GRADUATION CEREMONY

Faculty of Health Sciences

SARAH BAARTMAN HALL

9 September 2026

FACULTY OF HEALTH SCIENCES

ORDER OF PROCEEDINGS

Academic Procession.

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

The Presiding Officer will constitute the congregation.

The National Anthem.

Welcome by the Master of Ceremonies.

Musical Item.

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

The Presiding Officer will congratulate the new graduates and diplomates.

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

The Presiding Officer will dissolve the congregation.

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

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

NATIONAL ANTHEM

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

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

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

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

NAMES OF GRADUANDS/DIPLOMATES

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

FACULTY OF HEALTH SCIENCES

Dean: Professor L Green-Thompson

ADVANCED DIPLOMA IN COSMETIC FORMULATION SCIENCE

*Richard Katsande (with distinction)
*Zenande Landu
Otshepeng Resegofetse Makaudi
Lerato Moss (with distinction)
Rofhiwa Reinhard Nelufule
Mitchelle Mapogo Nkadimeng
*Nomaswazi Lieziel Nkosi
Thandokazi Lilly Sikobi
Siyanda Siyanda Titus
Keamogetse Tebogo Charlotte Tshenkeng

HIGHER CERTIFICATE IN DISABILITY PRACTICE

Motjewa Dzoye
Praise Nondumiso Khumalo

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY

Mahmood Aroyewun
Moshe Baloyi
Amin Banderker
*Melissa Taryn Blassoples
Moegamat-Ridaa Botha
Emma Isabelle Cargill
Danielle Mary Confait (with distinction in the basic sciences and clinical sciences and the degree with first class honours)
Aaliyah Ebrahim
Mihle Sibahle Gadu
Kenwyn Marlin Govender
*Tarryn Catherine Grieves
Fahtima Harris
Poroma Kgaogelo Hlaka
Sinomhlobo Na Kene
Siyabonga Blessing Kubheka
Insaaf Levy
Unconditional Love Lugaga
*Asanda Anele Majozi
Snethemba Maphosa
Saeed Daniels Miller
Mashilo Samuel Mogudi
Gontse Alice Moropa
Karabo Juliet Motaung
*Siyabonga Siphosethu Mtshali
*Siphosethu Ndinisa
*Bongumenzi Cedric Ndlovu
Jaime Frances Newdigate
Nhlanhla Nyembe
Akwii Abego Opolot
Sabiha Abubaker Patel
*Mphoentle Piliso
Sulakasana Ramjettan
Yasmin Rossouw
Segametsi Lesedi Sekati
*Yaneliswa Mbasa Sihoyiya
Shannon Hayleigh Williams
Dalya Rebecca Zimbler

BACHELOR OF SCIENCE IN AUDIOLOGY

Thobeka Zakhona Daisy Khoza
Mokgaetji Langa
Tswelopele Mphepya
Fikile Chantel Nkabinde

BACHELOR OF SCIENCE IN MEDICINE

Robyn Jade Brown

BACHELOR OF SCIENCE IN OCCUPATIONAL THERAPY

Carryn Moses
Zandi Camfort Nhlapo
Elizabeth Tshepiso Nyoni
Dumsile Shozi

BACHELOR OF SCIENCE IN PHYSIOTHERAPY

Nokwanda Adelaide Maseko
Clive Mathebula
Remember Mathebula
Neliswa Nonkululeko Mnomiya
Mbalenhle Mofokeng
Wanga Polla Mphephu
Delight Prosperity Ngomane
Happiness Andile Nkosi
Jadine Adele Pillay
Keabetswe Raseruthe
Mokgadi Seabi
Esethu Awande Sokhulu
Siphosethu Stola
Ahluma Stuurman
Lutendo Cassandra Thangoane

BACHELOR OF SCIENCE IN SPEECH-LANGUAGE PATHOLOGY

Cailin Paige Hatchuel
Nompumelelo Asanda Hlongwane
Khadijah Kimmie

POSTGRADUATE DIPLOMA IN ADDICTIONS CARE

*Andrietta Jodene Beukes
Ramasela Mampho Molekane

POSTGRADUATE DIPLOMA IN CHILD NURSING

Marion Buys
Aletta Gouws
Patricia Tshepo Makhutle (with distinction)
Palesa Letter Maqhashalala (with distinction)
Hlengiwe Precious Ngubane (with distinction)
Loliwe Pamella
Ntombomzi Sitena (with distinction)
Kelebogile Joyce Sotyu
Charity Thembeka Tabethe (with distinction)
Arrogantketlagodirela Tselapedi
Lance Williams

POSTGRADUATE DIPLOMA IN COMMUNITY EYE HEALTH

*Mantoa Adeline Matamane

POSTGRADUATE DIPLOMA IN COMMUNITY AND GENERAL PAEDIATRICS

Ziska-Lynn Adams

POSTGRADUATE DIPLOMA IN EMERGENCY CARE

Abdul Cibelu
*Nduvho Mbau

POSTGRADUATE DIPLOMA IN HEALTH ECONOMICS

*Luleka Ellen Dhlamini
*Khanyisa Mtombeni
*Xolani Fortitude Nene

POSTGRADUATE DIPLOMA IN HEALTH LEADERSHIP

*Nomtha Fundiswa Bell-Mandla
Nuruh Niesa Davids
Ronald Allister De Jager (with distinction)
Johann Jacobus Fourie (with distinction)
Yumna Gierdien (with distinction)
Floyd George Herwels
Donna Madge Heugh
Arthur Jantjies
Mmapula Victoria Jonas
*Lesley Isaac Kolobe
Sinazo Lugabazi
Lindiwe Matsipe
Seipone Sylvia Mekgwe
Shameem Rabia Modack-Robertson (with distinction)
Kagiso Peace Mosimanyana
Lené Pienaar (with distinction)
Kgotso Rabanye
Nametso Patience Segomotso (with distinction)
Aah Mareatile Lydia Lydia Tsoanamatsie
Itumeleng Joseph Tswaile
Hyrone Jacques Van Wyk (with distinction)
Cheri Van Zyl (with distinction)
Janine Yvette White
*Craig Alexander Wylie (with distinction)

POSTGRADUATE DIPLOMA IN HEALTH PROFESSIONAL EDUCATION

*Nicholas James Page
*Leone Goodson Zidane

POSTGRADUATE DIPLOMA IN HEALTHCARE TECHNOLOGY MANAGEMENT

Makwena Mannya
Muzi Cedrick Mhlongo
Naledi Molise
Gundo Ramaphuma (with distinction)

POSTGRADUATE DIPLOMA IN MIDWIFERY

Nolulamo Monica Dlamini (with distinction)
Keli Govender (with distinction)
Akhona Mbotho (with distinction)
Malinge Mduzana
Christelene Suann Mooi
Nomazizi Moyikwa
Fulufhedzani Mukwevho
Fikiswa Chwayita Pharela
Gcotyelwa Sitatu
Vuyiswa Tengile
Akhona Zweni

POSTGRADUATE DIPLOMA IN OCCUPATIONAL HEALTH

*Onthatile Andrew Lekalakala

POSTGRADUATE DIPLOMA IN PALLIATIVE MEDICINE

Tshepiso Susan Mogapiwa

POSTGRADUATE DIPLOMA IN TB-HIV MANAGEMENT

Innocent Arinaitwe
Nikita Kay Hendricks
Taona Alice Likumbo
Naomi Constance Msiza
*Phumeza Mzimasi
Aphiwe Ngxumza
Noluvo Qaba
Nomthandazo Sentse
Khuthala Tyikana
Lusanda Yekani
Pertunia Enny Zitha
Mbali Ignatia Zulu

BACHELOR OF MEDICAL SCIENCE HONOURS

*Fiza Abdul Salem (in the first class)
Siphamandla Mdingi
Zifikile Mose (in the first class)
Angela Wangari Mutugi
Aluwani Nemutavhani (in the first class)
*Tony Thulani Noveld
*Saajidah Petersen (in the first class)
Refilwe Neo-Entle Sekano
*Amy Rene Stubbs (in the first class)

BACHELOR OF MEDICAL SCIENCE HONOURS IN BIOKINETICS

*Zamo Siphokazi Ngubane

MASTER OF MEDICINE

*Bradley Ronald Bonner (with distinction in the dissertation)
John Michael Breedt
*Naboth Chioreso
Jessica Hollye Cramer (with distinction in the dissertation)
*Gayle Stacy De Freitas (with distinction in the dissertation)
Rimon Tjaart Du Plessis (with distinction in the dissertation)
Marcel du Toit
*Johnre Retief Els
*Karen Ferreira
*Nicholas James Giles
Tishaylin Govender
Jacomina Alida Jacobs (with distinction in the dissertation)
Mwange Pascaline Kabeya
Nabeal Kaskar
*Sun-Young Kim
Stephan Kleyn (with distinction in the dissertation)
Dagmara Anna Legutko (with distinction in the dissertation)
*Patricia Susan Leighton
Barend Gerhardus Steyn Lindeque
*Sarveshwaree Kissoon
Candice Lauren Louw
Kgothatjo Temosho Rebotile Magolego
Silas Mavindidze
*Zain Mehtar
*Hayley Justine Minter-Brown
*Ahmed Hashim Mohamed
Benson-Munyaradzi Mudiwa
*Ibrahim Elsanoosi Basher Musa

Amaan Omar
Jane Louise Orrock (with distinction in the dissertation)
Beauty Osei-Sekyere
James Lawrence Pape
*Rajshree Segobin
Tebogo Seokoma
*Mwiche Sichula
*Achita Singh
Riona Singh-Gansan (with distinction in the dissertation)
*Tariq Solomon
*Gabriella Nadine Stein
Thumeka Tonjeni
*Gregory Mathew Tonkin
Francois Uys
Saffiya Variawa (with distinction in the dissertation)

