



GRADUATION CEREMONY

July 2022

PhD GRADUATION CEREMONIES JULY 2022

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Morning Ceremony – 22 July 2022 at 10h00.....4

Faculties of Commerce, Engineering & the Built Environment, Law and Science

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Faculties of Health Sciences and Humanities

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.

FACULTIES OF COMMERCE, ENGINEERING AND THE BUILT ENVIRONMENT, LAW AND SCIENCE

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.

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

Musical Item.

Welcome by the Master of Ceremonies.

The Master of Ceremonies will present the UCT Book Award to Distinguished Professor P-J Salazar.

The Orators will present Dr R Adams, Sir F Berman QC, and Mr G Budlender SC for the award of an honorary degree.

The Master of Ceremonies will invite Sir F Berman QC to address the congregation.

Address by Sir F Berman QC.

Praise Poetry.

The graduands will be presented to the Presiding Officer by the Deans of the Faculties.

The Presiding Officer will congratulate the new graduates.

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

The Presiding Officer will dissolve the congregation.

The procession will leave the hall.

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

THE UNIVERSITY BOOK AWARD

The University Book Award recognises the publication of books, written by University staff that brings credit to the University.

Previous recipients of the award have been:

1984	J M Coetzee (Arts)	<i>Waiting for the Barbarians</i>
1985	G M Branch (Science)	<i>The Living Shores of South Africa</i>
1986	L H Opie (Medicine)	<i>The Heart: Physiology, Metabolism, Pharmacology and Therapy</i>
1987	M J Hall (Arts)	<i>The Changing Past: Farmers, Kings and Traders in Southern Africa, 200 - 1860</i>
1988	R G Lass (Arts)	<i>The Shape of English: Structure and History</i>
1989	H Bradford (Arts)	<i>A Taste of Freedom</i>
1990	J M Coetzee (Arts)	<i>Age of Iron</i>
	K M Coleman (Arts)	<i>Book IV of the Silvae of Statius</i>
1991	R Mendelsohn (Arts)	<i>Sammy Marks, "The Uncrowned King of the Transvaal"</i>
1992	P Skotnes (Fine Art & Architecture); S Watson (Arts); J Parkington (Arts) and N Penn (Arts)	<i>Sound from the Thinking Strings</i>
1993	D Chidester (Social Science & Humanities)	<i>Shots in the Street</i>
	W Nasson (Arts)	<i>Ebram Esau's War</i>
1994	G M Branch (Science); C L Griffiths (Science); L Beckley and M L Branch	<i>Two Oceans: A Guide to the Marine Life of Southern Africa</i>
1996	D Coplan (Humanities)	<i>In the time of the Cannibals</i>
	P Harries (Arts)	<i>Work, Culture and Identity</i>
	M Shain (Arts)	<i>The roots of anti-Semitism in South Africa</i>
	T Rajna (Music)	<i>Harp Concerto</i>

THE UNIVERSITY BOOK AWARD (CONTINUED)

1997	B Warner (Science)	<i>Cataclysmic Variable Stars</i>
1998	M S Blackman (Law)	<i>Companies (in Law of South Africa, first re-issue Vol 4, parts 1, 2 and 3)</i>
	J V Bickford-Smith (Arts)	<i>Ethnic Pride and Racial Prejudice in Victorian Cape Town: Group Identity and Social Practice, 1875 - 1902</i>
1999	M Mamdani (Humanities)	<i>Citizen and Subject: Contemporary Africa and the Legacy of Colonialism</i>
2000	J Higgins (Humanities)	<i>Raymond Williams. Literature, Marxism and Cultural Materialism</i>
2001	N G Penn (Humanities)	<i>Rogues, Rebels and Runaways</i>
2002	J Glazewski (Law)	<i>Environmental Law in South Africa</i>
2003	T D Noakes (Health Sciences)	<i>Lore of Running</i>
2004	MS Blackman (Law); RD Jooste (Law); GK Everingham (Law)	<i>Companies Act: Commentary</i>
2005	N Natrass (Commerce)	<i>The Moral Economy of Aids in South Africa</i>
2006	P Knox-Shaw (Humanities)	<i>Jane Austen and the Enlightenment</i>
2007	W Nasson (Humanities)	<i>Britannia's Empire – Making a British World</i>
2008	P Bruyns (Science)	<i>Stapeliads of Southern Africa and Madagascar</i>
2009	P Skotnes (Humanities)	<i>The Archive of Willem Bleek & Lucy Lloyd</i>
	N Penn (Humanities)	<i>The Forgotten Frontier</i>
2010	C Vaughan (Health Sciences)	<i>Imagining the Elephant: A Biography of Allan Macleod Cormack</i>
2011	JC De Villiers (Health Sciences)	<i>Healers, Helpers and Hospitals: A history of military medicine in the Anglo-Boer War</i>
2012	No award made	
2013	S Loots (Humanities)	<i>Sirkusboere</i>
2014	N Natrass (Commerce)	<i>The AIDS Conspiracy: Science Fights Back</i>
2015	S Shaikh (Humanities)	<i>Sufi Narratives of Intimacy</i>

THE UNIVERSITY BOOK AWARD (CONTINUED)

2016	L Modisane (Humanities)	<i>South Africa's Renegade Reels: The Making and Public Lives of Black-Centred Films</i>
2017	D Chidester (Humanities)	<i>Empire of Religion: Imperialism and Comparative Religion</i>
2018	D Wardle (Humanities)	<i>Suetonius: Life of Augustus</i>
2019	A Tietze (Humanities)	<i>A History of the Iziko South African National Gallery: Reflections on Art and National Identity</i>
	A Zingoni (Engineering & the Built Environment)	<i>Shell Structures in Civil and Mechanical Engineering: Theory and Analysis</i>
2020	H Wasserman (Humanities)	<i>Media, Geopolitics, and Power: A View from the Global South</i>

The book award for 2021 is to be awarded to:

Words are Weapons: Inside ISIS's Rhetoric of Terror

Philippe-Joseph Salazar

Distinguished Professor in Rhetoric, Department of Private Law, Faculty of Law, University of Cape Town

As noted by French Academy "Immortal" and philosopher Barbara Cassin, "Salazar's book is unique in its careful grasp of extreme Islamic propaganda as a global rhetoric and it helps us understand how the electronic age may well be our own ethical undoing in the face of new totalitarianisms". This concurs with Cheryl Glen, Distinguished Professor of Rhetoric and Women Studies at Penn State University, who highlights that "Words are Weapons illuminates the Caliphate's rhetorical power, showing us Westerners all the ways we do not understand". Robert Hariman, Professor of Rhetoric at Northwestern, Chicago, sums it up: "Instead of using the usual clichés about civilisation and barbarism, he argues for understanding, and replaces certitude with discernment".

HONORARY DEGREE

ROBERT MARTIN ADAM

FOR THE DOCTOR OF SCIENCE (*honoris causa*)

Dr Robert Adam is a graduate of the universities of Cape Town (BSc Hons) and South Africa (MSc and PhD). He is the Managing Director of the South African Radio Astronomy Observatory. In the 1990's, he played a leading role in the advancement of science and technology in South Africa. He served as Chief Director: Science, Technology and Terminology (1995), Deputy Director-General: Science and Technology (1996), Director-General of Arts, Culture, Science and Technology (1999), Chief Executive Officer: South African Nuclear Energy Corporation (2006), and Director of the Square Kilometre Array South Africa (2016).

Dr Adam's main contribution to the development of Science and Technology in democratic South Africa includes his leading role in drafting the Science and Technology Policy (1991) and the Green Paper and the White Paper on Science and Technology (1997). The White Paper guided the South African Government's vision for science and technology and large investments in science-related infrastructure. Dr Adam chaired the steering committee for the bid that South Africa won to host the Square Kilometre Radio Telescope. He is credited for his leading role in the establishment of the world's largest optical telescope and the world's most sensitive radio telescope. These world-class research facilities have transformed Astronomy and Physics in South Africa and on the continent.

Dr Adam's contributions to science and technology have been recognised through prestigious awards, including the Lifetime Achievers Award of the South African National Energy Association (2010) and being Knighted as Chevalier de l'Ordre National du Mérite by the President of the Republic of France, for outstanding achievement in fostering scientific collaboration between France and South Africa (2011). His scientific contribution has been recognised by highly respected professional bodies such as the Royal Society of South Africa, the Academy of Science of South Africa, and the Engineering Academy of South Africa.

Dr Robert Adam's outstanding and life-long contributions to Science and Technology in South Africa, and to the disciplines of Astronomy and Physics, make him an eminently worthy recipient of an honorary degree from UCT.

SIR FRANKLIN DELOW BERMAN QC

FOR THE DOCTOR OF LAWS (*honoris causa*)

Sir Franklin Berman has made an immense contribution to the growth and development of international law and international dispute resolution. A graduate of UCT with a BA and BSc Mathematics, Sir Frank joined the British Foreign Office in 1965, where he served in various capacities, including legal adviser to the British military government in Berlin, Counsellor to the UK Mission to the United Nations, and Legal Adviser to the Foreign and Commonwealth Office. In these roles he was able to contribute to the settlement of international disputes and to the development of various aspects of international law.

Sir Frank led the UK delegation negotiating the drafting of the Statute of the International Criminal Court which set up an historic mechanism for addressing impunity for international crimes. Since 2000, he has been involved in high profile international arbitrations both as a private arbitrator and, since 2010, as a member of the Permanent Court of Arbitration (PCA), a long-standing intergovernmental organisation that provides legal resolution services to the international community. One of his most recent arbitrations includes the dispute between India and Pakistan under the Indus Waters Treaty which has been the source of war between the two countries before. Sir Frank has also served as an ad hoc judge of the International Court of Justice (ICJ). At the ICJ Sir Frank recently presided over the dispute between Germany and Liechtenstein concerning the property confiscated by in 1945. Sir Frank concurred with the lead judgment of the court but wrote an influential opinion in which he dissented from aspects of that judgment. He is currently involved in adjudicating two appeals at the ICJ. These eminent roles at the ICJ and PCA bear testament to the stature of Sir Frank in international law.

HONORARY DEGREE (CONTINUED)

In 1992 Sir Frank was appointed honorary Queen's Counsel, and in 1996 was knighted by the Queen of England. He has received many other prestigious honours, and is widely respected in the UK, international community and South Africa.

Sir Frank has become one of the most accomplished and distinguished alumni of UCT. Through his illustrious career, he has not only proudly flown the UCT flag high on the international stage, he has also, directly, contributed significantly to increasing alumni engagement with and support to UCT. His life-long contribution to international law and this university only deems it fitting that he be a recipient of a UCT honorary doctorate.

GEOFFREY MICHAEL BUDLENDER SC

FOR THE DOCTOR OF LAWS (*honoris causa*)

A distinguished alumnus of the UCT 1975 LLB class, Geoffrey Budlender is a towering figure in the South African legal profession who commands respect throughout Africa and beyond. His colossal record of struggle for the greater good, social justice and human rights began as a student at UCT in the early 1970s when he was President of the SRC and, later, Chair of the National Council of the National Union of South African students, and led student protests against the apartheid regime. Soon after graduation and completing his articles, Budlender, with Arthur Chaskalson who would later become the first President of the Constitutional Court of South Africa, co-founded the Legal Resources Centre (LRC), of which he was Director from 1993 to 1996, introducing to South Africa public interest litigation. At the LRC, Budlender became a trusted and indefatigable soldier of the poor and marginalised, winning them vital battles in the courts.

Budlender served as Director General of the Department of Land Affairs during Mandela's presidency. As such, he played a critical role in re-incorporating homelands into the new South Africa, and in the revision and reform of various laws including water law, the law governing the disposal of state land and the regulation of the legal profession. His return to the LRC as Director of the Constitutional Litigation Unit in 2000 to 2004 was perhaps the most consequential of his career. During this period, Budlender was involved in some of the most profound and ground-breaking decisions the Constitutional Court has produced to date. The *Grootboom* and *Treatment Action Campaign* cases in which Budlender was involved, and argued in favour of the positions of the vulnerable and marginalised groups, have received international claim, for they found the state to have violated positive obligations implicit economic, social and cultural rights, which were until then considered unenforceable by the courts. These decisions have inspired many countries throughout the world to constitutionalise socio-economic rights and to introduce judicial means of enforcing them. Over his long and illustrious career, Budlender has argued 87 reported cases.

In recognition of his distinguished service to the legal profession, Budlender was awarded senior counsel status in 2008. He has served as acting judge for a total of 15 months during which he authored at least six reported judgments. He has also contributed significantly to UCT including as a member (2002 – 2008) and chair (2004 – 2008) of council. Recently he received the Pro Bono Award from the International Bar Association in recognition of his immense contribution to social justice and public interest litigation. Geoffrey Budlender is eminently worthy of the award of LLD (hc).

NAMES OF GRADUANDS

1. FACULTY OF COMMERCE

Dean: Professor S Goodman

DEGREE OF DOCTOR OF PHILOSOPHY

Malcolm Garbutt

Thesis Title: *Towards a disruptive learning model in information systems education: a reflective student-dominant logic perspective*

Malcolm Garbutt holds a BCom in Accounting and Economics from UNISA, and a BComHons and MCom in Information systems from UCT. He has consulted to a broad range of industries and currently lectures in Information Systems.

Malcolm Garbutt's thesis focuses on how to improve learning outcomes of information systems students. Exploring students' reflections on information systems projects identified four mechanisms students use to improve learning and reduce the gap between theory and practice. The four mechanisms are associated with four levels of learning, from the absolute yes-or-no knowledge of novices to the proficiency in multiple contexts of experts. Central to the four mechanisms is the application of effort to assigned tasks. Malcolm Garbutt identified a series of actions that disrupted habitual activities and inspired effort. The findings were summarised in two models that show how reflective practices can improve learning outcomes. The models recognise that students learn at different levels but are predominantly task-driven and need to be inspired to apply effort in completing tasks and overcoming satisficing.

Supervisor: Professor LF Seymour
(Information Systems)

Co-supervisor: Professor JC Cronjé
(Cape Peninsula University of
Technology, Information Technology)

Nonhlanhla Patience Mkhize

Thesis Title: *Toward relevant measures of performance to manage complexity in inclusive development projects*

Nonhlanhla Mkhize completed her MSc at the University of Pretoria. Her passion to improve the management of complex projects led her to the Graduate School of Business at UCT in 2013 for her PhD studies.

Nonhlanhla Mkhize investigates how complexity affects the management of inclusive development projects. This study seeks relevant measures of performance that can expand the triple constraint model to deal adequately with complexity. The findings highlight that a plurality of stakeholders influences the prioritisation of project goals. It consequently influences the allocation of resources towards the desired multi-dimensional transformative change. Findings show that the collaboration of stakeholders demands flexible, inclusive, and responsive governance. Flexibility seems to be key in responding to fluid and unpredictable changes. The findings are presented as a four-dimensional model to expand the triple constraint measures. The dimensions are process, scope, context, and good governance measures. They represent the breadth of performance management priorities that need consideration to effectively manage complex inclusive innovation projects.

Supervisor: A/Professor K Sewchurran
(Graduate School of Business)

Lancelord Siphamandla Mncube

Thesis title: *Domestication of open educational resources by academics in an open distance e-learning institution of South Africa*

Siphamandla Mncube holds bachelor's, honours, and master's degrees in Information Science from the University of South Africa. He joined the School of Information Technology at UCT in 2017 for his PhD studies. He is currently employed at the University of South Africa as a lecturer.

Siphamandla Mncube's thesis focuses on the domestication of open educational resources (OER) in the open

distance e-learning (ODEL) context of South Africa. He investigates how academics domesticate OER for their tuition and research. He conducted research on data from heterogeneous colleges, schools, and departments of ODeL. He also triangulated data for confirmability from OER Champions and librarians, and artifact analysis. This allowed him to present new theoretical propositions as answers to the domestication of OER. His study extends domestication of OER with additional constructs. He further suggests the principles of developing OER. These findings will be useful for ODeL and other higher education institutions for the transformation of OER.

Supervisor: Professor M Tanner
(Information Systems)

Co-supervisor: Professor W Chigona
(Information Systems)

Rutendo Moreblessings Mushore

Thesis Title: *Business strategy, work practices, and stakeholder interests in digital transformation: Towards an alignment model to optimise business value*

Rutendo Mushore completed her BComHons and MCom in Information Studies at UCT, and began her PhD in 2018 as a part-time student.

In her study, Rutendo Mushore uses the alignment as Gestalt principle to provide a fine-grained analysis on configurations that yield alignment profiles that distinguish between a good coherent configuration and an incoherent configuration. The resulting configurations are then used to highlight areas which require optimisation. Unique and significant contributions from Rutendo Mushore's research are to current theoretical and practical perspectives on digital transformation using an alignment model. She also provides a framework to optimise the value of digital transformation.

Supervisor: Professor M Kyobe
(Information Systems)

Hubeidatu Nuhu

Thesis Title: *Open Government Data publication and use in a developing country: a case of Ghana*

Hubeidatu Nuhu completed her MPhil in Management Information Systems at the University of Ghana, and enrolled for PhD at UCT in 2018.

Hubeidatu Nuhu's thesis identifies social factors and how they either constrain or enable the publication and use of Open Government Data in a developing country. After identifying the social factors, she investigated the impact or public value created by leveraging Open Government Data. The relevance of her study is linked to this era of openness where countries globally have accepted and joined the Open Government Data movement to ensure transparency, accountability, and citizen participation in government activities. Her study contributes to the current debate of unsuccessful institutionalisation of Open Government Data in Ghana despite a ten-year membership. The social factors identified include data ownership, institutional norms, attitude towards data sharing, network or alliance creation, and data quality. Her study recommends implementing change management practices to help in the successful institutionalisation of Open Government Data so that its potential benefits can be realised.

Supervisor: Professor J-P Van Belle (Information Systems)

Princewill Ukoh Okwoche

Thesis Title: *Public debt in sub-Saharan African countries: determinants and economic effects*

Princewill Okwoche holds BSc and MSc degrees in economics from the Benue State University, Nigeria. He joined the School of Economics at UCT in 2018 for his PhD studies. Before joining UCT, he worked as a lecturer in economics at the Benue State University.

Princewill Okwoche's thesis is an empirical investigation into the drivers and economic growth effects of public debt with an exclusive focus on sub-Saharan African (SSA). He first employs

a panel dataset in examining the drivers of public debt and finds that SSA's public debt can be explained by macroeconomic factors, but also by socio-political and governance factors. He then examines the relationship between public debt and growth, also using panel data and finds evidence of a nonlinear relationship between public debt and growth. This implies that borrowing may be good for growth to some extent but that a large and sustained increase in public debt may be harmful for growth. Lastly, evidence from a study focusing on Nigeria underscores the importance of country-specific studies in this literature given the difficulty of accounting for some country-specific nuances in a panel data framework, which limits the applicability of such studies to individual countries.

Supervisor: Professor E Nikolaidou (Economics)

Co-supervisor: Dr C Makanza (Economics)

Erna Hildegard Florence Oldenboom

Thesis Title: *The healthy organisation: is it meaningful?*

Erna Oldenboom had an international career of more than 30 years in Human Resources Management and Organisational Design. She obtained a BA in Human Resources Management, a MA in Organisational Design (both in the Netherlands) and an MPhil in Peace and Conflict Resolution (Granada, Spain).

In Erna Oldenboom's thesis the high health organisation is defined, and this in comparison with what is commonly known as a high-performance organisation. The thesis suggests answers to what it takes to be or to become a high health organisation, and how organisations could create such a place, or possibly better "space". Indeed, a high health organisation is not a place, a building, or on organisational structure; it is a state of mind, a purpose, a form of coherence. The contribution of this thesis is threefold. A new conception of organisational health and what makes a company to be a healthy organisation is introduced. Key factors are identified that help create high health organisations. In order to realize this, an aligned research

approach has been developed applicable for research on non-material dimensions of management.

