyaad Mohamed Thesis Title: *Electrocatalysis of oxide-based materials for the oxygen reduction and evolution reactions*

Rhiyaad Mohamed has a BSc, BSc(Hons) and MSc in Chemistry from Nelson Mandela Metropolitan University. His PhD emerged from short research visits to the HySA/ Catalysis Centre of Competence at UCT and the Paul Scherrer Institute in Switzerland near the end of his master's dissertation.

Rhiyaad Mohamed's thesis details work on the understanding of a completely new generation electrocatalyst technologies of developed over the years. This study particularly explores the use transition metal oxides. The materials were investigated for application in renewable electricity generation in fuel cells through the oxygen reduction reaction and the renewable production of hydrogen as a fuel in electrolysers through the oxygen evolution reaction. Rhivaad Mohamed has used a large number of detailed experiments as the backbone of his work and used fundamental thermodynamic principles as well as advanced characterisation techniques to link the performance of the catalytic

systems to their inherent physical properties. The result is a study that provides important insights and contributions towards the further understanding of the use of metal oxides for the oxygen evolution reaction and oxygen reduction reaction.

Supervisor: Dr P Levecque (Chemical Engineering) Co-supervisor: Dr E Fabbri (Electrochemistry Laboratory, Paul Scherrer Institut)

In Electrical Engineering: Adeyemi Abel Ajibesin Thesis Title: MURAC: Novel approaches to performance evaluation and benchmarking for energy-efficient multicast: empirical study of coded packet wireless networks

Adeyemi Ajibesin has an MSc (Eng) from UCT, a postgraduate diploma in Mathematical Sciences from the University of Stellenbosch and a BSc Honours from the Olabisi Onabanjo University in Nigeria.

Adeyemi Ajibesin's thesis aims to research energy efficiency in ad hoc wireless networks with a view to minimise multicast energy that could be hazardous for environmental sustainability and global warming. To address these challenges and assist network operators when formulating their network policies and performing network administrations, this thesis proposes novel approaches that are based on Data Envelopment Analysis methodology to appropriately evaluate the efficiency of multicast energy and further minimise energy transmission in ad hoc wireless networks without affecting the overall network performance. In addition, a novel benchmarking model is proposed to establish a standard of excellence among the ad hoc wireless networks. Similar to envelopment models, these models were adapted to develop variable-benchmarking models that are based on the inputorientation approach. Furthermore, in order to estimate the amount of energy reduction in ad hoc wireless networks and address the concerns of the Information and Communications Technology (ICT) environmentalist, a novel Energy Gap mechanism was propounded to analyse and compare energy reduction using empirical Data Envelopment Analysis architecture for minimum energy multicast and the existing architecture that was designed based on network coding technique.

Supervisor: Mr N Ventura (Electrical Engineering) Co-supervisors: Dr A Murgu (Electrical Engineering); Professor A Chan (Electrical Engineering)

Oladapo Omotade Ogidi Thesis Title: *Modelling and detection of faults in axial-flux permanent magnet machine*

Oladapo Ogidi was born and raised in Lagos, Nigeria. His professional interests include electrical machine design, condition monitoring and development of wind power.

In Oladapo Ogidi's thesis, common faults associated with axial-flux permanent magnet machine namely; static eccentricity and interturn short circuit are modelled, and detection techniques are established. In the detection, motor current signature the analysis, vibration analysis and electrical impedance spectroscopy are applied. Attention is paid to fault-feature extraction and fault discrimination. Using signal processing techniques, features are tracked in the line current under steady-state and transient conditions. Parametric spectral estimation is also explored as an alternative to the Fourier transform in the steady-state analysis of faulty conditions. It is found to be as effective as the Fourier transform and more amenable to short signalmeasurement duration. Vibration analysis is applied in the detection

of eccentricities; its efficacy in fault detection is hinged on proper determination of vibratory frequencies and quantification of corresponding tones. Furthermore, the developed fault model is used to assess the influence of cogging torque minimisation techniques and rotor topologies on current signal in the presence of static eccentricity. double-sided topology is The found to be tolerant to the presence of static eccentricity unlike the single-sided topology. By applying electrical broadband impedance spectroscopy, interturn faults are diagnosed; a high frequency winding model is developed to analyse the impedance-frequency response obtained.

Supervisor: A/Professor P Barendse (Electrical Engineering)

Allen Lehopotseng Ramaboli Thesis Title: *Concurrent multipath transmission to improve performance for multihomed devices in heterogeneous networks*

Allen Ramaboli has a BEng degree from the University of Lesotho, and an MEng from UCT. He was a lecturer and IT project manager at the University of Lesotho, and is currently a network engineer at PPS Insurance, where he designs, implements and optimises cutting edge network and security solutions.