MASTER OF NEUROSCIENCE

*Noa Lily Anthony (with distinction)
Julia Katherine Courtenay (with distinction)
*Luné Cavalle Du Plessis (with distinction)
Kristin Avril Haskins (with distinction)
Thokozani Kubheka (with distinction)
Victoria Frances Pettitt (with distinction)
Byron Swart (with distinction)
Shannon Jodeci Winnaar (with distinction)
Syuri Kartiana Yogolingam

MASTER OF PHILOSOPHY

Malikah Abrahams
Simoné Bence (with distinction in the coursework component)
Tiffany Seralda Bok
Sheila Christine Lucille Hill
Lefa Lydia Kekana-Hlatshwayo
Lisha Lamprecht (with distinction in the dissertation)
Misha Naik
*Fungai Virginia Nyikayaramba
Ncikazi Queen Nyoka
Refilwe Seleka
Kirsten Steenkamp
Xeeder Kelly Van Der Ross
Stella Wangari Waruingi
Luvuyo Geddes Zondani

MASTER OF PHILOSOPHY IN ADVANCED HEPATOLOGY AND TRANSPLANTATION

Sandy Mpho Mosenye

MASTER OF PHILOSOPHY IN CLINICAL PHARMACOLOGY

Bokamoso Sebati (with distinction in the dissertation)

MASTER OF PHILOSOPHY IN EMERGENCY MEDICINE

Dhewlall Brijlall
*Ernest Johannes Marx
*Gilbert Setshaba Mohapi
Denel Nettmann (with distinction in the dissertation)
Siyabonga Wiseman Shoba
*Gosego Unami Thomola
Alicia Van Der Westhuizen
Kenneth Martin Van Whye (with distinction in the dissertation)

MASTER OF PHILOSOPHY IN MEDICAL GASTROENTEROLOGY

Abdullah Isneen Hilmy

MASTER OF PHILOSOPHY IN NEONATOLOGY

Ritah Angella Nazziwa

MASTER OF PHILOSOPHY IN PAEDIATRIC NEUROLOGY

Chantel Jane Richardson

MASTER OF PHILOSOPHY IN PAEDIATRIC ONCOLOGY

*Mamiki Chise

MASTER OF PHILOSOPHY IN PALLIATIVE CARE

Leonore Caecilia Haley

MASTER OF PUBLIC HEALTH

*Marguerite Adriaanse (with distinction in the dissertation)
Nathirah Bosch (with distinction in the dissertation)
Shameem Bray (with distinction in the dissertation)
Christine Kyomuhendo Byaruhanga
Shaakirah Cassiem
Mary Nyasha Chidanyika
Sara Eve Dane (with distinction)
Simonay De Vos
Nomaswazi Cordelia Gabela
Caitlin Julie Gould (with distinction in the dissertation)
Kimeshnee Govindsamy (with distinction in the dissertation)
Tamryn Lisa Graham (with distinction in the dissertation)
*Liezl Joubert
Sandra Kandolo (with distinction in the dissertation)
*Paulus Mathopa Kgatla (with distinction in the dissertation)
Loveness John Kimaro (with distinction)
Shingirai Kondo
Teboho Lehlehla
Molebogeng Jostinah Maja
Tinotenda Yolanda Mereki
Natasha Moodaley
*Soyeon Moon (with distinction in the dissertation)
Law Jairos Mugadhuyi
Tino Muponde
Tapiwa Divine Ntwere (with distinction in the dissertation)
Nyasha Rosemary Nyakutira
Hlupikire Lughano Nyirongo (with distinction)
*Angelica Elizabeth Maria Panieri (with distinction)
Lizette Cathleen Phillips (with distinction)
Shannal Pillay
Laylah Ryklief (with distinction in the dissertation)
Bielqees Salie
Simange Sithonga (with distinction in the dissertation)
Saleha Mohamedarif Suleman
Réghana Taliep (with distinction in the dissertation)
*Camilla Zoe Wattrus (with distinction in the dissertation)
Simone Rose Williams (with distinction in the dissertation)

Jude Yatuwa (with distinction in the dissertation)
Andiswa Zitho (with distinction in the dissertation)
Gabriel Nicolai Zühlke (with distinction in the coursework component)

MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING

Liam McEvoy (with distinction)
*Saad Naveed (with distinction)
Sehlaremang David Tladi

MASTER OF SCIENCE IN COMPUTATIONAL INFORMATICS

Felicia Antonia Khoza (with distinction in the dissertation)

MASTER OF SCIENCE IN EPIDEMIOLOGY AND BIOSTATISTICS

Memory Namasiku Mabuku
Chido Blessings Mudzamiri (with distinction)
Alfateresia Peter Mwasangama (with distinction)
Thamsanqa Ngabaza
*Amon Oloya

MASTER OF SCIENCE IN EXERCISE AND SPORTS PHYSIOTHERAPY

*Munashe Chinyama
Maboloke Nepo Serage (with distinction in the dissertation)
Lauren Ilona Van Der Walt

MASTER OF SCIENCE IN MEDICINE

Gia Abbott
Fatima Bibi Aboo (with distinction)
Sergio Miguel Alves
*Nathalie Andersen (with distinction)
Cameron Andrews (with distinction)
Dominique Tia Ariefdien (with distinction)
Rizqah Bernard (with distinction)
Emmanuel Biryabarema (with distinction)
Rachel Louise Brown
Joey Carollissen
*Lutho Daza
Jacinta Demetrio (with distinction)
*Sarah Leigh Everett
*Abduraghmaan Fisher
Gemma Nicola Gauntlett (with distinction)
Mohammed Imran Hoosain (with distinction)
Daryl Kamadu (with distinction)
Tawfeeq Ahmed Khalfe
Tebogo Khoza
Daniel Henri Le Jeune (with distinction)
Peter Lungu (with distinction)
Koketso Chantel Mabatha (with distinction)
Thembinkosi Excellent Machaba (with distinction)
Andiswa Majikijela (with distinction)
Whoghuwah Muntonia Heidi Makena
Niyigena Angel Munyurangabo (with distinction)
Zama Sinothando S'londiwe Mngadi (with distinction)
Rhanda Rich Mongwe (with distinction)
Nomthandazo Celine Msipha
*Susan Muncner
Zusiphe Mzazela (with distinction)
Ivan Nicholas Nkuhairwe (with distinction)
Chandre Kelly Oosterwyk-Liu (with distinction)
Tarra Sandy Petersen (with distinction)
*Koketso Ramotsila (with distinction)
*Ncumisa Sabona
Abdulbaset Bashir M Sasi (with distinction)
Teogo Precious Sethosa
Limpho Thipane (with distinction)
Lexie May Timina
Casey Valentine (with distinction)
Amy Van Der Hoven (with distinction)
Charleen Wormsberg (with distinction)

MASTER OF SCIENCE IN OCCUPATIONAL THERAPY

Adrienne Simone Daniels-Manley
Dominique Marie Jamie (with distinction in the dissertation)
Sidney Muchemwa (with distinction)
Moshibudi Tabane (with distinction in the dissertation)

MASTER OF SCIENCE IN SPEECH-LANGUAGE PATHOLOGY

Amokelane Gladness Macheke
Saskia Nicole Magerman (with distinction)
*Brodie Mae Stevenson (with distinction)

DOCTOR OF PHILOSOPHY

Wisdom Alemya Akurugu
Thesis Title: *Genetic predictors of hypothalamic-pituitary-adrenal suppression in children on corticosteroid treatment*

Wisdom Alemya Akurugu holds a Biochemistry degree from the University of Ghana and an MSc in Bioinformatics from the University of the Western Cape. He began his research career at the Navrongo Health Research Centre and continued at the Noguchi Memorial Institute, focusing on genetics and data-driven health projects.

In his doctoral research, Wisdom used computational tools and statistical methods to study genetic differences in South African children with asthma, to understand why some children are more likely to experience side effects from steroid medicines and why their bodies respond differently to stress-related hormones. The study verified a specific genetic variant that appears to protect against hormone suppression, helping the body maintain healthier hormone levels even during steroid treatment. Importantly, the findings also showed that there is no single genetic change responsible for hormone suppression; rather, many small genetic differences work together to increase or reduce a child's risk. Overall, this work helps explain why children respond differently to asthma treatment and provides leads that can be explored further for enabling the implementation of safer, more personalised use of steroid therapies in paediatric care.

Supervisor: Professor Nicola Mulder (Integrative Biomedical Sciences)
Co-Supervisor: Associate Professor Ekkehard W.A. Zöllner, Paediatric Endocrine & Diabetes Unit, Department of Paediatrics and Child Health, Stellenbosch University

Tariq Lafi Alshaabani
Thesis Title: *Development of a context-appropriate emergency care short course competency framework for Saudi Armed Forces medics*

Tariq Alshaabani obtained his Bachelor of Paramedic Sciences from Finlanders University in Australia and a Master of Philosophy in Emergency Medicine, specialising in Disaster Medicine, from UCT. He commenced his doctoral studies at UCT in 2020.

Tariq Alshaabani's thesis addresses the urgent need for tailored emergency care training for Saudi Armed Forces medics deployed in conflict zones. Using a multi-method design that combined a scoping review, expert surveys, and focus group consultations, he identified training gaps in current trauma education, such as limited contextual relevance and inadequate psychological preparedness. Guided by Batt's six-step model, he developed a competency framework that aligns clinical priorities—like bleeding control, chest trauma management, and shock intervention—with operational realities. The framework provides a foundation for future training programs that emphasise evidence-based trauma care, simulation-based learning, and sustained skill retention, enhancing medics' preparedness and confidence in high-stress environments.