Supervisor: Associate Professor Kosheek Sewchurran (Graduate School of Business)

Shaun Graham Parsons

Thesis Title: *Developing a foundation for a globally coordinated approach to the taxation of crypto-asset transactions*

Shaun Parsons completed his BBusSc, PGDA and MCom (Taxation) at UCT. He commenced study towards his PhD in 2019.

Shaun Parsons' thesis qualitatively analyses a sample of 25 crypto-assets to identify the possible taxable events to which they may give rise. It then applies doctrinal analysis in determining the direct tax consequences of identified crypto-asset transactions and the allocation of taxing rights over those transactions within the international tax system. His thesis concludes that while all identified transactions may be classified within the text of the articles of the current model tax conventions, the allocation of taxing rights may be significantly impacted by existing differences in construction and interpretation of those articles, while the nature of those transactions may contribute to erosion of tax bases. Furthermore, those transactions raise specific considerations with respect to future measures to tax the digitalised economy. These findings support the alignment of country-specific tax responses as well as a globally coordinated approach to tax policy development.

Supervisor: Adjunct Professor C West (Finance and Tax)

Co-supervisor: Emeritus Professor J Roeleveld (Finance and Tax)

Tarryn Sydne Valle
Thesis Title: *Measuring and characterising the functional business financial literacy of entrepreneurs: a framework and survey instrument*

Tarryn Valle graduated from UCT with a BSc in 1999, a BCom in 2001, and an MCom in 2015. She commenced her PhD in early 2019. She worked in the financial services industry from 2001 but is currently self-employed and devotes her time to education and entrepreneurship.

Tarryn Valle's thesis is a blend of finance and education topics, focusing on measuring and characterising functional business financial literacy for entrepreneurs. Entrepreneurs are a vital part of economic growth and job creation, and financial literacy is a critical but neglected competency they require to succeed. The financial competencies entrepreneurs require must be formulated and their levels of business financial literacy measured to support them properly. Tarryn proposes business financial literacy as a new area of study and constructs a flexible financial competencies framework to map out the financial competencies required at different business forms. She further develops a survey instrument and measures and analyses business financial literacy in terms of the knowledge, behaviour, and attitudes of a cohort of 123 South African entrepreneurs. The findings that business size and the level of education of the entrepreneur are important explanatory variables will allow for more focussed training and entrepreneurial support.

Supervisor: A/Professor F Toerien
(Finance and Tax)

Pieter Van Aardt Van Der Spuy
Thesis Title: *Investigating the relationship between corporate tax avoidance and corporate culture in large South African companies*

Pieter van der Spuy holds a BCom (Hons) in Accounting Sciences from the University of Pretoria, and an MBA from Stellenbosch University's Business School. He teaches in the Accountancy Department at Stellenbosch

University, having previously been a strategy manager at KPMG.

Pieter van der Spuy's thesis focuses on corporate tax avoidance and its relationship with corporate culture and CEO characteristics. He uses financial data from the 112 largest listed companies on the JSE. Long-termism as a type of corporate culture is measured, finding that long-term oriented companies pay more tax on average, but that corporate culture transcends influential CEO characteristics, such as the CEO's qualifications. He conducts interviews with corporate tax advisors, providing insight into mechanisms used by CEOs to effect corporate tax avoidance. His research contributes to a better understanding of the causes and process of corporate tax avoidance as a problem in society.

Supervisor: A/Professor P de Jager
(Finance and Tax)

2. FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

Dean: Professor A Lewis

DEGREE OF DOCTOR OF PHILOSOPHY

Kehinde Temitope Alade
Thesis Title: *Developing a leadership framework for improving construction business organisations' performance in South Africa*

Kehinde Alade holds a BSc(Hons) degree in Architecture from Nnamdi Azikiwe University, Nigeria, and an MSc in Construction Management from Loughborough University, UK. He joined UCT in 2018 for his PhD studies. Before this, he worked as a lecturer in Project Management.

Kehinde Alade's thesis focuses on the leadership and performance of large construction organisations in South Africa. He investigates the role of the construction company's leaders in their organisations' success or failure. He started by interviewing 15 notable construction organisational

leaders with MBA, SAFCEC or the cidb affiliations in the Western Cape Province of South Africa. He further surveyed 259 construction organisational leaders registered on the cidb list of contractors across the nine Provinces of South Africa. He finds that the construction company leadership drives performance in their organisations. Further, the gap between expectations and company performance lies in the leaders' strategic decisions about change, innovation, investment, and Project Management, premeditated and directed towards the company vision. The leadership framework developed from his study findings explicates the leadership qualities and strategic decisions to assist in operating construction organisations sustainably and in their leadership succession plans.

Supervisor: Professor A Windapo
(Construction Economics and Management)

Benjamin Hendrik Alheit
Thesis Title: *Multiscale modelling of sutures in a high-performing biological protective structure: The turtle shell*

Benjamin Alheit holds a BScEng in Mechanical Engineering from UCT. He began his master's studies in the Centre for Research in Computational and Applied Mechanics in 2018. In 2020 he upgraded his master's studies to a PhD.

Benjamin Alheit's thesis focuses on the influence of sutures on the mechanical behaviour of biological protective structures. Sutures are soft collagenous tissue that join bony plates in many natural protective structures, such as skulls, pangolin armour, alligator armour, turtle shells, and the like. Combined with the theory of evolution, the ubiquity of sutures suggests that they improve the mechanical functioning of protective structures. Hence, there may be a case for including synthetic sutures in engineered protective structures. With this motivation, Benjamin Alheit investigates the mechanical influence of sutures by means of mathematical and computational modelling. Among other findings, he shows that, during a predator attack, the maximum strain energy density in a shell that contain sutures

is 31 times less than a shell without sutures; that is, a shell with sutures is far less likely to fracture than one without. Moreover, the thesis presents a modelling framework required for the design of biomimetic engineered protective structures containing synthetic sutures.

Supervisor: Emeritus Professor BD Reddy (Engineering)
Co-supervisor: Professor S Bargmann (Engineering)

Oluwabenga Apata
Thesis Title: *Reactive power compensation of fixed speed wind turbines using a hybrid wind turbine technology*

Oluwabenga Apata holds a BEng in Electrical/Electronic Engineering from the Anambra State University, Nigeria, and an MSc in Electronics and Microelectronics from the Tomsk Polytechnic University, Russia. He joined the Power System Research Group at UCT in 2016 for his PhD studies.

Oluwabenga Apata's thesis addresses the problem of voltage support and reactive power compensation in a fixed-speed wind turbine system. He proposes a hybrid solution that involves installing the fixed speed wind turbine alongside a variable speed permanent magnet synchronous generator wind turbine system. By developing a current allocation method, a coordinated control method is proposed. The proposed control strategy utilises the fully rated power electronic converter of the permanent magnet wind turbine in providing the required reactive power needed for the fixed speed wind turbine during a transient state condition. The proposed method can be applied to new wind farm installations and existing wind farms. This process eliminates the need for conventional reactive power support devices.

Supervisor: Dr DTO Oyedokun (Department of Electrical Engineering)

Trevor John Cloete
Thesis Title: *A precision experiment for the deformation and fracture of blast loaded plates*

Trevor Cloete completed his bachelor's degree in 1993 and his master's degree in 1997, both in Mechanical Engineering at Stellenbosch University. He joined the Department of Mechanical Engineering at UCT as a lecturer in 2000 and began reading towards his PhD.

The design of structures to protect people during life-threatening events such as vehicle accidents, requires a detailed understanding of the dynamic behaviour of materials. Modern sophisticated computer simulations can analyse structural response in detail and, therefore, require equally detailed experimental data to validate their accuracy. Trevor Cloete's thesis describes the design of a high-precision ballistic pendulum, to study the deformation and fracture of blast-loaded plates. In particular, he developed a unique plate specimen, featuring an instrumented central support, to capture detailed boundary reaction force histories during blast experiments that last less than a millisecond. In addition, he developed a generalised method to obtain analytical models to predict and interpret the structural response of impulsively-loaded axisymmetric plates. These models provide improved deflection and duration predictions using a novel two-phase solution that can also accommodate finite load durations. The extensive experimental results and analytical solutions reported in his thesis provide a rich set of data for simulation code validation.

Supervisor: Emeritus Professor G Nurick (Mechanical Engineering)

Bruce Dzenga
Thesis Title: *Development and application of a multi-criteria decision-support framework for planning rural energy supply interventions in low-income households in South Africa.*

Bruce Dzenga holds a master's degree in Development Finance from Stellenbosch University. He joined the Energy Research Centre (ERC) at UCT in 2017 for his PhD studies. Before joining UCT, he worked in the infrastructure development industry specialising in energy infrastructure in South Africa.

Bruce Dzenga's thesis focuses on energy access among low-income households in South Africa. The study proposes a novel multi-criteria decision analysis (MCDA) procedure for the evaluation and selection of optimal energy supply options for low-income households. The model combines two techniques, the augmented Chebychev goal programming (GP) and a value function method. The framework proved useful in optimally solving a hypothetical multi-objective combinatorial energy access problem while using a consensus-driven and interactive decision-making process. The study explains how the framework can be adopted and adapted to help tackle the complexities of pro-poor energy access policy. The work in developing the MCDA framework and applying it to a hypothetical energy access problem has clear implications for practice. The study also amplifies the need for home-grown solutions for tackling local problems.

Supervisor: Professor T Stewart (Statistical Sciences)
Co-supervisor: Ms A Hughes (Energy and Development Studies)

Sherlyn Gabriel
Thesis Title: *The effect of blast loading on composites which contain sustainable materials*

Sherlyn Gabriel holds a BScEng in Mechanical Engineering from UCT. She joined the Blast Impact and Survivability Research Centre in 2014 for her master's studies before upgrading to a PhD in 2015.

Sherlyn Gabriel's thesis reports

the blast response of a range of composites containing sustainable materials in comparison to two baseline composites. She went on to determine the failure progression of the different composites and how this relates to their respective quasi-static material properties. She further investigated the influence of fibre type and effect of replacing a conventional resin with a plant-based alternative bio-epoxy. Her research extended to establishing the effect of manufacturing method on a natural fibre laminate and the influence of plies in glass fibre reinforced composites. These findings are useful in future designs of structures and products, where both sustainability and blast performance of the materials need to be considered.

Supervisor: Professor GS Langdon (Department of Mechanical Engineering)

Co-supervisors: A/Professor C von Klemperer (Department of Mechanical Engineering), A/Professor S Chung Kim Yuen (Department of Mechanical Engineering)

Maïen Mohamed Osman Hamed

Thesis Title: Numerical simulation of friction welding processes: an arbitrary Lagrangian-Eulerian approach

Maïen Hamed holds BEng and MEng degrees in Mechatronics Engineering and an MSc in Applied Mathematics from the Nelson Mandela University. He joined UCT in 2014 to pursue a PhD in the Centre for Research in Computational and Applied Mechanics (CERECAM).

Maïen Hamed's thesis describes the development and implementation of a computational algorithm and related software for numerical simulation of friction welding, an important manufacturing process. These processes are characterised by a thermo-mechanically affected zone, a region where large deformations occur owing to high temperatures and stresses. The approach aims to resolve the temperature and deformation fields in this region as well as the stresses in the parent material, which deforms only elastically. To this end, an arbitrary Lagrangian-Eulerian approach was developed, in which the

deformation is represented in terms of movement with respect to an arbitrarily definable reference configuration, as well as incremental movement of that reference configuration with respect to the material configuration. The thesis also details how this approach interacts with the models of plastic deformation and frictional contact, and it describes an implementation for distributed-memory parallel computing systems.

Supervisor: Emeritus Professor BD Reddy (Mathematics and Applied Mathematics)

Co-Supervisor: Professor AT McBride (University of Glasgow)

Samuel Okeolu Omogoye

Thesis Title: Power system network resilience enhancement against hurricane events using probabilistic predictive Bayesian network model

Samuel Okeolu Omogoye holds a BTech (2006), and MSc in Electrical Engineering (2014) from LAUTECH and UNILAG, Nigeria, respectively. He joined the Department of Electrical Engineering at UCT in 2019 for his PhD studies. Before joining UCT, he was a lecturer at LASPOTTECH Lagos, Nigeria.

Samuel Okeolu Omogoye's thesis focuses on enhancing the resilience of the power system network against natural disasters such as hurricane events. First, he develops a hurricane historical-data-dependent predictive system line fault model using past and predicted hurricane event data. Using the system line fault prediction scenario, he performs pre-and post-disaster system optimization. He then goes on to propose a predictive Artificial Intelligence (AI) based Bayesian Network (BN) probabilistic model, to optimally deploy proactive short-term operational planning strategies. The results show that a proactive approach based on AI is cost-effective compared to the reactive approach used in the past. These findings will be useful in the future to enhance the resilience of the power system against predicted hurricane events.

Supervisor: Professor KA Folly (Electrical Engineering)

Co-supervisor: Mrs KO Awodele (Electrical Engineering)

Dandré Pienaar

Thesis Title: The synergistic interaction between dithiophosphate and frothers at the air-water and mineral-water interface

Dandré Pienaar completed his BScEng at UCT in 2017, and began his PhD in mineral processing with the Centre for Minerals Research in the same year.

Dandré Pienaar's thesis focuses on the interactions between reagents for a separation process known as flotation in the mineral processing sector. He investigated the mechanism whereby mixtures of reagents improved sulphide mineral recovery. He found that mixtures of dithiophosphate and alcohols have attractive interactions between them which allow these reagents to co-adsorb on bubble or mineral surfaces. The co-adsorption of these reagents synergistically improves the recovery of economically important sulphide minerals. These findings will be useful for developing new reagent suites that improve recovery and reduce reagent consumption in the flotation process.

Supervisor: A/ Professor B McFadzean (Department of Chemical Engineering)

Co-supervisor: Emeritus Professor C O'Connor (Centre for Mineral Research)

Michael Dennis Wright

Thesis Title: A practical CFD philosophy for computing liquid-induced energy dissipation and pressure distributions for aircraft design

Michael Wright completed his BScEng in Mechanical Engineering at UCT in 2016. He began full-time study towards an MSc in 2018, and this was subsequently upgraded to a PhD in 2020.

Michael Wright's thesis develops a novel and practical philosophy to significantly improve the estimation of fuel slosh-induced pressures and damping in large aircraft. He does this using a new non-dimensional scaling philosophy which hinges for the first

time an accurate computational fluid dynamics (CFD) modelling as opposed to a large and expensive experimental campaign. He also demonstrates for the first time that slosh-induced energy damping is due to liquid impact, answering the long-standing question as to why waves dissipate energy on impact. He finally develops a reduced order CFD model with which aircraft designers can compute slosh-induced loads with exceptional speed and accuracy, therefore enabling improved designs.

Supervisor: Professor AG Malan
(Mechanical Engineering)

3. FACULTY OF LAW

Dean: Professor D Chirwa

DEGREE OF DOCTOR OF PHILOSOPHY

Elkanah Oluwapelumi Babatunde
Thesis Title: *The distribution of rights and responsibilities under international climate change law: an examination of the equity approach advanced by African states*

Elkanah Babatunde completed his LLB at the University of Benin, Benin City, Nigeria and was admitted as a barrister and solicitor of the Supreme Court of Nigeria. He completed his LLM at UCT shortly before joining PhD programme.

Elkanah Babatunde's thesis examines the history of global climate change treaty negotiations and the conceptions of equity advanced by African states within these negotiations; and he investigates the extent to which these conceptions of equity are reflected in the final texts of global climate change treaties such as the United Nations Framework Convention on Climate Change and the Paris Agreement. His research shows that African states have consistently advanced both distributive and restorative justice conceptions of equity in their negotiations with other states. He concludes that these approaches by African states seek to ensure that the need for development within Africa and

the region's relatively low emission levels play a determinant role in the distribution of rights and responsibilities within climate change treaties.

Supervisor: Professor D Chirwa
(Public Law)

Raphael Grant Brink
Thesis Title: *The case for assisted dying/ euthanasia in specific cases in South Africa with reference to the development of the South African and Canadian jurisprudence under a human rights political order*

Raphael Brink holds an LLB degree from University of the Western Cape (UWC) and an LLM from UCT. He assisted with research at UWC's Centre for Development Studies before managing the State Attorney's head office. He has since been in private practice as an attorney for 15 years.

Raphael Brink's thesis argues that dignity as the touchstone of South Africa's Constitution directs that we follow Canada by adopting physician assisted dying law (PAD). He starts by examining our common law and finds that, on a proper interpretation thereof, it presents no impediment to PAD. He also examines PAD from an ethical point of view and finds it ethically permissible. By examining global best practice in respect of the safeguards used to prevent abuse of PAD laws, he proposes safeguards appropriate for use in South Africa which he incorporates into a proposed draft PAD Bill. He also compares South Africa's constitutional jurisprudence with that of Canada and finds that there are sufficient similarities to suggest that South Africa should follow Canada by adopting such laws and delivering to its people, as is demanded by the Constitution, their dignity which is their fundamental human right.

Supervisor: Emeritus Professor H Cheadle (Commercial Law)
Co-supervisor: Professor PJ Schwikkard (Public Law)

Julia Choate
Thesis Title: *The taxpayer's right to finality – a critical analysis of legislation and practice in South Africa*

Julia Choate completed her LLB and PGDipTax at UCT, and began full-time study towards her PhD in 2018. She is currently a practicing attorney specialising in tax administration and disputes resolution at Bowman Gilfillan Inc.

Julia Choate's thesis evaluates whether the exercise of the South African Revenue Services' audit and information-gathering powers undermines taxpayers' rights to finality. She analyses the content of the right to finality and its relative importance to a high-functioning and legitimate tax system, in the context of current behavioural economics research in tax compliance. Following a detailed analysis of the Tax Administration Act 28 of 2011, and the extent to which administrative justice principles potentially apply to the exercise of audit and information-gathering powers, she concludes that the exercise of these powers has the capacity to infringe on the right to finality. Based on a comprehensive evaluation of the tax administration legislation and policy in comparative international jurisdictions, Julia Choate then sets out a series of recommendations for the improvement of this aspect of South Africa's tax administration.

Supervisor: A/Professor T Gutuza
(University of the Witwatersrand, School of Law)
Co-supervisor: Judge D Davis
(Commercial Law)

Helen Chuma-Okoro
Thesis Title: *Promoting creative economies in Nigeria and South Africa through communal and collaborative intellectual property rights strategies*

Helen Chuma-Okoro obtained Bachelor of Law and Master of Laws degrees respectively from the University of Calabar and the University of Lagos, both in Nigeria. She commenced her PhD studies at UCT in 2013 on part-time basis while working as a Research Fellow in Nigeria.

While intellectual property rights (IPRs) remain the dominant framework for reaping the benefits of the creative economy, harnessing such benefits for traditional cultural expressions (TCEs) remains conceptually and practically challenging. Helen Chuma-Okoro's thesis examines the use of collective IPRs to derive increased benefits from tradition-based arts and crafts in Nigeria and South Africa as a subset of TCEs and the creative economy. She argues that collective IPRs are most appropriate for achieving such gains because they are not affected by barriers between TCEs and IPRs, nor by misgivings about commercializing and thereby threatening the survival of TCEs. To arrive at this conclusion, she relies on two factors: the concept of collectivism as a attribute common to both TCEs and IPRs; and the unique qualities of tradition-based arts and crafts which underlies their market value and which in turn acts as a strong motivation and impetus for their preservation in the market environment.