Allen Ramaboli's thesis focuses on improving the utilisation and quality of service of the generation heterogeneous next networks. The current connectivity settings in heterogeneous networks confine multi-interface user devices to a single network path at a time, thus leading to low utilisation of network resources, which can significantly degrade the quality of service experienced by users of high bandwidth-consuming applications. To address this problem, Allen Ramaboli develops three adaptive schemes that aggregate resources in heterogeneous networks

enhance network resource to utilisation and enable efficient concurrent multipath transmission. The performance of the proposed schemes has been evaluated through a series of simulations. Results show that the proposed schemes significantly enhance network resource utilisation and quality of service for network users accessing network applications that require large amount of bandwidth. Allen Ramaboli's schemes make significant contribution to а knowledge in concurrent multipath transmission for the Future Internet.

Supervisor: A/Professor OE Falowo (Electrical Engineering) Co-supervisor: Professor HA Chan (Electrical Engineering)

Johanette Van Der Merwe Thesis Title: *Determining preferred substation configurations based on reliability and cost*

Johanette van der Merwe graduated from Stellenbosch University in Electrical Engineering and then worked with Eskom and consulting engineers. She completed an MSc(Eng) at UCT and immediately continued her research. During her studies she has been a guest lecturer at Durham University.

Johanette van der Merwe's area of research is in assessing the reliability of distribution substations (in the range of 132 to 11 kV), which can take on many different configurations, including firm or non-firm transformer capacity. The topic is particularly important for utilities and is being extended beyond substation configurations to pipelines, etc. She grouped the components of substations into sub-systems to reduce the complexity of entering the data and calculating the reliability and the costs of reliability for over 400 different distribution substation configurations. Then she identified over 700 sets of design criteria combinations, such as highest voltage being 132 kV or other lower

voltages, busbar configurations, and number of transformers and feeders, and generated 18 different customer damage functions. She ran all the numbers and clustered the results to identify the key sets of best substation configurations for planners to use. The whole model can be adapted by the users according to the utilities' standards and costs as they change. Her research has shown it is possible to identify optimum layouts, and the tool she developed will be useful for planners.

Supervisor: Emeritus Professor CT Gaunt (Electrical Engineering) In Energy Studies: Kim Coetzee Thesis Title: The elephant in the room: the rise and role of India in the climate change negotiations

Kim Coetzee has a BA from Rhodes University, a BA(Hons) from the Open University (UK) and an MSocSc in International Relations from UCT.

Kim Coetzee's qualitative case study of India's role at the United Nations Framework Convention on Climate Change (UNFCCC) employs the Critical International Relations theoretical framework of Robert Cox to understand how India's role at the climate change negotiations has changed over time. By analysing the configurations of the forces of ideas, institutions material capabilities, and the dissertation sought to identify the 'framework for action' that enables or constrains how states act, or conceive of acting. She found that in the transition from abstract principle to operational precept the intersubjective idea of addressing climate change did not transmute into an intersubjectively shared idea of differentiation. Once the idea of differentiation operationalised in was the negotiations, its primacy - indeed its very "intersubjectiveness" - was contested by the idea of symmetry of obligations and responsibility. The ongoing regime flux is the outcome of this contestation between ideas held collectively by groups as no hegemonic historical structure has been created. India's emergence has been insufficient to reinstate differentiation as an intersubjectively held idea and it is thus unable to secure a hegemonic historical structure in favour of differentiation.

Supervisor: Professor H Winkler (Mechanical Engineering) Co-supervisor: Dr K Smith (Political Studies)

VALUES OF THE UNIVERSITY

The University is a community of scholars, teachers, students and staff. A community implies the shared acceptance by its members of common values. The concept of values implies not only rights but also obligations, for the community itself and for its individual members.

This statement of values provides a framework that informs and governs what is considered by the University community to be appropriate and acceptable behavior. The statement also serves as the foundation for a range of University policies and guides the management of particular aspects of University life.

As a community, the University commits itself, and expects all its members, to exemplify and uphold these values and to reflect them not only in institutional and personal relationships, but also in all other aspects of University life, including work, sport, recreation, and cultural, intellectual, religious and other activities.

As a values-based community, we aspire to an encompassing ethos which

- promotes academic excellence and the attainment of the institutional goal of becoming a world-class African University;
- preserves what is valuable in the history of the institution and of this country, and responds to the challenges posed by past injustices and unfair discrimination;
- achieves social transformation, empowerment and participative governance;
- affirms and protects the fundamental human rights enshrined in the Constitution; and
- encourages the institution and all its members to accept responsibility for the welfare of the community and for behaving in accordance with these community values

VALUES

We commit ourselves to

- truth, fairness, consistency, and integrity in both academic and other work, and in all personal and institutional relationships;
- compassion, generosity and concern for the needs and aspirations of others, and in particular for the challenges faced by the less privileged in our society;
- respect and tolerance for cultural, religious, political, and other differences and acknowledgement of the value of diversity in society;
- respect for individual privacy, dignity, and the right to personal choice;
- intellectual honesty, rigour in debate, openness to alternative ideas and respect for other views, beliefs and opinions;
- commitment to high standards, personal fulfillment and the pursuit of excellence;
- the protection and responsible use of the University's assets and resources;
- concern for the personal safety, health and welfare of all members of the community; and
- the protection and conservation of the environment and our natural resources.