Supervisor: Associate Professor C Saunders (Family, Community, and Emergency Care)
Co-supervisor: Professor L Wallis (Family, Community, and Emergency Care)

*Fitsum Kifle Belachew
Thesis Title: *Optimising surgical care in Ethiopia: Assessing implementation of Enhanced Recovery After Surgery (ERAS), evaluating outcomes, and examining economic impact*

Fitsum Belachew completed a Bachelor's in Anaesthesiology at Dilla University, Ethiopia, and a Fellowship in Perioperative Medicine at the Mahidol Oxford Research Unit (MORU). He completed a Master of Medicine in Global Surgery and an Executive Leadership Certificate in Global Surgery at UCT before his PhD.

Fitsum Belachew's thesis examines strategies to optimise surgical care in Ethiopia by implementing Enhanced Recovery After Surgery (ERAS). He evaluates adherence to ERAS protocols, clinical outcomes, and cost-effectiveness across multiple Ethiopian hospitals, providing evidence on the feasibility and system-level benefits in a low-resource context. His research shows that ERAS adoption improves recovery and reduces hospital stay, and economic analyses demonstrate meaningful value for health systems. These findings contribute to national policy through integration into the National Perioperative Quality Improvement Network (NaPQIN) in Ethiopia. This thesis provides foundational evidence on ERAS in a low-resource environment to guide global policy and practice on surgical quality improvement for low- and middle-income countries.

Supervisor: Professor BM Biccard (Anaesthesia and Perioperative Medicine)
Co-supervisor: Professor S Maswime (Surgery)

Kimberly Vanessa Blake
Thesis Title: *Investigating brain ageing in social anxiety disorder and specific phobia with machine-learning based brain age estimation*

Kimberly Blake completed her BSocSc, BSocSc (Hons) and MSc(Med) Neuroscience at UCT, and began full time study towards her PhD in 2021.

Kimberly Blake's thesis examines advanced brain ageing in adult psychopathology, with a focus specific phobia (SPH) and social anxiety disorder (SAD). This research employs machine learning models predicting brain age based on neuroimaging data, and centile scores derived from brain growth charts to detect age-related deviations in brain structure. Findings indicate that adults with mood and psychotic disorders show subtle to moderate advanced brain ageing, while adults with clinically severe presentations of SPH and SAD may exhibit subtle advanced brain ageing. Disorder-specific centile score deviations are observed, with SPH showing alterations in brain regions involved in avoidance, disgust, and fear, and SAD in avoidance, social and facial processing. The thesis also highlights the complex relationship between brain ageing and clinical factors, such as comorbid psychopathology, and medication use. The findings offer a unique perspective into brain ageing in anxiety, and how this process is shaped by clinical characteristics.

Supervisor: Associate Professor NA Groenewold (Psychiatry and Mental Health)
Co-supervisors: Dr JC Ipser (Psychiatry and Mental Health); the late Professor DJ Stein (Psychiatry and Mental Health)

Leanne Brady
Thesis Title: *The RESPONSE project. Organising for collective action in the health system: everyday resilience, community participation and Emergency Medical Services (EMS) in the Western Cape*

Leanne Brady completed her MBChB at the University of Pretoria in 2008, her MSc in Public Health at the London School of Hygiene and Tropical Medicine in 2012 and began her PhD at UCT in 2019. She has worked with the Western Cape Department of Health and Wellness since 2019.

Leanne Brady's thesis was conducted as part of her work as an embedded researcher with the Western Cape Emergency Medical Services (EMS) and lies within the field of health policy and systems research. The thesis considers three empirical case studies of responses to shock and chronic stress, in the form of societal and health challenges, including COVID-19, at the EMS-community interface. Using the conceptual lens of everyday health system resilience it specifically considers what system capacities enabled and constrained these responses - drawing lessons for how to nurture these capacities to support collective action at the EMS-community interface. These lessons include specific issues of relevance to EMS operations

and are also of relevance to the broader health system. Finally, the thesis makes conceptual, methodological and empirical contributions to the wider work on health systems resilience.

Supervisor: Professor Lucy Gilson (Public Health)
Co-supervisor: Professor Asha George (Public Health)

Katrin Bratl
Thesis Title: *Molecular characterisation of Kaposi's Sarcoma-associated Herpesvirus (KSHV) infection dynamics in the context of COVID-19*

Katrin Bratl completed a BSc in Biology in 2017 and an MSc in Molecular Cell Biology and Immunology in 2020 at the Eberhard Karls University of Tübingen, Germany. She started her PhD with UCT in 2022, hosted at the International Centre for Genetic Engineering and Biotechnology.

Based on previous clinical studies reporting reactivation of latent oncogenic herpesviruses, specifically Kaposi's Sarcoma-associated Herpesvirus (KSHV), in immunocompromised patients during the COVID-19 pandemic, Katrin Bratl's thesis elucidated the molecular mechanisms governing lytic KSHV reactivation. Using cell culture-based infection models combined with cytokine profiling and high-resolution mass spectrometry, she found that both direct (viral) and indirect (inflammatory) signalling contribute to KSHV lytic reactivation in a cell-type dependent manner. She also reports on effective immunological control of gamma herpesvirus infections in immunocompetent paediatric patients, even in the presence of inflammatory conditions that might otherwise trigger viral reactivation. Together, these studies integrate molecular and clinical perspectives to advance our understanding of KSHV reactivation mechanisms relevant to co-infection and inflammation in high-burden settings.

Supervisor: Professor Georgia Schäfer (ICGEB and UCT, Medical Biochemistry)

Senanile Bhekiwe Dlamini
Thesis Title: *Development and application of a biological network mapping strategy to identify susceptibility loci for musculoskeletal soft tissue injuries*

Senanile Dlamini completed her BSc and BSc (Hons) qualifications at the University of Limpopo. She joined UCT in 2015 to begin her Masters in Physiology, upgrading to a PhD in 2018.

Senanile Dlamini's reports a hypothesis-free investigation into the genetic susceptibility of anterior cruciate ligament (ACL) rupture by integrating bioinformatics, genomics, and population-based association analyses. She developed a phenotype and biological function aware biomedical knowledge graph that systematically mined existing public databases to identify genes linked to connective tissue biology, inflammatory signalling, and ACL rupture phenotypes. After testing in multiple cohorts (South Africa, Australia, Sweden, Poland, South African mixed ancestry cohort from the Western Cape), the results demonstrated strong associations between the prioritised ITGB2 rs2230528 variant and ACL rupture risk, both independently and through gene–gene interaction analyses with HSPG2, FGF9, COL5A1 and VEGFA. These findings highlighted the potential dominant role of ITGB2 in mediating cell–matrix and mechano-transduction pathways in ligament injuries. This thesis illustrates the power of knowledge-driven insilico approaches combined with genetic association studies to uncover novel biological mechanisms and potential therapeutic targets for musculoskeletal soft tissue injuries.

Supervisor: Professor Alison V. September (Physiology)
Co-supervisor: Associate/Professor Colleen J. Saunders (Emergency Medicine); Professor Malcolm Collins (Physiology)

Muhammad Emmamally
Thesis Title: *Understanding the clinical characteristics and oligometastatic implications of pulmonary metastases in hepatocellular carcinoma*

Muhammad Emmamally was awarded his Bachelor of Medicine and Bachelor of Surgery (MBChB) degree from the University of Cape Town with honours in 2021. He joined the Department of Surgery liver cancer research initiative in 2022 during his internship at Groote Schuur Hospital.

Muhammad Emmamally's thesis focuses on patients with liver cancer (hepatocellular carcinoma) which has spread to the lungs (lung metastases). In a systematic review of the literature, he describes the prevalence, management and outcomes of lung metastases in liver cancer from a global perspective. In two further studies he details metastatic patterns in South African patients with liver cancer to identify factors associated with an increased risk of having a spread cancer. He also identified a category of patients with lung metastases who may benefit from more aggressive interventions to improve survival. In a fourth study he identified combinations of tumour marker levels that are associated with poorer or better survival in patients with lung metastases. The research results are likely to inform a new concept (oligometastatic disease) where selected patients with lung metastases from liver cancer may benefit from more aggressive treatment in terms of cure and longer survival.

Supervisor: Professor Eduard Jonas (Surgery)

Malika Gabier
Thesis Title: *Maternal inherent transfer of immunity to offspring via nursing*

Malika Gabier completed her ND in Biotechnology at the Cape Peninsula University of Technology, her BSc (Med) (Hons) in Infectious Diseases and Immunology at UCT and began her PhD at UCT in 2022.

Malika Gabier's thesis aims at investigating how a mother's

naturally immunity transferred via nursing influences early life immune development and responses to infection. She demonstrated that the transfer of maternal Type 2 immunity can promote type 2 immune control of infection in offspring, independently of prior maternal antigen or pathogen experience. She went on to investigate the cellular immune components in maternal breastmilk driving this effect and found that maternal microchimeric cells (MMc), specifically maternal breastmilk-derived lymphocytes, profoundly shape systemic type 2 immunity in the offspring and provide a significant degree of antigen-independent immune protection against a globally prevalent source of early life childhood helminth infections. Her findings have relevance considering the high prevalence of parasitic infections in ~ 40% of women of reproductive age, as well as in young children in Sub-Saharan Africa.

Supervisor: Dr A Chetty (Pathology)
Co-supervisor: Associate Professor W Horsnell (Medical Research Council Centre for Medical Mycology, University of Exeter)

Rachael Wanja Gachogo
Thesis Title: *Innate and adaptive immune ontogeny in HIV-exposed but uninfected versus HIV-unexposed infants and relationship with enteric virome, mucosal inflammation and viral antibody repertoire*

Rachael Gachogo completed her BSc and MSc degrees at the University of Nairobi, Kenya. Before joining the University of Cape Town for her PhD, she worked for HIV care and treatment programmes and in the development of livestock vaccines.