Supervisor: A/Professor T Schönwetter (Commercial Law)
Co-supervisor: Professor C Ncube (Commercial Law)

Ruth Dinah Gondwe
 Thesis Title: *Financial cooperatives: regulatory and supervisory answers for South Africa and Malawi*

Ruth Gondwe holds an LLB from the University of Sussex, England. She first joined the Commercial Law Department of UCT in 2014 for her LLM in Commercial Law, completing it in 2015. She then worked for national and international organisations in the Commercial space before returning to UCT in 2018 for her PhD studies.

Ruth Gondwe's thesis focuses on regulatory and supervisory frameworks of financial co-operatives in South Africa and Malawi. She argues that the current state of the frameworks in both jurisdictions is one of the main reasons that the financial co-operatives sector experiences stagnation. She bases that argument on the results of a comprehensive study that she has

conducted on the origins of financial co-operatives in South Africa and Malawi. In it she identified factors that may have influenced, shaped, and constrained the current legal infrastructure prevalent in the present financial co-operatives sector. She also identifies gaps or overcompensations in the law, and thereby highlights the regulatory flaws that lie in the design of the co-operatives and their laws. Accordingly, Ruth Gondwe provides recommendations for regulatory and supervisory frameworks of financial co-operatives in South Africa and Malawi.

Supervisor: Professor A Hutchison (Commercial Law)

Adnaan Kariem
 Thesis Title: *An analysis and critique of secured lending in South African law, including cession in securitatem debiti as a means to secure the repayment of loans for consumption*

Adnaan Kariem holds BA (Law) and LLB degrees from UWC and an LLM in Commercial Law from UCT. An admitted attorney of the High Court of South Africa, he has practised commercial law for over 21 years. He commenced part-time study towards his PhD in 2015.

Adnaan Kariem's thesis critiques South African secured lending laws by analysing the contractual basis of syndicated loans and the principles that govern security rights. He affirms that at common law and under the Insolvency Act 24 of 1936, security rights provide credit support for a valid principal debt and must be accessory to that debt, and that insolvency law treats cessionaries as secured creditors and guaranteed parties as concurrent creditors. He compares South African security rights laws with the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Secured Transactions (Vienna, 2019), the English law on charges, and Article 9 of the American Uniform Commercial Code. Drawing lessons from the comparisons, he identifies deficiencies in South African security rights laws. Those include

substantive and structural deficiencies and the absence of a coherent security rights system. Adnaan Kariem concludes that the time is opportune to reform South African law on secured lending.

Supervisor: A/Professor T Gutuza (University of the Witwatersrand)
Co-supervisor: Emeritus Professor D Hutchison (Private Law)

Pretty Mubaiwa
 Thesis Title: *Human rights, modernity and culture: understanding the position of lobola as a form of VAW and the current human rights normative standards and discourse on VAW*

Pretty Mubaiwa completed a BA at Nelson Mandela University in 2011 and a BA Hons in International Relations, and MPhil in Human Rights Law at UCT. She began full-time study towards her PhD in 2017.

Pretty Mubaiwa's thesis critically interrogates the relationship between culture, violence against women (VAW), and the practice of human rights in Africa. She analyses the cultural practice of paying bride price (*lobola*) to understand whether it is a cause and/or consequence of VAW and how the national, regional and international human rights systems address this through a lens of equality and non-discrimination. She adopts four country case studies in her analysis. Pretty Mubaiwa adapts a version of the Integrated Ecological Framework on VAW which provides a useful theoretical tool to analyse and deconstruct the systemic causes and influences of VAW. Her findings include that the practice of *lobola* is itself not a form of violence against women – but that the practice aggravates VAW through the perceptions, beliefs and asymmetrical power systems it creates. The doctrinal focus she uses includes an analysis of normative frameworks and their implementation within different spheres.

Supervisor: Emeritus Professor R Manjoo (Public Law)

Simon Muhairwe Mutungi

Thesis Title: *Regulating financial technology: lessons for Uganda from the South African and English experience*

Simon Mutungi is an advocate of the High Court of Uganda. He holds an LLB degree from Uganda Christian University, an LLM from UCT and an MPhil (Development Finance) from Stellenbosch University Business School. He began his UCT PhD studies in 2018 and completed a PhD Fellowship from Yale.

Simon Mutungi's thesis focuses on the regulation of financial technologies (FinTech), specifically cryptocurrencies, robo-advisors and online Peer-to-Peer lending platforms. He proposes what an ideal FinTech regulatory framework that fosters responsible innovation and stability would look like. He bases this structure on the fundamental objectives of financial regulation such as stability, financial inclusion, consumer protection and competition enforcement. By analysing the legal regimes governing FinTech in South Africa and the United Kingdom, his thesis draws recommendations on how Uganda should develop its own FinTech regulations and policy. He finds that an overly prescriptive legal framework stifles innovation while light touch regulation risks a crisis in the financial sector. He therefore proposes a middle ground by answering the question of whether the fundamentally new nature of FinTech requires a new approach to the old task of balancing the aforementioned competition, consumer protection and financial stability objectives as a focus for financial regulation.

Supervisor: Professor A Hutchison (Commercial Law)

Zandile Ndebele

Thesis Title: *A critical tax theory approach to income tax relief for black middle-class taxpayers contributing to the support of family*

Zandile Ndebele obtained LLB and LLM degrees from the University of KwaZulu-Natal in 2015 and 2017. She is a registered legal practitioner of the Zimbabwe High Court, specializing in tax law.

Zandile Ndebele's thesis

examines the intersection of private intergenerational transfers with income tax law. She considers whether South African income tax law should provide for relief to dependant-supporting taxpayers, and how to design a system to achieve that. Applying a critical tax theory approach to data from the National Income Dynamics Study (NIDS) Wave 5 2018 dataset, she examines intersections of tax law with historical disadvantages of race, class and family circumstances. She shows that race and class intersect with the contributions transferred between individuals living in separate households whilst also affecting their respective ability to pay tax. She also shows that black middle class South Africans are burdened with supporting dependants – a situation reflecting the legacy of apartheid policies that excluded black South Africans from social welfare assistance and the persistence of post-apartheid racialised economic inequalities. Linking her findings to issues of social justice and tax equity, Zandile Ndebele argues that there is a basis for income tax relief for taxpayers in South Africa supporting extra-household dependants.

Supervisor: A/Professor T Gutuza (University of the Witwatersrand)

Co-supervisor: A/Professor E Moore (Sociology)

Sisanda Bukeka Nkoala

Thesis Title: *Persuasion and the "mediatisation" of culture: a rhetorical criticism of South African television news reports on crime and the criminal justice system*

Sisanda Nkoala holds a BA in Film and Media Production, a BA(Hons) in Political Communication and an MPhil in Rhetoric Studies, all from UCT. She is a published researcher and academic at the Cape Peninsula University of Technology's Media Department and a former award-winning broadcast journalist.

Sisanda Nkoala's thesis undertakes a rhetoric studies analysis of South African television news reports on the criminal justice system. Her study finds that, in their mediatisation of crime and justice issues, these news reports

use framing to incline viewers to adopt the reporters' interpretation of events. She also shows that the reports rely on amplification as a rhetorical device that makes salient those aspects reporters deem significant. What emerges is a criminal justice system in which priorities fluctuate on the basis of what is topical, in which the most important player is the police minister, and in which men are represented as active agents – they are depicted as criminals and featured as those with the solutions while women are portrayed as passive victims. Through her study, Sisanda Nkoala has endeavoured to build on existing rhetoric-culture theory by considering the persuasive communicative work performed through the mediatisation of a cultural system.

Supervisor: Distinguished Professor P-J Salazar (Private Law)

Chipo Irene Rushwaya

Thesis Title: *The protection of the rights of families of origin in inter-country adoption: an African context*

Chipo Rushwaya holds a Bachelor of Law (Hons) degree from the University of Zimbabwe and a Master's degree in Human Rights Law from UCT. She practiced as an attorney in Botswana prior to beginning PhD studies at UCT in 2016.

Chipo Rushwaya's thesis focuses on the potential conflict between the right to alternative care of children lacking parental or family care and the rights of parents in the states of origin to found a family, and to family protection. Drawing from theories of the parent-child relationship and parenthood, international human rights law, and private international law, she proposes a legal framework that establishes the right balance between these clashing rights in the context of inter-country adoptions. Her comparative analysis of the legal frameworks on inter-country adoption in Ghana, South Africa and Uganda shows that these countries exhibit, to varying degrees, the hallmarks of such a proposed legal framework, but that the inter-country adoption practices in these countries still do not adequately protect the rights of parents. The shortfalls

relate to pre-adoption counselling, the requirement for consent in child adoption procedures, effective tracing of the child's family before a declaration of adoptability, and ensuring that parents have access to justice.

Supervisor: Professor D Chirwa (Law)

Paul Turay

Thesis Title: Prolonged and arbitrary arrest and detention: an access to justice dilemma for South Sudan

Paul Turay holds an LLB (Hons) from the University of Sierra Leone and an MA focusing on peacebuilding from Coventry University, United Kingdom. In 2017, he joined the Faculty of Law at UCT for his PhD studies. Paul's professional experience spans 19 years with the United Nations in Sierra Leone, Tanzania and Nigeria.

Paul Turay's thesis focuses on how prolonged and arbitrary arrest and detention (PAD) is a criminal justice and human rights challenge for South Sudan. His thesis relies on pre-existing theoretical and basic research as well as professional materials and data relevant to the study. He discusses three cardinal factors which have rendered PAD an inevitable component of the justice and law enforcement sector in South Sudan. These factors include: the country's huge geographic size; its limited financial and logistical resources; and the limited human rights awareness and knowledge of the justice and law enforcement sector in the country. Paul Turay highlights the human rights, access to justice, health and socio-economic impact of PAD on people in South Sudan. He makes recommendations on how to address PAD and concludes that unless PAD is addressed it will continue to impact the dignity and rights of the people of South Sudan.

Supervisor: Professor PJ Schwikkard (Public Law)

4. FACULTY OF SCIENCE

Dean: Professor M Ramutsindela

DEGREE OF DOCTOR OF PHILOSOPHY

Nicole Rebecca Dames

Thesis Title: Short-term dynamics of nano- and picoplankton in the southern Benguela upwelling system

Nicole Dames completed her BSc, BSc (Hons) and MSc qualifications in Molecular Biology and Microbiology at Stellenbosch University. In 2017 she enrolled at UCT to begin full-time study towards her PhD.

Nicole Dames' thesis studies the smallest living organisms in the ocean, approximately one thousandth of a mm in size. To study these "invisible" but important groups, she used molecular tools, chemistry and cell biology. Her study focused on daily changes in samples from St. Helena Bay on the west coast of South Africa, a fertile area important for South African fisheries. She found that during spring, when there was high productivity, there were rapid changes in the primary metabolisms of these micro-organisms as they adjusted to changes in the environment. During autumn, when overall productivity was reduced, she found daily productivity was supported by nutrients being rapidly regenerated by micro-organisms, with clear differences in productivity and micro-organism dynamics between the surface of the ocean and deeper waters. Her research has highlighted the variety of roles played by these tiny organisms in the ocean, and the knowledge gaps that still exist.

Supervisor: A/ Professor CL Moloney (Biological Sciences)

Co-supervisors: Dr E Rocke (Biological Sciences), Professor E Rybicki (Molecular and Cellular Biology), Dr M Pfaff (Biological Sciences)

Kirsten Dea Day

Thesis Title: Towards an understanding of competing constructions of risk for impact assessment

After receiving a BSc(Hons) degree from the University of KwaZulu-Natal, Kirsten Day completed her Master's in Environmental Management and Master's in Environmental Law at UCT. She began studying towards a PhD in 2017, following 15 years of practice as an environmental assessment practitioner.

Kirsten Day's research focuses on the meaning of risk for environmental assessment. Her argument is for a deeper and more nuanced understanding of risk that accounts for its human dimensions. Kirsten Day's thesis consolidates relevant socio-cultural theories in a conceptual framework that offers an alternative to probability-based definitions of risk that currently dominate in the discipline of environmental assessment. Adopting a critical discourse analysis approach, she applies this alternative framing to three case studies of impact assessment in South Africa, in the energy sector. The focus of her analyses is on stakeholder values and uncovering the effects of power in constructions of risk by experts and stakeholders. An alternative diagnostic for risk is recommended, including potential for harm, something of value and the need for a strategy. This re-conceptualisation of risk for environmental assessment orientates the discipline toward equitable and sustainable decisions about development proposals, in a world that is increasingly unpredictable and volatile.

Supervisor: A/Professor Z Patel (Environmental and Geographical Science)

Co-supervisor: Professor A Rother (Environmental Health)

Cherié Janine Dirk

Thesis Title: *Using applied palaeoecology and participatory system dynamics modelling to investigate changes in ecosystem services in response to climate and social-ecological drivers within the Middle Berg River Catchment, South Africa*

Cherié Forbes holds a BSc in Ecology and Marine Biology and an MSc in Palaeoecology, both from UCT. She joined the Plant Conservation Unit again in 2016 to pursue a PhD. Between her studies, she worked on sustainability, climate change and ecosystem-based adaptation projects in South Africa.

Cherié Forbes' thesis combines palaeoecology, stakeholder engagement and a simulation experiment to understand the past, present and future of ecosystem services within the Middle Berg River Catchment, South Africa. Palaeoecological results show that climate was the major driver of vegetation change until the 19th century, when human influence increased. Although increased grazing and burning from the 1950s caused plant biodiversity loss, there was no critical degradation in water quality and soil regulation. However, a system dynamics simulation model based on the palaeoecological data and informed by engagement with farmers, conservation practitioners and government authorities, suggests that it may be difficult to restore landscapes through manipulation of fire and grazing alone. Ecological restoration, including the control of alien and invasive plant species, and adaptive management are recommended for sustainable land-use management in this globally-recognised biodiversity hotspot. This innovative interdisciplinary synthesis provides a contextual understanding of complex social-ecological systems.

Supervisor: Professor L Gillson (Palaeoecology)

Co-supervisor: Professor MT Hoffman (Ecology)

Carla Jacquelyn Du Toit

Thesis Title: *Mechanosensory structures in the beaks of probe-foraging birds in relation to their foraging ecology*

Carla du Toit obtained both her BSc and BScHons in Biological Sciences from UCT. She started her master's in 2017, and upgraded to a PhD in 2018. Her research involves interdisciplinary methods to study the ecology of both living and extinct birds.

Carla du Toit's thesis focuses on the remote-touch sensory capability of birds, a "sixth sense" which allows some birds to locate buried prey by detecting vibrations in the substrate using a specialised organ in their beaks. She investigates how the morphology of this bill-tip organ is linked to foraging ecology, using ibises as model species. Her results show that interspecific differences in bill-tip organ morphology are correlated with foraging behaviour and substrate properties. By studying the beaks of fossil birds and comparing them with a comprehensive dataset including all orders of modern birds, she shows how this unique sense evolved as far back as the Cretaceous period, in the lineage that gave rise to ostriches, emu and kiwi. Carla du Toit's research further indicates that specialized tactile structures in modern birds' beaks are more widespread than previously assumed and highlights the important links between the sensory capabilities of animals and their ecology.

Supervisor: Professor A Chinsamy-Turan (Biological Sciences)

Co-supervisor: Dr S Cunningham (Biological Sciences)

Samuel Njoroge Gachuhi

Thesis Title: *Design, synthesis, and structure-activity relationship studies of dual Plasmodium falciparum phosphatidylinositol 4-kinase and cGMP-dependent protein kinase inhibitors*

Samuel Gachuhi completed his BSc and MSc qualifications at Moi University and the University of Nairobi, both in Kenya, before beginning full-time study towards his PhD in 2018.

Samuel Gachuhi's thesis

reports the identification of dual inhibitors of two validated human malaria parasite *Plasmodium falciparum* enzyme drug targets, namely phosphatidylinositol 4-kinase and cyclic guanosine monophosphate (cGMP)-dependent protein kinase. Drug targeting each of these enzymes has the potential to deliver anti-malarials that can kill the parasite at all stages of its life-cycle and that are able to circumvent parasite resistance. The inhibitors were designed computationally, using the respective homology model and crystal structure of the target enzymes, and chemically synthesized. The synthesized inhibitors were profiled for in vitro activity against the parasite and for enzyme inhibition. Samuel Gachuhi's work has identified compounds with favourable attributes which simultaneously modulate both *Plasmodium* kinases. Docking studies discerned the molecular features responsible for the high affinity of the inhibitors for the respective target enzymes. These findings will be useful in future optimization and identification of anti-malarials acting via multiple mechanisms.

Supervisor: Professor K Chibale (Chemistry)

Co-supervisor: Dr L Arendse (Drug Discovery and Development Centre, H3D)

Dieudonne Kabongo Kantu

Thesis Title: *Simplified approaches to portfolio decision making*

Dieudonne Kabongo Kantu holds a Bachelor in Statistics from the Higher Institute of Statistics in DRC and an MSc in Operational Research from UCT. He joined the Department of Statistical Sciences in 2015 for his doctoral studies. He currently works for Ipsos Marketing Research in Cape Town.

Dieudonne Kabongo Kantu's thesis focuses on portfolio decisions, in which the goal is to select the best subset of alternative from a larger set of options, subject to constraints on available resources. He develops and tests a number of simplified models for making these kinds of decision effectively. He uses a behavioural experiment to provide the

first evidence that people use heuristics in unsupported portfolio decision making, and a simulation experiment that shows that heuristics perform well across a range of previously untested environmental conditions. He applies this knowledge to develop a decision support system to help a research institution prioritise research proposals. His thesis advances the use of simplified models for portfolio decision making, and extends what we know about the performance of this class of decision models.

Supervisor: Adjunct A/Professor I Durbach (Statistical Sciences)

Idrees Khan

Thesis Title: Non-isothermal dynamics of thin-film free-surface and channel flows of non-Newtonian nanofluids

Idrees Khan holds a BSc degree in Physical Sciences and MSc and MPhil degrees in Applied Mathematics respectively from the Universities of Peshawar, Quaid-i-Azam, and Abdul-Wali-Khan, Pakistan. He joined UCT in 2018 for PhD studies in Applied Mathematics. Previously, he worked as a Mathematics lecturer in Pakistan.

Idrees Khan's thesis focuses on the temperature dependent behaviour in the flow of nanofluids of various compositions, covering the spectrum of both Newtonian-fluid-based and non-Newtonian fluid-based nanofluids. The investigations are conducted via robust and efficient numerical and computational methodologies under various geometries, specifically thin-film, free-surface, gravity-driven flows as well as closed-channel flows. The main findings centre on the heat-transfer-rate enhancement, thermal-conductivity improvement, and thermal-runaway behaviour of the various nanofluids. Novel findings are reported on the heat-transfer-rate enhancement, thermal-conductivity behaviour, and thermal-runaway behaviour.

Supervisor: Dr T Chinyoka (Mathematics and Applied Mathematics)
Co-supervisor: Dr A Gill (Computational Mechanics and Computational Fluid Dynamics, Centre for High Performance Computing)

Zwidofhelangani Ndamulelo Khangale
Thesis Title: Accretion processes in magnetic cataclysmic variables – a detailed study of UZ Fornacis

Zwidofhelangani Khangale obtained his BSc at the University of Venda, and completed his BSc (Hons) and MSc qualifications at UCT. He began full-time study towards his PhD in 2015.

Zwidofhelangani Khangale's thesis presents a multi-wavelength investigation into the accretion and emission processes in magnetic cataclysmic variable (mCV) stars, with a specific focus on the eclipsing mCV system, UZ Fornacis. This compact binary system is thought to host two extra-solar planets. Thirty-three new mid-eclipse times in UZ Fornacis have tested and confirmed the two-planet model previously proposed, although the updated model requires that one or both of the planets orbit in highly eccentric orbits. This thesis presents the first simultaneous optical and radio observations of UZ Fornacis using the Southern African Large Telescope (SALT), MeerLICHT and the MeerKAT radio telescope array. Phase-resolved spectroscopy and spectro-polarimetry with SALT has allowed a detailed look at the emission components in UZ Fornacis, interpreted in terms of the magnetically confined accretion stream and the stellar components, and led to the determination of the magnetic field strength of the accreting white dwarf in UZ Fornacis.