VALUES OF THE UNIVERSITY (continued)

ACTIONS

In the context of our recent history, we recognize the importance of affirming this ethos and promoting these shared values. Accordingly, we undertake collectively and individually

- to promote and protect academic freedom;
- to oppose and take steps to prevent racial, gender or other forms of unfair discrimination, harassment, violence or abuse;
- to actively promote social justice and equity;
- to nurture a culture of learning, which is supportive of students, scholars and teachers;
- to refrain from speech or conduct that demeans or humiliates others;
- to encourage our members to enjoy life; to laugh, to love, to appreciate and take full advantage of the wealth of opportunities available to us in academic endeavour, in making friends, and in social, cultural and sporting activity;
- to advance the principle of open governance and to be fully accountable for our actions, decisions, and the stewardship of the University's resources and mission; and
- to nurture and empower our members.

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.

MISSION STATEMENT OF THE UNIVERSITY OF CAPE TOWN

UCT aspires to become a premier academic meeting point between South Africa, the rest of Africa and the world. Taking advantage of expanding global networks and our distinct vantage point in Africa, we are committed, through innovative research and scholarship, to grapple with the key issues of our natural and social worlds. We aim to produce graduates whose qualifications are internationally recognised and locally applicable, underpinned by values of engaged citizenship and social justice. UCT will promote diversity and transformation within our institution and beyond, including growing the next generation of academics.

Foundation statement underpinning the mission statement Our research-led identity is shaped by a commitment to:

- academic freedom as the prerequisite to fostering intellectual debate and free injury;
- ensuring that research informs all our activities including teaching, learning and service to the community;
- advancing and disseminating knowledge that addresses the key challenges facing society South African,
- continental and global;
- protecting "curiosity driven" research;
- nurturing and valuing creativity in the sciences and arts including the performing and creative arts;
- stimulating international linkages of researchers and research groupings.

We strive to provide a superior quality educational experience for undergraduate and postgraduate students through:

- providing an intellectually and socially stimulating environment;
- inspired and dedicated teaching and learning;
- exposure to the excitement of creating new knowledge;
- stimulating the love of life-long learning;
- the cultivation of competencies for global citizenship;
- supporting programmes that stimulate the social consciousness of students;
- offering access to courses outside the conventional curricula;
- attracting a culturally and internationally diverse community of scholars;
- guaranteeing internationally competitive qualifications;
- offering a rich array of social, cultural, sporting and leadership opportunities;
- providing an enabling physical and operational environment.

In advancing UCT as an Afropolitan university, we will:

- expand our expertise on Africa and offer it to the world;
- extend our networks on the continent, along with our global connections and partnerships;
- promote student and staff exchanges and collaborative research and postgraduate programmes;
- engage critically with Africa's intellectuals and world views in teaching and research;
- contribute to strengthening higher education on our continent.

We strive to provide an environment for our diverse student and staff community that:

- promotes a more equitable and non-racial society;
- supports redress in regard to past injustices;
- is affirming and inclusive of all staff and students and promotes diversity in demographics, skills and backgrounds;
- offers individual development opportunities to all staff;
- is welcoming as a meeting space for scholars from Africa and around the world.

THE UNIVERSITY OF CAPE TOWN DONOR ROLL

The University of Cape Town gratefully acknowledges the sustained contributions of the following partners. Their generosity has assisted us toward our goals of improving student access to tertiary education and promoting curriculum, staff and student transformation; increasing our research capacity; and implementing programmes that promote social engagement and community upliftment.

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As of January 2015, the levels of individual donors' giving circles have changed as follows:

- Chancellor's circle: formerly R250 000+, now R500 000+;
- Vice-Chancellor's Circle: formerly R100 000 R250 000, now R250 000 R500 000;
- Dean's circle: formerly R60 000 R100 000, now R100 000 R250 000;
- Friends of UCT: formerly <R60,000, now <R100,000.

Please note that these changes only affect donations received after 1 January 2015. All donors who were members of particular circles prior to January 2015, will continue to be recognised in their original circles, until the rolling five-year giving period has elapsed.

We apologize for any omissions or errors. If you would like to query your donations totals, circle membership, or any other matter related to your gifts to UCT, please email <u>giving@uct.ac.za</u>.

A full list of UCT donors is also available at <u>www.uct.ac.za/dad/giving/donor_recognition</u>.

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Diverse as this community is, the shared experiences of a critical academic ethos and a spectacular campus make for a strong network that has a wide footprint, not only in South Africa, but across the continent and the globe.

We set a great store by our links with our alumni, and indeed the links alumni have with each other. We promise that we will be in touch, and ask you in turn to let us know not only your current contact details but also, from time to time, something of your lives and where you are in your careers.

Updates can be done on the web – <u>http://www.uct.ac.za/dad/alumni/update/</u> - or by writing to the Alumni Office, UCT, PB X3 Rondebosch 7701 or by contacting us on (27) (21) 650 3746.

Your alma mater looks forward to welcoming you back, whether to a public lecture, a leadership forum, your class reunion, or just an informal call!