Her doctoral research focused on understanding how gut-resident viruses and bacteria influence immune system development in infants born to mothers living with HIV but remain uninfected. Using high throughput immune cell profiling and genomic technologies, she investigated the temporal relationships between infants' immune profiles in blood and gut microbial communities during the first nine months of life. Her studies reveal that HIV-exposed infants inherit from their mothers a less diverse repertoire of virus-specific antibodies and a reduced abundance of beneficial gut microbes at birth. These early deficiencies perturb the immune maturation trajectory, resulting in an altered immune profile geared towards compensating for these disruptions. These perturbations are linked to impaired gut epithelial integrity, delayed stabilisation of commensal microbial communities, sustained activation of NK and CD8 T cells observed in HIV-exposed infants. Together, these immune and microbial alterations provide possible mechanisms for the poor health outcomes reported in HIV-exposed infants.

Supervisor: Dr. Sonwabile Dzanibe (Immunology)
Co-supervisor: Professor Heather Jaspan (Immunology)

Siddiqah George
Thesis Title: *The effects of prolonged fructose consumption on mitochondrial respiratory function in cardiac and skeletal muscle tissues*

Siddiqah George completed her BSc, BSc (Hons) and MSc qualifications at Stellenbosch University, and joined the University of Cape Town to complete her PhD studies.

Siddiqah George's thesis reports the effects of long-term excess consumption of sugars on mitochondrial respiratory function in cardiac and skeletal muscle tissues. The use of a preclinical model allowed her to compare the harmful effects of two different types of sugars commonly found in food (glucose and fructose) on mitochondrial function and to identify their tissue-specific mechanisms. In this model, she went on to investigate the potential benefit of regular exercise and daily vitamin B3 supplementation (in the form of nicotinamide riboside) as possible therapeutic interventions to limit fructose-induced mitochondrial respiratory dysfunction. Her work enabled her to highlight the applicability of both therapeutic interventions in attenuating fructose-induced mitochondrial respiratory dysfunction in a tissue-specific manner. Collectively, these findings will be useful in informing guidelines regarding sugar consumption and the selection of therapeutic interventions for different health contexts including cardiometabolic diseases.

Supervisor: Professor S Lecour (Medicine)
Co-supervisor: Professor GJ Maarman (Division of Medical Physiology, Stellenbosch University)

Tanja Naledi Gordon
Thesis Title: *Conceptualisation of health system affordability in multiple decision-making contexts*

Tanja Gordon completed her Master's in Economics at the University of KwaZulu-Natal in 2018. Before starting her PhD on a joint programme with UCT and the University of Bristol in 2020, she had just completed her internship with the Human Science Research Council.

Since much had been written about measuring the healthcare affordability of households and patients, while very little had been written about how decision makers in the health system thought about and determined what was affordable, Tanja Gordon conducted research to explore the concept of affordability from within the context of health systems. Interviews were conducted online with 15 academic informants from countries in different income groups (high-, middle-, and low-income countries) and 15 stakeholders based in the South African health system. The study found affordability was a complex concept driven in part by resource availability and in part by what decision makers in the health system valued, for example cost-effectiveness, equity, access to health care and political will.

Supervisor: Professor Susan Cleary (Health Economics)
Lead co-supervisor: Professor Joanna Coast (University of Bristol)
Co-supervisor: Professor William Hollingworth (University of Bristol); Professor John Ataguba (University of Manitoba)

Stephen George Jermy
Thesis Title: *Development of a free-breathing cardiac DTI sequence*

Stephen Jermy completed his qualification in BSc. Eng. in Electrical and Computer Engineering in 2012 and his MSc. Med. in Biomedical Engineering in 2015, both from UCT. He then began his PhD work in 2018 while working in the Division of Biomedical Engineering at UCT.

Stephen Jermy's thesis investigates the use of a method for respiratory motion compensation using a control system-based slice tracking approach (MNav-CoS) in a cardiovascular diffusion tensor imaging (cDTI) pulse sequence, a method used to characterise the microstructure of the myocardium using magnetic resonance imaging (MRI). The approach was tested on a high-performance MRI scanner against other respiratory motion compensation techniques where it showed comparable performance as well as a significant decrease in average acquisition time. He then investigated the use of the approach using a clinically relevant MRI scanner. This allowed him to establish its potential for collecting more robust cDTI datasets using multiple slices and diffusion directions. Finally, the technique was tested in patients with hypertrophic cardiomyopathy (HCM) to explore the structural changes caused by HCM. The MNav-CoS technique allows for the acquisition of cDTI data under free-breathing conditions, improving patient comfort and its utility in a clinical setting.

Supervisor: Professor EM Meintjes (Human Biology)
Co-supervisor: Professor NAB Ntusi (Medicine)

Adijat Ozohu Jimoh
Thesis Title: *Interaction of the vaginal virome and bacteriome in South African women*

Adijat Jimoh holds a BSc (Hons) degree in Microbiology from the University of Jos and an MSc degree in Industrial Microbiology from the University of Ibadan, both in Nigeria. Before joining UCT, she worked as a research officer at the National Biotechnology Research and Development Agency in Nigeria.

Adijat Jimoh's thesis explores the diverse community of vaginal bacteria and viruses in the female genital tract, an ecosystem poorly characterised in African women. By analysing genetic material from vaginal swab samples collected from South African women, she identifies viruses that infect human cells and bacteria and predicts bacterial hosts for the bacteria-infecting viruses known as bacteriophages. She further demonstrates that certain clinical compounds, including tenofovir and copper ions as a proxy for copper intrauterine devices, can activate dormant bacteriophages within beneficial vaginal Lactobacillus crispatus bacteria, leading to the discovery of two novel bacteriophages. Finally, she shows that Lactobacillus iners predominates during pregnancy regardless of human immunodeficiency virus (HIV) status or antiretroviral exposure, while after childbirth, non-optimal bacteria dominate overall. These findings improve our understanding of the vaginal microbial ecosystem and support future efforts in improving reproductive and sexual health outcomes for African women.

Supervisor: Dr A-U Happel (Immunology)
Co-supervisor: Professor HB Jaspan (Immunology)

Natasha Kannemeyer
Thesis Title: *Facilitating sexual and reproductive health choices among adolescents and young people using community-engaged research for intervention design*

Natasha Kannemeyer holds a BA in Psychology from the University of Otago, New Zealand. She completed her Masters in Public Health at UCT. She has been working in the School of Public Health, UCT, since 2015 on research projects focusing on community participation, knowledge translation and community-engaged research.

Natasha Kannemeyer's thesis focuses on co-designing an intervention to improve adolescent and young people's sexual and reproductive health decision-making. She uses a community-engaged research methodological approach to include perspectives of adolescents, young people and key stakeholders in the intervention design. She trained and worked with a team of community co-researchers. The intervention is a support space that aims to improve sexual and reproductive health outcomes for young people by addressing socioeconomic barriers and gaps in contraceptive knowledge, strengthening communication and shifting community norms, while also developing facilitation skills and financial literacy. Gamification is applied to improve uptake, motivation and sustained use of the intervention. Her findings highlight that gaps remain in adolescents', young peoples' and key stakeholders' knowledge, with trust and understanding as facilitators of meaningful communication. Finally, she reflects on the intervention co-design process and develops a model for using a community-engaged research approach for behavioural change intervention design.

Supervisor: Dr Hanne Haricharan (Public Health)
Co-supervisor: Professor Christopher Colvin (Anthropology, UVA)

Bianca Kruger
Thesis Title: *Pharmacogenetics of tamoxifen and drug-drug interactions in South African breast cancer patients*

Bianca Kruger obtained a BSc degree in Human Genetics from the University of Pretoria. She joined the Division of Human Genetics at |UCT in 2019, where she completed her BSc (Hons), followed by an MSc, which was upgraded to a PhD in 2022.

Bianca Kruger's thesis examines genetic determinants of differences observed among Patients with breast cancer, in the way they respond to treatment with tamoxifen. Tamoxifen is a cornerstone endocrine treatment, yet substantial interindividual variation in clinical outcomes is observed. Her research investigates genetic variation

in several pharmacogenes involved in the metabolism of tamoxifen. She also assesses the impact of co-prescribed medications on the expression of drug-metabolising enzymes that affect tamoxifen. She identifies involvement of phase II enzymes and shows that concomitant medication use may influence treatment response through differential gene expression. This work advances the understanding of tamoxifen dosing and efficacy among African patients and contributes to the realisation of personalised medicine for equitable breast cancer treatment.

Supervisor: Professor C Dandara (Human Genetics)
Co-supervisors: A/Professor S Mowla (Haematology); A/Professor Delva Shamley (Clinical Anatomy and Biological Anthropology)

Alexandra Caylee Lancaster
Thesis Title: *Tendon attachment optimisation in Reverse Total Shoulder Arthroplasty and the effect on shoulder stability and range of motion*

Alexandra Lancaster completed her BSc in mechanical engineering at UCT before joining the MSc Biomedical Engineering programme and subsequently upgrading to PhD.

Alexandra Lancaster's thesis investigates how tendon transfers can be optimised to restore external rotation in patients undergoing reverse total shoulder arthroplasty, a procedure commonly used in shoulders with rotator cuff damage. Using computer-based musculoskeletal modelling and statistical analysis, she evaluated how transferring different tendons to alternative attachment locations affects shoulder mechanics. Her work identifies attachment sites that consistently improve external rotation performance and demonstrate how implant design and the condition of surrounding muscles influence these outcomes. Experimental testing on cadaver shoulders was used to verify key mechanical trends predicted by the models. The findings provide a biomechanical framework to guide surgeons in selecting tendon transfer strategies that improve functional shoulder rotation, while recognising the importance of surgical feasibility and patient-specific considerations.