Supervisor: Professor PA Woudt (Astronomy)

Co-supervisor: Dr SB Potter (South African Astronomical Observatory)

Tshiamiso Neo Makwela

Thesis Title: Probing student engagement with sizes and distance in introductory astronomy

Tshiamiso Makwela Completed her BED majoring in Physics and Mathematics, BSc (Hons, Science Education) and MSc in Astronomy Education, all at the University of Witwatersrand. She then began her full time PhD studies at UCT.

Tshiamiso Makwela's thesis probes how novice astronomy students

engage with sizes and distances that are beyond immediate human comprehension, with a view to providing guidance for teaching. Previous Astronomy Education Research (AER) studies have pointed to the fact that these fundamental concepts appear to be poorly understood by students across diverse countries. The perspective taken by the thesis argues that difficulties arise as a result of deeper cognitive processes, rather than poor teaching. The study probes how students structure their thinking when explaining distances to a "blind" friend, thus removing the visual modality in the explanation. Using the Grounded Method Theory to analyze the written explanations, two different types of explanations emerged. Short distances involved calibration using parts of the body, together with counting, while larger distances, such as earth-to-moon, showed a transition towards the notion of a bodily journey. This finding is consistent with the Source-Path-Goal "thinking template" or image schema that is a key explanatory component in accounts of Embodied Cognition.

Supervisor: Professor MS Allie (Physics, Astronomy and ADP (CHED))
Co-Supervisors: As/Professor D Taylor (Physics and ADP (CHED)),
A/Professor S L Blyth (Astronomy)

Sunitha Nagarathnam

Thesis Title: Simulation of blood flows in a stenosed and bifurcating artery using Finite Volume Methods and OpenFOAM

Sunitha Nagarathnam holds a BSc in Mathematics, Statistics, and Computer Science and an MSc in Mathematics, both from Sri Venkateswara University, India. She joined UCT in 2019 for PhD studies in Applied Mathematics. Previously she worked as a Mathematics lecturer in India.

Sunitha Nagarathnam's thesis focuses on the blood-flow characteristics in a stenosed and bifurcating artery. The thesis develops and implements robust and efficient computational techniques, based on the finite volume methods implemented on the OpenFOAM software, to simulate the blood-flow characteristics in the complex arterial geometries. The computational

methodologies are successfully validated against the benchmark 4:1 contraction flow problem using the Giesekus viscoelastic constitutive model, which encompasses both the Oldroyd-B and Generalized Oldroyd-B models that are herein used as rheological models for blood. Blood-flow simulations in a stenosed and bifurcating artery are presented using the Oldroyd-B and Generalized Oldroyd-B rheological models and results obtained for the blood-velocity, blood-pressure, and polymeric-stresses. The main findings of the thesis relate to the effects of the blockage from the stenosis on the blood-velocity and blood-pressure. A stenosis usually results from tumor-growth and the thesis demonstrates that the higher the arterial blockage, the greater the possibility of rupture.

Supervisor: Dr T Chinyoka
(Mathematics and Applied Mathematics)
Co-supervisor: Dr A Gill (Stellenbosch University and formerly CSIR/CHPC)

Andriantsilavo Hery Isandratana
Razafimanantsoa
Thesis Title: *Holocene vegetation history and environmental change in the forest-grassland mosaic of the Central Highlands of Madagascar*

Andriantsilavo Razafimanantsoa holds a BSc in Ecology and Palynology and an MSc in Applied Palynology from the University of Antananarivo, Madagascar. He joined the Plant Conservation Unit at UCT in 2016 as a Masters student and upgraded to a PhD in 2018.

Andriantsilavo Razafimanantsoa's thesis focuses on understanding landscape and environmental history of the forest-grassland mosaic in the Central Highlands of Madagascar through multiproxy palaeoecological analysis. Results show that the landscape was composed of mosaic ecosystems, with forest patches of variable extent in a matrix of open heathland and grassland vegetation, at least from ca. 11 000 years ago to the last millennium. Changes in vegetation were mainly driven by variations in climate and different in-situ fire activity. Expansion of grassland was found from ca. 1000 calibrated

years Before Present, linked to the combination of drought and increase of fire and herbivory activities. The results contribute to current debates over the history and origin of open and mosaic ecosystems in Madagascar, and have important implications for the conservation of open ecosystems. The study demonstrates how palaeoecology can inform appropriate fire management and afforestation plans, which is an urgent concern across the African continent.

Supervisor: Professor L Gillson
(Biological Sciences)
Co-supervisor: Emeritus Professor
W Bond (Biological Sciences)

Nicole Margaret Sykes
Thesis Title: *Selectivity in Host-Guest Compounds*

Nicole Sykes holds a BSc in Chemistry and Mathematics, and a BScHons in Chemistry, both from UCT. After beginning her MSc, she upgraded to doctoral studies.

Nicole Sykes' thesis deals with the separation of organic isomers by inclusion with large, bulky compounds. This technique is helpful when the mixture to be separated has compounds with similar macro-properties so that the standard methods of purification, such as distillation, cannot be used. During her studies she was awarded the Vice Chancellor's Research Scholarship for academic excellence and selected as a "Next Generation Scientist" intern by the pharmaceutical company, Novartis, located in Basel, Switzerland. Nicole Sykes' thesis contains five articles published by the American Chemical Society and the Royal Society of Chemistry.

Supervisor: Professor LR Nassimbeni
(Chemistry)
Co-supervisor: Professor SA Bourne
(Chemistry)

Folly Serge Tomety
Thesis Title: *Coastal climate change and variability in the Benguela Current System*

From Togo, Folly Serge Tomety holds a BSc in Physics and an MSc in Physical Oceanography from Université Paul Sabatier, France. He subsequently worked at the Institute of Research for Development in Benin as an engineer in oceanography. He joined the Department of Oceanography at UCT in 2017 for his PHD.

Serge Tomety's thesis focuses on the coastal ocean climate change and variability of the Benguela Current, one of the most productivity area in world in term of fisheries. He finds that, since 1982 the South Benguela off South Africa is cooling due to stronger winds, while the northern Benguela off Namibia is warming due to an intrusion of warm tropical water. He then studies the decadal variability in the Benguela Current and finds the presence of 9-14 years and 19-26 years cycles not documented before linked to variation in the Atlantic Ocean and tropical Pacific Ocean sea surface temperature.

Supervisor: Professor M Rouault
(Oceanography)
Co-supervisor: Dr Serena Illig
(Oceanography, Laboratoire d'Etudes en Géophysique et Oceanographie Spatiale)

Matthew Trisos
Thesis Title: *Global change drivers and their impact on herbaceous, ant, and grasshopper assemblages in an African semi-arid savanna*

Matthew Trisos completed his BSc at UCT and his BSc(Hons) at NMMU, and began full-time study towards his PhD in 2014.

Matthew Trisos's thesis examines how human induced atmospheric nitrogen deposition and changing rainfall patterns affect both plant and insect communities in the Kruger National Park. He shows that certain grasses benefited from the resource additions, resulting in decreases in both plant and insect diversity. Furthermore, he shows how fire interacts with resource additions to

exacerbate, rather than alleviate, the loss of diversity. Finally, taking advantage of the worst drought in 30 years, he shows how grass and insect communities on and off termite mounds were impacted by drought. Most notably, how grass on mounds was no more resistant to drought than the grass off mounds, likely due to preferential grazing by large mammals. These findings will be useful to conservation managers as they develop monitoring protocols for global change drivers like nitrogen deposition.

Supervisor: A/Professor EC February
(Biological Sciences)

Co-supervisor: Professor CL Parr
(University of Liverpool, Earth, Ocean and Ecological Sciences); Emeritus A/
Professor M Picker (Biological Sciences)

David Barasa Wechuli

Thesis Title: *Variation of echolocation pulse source levels and detection distances for bat assemblages across an environmental gradient: "A test of the Acoustic Adaptation Hypothesis"*

David Wechuli holds a BSc in Biological Sciences from University of Eastern Africa, Baraton, and an MSc in Animal Ecology from the University of Eldoret, Kenya. He joined UCT in 2017 for his PhD studies. Prior to joining UCT, he worked as a teaching assistant at Baraton University, Kenya.

David Wechuli's thesis focuses on the effect of habitat and prevailing climatic conditions on the transmission of ultrasonic sound produced by bats to detect insect prey in different habitats in South Africa. He uses innovative technology, the multiple microphone array system to record bat acoustic signals to determine how bats vary the distances at which they perceive insects in their respective feeding areas. The findings of his study have shown that temperature is the most influential climatic condition for bat sound transmission because it limits the distance at which insects can be detected. This suggests that any human-induced climate change that results in temperature change is likely to affect the foraging of bats and thus their survival.

Supervisor: Professor DS Jacobs
(Biological Sciences)

Co-supervisor: Dr MW Holderied
(Biological Sciences, Bristol, UK)

FACULTIES OF HEALTH SCIENCES AND HUMANITIES

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.

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

Musical Item.

Welcome by the Master of Ceremonies.

The Master of Ceremonies will present the Social Responsiveness Award to Professor L London.

The Master of Ceremonies will present the Vice-Chancellor's Medal to Emeritus Professor M Jacobs.

The Orator will present Mr T Jones, Mr M Toni, Professor K Mfenyana, and Mr K Motaung for the award of an honorary degree.

The Master of Ceremonies will invite Mr K Motaung to address the congregation.

Address by Mr K Motaung.

Praise Poetry.

The graduands will be presented to the Presiding Officer by the Deans of the Faculties.

The Presiding Officer will congratulate the new graduates.

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

The Presiding Officer will dissolve the congregation.

The procession will leave the hall.

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

DECLARATION FOR HEALTH SCIENCES GRADUANDS

AT THE TIME OF BEING ADMITTED AS A MEMBER OF THE HEALTH PROFESSION:

I solemnly pledge to serve humanity

My most important considerations will be the health of patients and the health of their communities

I will not permit considerations of age, gender, race, religion, ethnic origin, sexual orientation, disease, disability or any other factor to adversely affect the care I give to patients

I will uphold human rights and civil liberties to advance health, even under threat

I will engage patients and colleagues as partners in healthcare

I will practise my profession with conscience and dignity

I will respect the confidentiality of patients, present or past, living or deceased

I will value research and will be guided in its conduct by the highest ethical standards

I commit myself to lifelong learning

I make these promises solemnly, freely and upon my honour.

MERITORIOUS PUBLICATION AWARD

The University Meritorious Publication Award recognises noteworthy monographs and books published by UCT authors. These publications merit recognition for their contribution to learning and scholarship.

The Meritorious Publication Award for 2021 is awarded to:

Experiments with Truth: Narrative non-fiction and the coming of democracy in South Africa by Associate Professor Hedley Twidle (Dept. of English Literary Studies)

Acts of Transgression: Contemporary Live Art in South Africa by Professor Jay Pather and Dr Catherine Boulle (Institute for Creative Arts)

SOCIAL RESPONSIVENESS AWARD

The Social Responsiveness Award provides an institutional signal to members of the University that social responsiveness is an important priority.

LESLIE LONDON

Professor Leslie London has shown an unwavering commitment over the past 15 years to promote community participation and community voice in health systems by integrating human rights principles into Public Health teaching, research, and practice. He has carried out this body of work with a wide range of civil society, community, and academic partners, both in South Africa and across the Southern African region with the goal of using research to realise the right to health for all.

A specific focus of this scholarship has been working with organisations actively campaigning to advance protections for vulnerable persons, and developing and supporting a Learning Network to enable reflection and learning for best practice towards health and human rights. This has provided a platform for a range of postgraduate students to work with organisations on, for example, health equity, access to vaccines, and farm workers' rights.

Moreover, the work has generated tools and training manuals for community organisations to develop their own capacity to assert rights to participation in the health system. What particularly characterises Professor London's scholarship is that his work focuses on the crucial importance of agency on the part of communities to change their conditions of vulnerability in order to attain health equity. It has also been reflected in his consistently respectful engagement with the community members with whom he works, described by one of his referees as an egalitarian rapport based on compassion, interest and engagement.

Bringing together the knowledge and skills of a range of academics and community partners into a more equal relationship not only adds value to UCT's capacity to shape public policy and fulfil its teaching and research mission, but also enables the University to walk the talk of empowering communities. Meaningful socially responsive work, which recognises inherent power inequalities, requires hard work to build relationships of trust over time. Professor London's consistent work at UCT has enabled UCT scholarship to make knowledge generation transformative by giving voice and power to communities that are consistent with a human rights framework.

VICE-CHANCELLOR MEDAL

MARIAN JACOBS

Marian Jacobs was born in 1947 at the close of the second World War, the daughter of Alfred and Eileen Jacobs who were teachers in Wynberg. “*Herstory*” is the warm earth that has birthed a journey of struggle, growth and an ascent befitting of this recognition. She is a true child of this country and a worthy recipient of her seat in this “*Place of the Stars*” (*iGamirodi ‘Khais!*), the name given to this ground by its original peoples.

Now a furiously busy retiree and Emeritus Professor, at her core Marian is a lover of and fierce advocate for children, a paediatrician, an academic, the first and only black, female Dean of the Faculty of Health Sciences to date, a mentor, a wife and a mother, a human rights activist, a supporter and defender of transformation and a nurturer of human relationships. She has had a rich and varied career, which has crossed child health and development from the laboratory to the bedside flowing to the community through health systems and policy innovation specifically aimed at protecting the rights of children, the vulnerable and the disenfranchised.

In her own words, Marian’s *privileged* experience has crossed the globe, east-to-west, from Bangladesh to Boston, and south-to-north, from Cape Town to Arusha. It has encompassed engagements with educators and learners, researchers and practitioners, advocates and leaders, and managers and policy-makers from local government, through post-apartheid South Africa and the African continent, to the halls of the World Health Organisation.

Marian has the common touch, she is unaffected by pomp and ceremony, she is warm, loving and accepting, she is interested and invested. She is the true embodiment of the human values which count most, and as such she sets the benchmark for the kind of humanity that the University of Cape Town seeks to inculcate in its staff and graduates.

As the Stella and Paul Loewenstein Professor of Child Health, Marian blazed a trail for children’s rights as the Director of the Child Health Unit from 1995-2006, contemporaneously as the Head of the Department of Paediatrics and Child Health from 2004-2006, and then as the Dean of the Faculty of Health Sciences from 2006-2012, serving latterly as the custodian of the spectacular events which marked the faculty’s centenary in 2012.

As an academic Marian has published in excess of 50 peer-reviewed manuscripts, books and book chapters in her areas of expertise and has occupied innumerable positions of influence in global forums, the magnitude and importance of which are not easily matched by many of her cadre, most recently serving as the co-chair for the national Ministerial Advisory Committee for COVID-19.

However, more than all of her achievements, if you had to stop anyone at the faculty and ask who Marian is and how they feel about her, you would hear things like, “she danced with us in the quad”, “she remembered my name”, “she was kind to me when days were dark”, and “she bought me gifts for my dogs”.

Marian is as wonderfully unassuming, disarmingly forthright, unnervingly connected and blisteringly joyful, as she is extraordinary. Simply put, she is the *real* deal.

HONORARY DEGREE

TREVOR JONES

FOR THE DOCTOR OF MUSIC (*honoris causa*)

Trevor Jones began his musical career at the age of 17, having been awarded a scholarship by Dr JP Duminy to attend the Royal Academy of Music in London. He later pursued postgraduate studies at York University, England, where he studied jazz, pop, rock, folk, ethnic music, avant-garde 20th century music, electronic music and acoustics. He received a BA Honours, and an MA in the relationship of Image and Music.

Jones went on to become the first composer at attend the National Film and Television School (NFTS) of Great Britain, having completed 23 student film scores and studied production, direction, sound, cinematography and editing. While pursuing his career as a film composer, he undertook doctoral studies at the University of East Anglia, and was later elected First Chair of Music at the NFTS.

Trevor Jones has composed over 120 scores for film and television. He has also conducted the London Symphony orchestra, The London Philharmonic Orchestra, The Academy of St. Martins in the Fields, The RTVE Symphony Orchestra of Spain, The Greek National Radio Symphony Orchestra, and Session Orchestras in Los Angeles, New York, London and Paris in the recording of his soundtrack music.

String Quartets such as the Medici, the Albeni, the Arditti, and the Gabrieli have all featured in Jones' scores. Solo guitarists John Williams and Craig Ogden have also performed on his soundtracks, and artists as diverse as Siphon "Hotstix" Mabuse, Sibongele Khumalo, Joseph Shabalela and Ladysmith Black Mambazo, have all contributed in making Trevor Jones' compositions larger than life.

In addition to his role of Chair of Music at the NFTS, Jones lectures extensively, and has given master classes at the Royal College of Music, The Film Music Conference, The National Film Theatre, The British Academy of Film & Television Arts, The Soncinemad International Festival of Film Music of Spain, The Sociedad General de Autores y Editores, Madrid, The Arts Council of Spain in Barcelona, The Hay Festival and the School of Sound Symposium in London. He was the key-note speaker at the 2010 EMMA-Fest in Thassos, Greece, and at the 2013 Music Exchange Conference in Cape Town.

Jones has founded a scholarship for South African students to attend the National Film and Television School. This, together with the Trevor Jones Composition Studio at the University of York and the Music Programming Installation for students and the community at the University of the Western Cape, is testament to his commitment to fostering the next generation of composers, musicians and filmmakers.

In recognition of a lifetime contribution to composition and music, and the role he has played in sharing his passion for music with students and audiences around the world, Trevor Jones is a worthy recipient of an honorary doctorate from UCT.

HONORARY DEGREE (CONTINUED)

MZOLISI TONI

FOR THE DOCTOR OF SOCIAL SCIENCE (*honoris causa*)

As Secretary General of Disabled People South Africa (DPSA), the national disability rights movement, Mr Mzolisi Toni has been in a long established relationship with the UCT Division of Occupational Therapy since the early 1990's. An activist at heart, Mr Toni was initially sceptical about the potential of a partnership between a university and a disability rights organisation to advance the human potential of persons with disability. Based on his own journey in the national disability rights movement, he believed that the lived experience of disability was the key source of knowledge in the field and the essential driver of disability activism. His position changed during engagements between Occupational Therapy (OT) scholars and DPSA on the development of a new ANC Primary Health Care policy on the rights of persons with disability to equal health and rehabilitation services.

At that time he was invited to bring his considerable personal and leadership experience in the disability movement into the academy as a guest lecturer on the Disability Studies course in the MSc OT programme. Later he also led a team from DPSA, the Disabled Children's Action Group and the SA Federal Council on Disability in making a distinguished and generative contribution in a collaboration between UCT and the Centre for Disability Studies at Leeds University over a two year period through a British Council Higher Education Link Programme Award. The outcome was the development of an innovative disability studies curriculum at UCT, the first of its kind in Africa. This collaboration endorsed the developmental principle of learning through the co-creation of knowledge.

Mr Toni's efforts to advance disability rights in South Africa culminated in the first Postgraduate Diploma In Disability Studies being launched at UCT in 2003. Today the Division of Disability Studies in the Department of Health and Rehabilitation Sciences has a staff complement of six people, reflecting diversity, and offers four academic programmes, namely, the Postgraduate Diploma, MPhil, PhD, and since 2012 a Higher Certificate in Disability Practice for community-based workers. Two research units have been established in the Department of Health and Rehabilitation that have their roots in the growth and sustainability of the Division of Disability Studies, namely Inclusive Practices Africa and Including Disability in Education Africa. Mr ka Toni continues to give strategic advice and leadership.

UCT has gained immensely from Mr Toni's expertise and personal experience in leading transformation, inclusivity, and sustainability through co-creating knowledge with the disability sector that extends the influence of the global South to achieve disability inclusion in the Sustainable Development Goals in South Africa, the continent and globally. He is an eminently worthy recipient of an honorary doctorate.

HONORARY DEGREE (CONTINUED)

KHAYA MFENYANA

FOR THE DOCTOR OF SCIENCE IN MEDICINE (*honoris causa*)

Professor Khaya Mfenyana is a family physician and a leader in health professions education. He graduated with an MBChB from the University of Natal in 1977, obtained his master's in Family Medicine at the Medical University of South Africa in 1984, and was awarded a Fellowship of the College of Family Physicians (FCFP), South Africa by peer review in 2009.

Professor Mfenyana was at the forefront of strategic leadership and development at the University of the Transkei with the establishment of the Department of Family Medicine, where he was its founding Head of Department, and the Faculty of Health Sciences at Walter Sisulu University (WSU), where he was the first Executive Dean from 2008 to 2012. Prior to the latter he had been instrumental in the process of transition from the University of the Transkei, and ultimately he became Interim Vice-Chancellor and Principal of WSU from 2014 to 2016.

Professor Mfenyana's pioneering work in problem-based learning led to the methodologies employed by WSU in its medical education programme. His name is an integral part of the creation of a community-based approach to health professions education, as well as the development of the commitment to social accountability. This pedagogy was only taken up by UCT and the University of the Witwatersrand decades later.

Professor Mfenyana has demonstrated a lifetime of commitment to primary health care, manifested in his contributions to rural development and the essential role of communities in the education and training of health professionals. His dedication to ensuring that rural communities have access to quality primary health care services that are appropriate and effective cannot be overemphasised. Further, his global citizenship drove him to involvement at the highest levels of the leadership and governance of the health professions in South Africa.

Professor Mfenyana led within his local academic environment, within the national regulatory framework of the HPCSA, and the national higher education milieu. His contributions have included chairing the South African Committee of Medical Deans, and chairing the Professional Conduct Review Committee and Education Training and Quality Committees of the HPCSA. He was further a panel member for the consensus study on reconceptualising education and training of an appropriate health workforce for the improved health of the nation, spearheaded by the Academy of Science of South Africa (ASSAf); redrafting the Framework and Manual for Institutional Quality Audits of the Council on Higher Education (CHE); and Board Member of the Office of Health Standards Compliance (OHSC). His work has extended into Africa: he was one of two external inspectors of the School of Medicine of the University of Namibia and was President of the World Organisation of Family Doctors for the Africa Region.

Professor Mfenyana's multiple, life-long, contributions to community-based healthcare training, and his roles as researcher and teacher make him a worthy recipient of an honorary doctorate from UCT.

HONORARY DEGREE (CONTINUED)

KAIZER MOTAUNG

FOR THE DOCTOR OF SOCIAL SCIENCE (*honoris causa*)

Kaizer Motaung, founder of the renowned Kaizer Chiefs Football Club and prolific footballer, has, throughout his life, made enormous contributions in international sport and to South African society. Having begun playing football at the age of sixteen, he has dedicated his life to developing and nurturing a dynamic soccer enterprise. Motaung's illustrious career gained him international recognition. His contributions, particularly as a player for Atlanta Chiefs, led to victory in the championship final at the North American Soccer League (NASL) in 1968. As a result of his success, Motaung was granted a major contract, which he sacrificed to follow his vision in creating a Football Club that would be one of the most celebrated in South Africa and beyond.

Nicknamed 'Amakhosi', Kaizer Chiefs played memorable matches in South Africa and in the continent, winning over ninety trophies and amassing over 16 million supporters. Motaung steered the club for five decades, demonstrating his leadership, entrepreneurial prowess and dedication. In those years, the club nurtured the careers of internationally celebrated soccer players such as Lucas Radebe, Neil Tovey, Marks Mponyane, Doctor Khumalo, Fani Madida, Siphiwe Tshabalala and Collins Mbesuma, among others. More than just a soccer club, Kaizer Chiefs is regarded as a 'movement' through which black supporters during and after apartheid could find dignity and a common identity. Motaung's accomplishments enabled what seemed impossible at a time when black South Africans had few opportunities to realise their potential. In the context of racial conflict, marches and mass arrests, the Kaizer Chiefs Football Club spread the message of "Love and Peace" through its slogan.

Motaung played a crucial role in the establishment of the South African Premier Soccer League

(PSL) in 1996. In 2006 and 2010, he was a member of the South African FIFA World Cup Bid Committees that won the bid for South Africa to host the 2010 FIFA World Cup – an event which stimulated economic activity in South Africa, leading to the improvement of infrastructure in host cities. Subsequently, Motaung was appointed to the Local Organising Committee (LOC) for the 2010 FIFA World Cup. This was an historic accomplishment, given that it would be first time for an African country to host the World Cup. This was not the first time, however, that Motaung contributed at this level of international football. In 1982, he attended the FIFA World Cup in Spain as a member of the South African National Football Association (SANFA) delegation. Motaung continues to serve selflessly in football. He is currently on the South African Football Association (SAFA) National Executive Committee.

In 2013, Motaung was bestowed National Order of Ikhamanga Silver for Excellent Achievement in the Football Industry – one of the highest forms of government recognition in the country. Motaung's lifetime achievements embody the spirit of resilience, dedication and unity. His contributions have impacted positively in the lives of ordinary South Africans for whom Kaizer Chiefs symbolises hope, dignity and togetherness. His life's work remains influential not only in soccer but in the humanities in general, and makes him a worthy recipient of an honorary degree from UCT.

NAMES OF GRADUANDS

1. FACULTY OF HEALTH SCIENCES

Dean: Associate Professor
L Green-Thompson

DEGREE OF DOCTOR OF PHILOSOPHY

Hamida Abdalla Aboalgasm
Thesis Title: *Investigation of the mechanisms underlying the effects of hyperglycaemia on cardiac structural and electrical remodelling*

Hamida Aboalgasm holds a Bachelor of Medicine and Surgery degree from Libya where she initially worked as a general practitioner. She then completed an MScMed at UCT, before proceeding to PhD studies in 2018.

Hamida Aboalgasm's thesis focuses on understanding the mechanisms through which high glucose levels in diabetes mellitus may affect the immature developing heart. The developing heart is susceptible to diabetic damage, but it is not clear how this happens as there is a general lack of suitable study models. Hamida Aboalgasm used cardiac cells derived from stem cells together with fluorescence microscopy imaging- and molecular techniques and showed that high glucose suppressed the development of heart cells, altered their muscle-like structure, and decreased their ability to beat. These effects could be accounted for by the occurrence of programmed cell death, abnormalities in calcium handling, and oxidative stress. These findings add novel insights into the mechanistic factors that represent potential therapeutic targets in developmental heart disease that occurs in diabetes mellitus.

Supervisor: *A/Professor A Gwanyanya (Human Biology)*
Co-supervisor: *Dr R Ballo (Human Biology)*

Antoinette Burger
Thesis Title: *Investigating neuroinflammation in schizophrenia: a proton magnetic resonance spectroscopy (1H-MRS) and cytokine study*

Antoinette Burger holds a BEdPsych degree from Stellenbosch University, and honours degrees in Educational Management and School Guidance and Counselling from UNISA. She worked as an Education Counsellor, joined UCT in 2015 for her MScMed in Neuroscience degree, and started her PhD studies in 2016.

Antoinette Burger's thesis uses proton magnetic resonance spectroscopy (1H-MRS) to investigate whether excitotoxicity or inflammation affects two pathways between key brain areas involved in the neurobiology of chronic schizophrenia and methamphetamine-induced psychosis. She further investigates associations between markers of excitotoxicity and neuroinflammation in the brain, and markers of inflammation in blood. These investigations led to the first finding that neuronal tissue in the pathway between the thalamus and the anterior cingulate cortex, involved in the regulation of cognition, is compromised in schizophrenia. The investigations also find that the pathway between the thalamus and anterior cingulate cortex involved in schizophrenia is compromised by inflammation in the methamphetamine-induced psychosis group. These findings show that the pathway between the thalamus and anterior cingulate cortex is compromised by different aberrations in each of the two disorders.

Supervisor: Professor DJ Stein
(Psychiatry and Mental Health)

Bitamazire Charles Businge
Thesis Title: *The risk and severity of preeclampsia secondary to iodine deficiency and iodine deficiency-mediated subclinical hypothyroidism: mechanisms and early cardiovascular consequences*

Bitamazire Businge trained as medical doctor at Makerere University and earned an MPH from the University of the Western Cape. He has been lecturer/Obstetrician and Gynaecologist at Walter Sisulu University and Nelson Mandela Academic Hospital since 2007. He registered for his PhD studies at UCT's Department of Medicine in 2017.

Bitamazire Businge's thesis focuses on the estimates and trends in the prevalence of iodine deficiency in pregnancy in Africa following the implementation of national measures to eliminate iodine deficiency in 1995. He further investigates the risk and mechanisms through which iodine deficiency predisposes to new onset hypertension in pregnancy (preeclampsia) and subclinical cardiovascular consequences. Although there is a significant reduction, he found that there is still a high prevalence of iodine deficiency in pregnancy in Africa, affecting 45% of the African nations, 25 years after commencement of iodine fortification of salt and other foodstuffs. He found that the risk and severity of preeclampsia increase with the degree of iodine deficiency in pregnancy. He also found that iodine deficiency, which can be mitigated by supplementation, predisposes to preeclampsia and cardiovascular disease through diminished anti-oxidant capacity and elevated thyroid stimulating hormone both acting via endothelial dysfunction.

Supervisor: Professor AP Kengne
(Medicine and South African Medical Research Council)

Victoria Claudine Damerell
Thesis Title: *The c-Myc/TBX3/
nucleolin signalling axis in the cellular
transformation of sarcoma- initiating
cells*

Victoria Damerell holds BSc and MSc degrees in Molecular Biotechnology from the Institute of Pharmacy and Molecular Biotechnology, Faculty of Biosciences, Heidelberg University (Germany). She joined the UCT Faculty of Health Sciences in the Department of Human Biology for her PhD studies in 2017.

Victoria Damerell's thesis focuses on understanding the molecular mechanisms that underpin the initiation and progression of sarcomas, which are a group of highly aggressive paediatric cancers. This is with the view to identifying biomarkers that can be used for the reliable diagnosis and therapy of several sarcoma subtypes. Using a range of computational and experimental techniques, she shows that the TBX3 and nucleolin proteins may be promising biomarkers for the accurate detection and diagnosis of specific sarcoma subtypes, which could improve the prognosis of sarcoma patients. Further, she demonstrates that the c-Myc, TBX3 and nucleolin proteins are part of an important oncogenic pathway that is responsible for driving the cancerous transformation of mesenchymal stromal/stem cells which are sarcoma-initiating cells. Together, her findings have important implications for our understanding of the early events in sarcoma initiation and are of potential value for the reliable diagnosis and targeted therapy of specific sarcoma subtypes.

Supervisor: Professor S Prince (Human Biology)

Co-supervisor: Professor MS Pepper (Immunology, University of Pretoria)

Adebukola Kemi Daramola
Thesis Title: *Selective elimination of
allergen-reactive B-cells in allergic
asthma*

Adebukola Daramola holds a BSc (Hons) in Human Anatomy from Ladole Akintola University of Technology, Nigeria and Master of Sciences specialising in Medical Biosciences from the University of the Western Cape. She joined the Department of Integrative Biomedical Sciences at UCT in 2016 for her PhD studies.

Adebukola Daramola's thesis focuses on the development of two allergen fusion proteins (an allergen-based immunotoxin and allergen-derived drug conjugate) as next-generation targeted therapies for the treatment of patients with Der p 1 induced allergy. In her thesis, Adebukola Daramola demonstrates for the first time a scalable process for the expression and purification of recombinant proDer p 1 fusion proteins in *Escherichia coli*. Results from her thesis show that the inactive form of Der p 1 allergen (proDer p 1) when used as the cell binding moiety of allergen fusion proteins allowed for the selective targeting and killing of Der p 1-reactive hybridomas. These cells are mimicking Der p 1 reactive B-cells implicated in the maintenance of Der p 1-induced allergic asthma in humans. Adebukola Daramola also achieved great success in her use of supercomputing simulation models to improve current state-of-the-art deimmunized immunotoxins.

Supervisor: Professor S Barth (Integrative Biomedical Sciences)

Saarah Fatoma Gadija Davids
Thesis Title: *Temporal changes in the
cardiometabolic disease risk profile
of the Bellville South mixed ancestry
community between 2008/09 and
2014/16*

Saarah Davids completed her BSc (Computer Science), BSc(Hons) and MSc qualifications at the University of the Western Cape, and began studying towards her PhD in 2015. She currently works as a researcher at the South African Medical Research

Council/ Cape Peninsula University of technology (SAMRC/CPUT) Cardiometabolic Health Research Unit. Saarah Davids' thesis reports on the temporal changes of cardiometabolic disease risk profile across two time-points, seven years apart, in mixed-ancestry adult South Africans residing in Cape Town. She investigates the changing patterns of blood pressure, obesity phenotypes and sub-clinical inflammation. She uncovers the increasing prevalence of hypertension driven by screen-detected hypertension, and a shift of hypertension prevalence to younger ages. The overall adiposity decreased between two time-points, translating into differing distribution of body mass index categories; but not in the distribution of obesity phenotypes. The prevalence of sub-clinical inflammation increased over time, with adiposity and markers of glucose homeostasis being the correlates of these changes. Overall, the cardiometabolic risk profile of this population is deteriorating, with suggestions that it could deteriorate further in the absence of optimal prevention and control measures. Such measures should be implemented alongside efforts to monitor future changes in cardiometabolic risk profiles.

Supervisor: Professor AP Kengne (Medicine and South African Medical Research Council)

Co-supervisors: Dr N Peer (Medicine), Professor TE Matsha (Medical Biochemistry, Cape Peninsula University of Technology)

Kamunkhwala Gausi
Thesis Title: *Pharmacometric
modelling to inform and improve TB
and HIV treatment: focus on drug-drug
interactions and neglected populations*

Kamunkhwala Gausi holds a BSc in Statistics and Mathematics and an MA degree in Biostatistics from the University of Malawi. She joined the Division of Clinical Pharmacology at UCT in 2018 for her PhD studies. Before joining UCT she worked for the Malawi Liverpool Wellcome Trust.

Kamunkhwala Gausi's thesis focuses on applying statistical models

to inform and improve TB and HIV treatment, with special attention to drug interactions and neglected populations. She analysed data from clinical studies involving patients living with TB and/or HIV and developed models describing time course of TB and/or HIV drug concentrations in the body after the intake of a dose, and the corresponding drug response. She identified a decrease in exposure due to pregnancy for the TB drugs isoniazid and bedaquiline and the antiretroviral efavirenz. This decrease may warrant dose adjustment specifically for individuals with genotypes that clear the drugs more rapidly. Furthermore, she identified the optimal dose of isoniazid in TB patients with low-intermediate level isoniazid-resistance.

Supervisor: A/Professor P Denti (Medicine)

Alexa Storme Heekes
Thesis Title: *Investigation of HIV-TB co-infection through analysis of the potential impact of host genetic variation on host-pathogen protein interactions*

Alexa Heekes completed her BSc and BMedScHons qualifications at UCT, before starting her PhD part time in 2015. Whilst pursuing her studies, she has worked as a full-time data analyst in Public Health at UCT seconded to the Western Cape Department of Health.

Alexa Heekes' thesis presents a detailed network of biological elements that she uses to investigate HIV-TB co-infection. The backbone of this network is functional protein interactions between HIV, human and *Mycobacterium tuberculosis* proteins, in which human proteins act as bridges connecting the pathogen proteins. She identifies and analyses 28 human proteins acting as bridges between the pathogen proteins. The network additionally includes interactions with HIV and TB drugs, as well as gene expression data that highlights genes that are differently expressed during HIV-TB co-infection. Using the gene expression data and mathematical network properties, she prioritises the proteins. Finally, the network includes known and novel

genetic variants that she identified within sequences of African individuals in a region important for immune response to HIV and TB. The network provides a useful resource for investigating and visualising individual proteins, interaction pathways and the impact of genetic variants on HIV-TB co-infection.

Supervisor: Professor N Mulder (Integrative Biomedical Sciences)

Maxine Allison Höft
Thesis Title: *Understanding the host immune response to Emergomycetes africanus, a new endemic emerging fungal pathogen*

Maxine Höft completed her BSc, BScHons and MSc qualifications in Microbiology and Biochemistry at Rhodes University, and began full-time study towards her PhD in 2018.

Maxine Höft's thesis investigates the immune response to *Emergomycetes africanus*, a newly described dimorphic fungal pathogen affecting patients with AIDS in South Africa. She established immune-competent and immunocompromised in vivo infection models allowing her to describe disease kinetics and measure fungal burden, dissemination, cellular recruitment to infected tissue and cytokine and antibody responses towards infection. Finally, she showed recognition and binding of antifungal C-type lectin receptors that play a role in immune cell activation and cytokine production. Her work has laid the foundation to better understand *Emergomycetes spp.* infection and the study has added valuable insight into disease kinetics and fungal clearance mechanisms. These findings will be useful in future studies identifying high risk patients and understanding how infection is cleared in healthy individuals will aid in the development of host-directed therapeutic approaches to clear infection in immunocompromised individuals.

Supervisor: A/Professor JC Hoving (Pathology)
Co-supervisor: Professor GD Brown (Pathology)

Fatima Hoosen
Thesis Title: *Theory and evidence-based development and feasibility testing of a weight loss intervention (Health4LIFE) for overweight and obese primary school educators employed at public schools in low-income settings, Western Cape Province, South Africa*

Fatima Hoosen holds a BSc (Dietetics) degree from the University of the Western Cape and a MSc (Nutrition) degree from Stellenbosch University. She first joined the Division of Human Nutrition at UCT in 2010 as a clinical educator before embarking on her PhD studies.

Fatima Hoosen's thesis focuses on the application of the Behaviour Change Wheel, integrated with the Theory of Planned Behaviour and the Health Belief Model, in the development of a theory and evidence-based weight loss intervention for overweight/obese primary school educators employed at low-socio-economic public schools in Cape Town. She finds the process to be comprehensive and systematic and the outcome of which is a self-help intervention consisting of a wellness day, hard copy manual and text messages. She further tests the feasibility of the invention in three sub-studies and finds good reach, acceptability, applicability and implementation integrity. She also finds significant positive changes in lifestyle, and lifestyle-related beliefs that she targeted with messaging in the intervention. She reports a trend toward weight loss in the intervention group only. Final refinement and full-scale evaluation of the Health4LIFE intervention should be prioritized to address educators' dire need for weight loss support.

Supervisor: Professor M Senekal (Human Biology)

Jennifer Hsin-Wen Hsieh
Thesis title: *Neurocircuitry of attention in methamphetamine induced psychosis: a comparison against schizophrenia patients and healthy controls*

Jennifer Hsieh completed her BSc, BSc(Med)(Hons), and MScMed qualifications at UCT, and began full-time study towards her

PhD in Neuroscience in 2011.

Jennifer Hsieh's thesis reports that Methamphetamine induced psychosis (MAP) and schizophrenia have important overlaps and differences in the neurocircuitry of attention. She used transcranial magnetic stimulation, electroencephalographic frequency power and event related potential methods while participants performed a sustained attention task. She found that that MAP may have similar dopaminergic and thalamic impairments as schizophrenia, but different cortical and acetylcholinergic impairments than schizophrenia. These findings will be useful in future research for improved cognitive therapies for MAP.