Supervisor: Professor Sudesh Sivarasu (Department of Human Biology)
Co-supervisor: Professor Dr Stephen Roche, Division of Orthopaedics, Faculty of Health Sciences, University of Cape Town and Groote Schuur Hospital

Rentia Francis Lourens
Thesis Title: *Ventricular cerebrospinal fluid microdialysis to generate serial, individual patient pharmacokinetic data in paediatric tuberculous meningitis*

Rentia Lourens completed her BSc at the University of Pretoria. She subsequently did her BMedSc(Hons) at UCT. She joined the paediatric neurosurgery research team in 2021 where she completed her MSc and started her PhD in 2022.

Rentia Lourens' thesis focuses on pharmacokinetics in paediatric tuberculous meningitis. A novel microdialysis method was applied in paediatric patients with suspected tuberculous meningitis that received surgical management. Antitubercular drugs, including rifampicin, isoniazid, pyrazinamide, and ethionamide were studied at regular intervals to describe full pharmacokinetic curves for individual patients, for the first time, and for the first time in ventricular cerebrospinal fluid. Similarly, the first data were shown to describe the penetration of antitubercular drugs across the blood-brain and blood-cerebrospinal fluid barriers. Additionally, differences in drug concentrations between ventricular and spinal cerebrospinal fluid were described, as well as differences in concentrations between ventricular cerebrospinal fluid and brain tissue, and finally total versus protein-unbound drug (the pharmacologically active portion). These findings improve our understanding of central nervous system pharmacokinetics of antitubercular drugs and may help to improve treatment regimens in the future.

Supervisor: Professor AA Figaji (Neurosurgery)
Co-supervisor: Dr J Combrinck (Neurosurgery)

Welma Lubbe
Thesis Title: *Exploring a neuro-protective developmental care parenting program to improve parent-infant outcomes following preterm birth in a South African hospital*

Welma Lubbe is Professor of Nursing and Midwifery at North-West University and Director of NuMIQ. Her research in neurodevelopmental supportive care for preterm infants advances family-centred neonatal care globally. She leads the implementation of Neurodevelopmental Supportive Care (INDeSC) research programme and holds a C1 rating from the National Research Foundation.

Preterm birth remains a leading cause of illness and death among newborns worldwide. While medical care improves survival, parents of preterm infants often experience stress and uncertainty, particularly during long neonatal intensive care unit (NICU) stays. Welma Lubbe's thesis investigates how structured, culturally appropriate education can empower parents to better understand and respond to their infants' behavioural cues. Guided by the Exploration, Preparation, Implementation, Sustainment (EPIS) framework, the study follows four phases: reviewing global evidence, exploring South African parents' needs, adapting an existing intervention, and testing it in a public hospital. The resulting NeuroSense PremmieEd programme, which includes a picture-based booklet and facilitated group sessions, proves both feasible and well accepted by parents. The findings show that parental education enhances confidence, caregiving skills, and emotional resilience, offering a sustainable, low-cost model to strengthen neuroprotective, family-centred care in resource-constrained neonatal settings.

Supervisor: Professor KA Donald (Paediatrics and Child Health)

Micaela Lurie
Thesis Title: *Genital Inflammation Test (GIFT): assessing the performance of interleukin-1 (IL-1) and interferon gamma-inducible protein 10 (IP-10) for the detection of asymptomatic sexually transmitted infections (STIs) or bacterial vaginosis (BV) in women at high risk for HIV infection*

Micaela Lurie completed her BSc(Hons) in Immunology and Infectious Diseases at UCT in 2018, followed by an MSc in Medical Virology. She began her PhD in Medical Virology in 2022.

Micaela Lurie's thesis reports the evaluation of cytokine biomarkers as novel tools for detecting asymptomatic genital infections in women at high risk of HIV. She investigated interleukin-1α (IL-1α), interleukin-1β (IL-1β), and interferon gamma-inducible protein 10 (IP-10) across a multi-country cohort in South Africa, Madagascar, and Zimbabwe. She showed that IL-1α and IL-1β reliably identify infection-associated inflammation, while IP-10 distinguishes between bacterial vaginosis, in which it is suppressed, and sexually transmitted infections, in which it is elevated. Using machine learning, combinations of these biomarkers with vaginal pH achieved higher diagnostic accuracy than symptom-based approaches. Laboratory optimisation demonstrated that these biomarkers can be measured from simple swabs under field-ready conditions. Finally, her work supports the development of the Genital Inflammation Test (GIFT) as a low-cost, point-of-care device. These findings provide evidence for biomarker-based diagnostics that could improve reproductive health outcomes and HIV prevention strategies in resource-limited settings.

Supervisor: Professor J-A Passmore (Pathology)
Co-supervisors: Dr. L Masson (Burnet Institute); Dr. M Sinkala (Integrative Biomedical Sciences); Dr. R Tanko (Pathology)

Precious Madzimbe
Thesis Title: *Father and sibling participation in home rehabilitation programmes for children with neuro-developmental delay in an African context*

Precious Madzimbe completed a BSc Honours degree in Physiotherapy at the University of Zimbabwe in 2012, a Postgraduate Diploma in Clinical Paediatric Physiotherapy at the UCT in 2018, and an MSc degree in Physiotherapy (with distinction) at the University of the Witwatersrand in 2022.

His PhD research investigates father and sibling participation in home rehabilitation programmes for children with neuro-developmental delay in Bulawayo, Zimbabwe, using a four-phase mixed methods design. His findings show that inclusive family participation is associated with improved child cognitive outcomes and maternal well-being, highlighting the importance of culturally responsive family-centred care models for paediatric neuro-developmental rehabilitation in African contexts.

Supervisor: Professor Soraya Maart (Division of Physiotherapy)
Co-supervisors: Dr Lieselotte Corten (University of Brighton, United Kingdom); Dr Jermaine Dambi (University of Zimbabwe, Zimbabwe)

Sithombo Maqungo
Thesis Title: *Civilian gunshot injuries of the hip joint*

Sithombo Maqungo completed his undergraduate medical degree at the then University of Natal and his postgraduate qualification at UCT.

Sithombo Maqungo's thesis focuses on civilian gunshot injuries of the hip joint. He starts by showing that commonly used classification systems are not suitable for use in these relatively rare injuries. He then goes on to perform CT scan- based 3 dimensional fracture mapping to show the fracture patterns commonly encountered in these rare injuries. This is followed by description of surgical procedures to remove bullets retained in the hip joint, as well as performance of hip replacement surgery in these devastating injuries.

Supervisor: Professor A Nicol (Surgery)

*Cremildo Gomes Maueia
Thesis Title: *Characterisation of Human Papillomaviruses in Mozambican and South African women as well as the relationship with other sexually transmitted infections in the Mozambican women*

Cremildo Maueia holds a Master's degree in Health Sciences from Instituto Osvaldo Cruz, Brazil. He joined the Faculty of Health Sciences, UCT in 2020 for his PhD studies. Before joining UCT, he worked on HIV and AIDS programmes in the Immunology laboratory and at the National Health Institute in Mozambique.

Human papillomavirus (HPV) is causally associated with cervical cancer, an important cause of mortality in Africa. Cremildo Maueia's thesis presents a study of women with gynaecological symptoms attending a public health clinic in Maputo City. HPV types and their relationship with selected sexually transmitted infections (STIs), including HIV is examined. In this cohort, 89% of the women had an STI, 63% were positive for HPV and 24% for HIV. There is a significant association between HPV infection and Treponema pallidum (the cause of syphilis) and herpes simplex virus type 2 infections. Molecular characterisation of HPV 16, 33 and 35 lineages demonstrate that African and European HPV 16 variants and the European HPV 33 and 35 variants have a high prevalence among the South African and Mozambican women. This adds information to justify enhanced management of STIs and improved cervical cancer screening programmes, as well as HPV vaccination programmes in Mozambique.

Supervisor: Emerita Professor A-L Williamson (Pathology)
Co-supervisor: Dr. A Murahwa (Pathology)

Marian Tafadzwa Mazanhanga
Thesis Title: *The development, validation and application of bioanalytical methods for quantifying cerebrospinal fluid and free-drug plasma concentrations of Delamanid, Clofazimine, Linezolid, Levofloxacin and Moxifloxacin*

Marian Mazanhanga holds a Master of Philosophy in Clinical Pharmacology (UCT) and a Bachelor of Pharmacy (Hons) degree from the University of Zimbabwe. Prior to joining the UCT, she practiced as a pharmacist in hospital and community settings and briefly in pharmaceutical manufacturing.

Marian Mazanhanga's thesis focuses on developing, validating and applying highly sensitive and accurate bioanalytical methods using the Liquid Chromatography tandem Mass Spectrometry (LC-MS/MS) technique to quantify anti-tuberculosis drugs in the cerebrospinal fluid (CSF) and the free fraction of plasma. She develops four methods using efficient sample clean-up strategies, enabling analysis of delamanid and DM-6705 in CSF; linezolid in CSF; levofloxacin, linezolid, and moxifloxacin free drug in plasma; and clofazimine, delamanid, and DM-6705 free drug in plasma. She then uses the methods to support multiple clinical pharmacokinetic studies. Data generated from these studies informs appropriate drug dosing in patients with tuberculous meningitis and pulmonary tuberculosis.

Supervisor: Professor L Wiesner (Medicine)
Co-supervisors: Mr. A Joubert (Medicine); Dr. S Castel (Medicine)

Bonang Sylvia Mhlekwa
Thesis Title: *Role of occupational therapists when transitioning individuals with ASD into the labour market*

Bonang Sylvia Mhlekwa completed her BSc at the University of the Free State and her MSc at the University of the Witwatersrand, before beginning her PhD studies at UCT.

Bonang Mhlekwa's thesis explores how occupational therapists can better support adults with autism in finding and keeping jobs in South Africa. Through surveys of 24 therapists and in-depth interviews with four, she found a major service gap: although therapists understand their role in employment support, about two-thirds only work with children under 12 and provide no services for autistic teens or adults. Support is also unevenly distributed, with most services in Gauteng and four provinces having none at all. To address this, Bonang Mhlekwa developed a new framework grounded in Ubuntu and neurodiversity. Instead of trying to "fix" autistic individuals, her approach focuses on adapting workplaces and recognising different ways of thinking as strengths. The framework treats employment as a shared responsibility, showing how inclusive work environments benefit everyone.