Supervisor: A/Professor F Howells (Surgery)

Co-supervisor: Professor DJ Stein (Psychiatry and Mental Health)

Abdulmumin Ibrahim

Thesis Title: *The impact of maternal HIV infection on uninfected neonate brain structure*

Abdulmumin Ibrahim holds BSc, MPH, and MSc degrees from Nigeria. Before joining UCT in 2017, he taught Anatomy at a Nigerian University. He is a Fellow of the Fogarty-AIDS International Training and Research Program (AITRP) and AIDS International Vaccine Initiative (IAVI), where he worked with Adolescents living with HIV.

Abdulmumin Ibrahim's thesis examines the effects of in utero exposure to maternal HIV and antiretroviral therapy (ART) on the developing infants' brains. He uses magnetic resonance imaging to scan newborn babies within the first month of postnatal life to examine brain changes due to exposure to maternal HIV and anti-retroviral therapy (ART). He conducts neuropsychological testing in this cohort at 9 months of age to determine the relationship between cognitive functions and brain changes observed in early infancy. He reports smaller brain volumes, altered brain connectivity, and a lack of structural associations with neuropsychological outcomes later in infancy. He attributes the observed reduced brain volumes

in HIV exposed uninfected infants to shorter in utero ART exposure duration. His findings highlight the influence of HIV exposure, ART duration and maternal immune health on fetal brain development. These findings can be used to review the Prevention of Mother To Child Transmission guidelines.

Supervisor: Dr MJ Holmes (Human Biology)

Co-supervisors: Professor E Meintjes (Human Biology); Dr F Warton (Human Biology)

Victoria Oluwatoyin Iyun

Thesis Title: *Universal antiretroviral therapy (ART) for infants and young children living with HIV: assessing the effect of guideline changes on ART initiation characteristics and treatment outcomes in resource-limited settings*

Victoria Iyun obtained her MPH degree with a focus on Epidemiology and Biostatistics from the School of Public Health and Family Medicine at UCT in 2016. She began full-time study towards her PhD in 2017.

Victoria Iyun's thesis focuses on understanding the impact of the World Health Organization's universal antiretroviral therapy (ART) guidelines on treatment effectiveness and survival trends in infants and young children enrolled in routine HIV treatment programs. Findings from this thesis suggest an improvement in the timing of ART initiation and health status at treatment initiation among infants and young children, with associated decreases in mortality following universal ART recommendations. However, substantial inequities in outcomes existed across country income groups and one in five children in sub-Saharan Africa continue to experience loss to follow-up. In addition, findings highlight suboptimal short and long-term viral suppression in infants starting ART before three months of age in the context of birth diagnosis and early infant ART practices. Therefore, targeted approaches are urgently required to improve the outcomes of infants and young children living with HIV in the era of universal ART.

Supervisor: Professor M-A Davies (Public Health and Family Medicine)

Co-supervisor: A/Professor K-G Technau (Paediatrics and Child Health, University of the Witwatersrand)

Lisa-Ann Kaestner

Thesis Title: *Nephrolithiasis in the Western Cape, South Africa*

Lisa-Ann Kaestner holds an MBChB from Stellenbosch University, an MMed from UCT, and she is a fellow of the College of Urologists. She has been a consultant and lecturer at Groote Schuur Hospital/University of Cape Town Faculty of Health Sciences since 2010.

Lisa-Ann Kaestner's thesis focuses on the clinical characteristics of local renal stone formers, the application of guideline-based management in this cohort, and the regional resources for guideline-driven nephrolithiasis management. She concludes that international guidelines are applicable in the local cohort as the local stone formers are similar to stone formers elsewhere. However, widespread limitations in resources exist which may hamper the feasibility of guideline-based management in both the local and regional context. These findings will support the development of locally appropriate and feasible guidelines for the management of renal stones.

Supervisor: Professor E Muller (Faculty of Health Sciences, Stellenbosch University)

Co-supervisor: Professor D Bezuidenhout (Surgery)

David Martin le Roux

Thesis Title: *Ambulatory and hospitalized childhood pneumonia: a longitudinal study in a peri-urban low-income community with high vaccination coverage in Sub-Saharan Africa*

David le Roux completed training in Paediatrics, a fellowship in Infectious Diseases, and Masters in Public Health (Johns Hopkins University). He worked on the Drakenstein Child Health Study

before joining UCT Department of Paediatrics and Child Health as a paediatric consultant at New Somerset Hospital.

David le Roux's thesis reports on the incidence and severity of pneumonia cases that occurred in a birth cohort outside Paarl, South Africa. Women were followed through pregnancy, and their children for the first 2 years of life; a surveillance system was established to identify child pneumonia cases. Despite high levels of vaccination, there was a higher-than-expected rate of pneumonia. Risk factors for developing pneumonia, and factors associated with death or admission to intensive care unit were identified. These findings will help appreciate the burden of child pneumonia in areas where accurate measurement is impossible; they will help to target prevention efforts towards risk factors that are amenable to intervention; and identify children at risk of severe outcomes who may benefit from enhanced monitoring or early referral.

Supervisor: Professor H Zar (Paediatrics and Child Health)

Co-supervisor: Professor M Nicol (Pathology)

Maxwell Katleho Limakatso

Thesis Title: Developing an in-depth understanding of the prevalence, risk factors and treatment recommendations for phantom limb pain, and patient-generated care priorities for people who have undergone lower limb amputations

Maxwell Limakatso holds a BSc in Physiotherapy, Postgraduate Diploma in Interdisciplinary Pain Management, and an MSc in Physiotherapy from UCT. He began full-time study towards his PhD in Anaesthesia in October 2018.

Maxwell Limakatso's thesis reports on the global prevalence of and risk factors for Phantom Limb Pain (PLP) – a common complication affecting an estimated 67% of people who have undergone limb amputations. He further evaluates the best treatments for PLP based on expert-derived consensus, finding that non-invasive non-pharmacological treatments have a superior effect over pharmacological treatments according to supporting

scientific evidence and their efficacy in clinical practice. In addition, he investigates patient-derived short- and long-term care priorities after Lower Limb Amputations (LLAs), finding that people with LLAs prioritise access to information and planning of support pre-operatively; and mental health, and psychological and spiritual well-being during the first year after amputation, and living a functional and normal life, with respect and dignity like everyone else in the long term.

Supervisor: Professor R Parker (Anaesthesia and Perioperative Medicine)

Suresh Madheswaran

Thesis Title: Evaluation of tumour-associated antigens to optically label cutaneous basal cell carcinoma for surgical excision

Suresh Madheswaran holds an MSc in Plant Biotechnology from Bharathidasan University, India. He joined the Department of Integrative Biomedical Sciences at UCT in 2017 for his PhD studies. Before joining UCT, he was a senior research fellow at Dr. MGR Educational and Research Institute in India.

Suresh Madheswaran's thesis focuses on the use of tumour-associated antigens to optically label cutaneous basal carcinoma cells (BCCs) aiming at improving the efficacy of BCC removal by surgical excision. Having identified cell surface receptor-encoding genes differentially expressed in BCC, he generated antibody fusion proteins for selective targeting their translation products using recombinant DNA technology. According recombinant proteins were expressed in mammalian cells. Functional activity of these constructs were validated on both antigen-positive and negative cell lines after conjugation to fluorophores, thereby confirming selectively labelling. His work could be advanced to improved surgical removal of tumours from patients with basal cell carcinoma after in vivo topical labelling. His findings are first steps into eventually reducing the current costs of surgical treatment for

BCC and supporting equitable treatment access across diverse of socio-economic backgrounds, thereby reducing the economic burden and disease morbidity of non-melanoma skin cancer in South Africa.

Supervisor: Professor Dr S Barth (Integrative Biomedical Sciences)

Sana Mahtab

Thesis Title: Chronic morbidities in perinatally HIV-infected adolescents on antiretroviral therapy

Sana Mahtab completed her MBBS at the University of Karachi in 2007 and MPH from UCT in 2015. She began her PhD studies in 2018.

Sana Mahtab's thesis focuses on investigating the spectrum and determinants of HIV associated chronic illness in a cohort of youth perinatally infected with HIV (YLP HIV) but well established on antiretroviral therapy, in South Africa. The study investigated cardiovascular, musculoskeletal, mental health and metabolic outcomes in YLP HIV with a comparator group of HIV-uninfected youth. Key findings were that YLP HIV were at higher risk of having clinical or sub-clinical cardiac structural abnormalities, increased risk of atherosclerosis, worse bone health and impairment in mental health across multiple domains. HIV-related factors such as age of antiretroviral therapy initiation, advance HIV disease, or specific antiretroviral regimens associated with such impairments. These findings identify key modifiable factors that may impact on HIV-associated health in youth and highlight the importance of strengthened strategies to prevent and detect comorbidities through adolescence.

Supervisor: Professor HJ Zar (Paediatrics and Child Health)

Co-supervisor: Professor L Myer (Public Health and Family Medicine)

Shamila Manie

Thesis Title: *Assessment of lung function abnormalities in adult patients with tuberculosis in a high HIV-prevalent setting and the impact of a pulmonary rehabilitation intervention to improve lung function, functional capacity, and quality of life*

Shamila Manie obtained BSc and MSc in Physiotherapy at the University of the Western Cape and Stellenbosch University respectively, before joining UCT in 2007 as a lecturer in cardiopulmonary rehabilitation. As a beneficiary of the Bongani Mayosi MRC National Health Scholarship for PhDs, she commenced her doctoral studies in 2015.

Shamila Manie's thesis focuses on the global problem of Tuberculosis (TB) from a rehabilitation lens. Despite improved cure rates reported over the past decade, completion of TB drug therapy does not necessarily equate to the return of normal lung function, functional capacity, or quality of life for patients. This thesis utilised a three-phased approach to assess and implement a twelve-week exercise based pulmonary rehabilitation programme to address the impact of TB on lung function, functional capacity and quality of life in adult patients. The programme, implemented at the start of TB diagnosis, resulted in improvement in functional capacity and quality of life as well as a reduction in abnormal lung function. These changes are of clinical importance in the rehabilitation of adult patients living with the sequelae of TB. This study lays a foundation for further research on the benefits of a rehabilitation programme in conjunction with TB drug therapy.

Supervisor: Emeritus Professor SL Amosun (Health and Rehabilitation Sciences)

Co-supervisors: Professor G Meintjes (Medicine), Professor B Allwood (Pulmonology, Stellenbosch University), Dr N Zinyakatira (Western Cape Government Specialist Scientist, Division of Public Health Medicine)

Yawovi Dodzi Motchon

Thesis Title: *Computational modelling of cellular mechanics and signalling in intramyocardial biomaterial injectates for myocardial infarction therapies*

Dodzi Motchon holds a BSc(Hons) in Fundamental Physics from the Université de Lomé, Togo, and three master's degrees, namely in Mathematical Sciences from AIMS Senegal, in Interdisciplinary Approaches of Life from the Université Paris Descartes, France, and in Biophysics from the Université Pierre et Marie Curie, Paris, France.

Dodzi Motchon's thesis mathematically and computationally investigates how mechanical and biochemical processes of stem cells delivered with a soft carrier biomaterial into the injured heart muscle can be optimised towards personalised therapies for cardiac infarcts. The cardioprotective and tissue-regenerative biochemical signalling of the delivered stem cells can be tailored by varying the elasticity of the biomaterial anchoring the cells in the cardiac tissue. The cellular expression of transforming growth factor β is most significant when the elasticity of the biomaterial matches that of the stem cells. The developed computational models bridging length scales from the entire heart to cardiac tissue and parts of a single stem cell provide a framework for research and clinical decision support to save and improve lives after a heart attack.

Supervisor: Professor T Franz (Human Biology)

Co-supervisors: A/Professor NH Davies (Surgery); Dr KL Sack (Human Biology)

Johannes Paulus Mouton

Thesis Title: *The burden of serious adverse drug reactions in South Africa*

Johannes Mouton holds an MBChB degree from the University of Pretoria. He joined UCT in 2013 as a research medical officer in the Division of Clinical Pharmacology and commenced his PhD studies in 2015.

Johannes Mouton's thesis characterises the burden of adverse drug reactions causing hospitalisation and

death in South Africa. He compares two standard methods to identify a causal relationship between drugs and adverse events, showing that these methods have limitations with multi-drug therapy used for HIV. Medical records of adults and children admitted to six hospitals are reviewed to identify serious adverse drug reactions and the drugs implicated in these reactions. With a multidisciplinary team, he assesses the likelihood that medicines were causal and whether the adverse drug reactions are preventable. He finds that serious adverse reactions are a common cause of hospital admission and death in South African hospitals and that a high proportion could have been prevented. Drugs used in the management of people living with HIV are frequently implicated, in line with our high HIV burden. These findings have important implications for training and developing safer prescribing systems.

Supervisor: A/Professor K Cohen (Medicine)

Co-supervisor: Professor G Maartens (Medicine)

Tapfuma Mudawarima

Thesis Title: *Burn injuries in Zimbabwe: development of guidelines for physiotherapy rehabilitation of musculoskeletal impairments and functional limitations*

Tapfuma Mudawarima completed his BSc and MSc degrees at the University of Zimbabwe. He began his PhD studies in 2014 in the Division of Physiotherapy at UCT

Tapfuma Mudawarima's thesis documents the process of adapting guidelines for physiotherapy rehabilitation of survivors of burn injuries, appropriate for use in resource constrained contexts. To inform the guidelines, he examined the causes, nature and impact of burns on patients in Zimbabwe. A systematic review of the literature was done to establish best practice. This was followed by an audit of rehabilitation practice to establish what methods of management were currently employed and feasible. He reports that continuing education on the management of burn injuries for rehabilitation

workers was lacking and concludes that guidelines could help physiotherapists make better treatment choices. Having identified an appropriate set of existing guidelines, he adapted them based on his research. He then used a Delphi technique to reach consensus amongst therapists in Zimbabwe to develop the definitive guidelines. He concludes that it is possible to provide contextually relevant and effective rehabilitation to survivors of burn injury in Zimbabwe and that the use of the new guidelines should result in improved care.

Supervisor: Emeritus Professor Jennifer Jelsma (Physiotherapy)

Neelakshi Mungra

Thesis Title: Development of SNAP-tag based fusion proteins as novel auristatin F-containing immunconjugates and photoimmunotheranostics in the detection and treatment of triple-negative breast cancer

Neelakshi Mungra completed her BSc and BScHons qualifications at UCT, and began full-time study towards her PhD in 2019.

Neelakshi Mungra's thesis exploits the use of cutting-edge antibody technologies to facilitate the development of differential diagnosis and therapeutic fusion proteins targeting triple-negative breast tumours – a notoriously aggressive and lethal form of breast cancer. By coupling these antibodies to fluorescent substrates, she first establishes the suitability of the resulting chimeric proteins as optical imaging systems providing predictive potential for breast cancer-specific cell surface biomarkers. Thereafter, she demonstrates that the amalgamation of such antibodies with highly toxic synthetic labels, results in an intelligent and highly selective delivery system which specifically kills biomarker-positive tumour cells in a dose-dependent fashion in vitro. Taken together, these findings underscore the value of recombinant antibody technologies in the generation of precision diagnostic and therapeutic molecules, as a first step towards the effective management of African triple-negative breast cancer.

Supervisor: Professor S Barth
(Integrative Biomedical Sciences)

Melissa Murphy

Thesis Title: Human myeloid cell and innate lymphocyte responses to mycobacterial vaccination or infection

Melissa Murphy completed her BSc and BScHons in Molecular and Cell Biology at UCT. After beginning her MSc studies in 2014, she upgraded to a PhD in 2017.

Melissa Murphy's thesis investigates how the current tuberculosis (TB) vaccine, Bacille Calmette Guérin (BCG), modulates the immune response beyond conventional T cells in infants. In addition, her thesis explores the role of these immune responses in TB disease, immunopathology, and potential infectiousness in adults. She characterised understudied immune cells from the blood of two South African cohorts, using standard immunological assays and a novel Respiratory Aerosol Sampling Chamber which measures potential infectiousness of TB patients. She showed that innate lymphocytes are modulated by BCG vaccination in infants and therefore represent attractive targets for an improved TB vaccine. She showed that the abundance of an unconventional T cell subset in blood correlated with infectiousness and may allow targeted treatment of TB super-spreaders. Lastly, she identified a subset of monocytes present at different abundance in TB patients and healthy controls, which should be explored as a blood-based diagnostic for TB.

Supervisor: A/Professor E Nemes
(Pathology)

Co-supervisor: Professor TJ Scriba
(Pathology)

Ezekiel Musa

Thesis Title: Role of obesity and gestational diabetes mellitus status on the expression of kisspeptin, inflammatory markers and other endocrine signals, and their correlation with foetal outcomes and placental structure

Ezekiel Musa holds an MBBS degree from Usmanu Danfodiyo University, Nigeria, and a Fellowship of the West African College of Physicians, Nigeria (Int. Med- Endocrinology). He joined the Department of Medicine at UCT in 2017 for his PhD studies.

Ezekiel Musa's thesis focuses on the role of obesity and gestational diabetes mellitus (GDM) on the physiological changes within the placenta (genes, protein and morphology) among pregnant South African women. He then investigates the relationship between placental and serum kisspeptin and inflammatory cytokines with placental morphological, maternal and neonatal parameters. He finds that obesity alters placental endocrine function (leptin, KISS1R), and maternal inflammatory cytokines alter the placental structure in obese women alone. He further reports that increased placental kisspeptin is associated with reduced placenta maturation and function, maternal body mass index and systolic blood pressure in women with GDM, irrespective of obesity status. Excitingly, he demonstrates that maternal obesity compromises placental maturation and decreases the surface area and diffusion capacity required for maternal-foetal nutrient and oxygen exchange. These observations may contribute novel insights into the interplay between metabolic dysfunction, obesity, and inflammation in maternal and neonatal outcomes and placental dysfunction.

Supervisor: Professor NS Levitt
(Medicine)

Co-supervisor: A/Professor M Matjila
(Obstetrics and Gynaecology)

Fungai Musaigwa

Thesis Title: *Impact of the parasitic helminth Schistosoma mansoni on host anti-viral vaccine responses: proof of concept from the anti-polio vaccine*

Fungai Musaigwa holds a BSc degree in Microbiology from the University of Namibia and a Master's in Pathology degree from Stellenbosch University. He joined the Division of Immunology at UCT in 2019 for his PhD studies.

Fungai Musaigwa's thesis investigates the influence of schistosomiasis, a parasitic disease commonly known as bilharzia, on unrelated World Health Organisation (WHO) recommended childhood vaccines with a focus on polio immunity as a proxy for general vaccination. Schistosomiasis is endemic in about 90% of African countries. Here, Fungai found that children and mice infected with schistosomiasis had reduced immunity to polio vaccination, thus potentially making them vulnerable despite effective vaccine administration. Fungai also showed that schistosomiasis hosts who clear the parasite post treatment with the recommended anti-schistosome drug, praziquantel, had improved vaccine responses. Fungai's work stirs the overdue conversation on the suspected detrimental impact of endemic parasites on childhood vaccination efforts. Unprecedentedly, his work proposes anti-schistosome treatment as an effective strategy to strengthen vaccination efforts.

Supervisor: Dr J Nono Komgwep (Pathology)

Co-supervisor: Professor F Brombacher (Pathology)

Mweete Debra Nglazi

Thesis Title: *An analysis of overweight and obesity in South Africa: the case of women of childbearing age*

Mweete Nglazi holds a Master of Public Health from UCT and a Bachelor of Science in Microbiology from the University of Zambia.

Mweete Nglazi's thesis uses nationally representative data to examine the trends, socioeconomic inequality

and determinants of overweight and obesity in women of childbearing age between 15 and 49 years old. She finds that overweight and obesity increased between 1998 and 2017 with factors including increased age, self-identifying with the Black African population group, higher educational attainment, residing in an urban area, and wealth contributing to the rise. Overweight and obesity are unevenly distributed but more among the rich between 1998 and 2016. Ultra-processed food expenditure increased between 2005/6 and 2010/11, accounting for a substantial share of poorer households' expenditures than their wealthier counterparts. Her research also assesses socioeconomic inequality in the intergenerational transmission of overweight and obesity. She found that intergenerational overweight and obesity occur more frequently among wealthier mother-offspring pairs than their poorer counterparts. These findings are useful for policymakers and future research.

Supervisor: A/Professor JE-O Ataguba (Health Economics, University of Manitoba)

Joachim Nyoni

Thesis Title: *A participatory action research project on family needs: experiences of formal and informal support services available among Zambian families of children with autism spectrum disorders*

Joachim Nyoni holds a Primary Education Certificate, Diploma in Education, Bachelor's in Psychology and Master's in Child and Adolescent Psychology from the University of Zambia. He has worked in the education sector for over 25 years. He is currently a policy maker for the Ministry of Education in Lusaka, Zambia.

Joachim Nyoni's thesis focuses on the unmet formal and informal support needs of Zambian parents of children with Autism Spectrum Disorder (ASD), a condition poorly understood by many Zambians. He uses the Participatory Action approach (PAR) to work with 73 participants in identifying and acting on parents' formal and informal unmet needs. The findings revealed that the local community

including clinicians, teachers, social welfare officers, religious and traditional healers had limited knowledge about ASD. Parents faced various barriers at pre and post diagnosis such as inadequate ASD skilled professionals, high cost of formal services, insufficient counselling services, use of non-culturally and standardised diagnosis tools. Joachim Nyoni concludes his thesis by stating that the use of PAR methodology, through parent-led support groupings in undersourced societies is more beneficial as it respects local knowledge and empowers participants to become agents of social change in their communities.

Supervisor: Professor J McKenzie (Health and Rehabilitation Sciences)
Co-supervisor: Dr M Harty (Health and Rehabilitation Sciences)

Bernard Osero Ong'ondo

Thesis Title: *Interleukin-4 responsive dendritic, macrophage/neutrophil cells are dispensable for host resistance against Leishmania mexicana infection in mice*

Bernard Ong'ondo completed his BSc and MSc qualifications from Jomo Kenyatta University of Agriculture and Technology and joined UCT's Faculty of Health Sciences in 2018 for his PhD studies.

Bernard Ong'ondo's thesis investigates how mice with the absence of Interleukin-4 (IL-4R α) signaling on dendritic cells (DC), macrophages, and neutrophils respond to *Leishmania mexicana* infections in reference to the skin lesions, parasite proliferation/survival, and dissemination at the site of infection and draining lymph nodes. Using both ELISA and flow cytometry, this study highlights that during subcutaneous infection in the footpad with *L. mexicana* promastigotes, IL-4R α signaling on DCs and macrophages/neutrophils in BALB/c mice does not drive CL disease protection in IL-4R α -/- mice. The findings rule out the important role of IL-4R α signaling on DCs, macrophages, and neutrophils in the immune responses characterized by antibody production, cytokine secretion by peripheral lymph node cells, cellular responses, and iNOS and arginase-1

enzyme activities in BALB/c mice during *L. mexicana* infection.

Supervisor: Professor F Brombacher (Pathology)

Co-supervisor: Dr R Hurdayal (Molecular Cell Biology)

Patricia Achieng Otieno

Thesis Title: *Investigating the innate immune responses to pneumocystis infection in mice*

Patricia Otieno completed her BSc qualification at Jomo Kenyatta University of Agriculture and Technology, Kenya, MSc at University of Basel, Switzerland and began full-time study towards her PhD in 2016.

Patricia Otieno's thesis reports on the innate immune responses to *Pneumocystis* infection in mice. She went on to investigate defects in immune receptor co-stimulation during *Pneumocystis* infection in mice. She proposes that the defects in immune receptor co-stimulation during *Pneumocystis* infection can be restored by exogenously administering Toll Like Receptor 4 agonist or triggering Toll Like Receptors by co-infection with specific organisms. These findings suggest that the administration of Toll like receptor agonists could play a role in the treatment of *Pneumocystis* pneumonia patients by triggering a pattern recognition receptor co-signalling mechanism to aid in *Pneumocystis jirovecii* clearance.

Supervisor: A/Professor JC Hoving (Pathology)

Co-supervisor: A/Professor W Horsnell (Pathology)

Lunelle Lanine Pienaar

Thesis Title: *A social realist study of the mechanisms that condition lecturers' emerging assessment practices*

Lunelle Pienaar obtained the BSc and MSc in Physiotherapy at the University of the Western Cape and Stellenbosch University respectively before joining UCT in 2008 as a clinical educator and then lecturer. She

commenced her doctoral studies in 2017.

Lunelle Pienaar's thesis focuses on lecturers' assessment practices within an undergraduate medical programme at the Faculty of Health Sciences. By exploring the structural, cultural and historical conditions and conventions that influence lecturers' choices in designing assessments, she engages with the current challenges in Health Sciences education and transformation imperatives. Using a case study design and topical life histories methodology, the study offers rich insights into lecturers' navigation of challenges, opportunities and complex choices. The research findings point to the reproduction of conventional evidence-based assessment practices that are teacher-led. Systemic constraints such as timetabling, limited integration, disciplinary power, insufficient human and financial resources account for the default leaning towards traditional assessments rather than the inclusive assessment practices. The study suggests that lecturers need to be supported at national, institutional and departmental levels, through staff development interventions, to expand the repertoire and contextualisation of assessment practices within the medical curriculum.

Supervisor: A/Professor K Behari-Leak (Higher Education Development)

Co-supervisor: Professor H Kathard (Acting Deputy Vice-Chancellor: Teaching and Learning; Health Sciences Education)

Shandré Pillay

Thesis Title: *The role and host-directed targeting of long non-coding RNAs in macrophage polarization during Mycobacterium tuberculosis infection*

Shandré Pillay holds a BSc, BScHons and an MSc (cum laude) in Biochemistry from the University of KwaZulu Natal. She joined UCT as a DST/NRF intern in 2018 and began her PhD within the same laboratory in 2019.

Shandré Pillay's thesis focuses on investigating host-pathogen interactions which contribute to the development of tuberculosis (TB) and using host-directed therapy to augment host immunity. In particular,

her thesis focuses on the role and host-directed targeting of long non-coding RNAs (lncRNAs) which have recently been implicated in immune responses to pathogens. She presents two novel lncRNAs which play a role in macrophage polarization during *Mycobacterium tuberculosis* (Mtb), namely lncRNA-125 which promotes Mtb survival in alternatively activated macrophages and lncRNA-612 which promotes Mtb survival in classically activated macrophages. Targeting of these lncRNAs using antisense oligonucleotide therapy promotes host pro-inflammatory responses and defence mechanisms, resulting in the inhibition of Mtb survival. These findings provide novel functions for lncRNAs in tuberculosis and as host-directed targets which may provide a more suitable method of TB therapeutics.

Supervisor: Professor F Brombacher (Pathology)

Co-supervisors: A/Professor R Guler (Pathology), Dr O Tamgue (Pathology)

Georgina Pujol-Busquets Guillén

Thesis Title: *Evaluation of a nutrition and health education program on components of metabolic health on women from under-resourced South African communities*

Georgina Pujol-Busquets Guillén holds a bachelor's in Pharmacy and a specialisation in Pharmaceutical Cooperation. In addition, she has an MSc in Nutrition and Public Health and an MSc in Global Health. She began full-time studies towards her PhD in 2018.

Georgina Pujol-Busquets Guillén's thesis focuses on pragmatically evaluating the effectiveness, acceptability of a community-based low-carbohydrate, nutrition and lifestyle education intervention on the health and wellbeing of women with metabolic syndrome in under-resourced South African communities, using a mixed methods approach. She further investigates barriers and facilitating factors for programme uptake and compliance. Participants were generally satisfied with the programme and the intervention was associated with significant and sustained

reductions in waist circumference, body mass, blood pressure, serum triglycerides and HbA1c, particularly in those with the worst baseline health risk status. Participants were generally satisfied with the programme. Although healthcare practitioners would not recommend a low-carbohydrate diet, most would support the patient's right to choose, group support and monitoring. This pilot study provided support for a potential low-carbohydrate, nutrition and lifestyle education, community-based intervention for improving the health of women living with metabolic syndrome in under-resourced communities.

Supervisor: Professor EV Lambert (Human Biology)
Co-supervisors: Dr J Smith (Human Biology), Dr K Larmuth (Human Biology), Dr A Bach-Faig (Faculty of Health Sciences, Universitat Oberta de Catalunya (Open University of Catalonia))

Sean Adam Wasserman
Thesis Title: *Optimising linezolid use for drug-resistant tuberculosis: pharmacokinetics, toxicity, and resistance*

Sean Wasserman completed his MBChB and MMed qualifications at UCT and obtained specialist qualifications in Internal Medicine and Infectious Diseases at the Colleges of Medicine of South Africa. He is a Consultant and Associate Professor in the Division of Infectious Diseases and HIV Medicine at Groote Schuur Hospital and UCT.

Sean Wasserman's thesis presents a series of clinical studies investigating use of the repurposed drug linezolid in the South African drug-resistant tuberculosis programme. His non-compartmental analysis of intensive pharmacokinetic data demonstrates attainment of pharmacokinetic-efficacy targets despite large inter-individual variability. In a prospective cohort study, he characterises the frequency of linezolid-associated adverse events, confirming an exposure-response relationship for toxicity, and identifies a target concentration for therapeutic drug monitoring. Genotypic correlates

of linezolid resistance are described in clinical isolates obtained from patients with linezolid-based treatment failure for rifampicin-resistant tuberculosis. These findings contribute to the evidence base for continued use of the standard 600 mg dose in tuberculosis treatment programmes, including for populations with high HIV prevalence.

Supervisor: Professor G Meintjes (Medicine)
Co-supervisor: Emeritus Professor G Maartens (Medicine)

Quenton Bester Wessels
Thesis Title: *Understanding leadership development within new medical schools in Africa*

Quenton Wessels holds a PhD in Anatomy, an MSc in Clinical Education, and began full-time study towards his PhD in Health Sciences Education in 2017.

Quenton Wessels' thesis reports the development of a framework to navigate the complex nature of leadership development in new medical schools in Africa. He went on to investigate leadership development through a Likert scale survey, a multiple case study approach and a qualitative document analysis. This allowed him to propose a three-tier framework that views leadership development of the individual, the institution and within the context of institutional collaboration. Five archetypes of leadership development were identified: *the leader in front, the strategist, the silenced leader, becoming a leader and the leader as manager*. The archetypes are the result of biographical, programmatic, institutional and contextual forces. Leaders interpret these forces in order to negotiate their roles, position and course of action. The findings will be useful in the development of tailored leadership development programmes.

Supervisor: Professor S Reid (Primary Health Care Directorate)
Co-supervisor: Professor T Rennie (School of Pharmacy, University of Namibia)

Phindile Thobeka Ximba
Thesis Title: *Investigation of particulate HIV-1 Env vaccine candidates using Zera® and SpyTag/SpyCatcher technologies*

Phindile Ximba completed her BSc in Biochemistry and Chemistry and MSc in Biochemistry at the University of KwaZulu-Natal. She then began full-time study towards her PhD at UCT while working as a Scientific Officer.

Phindile Ximba's thesis investigated two novel nanoparticle approaches for improving the longevity, quality and levels of neutralising antibodies elicited by HIV-1 envelope (Env) immunogens. The first approach investigated Zera®-induced protein body formation; however, the complex structural features and size of HIV-1 Env limited protein body formation and consequently the immune response induced in rabbits. The second approach investigated the use of in vitro-assembling two-component virus-like particles displaying multiple copies of the soluble Env. The resulting particles generated neutralising antibodies against clinically relevant Tier 2 HIV-1 viruses in rabbits. Overall, this study highlighted factors that need careful consideration when choosing a nanoparticle scaffold to present HIV-1 Env antigens. This study also indicates the potential of using these nanoparticles as a boosting antigen during sequential vaccine regimens.

Supervisor: Professor E Rybicki (Molecular and Cellular Biology)
Co-supervisors: Professor A-L Williamson (Pathology), Dr R Chapman (Pathology), Dr A Meyers (Molecular and Cellular Biology)

2. FACULTY OF HUMANITIES

Dean: Associate Professor S Kessi

DEGREE OF DOCTOR OF PHILOSOPHY

Semeneh Ayalew Asfaw

Thesis Title: *The young and the urban in Addis Ababa: Towards a popular history of the 1974 Ethiopian Revolution, c. 1950s-1974*

Semeneh Asfaw completed his BA and MA at Addis Ababa University, and began his PhD studies in 2018.

Semeneh Asfaw's thesis reports that the literature on the 1974 Ethiopian Revolution emphasises the role of university students as the generators of the revolution. He examines the protests of 1974 in Addis Ababa and shows that they were staged by diverse social groups. He also investigates how the youth came to develop their cultural and political identities between the 1950s and 1974. By exploring social and cultural processes that went into the development of youth identity beyond university students, and by discussing the role of popular groups in the social protests of 1974, he demonstrates the linkages between subject formation in the city and protest. His use of interviews, cultural documents and newspaper archives allows him to document the social and cultural context in which the revolution emerged. Semeneh Asfaw's thesis's main significance lies in its showing the interconnections between artistic and cultural practice and social protest in 1974 Addis Ababa.

Supervisor: A/Professor T Reddy
(Political Studies)

Berenice Naomi Bentel

Thesis Title: *A Commentary on Book 6 of Achilles Tatius' Leucippe and Clitophon*

Berenice Bentel completed her BA and BA(Hons) degrees at UCT before proceeding to Peterhouse College at Cambridge University where she graduated with an MPhil in Classics. She began full-time study towards her PhD at UCT in 2016.

Berenice Bentel's thesis takes the form of an introduction to, and commentary on, the sixth book of the Ancient Greek novel *Leucippe and Clitophon* by Achilles Tatius. The introduction evaluates the available evidence on the date and identity of the author, surveys previous editorial work on the text of the novel, and identifies and discusses the generic and narratological issues and literary influences which are relevant to the sixth book in particular. The commentary provides detailed analysis and discussion of specific words and phrases in the text, following methodologies in commentary-writing established in the discipline of Classics. Prominent topics included in the commentary are textual, linguistic and semantic questions, observations on style and intertextuality, diegetic strategies adopted in the novel, and the broader cultural, literary, political, and religious context in which the novel is situated.

Supervisor: A/Professor CE Chandler
(Languages and Literatures)

Yaliwe Yaya Clarke

Thesis Title: *Exploring feminist notions of peacebuilding: experiences of women activists in Northern Uganda*

Yaliwe Clarke holds a BA in Development Studies from the University of Zambia and an MA in Peace and Conflict Transformation from the University of Tromsø, Norway. She joined UCT's African Gender Institute in 2008 and began her PhD studies in 2011.

Yaliwe Clarke's thesis focuses on women's peace groups during and soon after the most volatile periods of the eighteen year long war in Northern Uganda. She conceptualises an African

feminist perspective to peacebuilding through a thematic analysis of data emanating from in-depth interviews with founder members and staff of community-based peace groups, from focus groups with beneficiaries and from key persons working with larger aid organisations that support these groups. Her findings show that there is a clear need for a nuanced intersectional analysis of women's socio-economic and political power within militarised contexts and the shifts that occur within them; that local efforts at peacebuilding which focus on gendered experiences of survival should be taken into account; and that militarism needs to be recognised as part of a socio-economic and political-economic system that is often intertwined with colonial histories of violence and with patriarchal values and customs that present masculine power as normative

Supervisor: Dr C O'Brien
(Social Development)

Co-Supervisor: Dr AK Kubeka
(Social Development)

David Fachler

Thesis Title: *Tradition, Accommodation, Revolution and Counterrevolution: A History of a Century of Struggle for the Soul of Orthodoxy in Johannesburg's Jewish Community, 1915-2015*

David Fachler completed his BA and LLB at the University of the Witwatersrand, his LLM at UNISA, and an MA at The Hebrew University of Jerusalem. He began full-time study towards his PhD at UCT in 2019.

David Fachler's thesis explores and explains the processes that produced profound changes in the religious and institutional landscape of Jewish life in Johannesburg over the past century. Once characterized by high levels of irreligiosity and weak religious institutions, Johannesburg's Jewish community now exhibits the opposite. In 2019 almost half of Jews in Johannesburg defined themselves as Orthodox. Contrary to conventional explanations that focus on the arrival of imported religious revival movements in the 1970s, David Fachler's thesis presents evidence of division and rupture decades

earlier. He shows that, already by the 1930s, the inclusive interpretations of Jewish practices championed by the establishment were challenged by individuals and movements that preferred stringent and sectarian approaches; and that, over the subsequent decades, the latter camp has triumphed in alliance with revival movements, whereas inclusive approaches have virtually disappeared.

Supervisor: A/Professor A Mendelsohn (Historical Studies)

Sandra Roslyn Fitchat

Thesis Title: *English as an emergent second language among Khoekhoegowab speakers in Namibia – A study in ‘World Englishes’ categorisation*

Sandra Fitchat holds a BA from Rhodes University, a Higher Diploma in Education (Postgraduate) (Secondary) from UCT and an MA in General Linguistics (cum laude) from Stellenbosch University. After almost thirty years as an English language editor, she registered at UCT for doctoral studies.

Sandra Fitchat’s thesis combines second language acquisition, languages in contact and World Englishes theories to investigate the use of English among speakers of the endangered language, Khoekhoegowab, in Namibia. Interviews with 38 members of a remote rural community reveal various cognitive, social and psychological strategies facilitating acquisition of English in innovative ways, on the levels of phonology/phonetics, morphosyntactics and pragmatics. Sandra Fitchat shows that the relative distance between English and other languages in the Germanic family, as well as those in the Khoesaaan and Bantu families, are influential, as are counterculture varieties such as African American Vernacular English, Cape Flats English and Afrikaaps. Her findings underline the impact of South Africa’s dominant presence in Namibia for 75 years, an insufficiently acknowledged factor as regards English language. Ultimately, Sandra Fitchat’s shows, several unique language items reveal how Khoekhoegowab speakers are

negotiating their individual and social identities through the medium of English as a global language.

Supervisor: Emeritus Professor R Mesthrie (African Studies and Linguistics)

Maria Elizabeth Geustyn

Thesis Title: *Literature and the littoral in South Africa: reading the tides of history*

Maria Geustyn completed her BA, BA(Hons), and MA in English Studies at Stellenbosch University, and began full-time study towards her PhD at UCT in 2015.

Maria Geustyn’s thesis traces the representation of the littoral at different moments within the history of South African literature. She conducts a recursive reading of the littoral as a literary setting to show how these readings resonate with each other across different historical periods, confounding the linearity of colonial history’s “grand narratives”. Drawing on Kamau Brathwaite’s notion of “tidalectics”, Maria Geustyn proposes an open, fluid reading practice that accommodates the multiple temporalities that co-exist in the littoral space, and in which histories are constantly revisited and therefore never terminated as a fixed event in the past. This approach disrupts the premises of formal historiography by offering alternative models for recognising and recording marginal narratives. A tidalectic reading of South African literature therefore demonstrates that the littoral allows for a different spatio-temporal approach to the long history of social injustice in South Africa.