Supervisor: Associate Professor A Sonday (Occupational Therapy)
Co-supervisor: Dr D Franszen (Occupational Therapy)

Jose Calderin Miranda
Thesis Title: *Pharmacometric modelling to optimise the treatment of tuberculous meningitis*

Jose Calderin Miranda completed his BSc in Pharmaceutical Sciences at the University of Havana, Cuba, and began full-time doctoral studies at the University of Cape Town in 2023.

Jose Calderin Miranda's PhD thesis focuses on optimising treatment for tuberculous meningitis (TBM) through the application of pharmacometric modelling. He characterises plasma pharmacokinetics and cerebrospinal fluid penetration of key first-line antitubercular agents in adults with HIV-associated TBM and evaluates the pharmacokinetic impact of intensified rifampicin dosing. Complementing these findings, he leverages a preclinical rabbit TBM model to quantify drug penetration into central nervous system tissues, informing the selection and design of antimicrobial regimens for clinical evaluation. He also assesses the pharmacokinetics of adjunctive anti-inflammatory therapy, including clinically relevant drug–drug interactions (DDIs) with concomitant antituberculosis and antiretroviral therapies. Finally, he develops a population pharmacokinetic model of a novel antituberculosis agent and its active metabolite to support clinical development by allowing dosing regimen simulations and evaluation of DDI effects on exposure. Collectively, this work strengthens the pharmacological basis for regimen optimisation in TBM and supports the development of next-generation tuberculosis treatments.

Supervisor: Professor Paolo Denti (Clinical Pharmacology)
Co-supervisor: Dr Juan Eduardo Resendiz Galvan (Clinical Pharmacology)

Rebecca Mlelwa
Thesis Title: *Managing health risks from chemicals in consumer products in South Africa: A case study of brominated flame retardants in childcare products and toys*

Rebecca Mlelwa holds a Bachelor of Science in Environmental Health Sciences and a Master of Science in Environmental and Occupational Health from Muhimbili University of Health and Allied Sciences in Tanzania. She joined the Environmental Health Division at UCT in 2017 to pursue her PhD studies.

Controlling hazardous chemicals in consumer products is essential because daily use of these items can lead to exposure and serious health issues, especially for children, whose developing bodies are more vulnerable. Rebecca Mlelwa's thesis explores how hazardous chemicals are regulated and managed in South Africa, focusing on persistent brominated flame retardants (POPs-BFRs) in plastic products for children as a case study. She uses a mixed-methods approach, combining quantitative analysis, qualitative surveys, and in-depth interviews to examine the presence of POPs-BFRs in everyday products in South Africa, assess how transparent and accessible the chemical information is, and review the country's current measures

to reduce risks. The case study results highlight the absence of a unified, well-structured framework. She offers evidence to support actions that address broader systemic, social, economic, and political factors influencing the country's governance and management of chemicals in consumer products.

Supervisor: Professor H-A Rother (Public Health)

Annesinah Hlengiwe Moloi
Thesis Title: *Developing a scorecard to monitor the implementation of the World Health Assembly resolution on acute rheumatic fever and rheumatic heart disease in African countries*

Hlengiwe Moloi holds a Bachelor of Arts from Earlham College in the United States of America and a master's in public health from the University of Cape Town (UCT). In 2019, she began her Doctor of Philosophy in the Department of Paediatrics and Child Health at UCT.

Her thesis focuses on strengthening accountability for the prevention of rheumatic heart disease (RHD) in Africa by developing a practical tool to monitor the implementation of the World Health Assembly resolution on RHD. It employed a multi-method, multi-country design, including stakeholder mapping, cross-country analysis of health policies and services, consensus methods, indicator development, and a national case study. The research produced the first RHD stakeholder framework and a comparative assessment of RHD policies and services across multiple African countries, identifying systemic, political, and structural differences, as well as areas of commonality and opportunities for cross-country learning and coordinated action. It culminated in the development and validation of an evidence-informed scorecard to guide interventions across social determinants, surveillance, primary healthcare, diagnostics, medicines, and regional cooperation. The scorecard demonstrates applicability across diverse African health system contexts, translating a global policy commitment into a context-sensitive, operational accountability tool for monitoring, decision-making, and governance.

Supervisors: Professor Liesl Zühlke (Paediatrics and Child Health)
Co-Supervisors: Dr Karen Danels (Public Health); Professor Mark Engel (Medicine)

Caroline Katlego Motlhaoleng
Thesis Title: *Optimizing intensified TB case finding in people living with HIV in PEPFAR-supported districts in South Africa*

Caroline Motlhaoleng holds a BCur from UNISA and an MPH from University of Pretoria. She began her PhD studies in the Department of Medicine at UCT in 2022, while working as a Public Health Specialist at the US Centers for Disease Control and Prevention in South Africa.

Caroline Motlhaoleng's thesis applies implementation science to assess South Africa's targeted universal tuberculosis testing (TUTT) strategy, which offers rapid molecular diagnostic test for tuberculosis on sputum irrespective of symptoms among people living with HIV. She characterises the TUTT care cascade across rural and urban health facilities supported by the President's Emergency Plan for AIDS Relief, investigates determinants of drop-offs, and explores healthcare professionals' perspectives on TUTT implementation. Her findings provide critical insights into how the TUTT policy translates into practice, highlighting both programmatic gains and gaps in the tuberculosis diagnostic and treatment cascade among people living with HIV.

Supervisor: Emeritus Professor G Maartens (Medicine)
Co-supervisor: Professor JE Golub (Medicine, Johns Hopkins University)

Tsepo Sechaba Motsohi
Thesis Title: *Rethinking the challenge of users with unscheduled visits to primary care in Cape Town: A health systems thinking approach*

Tsepo Motsohi holds a BA degree from Harvard College, and both his MBChB and Masters degree in Family Medicine from UCT. He began his PhD studies in 2021

Tsepo Motsohi's thesis focuses on the health systems challenge of unscheduled user visits to primary care facilities in the Metro Health Services of Cape Town. His study explores how complex adaptive systems thinking approaches, which incorporate co-production, could engage better with the inherently vast complexity of the problem. Using qualitative research methods and collaborative group model building with stakeholders, he produced a new model of the problem, which revealed a predominance of systems software factors including relationships, values and processes. He further developed an approach to the problem that engages better with demand-side aspects, specifically considering user needs and perspectives. The research offers lessons on co-production and the opportunities to involve all stakeholders in community oriented primary care spaces.

Supervisor: Professor Maylene Shung-King (Health Policy and Systems)
Co-supervisor: Professor Liz Gwyther (Family Medicine and Palliative Care)

Samuel Chea Msanzu
Thesis Title: *Mixed methods research to develop a practical multimodal lifestyle intervention to manage metabolic comorbidities in HIV patients in Cape Town*

Samuel Chea Msanzu earned his BSc and MSc degrees from Kenyatta University, Kenya, and began full-time PhD studies at UCT in 2020.

Samuel Msanzu's thesis focuses on developing a lifestyle modification intervention to manage metabolic comorbidities in people living with HIV (PLWH) in Cape Town. He conducted extensive literature reviews, analyzed secondary dietary data, and held focus group discussions PLWH, as well as interviews with key stakeholders. This approach provided insights into nutrient intake, perceptions of weight management, definitions

of a healthy diet, attitudes toward physical activity, and preferences for the proposed program. Using the COM-B behavior change theory and the lived experiences of PLWH, he designed a lifestyle intervention aimed at managing metabolic comorbidities in this population.

Supervisor: Professor Janetta Harbron (Human Biology)
Co-supervisor: Dr. Alastair Duncan (Clinical Nutrition)

Nompumelelo Mthimkhulu
Thesis Title: *Design and development of a microarray-based technology to study expression dynamics of antibodies during HIV-1 infection*

Nompumelelo Mthimkhulu earned her BSc and MSc degrees from the University of the Witwatersrand and began her PhD studies at UCT, in collaboration with the Council for Scientific and Industrial Research (CSIR), in 2020.

Nompumelelo Mthimkhulu's thesis reports the development of a microarray-based assay technology using a CSIR-custom-designed microarray platform to study antibody responses during HIV-1 infection. She extensively investigated and optimised different mechanical and environmental conditions, as well as chemical reagents suitable for optimal performance of the technology. Using this platform and technology, she evaluated IgG antibody responses in human serum samples from HIV-1–infected individuals, with HIV-1-uninfected human serum samples as controls to evaluate the specificity of the technology. The performance was compared with the ELISA assay, which is currently used as the gold standard assay for evaluating antibody responses. She identified 13 peptides with potential relevance for further exploration in the design of an HIV-1 vaccine. This technology and the findings from the thesis will contribute to the strategy for the development of novel HIV-1 vaccines or the refinement of existing formulations.

Supervisor: Associate Professor M Shey (Medicine)
Co-supervisors: Dr. A Tantoh (Council of Scientific and Industrial Research (CSIR); Chemicals Cluster); Dr. K Alexandre (Council of Scientific and Industrial Research (CSIR) and Jupiteur Biotechnology)

Masala Mugeri
Thesis Title: *Engineering of mono- and bivalent CD64-targeting SNAP-tag fusion proteins to evaluate binding, internalisation and intracellular routing in CD64-positive cells*

Masala Mugeri holds a BSc (Hons) and MSc in Chemistry from the University of Venda. She joined the faculty of Health Sciences at UCT in 2022 for her PhD.