Supervisor: A/Professor N Davids (English Literary Studies)

Co-Supervisors: Professor S Young (English Literary Studies); A/Professor M Samuelson (University of Adelaide)

Saskia Greyling

Thesis Title: *Demystifying the database: the state’s crafting of Cape Town’s housing allocation tool and its technologies*

Saskia Greyling holds BSocSc, BSocSc(Hons) and MSocSc degrees from UCT.

Saskia Greyling’s thesis focuses on the City of Cape Town’s integrated housing database as the key tool through which state housing is fairly allocated. As it is a typically invisible tool, she examines the development of the database, tracing the ideological, political, bureaucratic, and technological shifts that have shaped it over 30 years of housing allocation reform. Through archival and qualitative research methods, she makes visible the state’s work to produce the database as well as the data held within it, and she shows how it is used to generate allocation decisions, and how it is invoked in the broader housing policy landscape. Saskia Greyling’s thesis shows clearly that the database is not merely a state tool, but rather that it works as a mode of governance, crafted by the state for building and sustaining housing allocation decision-making processes.

Supervisor: Professor S Oldfield (African Centre for Cities)

Kojo Impraim

Thesis Title: *Human security, democratic policing and public safety in Ghana*

Kojo Impraim holds a BA in Political Science with Sociology (First Class) and an MPhil in Political Science from the University of Ghana. He began full-time study towards his PhD in 2019.

Kojo Impraim’s thesis examines the linkages between human security, democratic policing and public safety, and their implications for peace, strong institutions, and sustainable development in Ghana. His study is informed by theories of human security and police legitimacy. Analysing security at three levels – protection of citizens, communities, and the state – he argues that human security and

public safety hinge on a combination of security-sector governance, policing, and law enforcement. He further argues that while policing is pivotal to law maintenance, public safety, peace, and stability, it is frequently hindered by constitutional, administrative and structural bottlenecks. The data from his study also illustrate how a low police-citizen ratio has adverse implications for law maintenance – because it emboldens impunity and criminality. This manifests, in part, in high road-traffic accident rates which further threaten human security and constitute a worrying public safety concern and a neglected epidemic in Ghana. Kojo Impraim's thesis concludes that democratic policing is below par in Ghana, despite some gains having been made.

Supervisor: Professor J Akokpari
(Department of Political Studies)

Thomas Alexander Isbell
Thesis Title: *Of all people, by all people, for all people? Perceptions of economic inequality and democracy in Africa*

Thomas Isbell holds a BA in Political Science from the University of Mannheim, Germany and an MA in International Relations from UCT. He began studying towards his PhD in 2016 and has worked on the data management team of the Afrobarometer survey project throughout his doctoral studies.

Thomas Isbell's thesis examines the effects of perceptions of material inequality on democratic legitimacy in Africa. Using representative survey data from 34 African countries, Thomas Isbell first shows that perceptions of material inequality only weakly correlate with objective levels of material inequality. He then demonstrates that these subjective perceptions, rather than objective scores of material inequality, are significant predictors of people's support for democracy, their satisfaction with how democracy is functioning, their trust in government and state institutions, and their level of civic and political participation. Those who see themselves as relatively deprived, compared to other people in their country, are significantly less likely to support democracy, more

likely to support non-democratic rule, and less likely to trust government and state institutions. His research extends current explanatory models in the literature and underlines the value of survey data to bridge the limited availability of comparable econometric data in Africa today.

Supervisor: Professor R Mattes
(Political Studies)
Co-supervisor: Professor J Seekings
(Sociology)

Chanaaz Charmain January
Thesis Title: *Towards a qualitative framework for blending equity and excellence in transforming South African higher education to achieve development*

Chanaaz January completed her undergraduate studies and MEd at UCT, before starting part-time studies towards her PhD in 2015.

Chanaaz January's thesis examines the critical elements to consider when devising a coherent, qualitative framework for higher education transformation. The premise of her thesis is that for transformation to be realised, both excellence and equity must be pursued simultaneously. Her study addresses an identified gap in the field which emerged post the publication of *An Equity Index for South Africa* developed in 2012. Her data sources include both in-depth interviews from an elite sample and the analysis of strategic documents of leading entities. The suggested framework Chanaaz January proposes in her thesis offers guidelines for managing the transformation process and for meeting the objectives of the National Development Plan to those currently charged with the governance of higher education.

Supervisor: Emeritus Professor
C Soudien (School of Education)

Jacqueline Felicity Job
Thesis Title: *Daai za Lady & Butoh: tools to expand the meaning of personhood in South Africa*

Jacqueline Job completed her MMus in Dance at UCT in 2014 and began full time study towards her PhD in 2017. She is a senior lecturer and academic researcher in UCT's Centre for Theatre, Dance and Performance Studies.

Jacqueline Job's thesis analyses 24 dance works performed between 1994 and 2021 in which she embodies an animal-human persona, *Daai za Lady*, and in which she applied principles of the Japanese dance form, *Butoh*, to create philosophies of the body and performance that expand humancentric notions of identity. In doing that, she places the work in dialogue with the philosophies of Giorgio Agamben, Jacques Derrida and Henri Bergson. In her thesis she argues that qualities of incompleteness, difficulty, strangeness, as well as the interpenetration of animate and inanimate worlds, are all central to perpetual decolonial practice. She builds on that argument to show how, by relinquishing singular conceptions of race, gender, class, and formulaic performance aesthetics, one can expand the meaning of personhood and empowerment in South Africa today. Jacqueline Job's thesis contributes to the fields of Dance, Performance Studies, and Performance as Philosophy, and has the potential to impact interdisciplinary spheres in the social sciences.

Supervisor: Professor M Fleishman
(Theatre, Dance and Performance Studies)

Nina Liebenberg
Thesis Title: *The virus and the vaccine: curatorship and the disciplinary outsider*

Nina Liebenberg holds a BAFA from Stellenbosch University and an MFA from UCT. She has been a member of the Centre for Curating the Archive at the Michaelis School of Fine Art and has taught in the Honours in Curatorship programme.

Nina Liebenberg's thesis examines the limitations of disciplinary

knowledge and the resulting naturalisation of bias and convention within disciplines through the study of a Tabloid Medicine Chest donated to the university along with the Walter Floyd papers. Her thesis demonstrates how the medicine chest has been rendered invisible because it exhibits characteristics that fall outside of those privileged by the library's categorisation systems and search engines. She also exposes similar limiting forms of categorisation in various other collections throughout the university and demonstrates how disciplinary insiders curtail the explanatory power their objects hold for exposing social or political pressures brought to bear on their disciplines. Nina Liebenberg's thesis reveals the interdisciplinary potential of artmaking and curatorship in combating these limitations and contributes to thinking about the teaching of art and curatorship in a post-colonial world, and about how disciplines (especially the sciences) can escape the hermetic enclosures they are often seen to occupy.

Supervisor: Emeritus Professor P Skotnes (Michaelis School of Fine Art)
Co-Supervisor: A/Professor F Langerman (Michaelis School of Fine Art)

Thobile Philadelphia Mbata
Thesis Title: *The translation and certification of legal text: Parliament of the Republic of South Africa as a case study*

Thobile Philadelphia Mbata has a BA from the University of Zululand, and a BA(Hons) and MA in Translation from the University of the Free State. She began her PhD studies in 2019 at UCT's African Languages and Literatures Section, and is currently employed in the legislative sector as a control editor.

Thobile Mbata's thesis focuses on the translation of legal texts and the inequity in the use of indigenous languages in Parliament's legislative process. She also looks into the importance of translating legal documents into plain English and the need for legal translator training in Parliament. Using observational and interview data she has

gathered whilst working in Parliament, she considers the feasibility of using all South African indigenous languages on a rotational basis when submitting Acts to the President for assent. Thobile Mbata's findings demonstrate that translators engaged with legal translation must possess specialised expertise and therefore require extensive training in the discipline of translation. Her findings also demonstrate that an important way to rectify the language inequalities of South Africa's past is to recognise the language rights enshrined in the Constitution by applying them in the legislative translation sector.

Supervisor: Dr R Possa-Mogoera (Languages and Literatures)

Andiswa Yolanda Mfengu
Thesis Title: *Developing a holistic framework for assessing research impact in South African higher education institutions, using a research-intensive university as a case study*

Andiswa Mfengu holds a BSc degree and a Master's in Library and Information Studies from UCT. In 2017 she joined the Department of Knowledge and Information Stewardship for her PhD studies and in 2019 was appointed Lecturer in the Department.

Andiswa Mfengu's thesis focuses on the development of a holistic framework for research impact assessment that can facilitate transformative and socially responsive research assessment in higher education institutions. She critically explores research impact assessment practices, challenges, institutional culture and best practice for assessing research impact across disciplinary spaces. Her findings show that higher education generally incentivises a limited set of researchers' contributions and that there is over-reliance on metrics, both of which tend to influence researcher behaviour. Consequently, she argues, universities and funders need to complement metrics with qualitative indicators. Andiswa Mfengu's thesis proposes a research impact assessment framework that is balanced, flexible and, context sensitive, and that calls for a paradigm shift

in policies, processes and structures amongst higher education institutions and funders – in order to effect socially responsive research assessment practices that speak to the dynamic needs of researchers and key stakeholders.

Supervisor: Professor J Raju (Knowledge and Information Stewardship)

Katherine Anne Morse
Thesis Title: *Closing the mathematics achievement gap: exploring the applicability of growth mindset in South Africa*

Katherine Morse completed an MA in Psychology at the University of Sydney in 1992, an MPhil in Sociology at UCT in 2017 and began PhD studies in 2018.

Katherine Morse's thesis examines whether mathematics mindsets are pervasive and malleable in South Africa. She finds that mathematics mindsets do exist and that growth mindsets can promote strong mathematics performance while mathematics anxiety and study attitude also contribute to performance. She shows that, in the poorest of study environments, young men experience heightened mathematics anxiety, and that this is detrimental to their performance. In contrast, she shows, young women have more positive study attitudes, and that these promote their performance. Following consultations with teachers and students, she developed a culturally sensitive mathematics mindset assessment and established both validity and reliability for it. This in turn led to an experimental intervention which she delivered via the social media platform, WhatsApp. She shows that participants who received the intervention performed better in mathematics than passive controls. Katherine Morse's thesis offers a low-cost, easily implemented way to improve mathematics outcomes, even for students living in poor learning environments, and it provides insight into the impact of poverty on men's and women's interactions with mathematics.

Supervisor: Professor C Tredoux (Psychology)

Veeran Naicker

Thesis Title: *The necropolitical crisis of racial subjectivity in the South African postcolony: black consciousness as a technology of the self and the limits to transformation*

Veeran Naicker holds a BSocSc, a BSocSc(Hons) and an MSocSc (with distinction) in Religious Studies from UCT. He was drawn to undertake the research that has culminated in his PhD thesis through his experience of the #RhodesMustFall protests at UCT (2015-2017).

Veeran Naicker's thesis research asks the question: "What are the implications of rereading Biko's Black Consciousness philosophy through Foucault's ethical practices of the technology of the self, and how might such a rereading address the pathological racial stereotypes that have been inverted and internalised in the South African postcolony?" His thesis is the product of an interdisciplinary theoretical research project that draws on poststructuralist theory, postcolonial studies, African philosophy and anti-colonial insights. His critical historicization of Biko's work includes a critique of its implicit patriarchy, its Christian humanism, its homogenization of the 'good black subject', and its development of anti-colonial strategies that rely on nostalgia and racialised identities. Veeran Naicker concludes that his rereading of Biko's Black Consciousness Philosophy illuminates its potential for addressing the neuroses and intergenerational trauma of the 'born-free' generation in contemporary South Africa.

Supervisor: Emeritus Professor K Luckett (Centre for Higher Education)

Bernard Okoampah Out

Thesis Title: *Contestations and conflicts over land access between smallholder settler farmers and nomadic Fulani cattle herders in the Kwahu Afram Plains South District, Ghana*

Bernard Okoampah Otu holds a BA in Social Science from the University of Cape Coast and an MPhil in African Studies from the University of Ghana. He began full-time study towards his PhD in 2019.

Bernard Otu's thesis examines land conflict between settler farmers and nomadic herders in Ghana's Kwahu Afram Plains South District. He investigates the major causes of the conflict between the two groups and, using theories of environmental scarcity and political ecology, he establishes that it has direct and indirect causes. His study reveals, nonetheless, that the major cause the area's land conflict is increasing land scarcity due to population growth, climate-induced migration and large-scale land acquisitions. Bernard Otu also scrutinises the mechanisms instituted to mitigate land conflict in the area, and he demonstrates that they are ineffective for various reasons, including corruption, greed among traditional leaders who control customary land, poor land governance, and the state's reluctance to intervene in what it perceives as private matters. His thesis concludes that farmer-herder conflict in that part of Ghana is complex and needs to be examined from diverse perspectives if one is to find insightful ways of addressing its root causes and means for mitigating it.

Supervisor: Professor H Chitonge (African Studies and Linguistics)

Mehmet Bulent Rakab

Thesis Title: *The Relevance of teachers' non-English oral proficiency to their metalinguistic and register awareness of English*

Mehmet Rakab holds a BEd from Marmara University, and an MA from Bilkent University, both in Turkey, and an MEd from Brock University, Canada. He conducted his research at King Abdulaziz University, Saudi Arabia, where he was teaching full-time.

Mehmet Rakab's thesis considers the first-language, bilinguality and qualification characteristics that enable English-language teachers in Saudi Arabia to be skilled at talking about language and to be sensitive to language usage within specific communicative contexts. He compares those capacities in four categories of teachers: native English-speakers, non-native English-speakers, Truly Bilingual, and not Truly Bilingual. He also considers the extent to which teachers' respective qualifications in linguistics and socio-linguistics affect their ability to demonstrate those capacities. Using a qualitative and quantitative research instrument designed to assess knowledge of metalanguage and teaching skills, he finds that Truly Bilingual teachers possess greater metalinguistic and register awareness than do their non-Truly Bilingual counterparts; and that non-native English-speaking teachers similarly possess those skills to a greater extent than their native English-speaking colleagues. In addition, Mehmet Rakab demonstrates that having qualifications in linguistics and socio-linguistics overrides any native-language and bilinguality distinctions between teachers as regards their awareness of metalanguage and communicative norms.

Supervisor: Dr I van Rooyen (Languages and Literatures)
Co-supervisor: Emeritus A/Professor V Everson (Languages and Literatures)

Kathryn Mary Rawson

Thesis Title: *'Casting off the old Kaross': the Little Namaqualand missions, 1805-1848*

Kathryn Rawson completed her BSocSc, her BA(Hons) and MA in Historical Studies at UCT. She began full-time study towards her PhD in 2018.

Kathryn Rawson's thesis presents a wide-scale history of the Little Namaqualand region of the Northern Cape during the nineteenth century. She draws on extensive archival research material to offer a detailed analysis of the development of missionary activity in the area and to elucidate the

integral role played by the Namaqua Khoikhoi, and other powerful African interlocutors, and powerbrokers in support of the European missionaries and the propagation of Christianity. In doing so she offers a rich discussion of the frameworks of understanding through which the Khoikhoi both understood and manipulated Christianity in order to meet their spiritual and temporal needs.

Supervisor: Emeritus Professor N Penn (Historical Studies)

Rami H Sayed

Thesis Title: Political violence, fear, and democracy – how violence shapes democracy in Mozambique

Rami Sayed holds a BA in International Affairs from the University of Colorado, Boulder, USA, and an MA in Political Science from the University of Colorado, Denver, USA. He joined UCT's Political Studies Department in 2016 for his PhD studies.

Rami Sayed's thesis focuses on the political and electoral consequences of political violence in Mozambique. He argues that the social and political contexts in which citizens find themselves shape voter turnout, vote choice, and attitudes to democracy. He observes how ongoing armed conflict, and the presence of political violence are crucial contextual determinants that shape whether individuals decide to vote, whom they choose to support, and how they feel about democracy and democratic institutions. In addition to the influences of violent contexts, he finds that fear of violence plays a substantial role in predicting political behavior. Overall, his findings suggest not only that violence shapes how people behave in a given election, but also that it shapes how they view the larger multi-party regime in which elections take place.

Supervisor: Professor R Mattes (Political Studies)

Co-Supervisor: Emeritus Professor A Seegers (Political Studies)

John Spyropoulos

Thesis Title: Earning, Sharing and Spending: The Experience of Money for a Group of Young Adults in Khayelitsha

John Spyropoulos holds a BSc (Building) from the University of the Witwatersrand (1980) and an MSc (Industrial Mineral) from the University of Hull (1986). He has worked for several decades in urban planning (including, after 1994, for the state), before registering for a PhD in 2014 whilst also working for a Non-government Organization.

John Spyropoulos's thesis investigates how intermittent, low-wage employment frames how a set of young adults in Khayelitsha, Cape Town, understand and experience money: earning, sharing, spending, and borrowing to spend. His research involved repeated discussions with a small group of young men and women. His thesis focuses on three apparent paradoxes: when young adults are employed, they spend extravagantly; despite living in poor households, they often quit jobs even when they have no alternative prospect of employment; and, when they do this, family members usually continue to support them. John Spyropoulos employs the concept of moral economy to understand how young adults balance their aspirations (reflected in urgent and often conspicuous consumption) with their obligations to others in a context of chronic economic stress. He concludes that the young adults experience a state of material and existential 'depletion' borne of external structural conditions.

Supervisor: Professor J Seekings (Sociology)

Co-Supervisor: Emeritus Professor D Posel (University of the Free State)

Kabi Thulo

Thesis Title: The [un]knowing director: a critical examination of directing practice within the context of devising performance

Kabi Thulo holds a BA (University of the Free State), a BA(Hons) (UCT) and an MA (Dramatic Arts) (University of the Witwatersrand). He embarked on his PhD at UCT in 2011. He

currently lectures in Drama at the Durban University of Technology.

Kabi Thulo's thesis argues for the idea of a theatre director as an [un]knowing figure. He considers the ways in which the [un]knowing director arrives at artistic discoveries and makes related artistic decisions/choices during particular momentary experiences of being involved in the activity of devising performance. His study reveals that the [un]knowing director's practice (way of working) places greater emphasis on artistic process than on product. Importantly, such practice is significantly defined by a theatre director's ways of working/knowing intuitively and collaboratively. Kabi Thulo's thesis research was undertaken through three creative research projects that also used structured questionnaire responses to shed light on its examination of directing. His research ultimately establishes the [un]knowing director's practice as having its artistic genealogy in South(ern) African storytelling; and that it is an interplay between the experience of time as it unfolds in performance and the actual timespan of the performance devising process.

Supervisor: Professor M Fleishman (Theatre, Dance and Performance Studies)

Charmill Zamuee

Thesis Title: An exploration of the care needs of frail older persons in Namibia: perspectives and experiences of formal and informal caregivers

Charmill Zamuee hold a Post Graduate Diploma in Management Practice from UCT and an Executive MBA from Namibia University of Science and Technology. She worked for many years in the financial services industry before joining Global Advisory Alliance (an international business consulting company) as lead consultant on corporate social responsibility.

Charmill Zamuee's thesis examines the care of frail older persons in Namibia from the perspectives of their caregivers and in relation to the policy provisions for service delivery to older persons. She collected data from

informal and formal caregivers across Namibia's Khomas region and from key informants in government ministries and the non-governmental sector to gain in-depth understanding of frail older persons' realities and care needs. Her research illustrates that successive waves of colonization by Germany and Apartheid South Africa disrupted African traditional family life, with lasting effects for black frail older persons in particular. She argues that black older Namibians continue to be disadvantaged and to face risks to their well-being, risks that are reinforced by a lack of appropriate policies for attending to their needs. She concludes by presenting a new model of care the implementation of which will promote systems for addressing frail older Namibians' care needs.

Supervisor: Dr S Abdullah
(Social Development)

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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.

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