Masala Mugeri's research explores new ways to treat chronic inflammatory diseases, illnesses caused by a long-lasting immune system imbalance and overactive macrophages, a subtype of immune cells. The study focused on two strategies: first, designing SNAP-antibody fusion proteins that bind to CD64, a marker on macrophages, to track their entry and intracellular trafficking; and second, developing self-amplifying RNA (saRNA) packaged in lipid nanoparticles to produce a therapeutic protein directly within target cells. The main findings showed that the engineered fusion proteins successfully bound to CD64 and internalised into macrophages; interestingly, the intracellular distribution of some constructs was broader than expected. saRNA formulations were stable, efficiently taken up and capable of producing proteins in vitro. Together, these proof-of-concept approaches demonstrate promising complementary strategies that could lead to safer, more precise and more accessible treatments for chronic inflammatory diseases.

Supervisor: Professor S Barth (Integrative Biomedical Sciences)
Co-supervisor: Dr OA Akinrinmade (Integrative Biomedical Sciences); Dr N Lekena (Integrative Biomedical Sciences)

Talitha Maryke Müller
Thesis Title: *Dysregulation of the renin angiotensin system in a South African COVID-19 cohort – associations with outcomes and pathophysiology*

Talitha Müller is a graduand of the UCT Clinician-Scientist Training Programme. She began her MBChB in 2016, moving into full-time research and completing her BMedSc(Hons) in 2019. In 2021, she upgraded her Msc to a PhD, meanwhile rejoining the MBChB program in 2023. She completed her concurrent MBChB-PhD in 2025.]

Talitha Müller's thesis looks at how the function of the renin angiotensin system (RAS) is altered in a longitudinal cohort of 172 COVID-19 patients recruited during 2020-2021 in Cape Town. She compares the activity of key RAS enzymes Angiotensin Converting Enzyme (ACE) 1 and ACE2, in people without symptoms and those critically ill. She finds that these enzymes are out of balance, with ACE1 decreased and ACE2 increased in severe disease, and that these changes are not related to having hypertension, the viral load or viral variant. She determines that the activity of these enzymes in the blood can predict COVID-19 severity in supervised and unsupervised statistical models, and are important biomarkers compared to changes in the immune system. She then develops a framework through which to plan future research into RAS-immune system interactions in the context of critical illness.

Supervisor: Professor JG Peter (Medicine)
Co-supervisor: Professor ED Sturrock (Integrative Biomedical Sciences)

Themba Mutemaringa
Thesis Title: *Optimising record linking systems for routinely collected patients' data in an African Health Information Exchange*

Themba Mutemaringa is a senior data scientist at the Western Cape Department of Health and Wellness, with an MPhil in Demography (2011) from UCT, an MSc in Operations Research (2007) a BSc (Hons) (2004) in

Mathematics completed in Zimbabwe. He began study towards his PhD in 2019.

Themba Mutemaringa's thesis investigates algorithms for effective data linkage of patients' health data routinely collected by the health service. He developed a large curated reference set of linked data records for testing algorithms, and explored whether algorithms developed in the global North are effective in the African context, highlighting where existing algorithms fail to identify similarities in African names. This work contributes to ensuring that health data collected within the Western Cape are assigned to the health record of the correct healthcare client, so that clinicians can access a complete, accurate clinical history for every patient and can subsequently provide them with appropriate continuity of care. These research findings and the tools developed are also generally applicable across Africa.

Supervisor: Professor Nicki Tiffin (Bioinformatics)

Juliet Nabbaale
Thesis Title: *Clinical, laboratory and echocardiographic outcomes amongst women with peripartum cardiomyopathy In Uganda*

Dr Juliet Nabbaale has an MBChB and Master of Medicine in Internal Medicine from Makerere University; a Fellowship in Advanced Heart Failure management and heart transplant from Case Western Reserve University, Ohio and a Fellowship in General Cardiology from Uganda Heart Institute, Uganda.

Juliet Nabbaale's PhD thesis aims at profiling the clinical presentation, laboratory and echocardiographic outcomes and predictors of recovery among women with Peripartum Cardiomyopathy in Uganda, a common condition amongst African women. They further tested for validity of the European Society of Cardiology predictive score in this cohort. The clinical profile was characterized predominantly by younger women with very low heart function, which resulted in high mortality rates with associated high cardiac clot burden and strokes. Bromocriptine therapy in addition to heart failure treatment yielded high rates of left heart function recovery. Echocardiographic assessment of right heart function showed demonstrable improvement at six months, which did not predict recovery of left heart function. Baseline heart rate and left heart size were associated with heart function recovery. The European Society of Cardiology validity test score showed limited performance in the study cohort.

Supervisor: Professor Karen Sliwa (Cape Heart Institute, Department of Medicine)
Co-Supervisor: Prof. Emmy Okello, Prof. Annettee Nakimuli and Prof. Graham Chakafana

Catherine Namayega
Thesis Title: *Differentiable rendering for 3D reconstruction from x-ray images: Adaptation, optimisation, and application to the human foot arch*

Catherine Namayega completed her BSc and MSc in Biomedical Engineering from Makerere University and UCT respectively and commenced her PhD in the same discipline at UCT in 2021.

Catherine Namayega's research centres on X-ray imaging and focuses on the adaptation and optimisation of voxel-based differentiable rendering to reconstruct three-dimensional structures from two-dimensional images. With a specific application to the human foot arch, she refines this computational method by integrating statistical shape, pose, and intensity priors that enables more accurate and efficient volumetric reconstructions for the clinical and biomechanical assessment of the human foot to support reliable classification of arch types. Her findings contribute to the development of accessible, explainable, and accurate computational imaging tools that can potentially be adapted to other complex anatomies, enhancing diagnostic capabilities of the more readily available X-ray imaging modalities in resource-limited healthcare settings.

Supervisor: Doctor Lindie Du Plessis (Human Biology)
Co-supervisor: Professor Tinashe Mutsvangwa (Data Science, IMT Atlantique), Associate Professor Bhushan Borotikar (SCMIA, Symbiosis International University), and Professor Bernhard Egger (Computer Science, Friedrich-Alexander University)

Kelechi Francisca Njoku
Thesis Title: *Integrative Multi-Omics Profiling and Machine Learning Enhance Prostate Cancer Subtype Discovery and Clinical Interpretation*

Kelechi Francisca Njoku holds a BSc and MSc degree in Statistics from Imo State University and the University of Lagos, Nigeria respectively. She joined UCT in 2018, where she obtained her MPH in Epidemiology, and later pursued a PhD in Bioinformatics.

Kelechi Francisca Njoku's thesis introduces a novel machine learning-driven method for integrating transcriptomic, epigenomic, and proteomic data to analyse prostate cancer. The approach involves three phases: thorough preprocessing and feature selection, multi-omics integration to identify hidden molecular patterns, and validation using independent datasets and clinical information. It aims to capture tumour heterogeneity, identify robust subtype markers, and improve diagnostic stratification, ultimately informing personalised therapeutic strategies. The method distinguishes prostate cancer subtypes with high accuracy, revealing subtype-specific biomarkers and pathways that are often overlooked in single-omics analyses. By merging diverse omics data with advanced techniques, this framework enhances understanding of prostate cancer mechanisms, supports tailored interventions, potentially revolutionising diagnosis and management in prostate cancer and other complex diseases.

Supervisor: Dr Musalula Sinkala (Computational Biology)
Co-Supervisor: Professor Nicola Mulder (Computational Biology)

Patience Ngozi Obiagwu
Thesis Title: *Paediatric acute kidney injury in a resource-limited setting: Can we modify practice?*

Patience Obiagwu earned her MBBS from Ibadan (2002); she completed her Paediatrics Fellowship (FWACP, 2011) and Paediatric Nephrology subspecialty training in South Africa (2014), and obtained a Master's in Health Economics and Pharmacoeconomics from Pompeu Fabra University (2019), before starting her PhD at UCT.

Patience Obiagwu's thesis investigates the burden of acute kidney injury (AKI) and electrolyte imbalances among children admitted to a tertiary hospital emergency unit in Nigeria. She identifies key factors for early AKI detection, evaluating three diagnostic pathways - routine, research-based, and point-of-care testing – to highlight challenges and potential solutions. Her findings reveal high rates of AKI and electrolyte disturbances, frequently missed due to low clinical suspicion and delayed retrieval of laboratory results, contributing significantly to delayed clinical intervention. She also shows that existing fluid management protocols may worsen electrolyte abnormalities in admitted children. While the research-based pathway proved the most cost-efficient, point-of-care testing demonstrated the greatest potential to enhance timely diagnosis and clinical outcomes. Her work underscores the importance of adopting and thoughtfully implementing point-of-care testing as a practical and scalable diagnostic strategy in resource-limited settings.

Supervisor: Professor AC Argent (Paediatrics and Child Health)
Co-supervisors: Professor MI McCulloch (Paediatrics and Child Health); Professor B Morrow (Paediatrics and Child Health); Honorary Associate Professor V Luyckx (Paediatrics and Child Health)

Yugan Pillay
Thesis Title: *An evaluation of paramedic-led rapid sequence intubation practices in South Africa: An analysis of 2013 and 2024*

Yugan Pillay is a senior emergency care educator and clinician whose career spans frontline pre-hospital practice, clinical governance, and the advancement of emergency medical education in South Africa.

Yugan Pillay's research presents the first comprehensive, national, system-level evaluation of paramedic-led rapid sequence intubation within South Africa's prehospital emergency care system. Using a rigorous multi-method comparative design framed by established health-systems theory, the study examines how structures, clinical processes, and governance arrangements influence patient safety and procedural outcomes over time. The work moves beyond individual practitioner performance to demonstrate how high-risk clinical interventions are shaped by education, regulation, clinical governance, and learning systems within a resource-constrained and pluralistic healthcare environment. This thesis makes an original contribution to emergency medicine by positioning advanced airway management as a tracer of health-system quality, with implications for policy, training, and patient safety in South Africa and comparable settings.

Supervisor: Associate Professor Willem Stassen (Division of Emergency Medicine)
Co-Supervisors: Professor Lee Wallis (Division of Emergency Medicine); Professor Petra Brysiewicz (University of KwaZulu-Natal)

Alexa Rabeling
Thesis Title: *Investigating neural tube development using an in vitro stem cell-based model*

Alexa Rabeling obtained her BSc in Genetics and Biochemistry from UCT in 2020, and began her postgraduate studies in the Faculty of Health Sciences in 2021, obtaining an honours degree and subsequently upgrading her Masters to a PhD at the end of 2023.

Alexa Rabeling's thesis details the establishment of a simple, replicable stem cell-based model of the developing central nervous system. She utilises both mouse embryonic stem cells and human induced pluripotent stem cells to model neural development. Importantly, she establishes a new protocol to study the development of neurons using mouse stem cells within ten days that is simple, replicable and useful for limited resource groups. These findings will contribute to the knowledge of how to replicate central nervous system development in the lab using stem cells and will be used in future studies to investigate neurodevelopmental disorders.

Supervisor: Dr Mubeen Goolam (Human Biology)
Co-Supervisor: Dr Jerolen Naidoo (Council for Scientific and Industrial Research)

Prasidh Ramson
Thesis Title: *An exploratory case study of curriculum change in undergraduate Optometry to prepare graduates for public service*

Prasidh Ramson holds a Bachelor Degree in Science and a Master's Degree in Optometry from the University of KwaZulu-Natal. He is currently a lecturer at the Cape Peninsula University of Technology. Before academia, he worked previously in private, government and non-profit eye care sectors.

Prasidh Ramson's thesis explores how optometry professional education in South Africa can better prepare graduates to work in public health services. Using interviews and discussions, the study brings together the perspectives of patients, public sector

optometrists, students, and educators. It shows that what students are taught does not always match the realities of eye care in under-resourced communities. The research highlights gaps between education, everyday service demands, and the eye care needs of the population. Key findings point to the need for optometry education to place greater emphasis on public health, social responsibility, and the voices of those who use and deliver public services. The study also shows that changing a curriculum is not simply a technical task, but a process shaped by people, institutions, and history. Overall, the research offers guidance for improving optometry education and supporting fairer, more compassionate eye care in South Africa.

Supervisor: Professor H Kathard (Health and Rehabilitation Sciences)
Co-Supervisor: Professor R Galvaan (Health and Rehabilitation Sciences); Professor K.S Naidoo (Discipline of Optometry; School of Health Sciences; University of KwaZulu Natal and the OneSight EssilorLuxottica Foundation)

Eleonora Isabella Ray
Thesis Title: *Paediatric acute respiratory distress syndrome in South Africa: exploring prevalence, clinical profile, and feasibility of a novel non-invasive intervention*

Eleonora Isabella Ray holds a BSc and a Master's degree in Physiotherapy from the University of the Witwatersrand. Eleonora Ray's research emerged from her clinical work in paediatric critical care, driven by a desire to optimise respiratory support and comfort through non-invasive and adjunctive strategies in the critical care environment.

This thesis investigates the burden of Paediatric Acute Respiratory Distress Syndrome (pARDS) in a South African intensive care unit. Prior to this PhD work, no studies had specifically described the burden and management of pARDS in South Africa. The study reveals a prevalence of pARDS significantly higher than global averages and highlights critical inaccuracies in standard non-invasive oxygen monitoring for this population. Eleonora Ray then developed and pilot tested a novel, low-cost intervention: a weighted blanket designed to support breathing mechanics. Clinical trials demonstrated that this simple device was safe, and associated with significantly improved oxygen levels and comfort in infants and children with lung disease. These findings offer important insights into managing pARDS in resource-limited settings, proposing accessible solutions to improved critical care for vulnerable infants.

Supervisor: Professor Brenda Morrow (Paediatrics and Child Health)
Co-supervisors: Emeritus Professor Andrew Argent (Paediatrics and Child Health); Dr Alison Lupton-Smith (Department of Physiotherapy, Stellenbosch University)

Kate Megan Reid
Thesis Title: *Forensic human identification: what works and where can improvements be made? Meta-data analysis of identification procedures at a forensic mortuary in Cape Town, South Africa*

Kate Reid completed a BSc at the University of Pretoria, before completing a BMedSc (Hons) and MSc (Med) in Forensic Genetics, both at UCT. She commenced her PhD in Forensic Medicine in 2021.

Kate Reid's thesis contributes significantly to understanding the global health crisis of unidentified decedents. She retrospectively studied over 30 000 medico-legal case files from the Observatory Forensic Pathology Institute to pinpoint where identification attempts are under-utilisated. Not only were the State's resources wasted, but she identified systemic issues in multi-agency collaboration and record keeping. She then prospectively surveyed relevant experts and stakeholders on their professional perceptions of hindrances to forensic human identification in South Africa. Combining these aspects with systematic review of literature, and considering ethical, legal and social implications, she presents a holistic framework for human identification. The findings and outcomes of her thesis not only provide clear direction for improvement at a local level, but is pertinent to national policy reform. Finally, the proposed recommendations are considered in a globally adaptable manner, particularly important for other resource-limited facilities and countries.

Supervisor: Associate Professor LJ Heathfield (Pathology)
Co-supervisor: Professor LJ Martin (Pathology)

*Alex John Scott
Thesis Title: *Computer-aided X-ray detection of pulmonary tuberculosis during community-based active case-finding*

Alex Scott completed his BSc, MBChB, and MPhil degrees at UCT. He joined the UCT Lung Institute in 2021 and began his PhD studies in 2022. He is a Harry Crossley Clinical Fellow and a SAMRC Postgraduate Research Associate.

Alex Scott's thesis examines how artificial intelligence–based computer-aided X-ray detection could improve tuberculosis (TB) screening in endemic communities. Almost a third of individuals with TB in these settings are undiagnosed and often have no symptoms. He focussed on active case-finding, where people are screened in the community rather than self-reporting to healthcare facilities. He assessed how accurately computer-aided detection (CAD) could detect TB, how it performed in different population groups, and whether it was cost saving during large-scale TB screening. He also investigated the presence of cavitary TB in communities, which is a marker of TB infectiousness, and evaluated the ability of CAD to identify this form of disease. By addressing key evidence gaps around accuracy and implementation, his thesis informs TB programmes and global policy makers on how CAD could strengthen community-based TB screening, reduce TB transmission, and contribute towards ending TB.

Supervisor: Professor Keertan Dheda (Medicine)
Co-supervisor: A/Professor Aliasgar Esmail (Medicine)

Gabriela Singh
Thesis Title: *Characterising the cellular neuroimmune response in children with tuberculous meningitis*

Gabriela Singh completed her BSc at Stellenbosch University (2018). In 2019 she joined the African Brain Children Research group in the Division of Neurosurgery and Neuroscience Institute to pursue her Honours (Neuroscience), followed by her MSc in Medicine (Neuroscience - 2021), and embarked on her PhD in Neuroscience in 2022.

Gabriela Singh's thesis focuses on novel flow cytometry analysis of the rare site-of-disease samples in children suffering from tuberculous meningitis (TBM). TBM is the most severe form of tuberculosis as it causes substantial damage to the brain and better host-directed treatment strategies are needed. However, our understanding of the brain's response to TBM is poor, as research has focused on cells from the systemic immune system. Gabriela Singh's study is the first to characterise both the brain and the systemic immune system's cellular response to TBM. Importantly, she found that the brain's own cells were the most abundant cell population and had a strong association with poor patient outcomes. This research offers essential insights into the pathophysiology of TBM in the organ of disease and in concert with the broader immune response. These findings could be central to determining much-needed novel targets for host-directed therapies.

Supervisor: Associate Professor Ursula Rohlwink (Neuroscience (Surgery))
Co-supervisor: Professor Anthony Figaji (Division of Neurosurgery)

Tapiwa Tembo
Thesis Title: *Equipping lay health workers using digital training to deliver public health interventions in Malawi*

Tapiwa Tembo holds a BSc and MSc in Clinical Trials from the University of Ghana. She registered for her PhD studies in the Desmond Tutu HIV Centre, UCT, in 2022. She is a scientist and public health professional working on research studies that bring novel interventions into mainstream healthcare practice.

Tapiwa Tembo's thesis focuses on evaluating the value of digital training approaches to improve lay health workers' capacity to deliver HIV index case testing services in Malawi. This work investigated whether digital training improved health workers' knowledge, attitudes, skills, and compliance to patient counseling procedures in a low-resource setting with limited technology infrastructure. Her thesis was one of the first to demonstrate that digital training could enhance health workers' capacity and adherence in delivering an evidence-based intervention such as index case testing. The health workers reported satisfaction with the training approach, and their self-efficacy and confidence to provide counseling services to clients were improved. These findings are attributed to the design and delivery of the digital training. Given the recent increase in the availability of technology and the current policy shift in funding, digital training offers sustainable training for improving health service delivery in various geographical settings.

Supervisor: Professor Linda-Gail Bekker (Medicine)
Co-supervisor: Dr. Nora E. Rosenberg (Health Behavior, University of North Carolina at Chapel Hill)

Esther Uwibambe
Thesis Title: *Identification and functional evaluation of autosomal recessive hearing impairment genes in Rwanda*

Esther Uwibambe completed her MBBS at the University of Rwanda in 2019 and an MSc at the University of Global Health Equity in 2022. She began full-time doctoral studies in Human Genetics, UCT, in 2023, focusing on the genetic causes of early-onset hearing impairment in the Rwandan population.

Esther Uwibambe's doctoral research investigates the genetic basis of early-onset hearing impairment, a condition suspected to be highly heritable among Rwandan children. Working with families across the country, she combined clinical screening with genetic testing to identify inherited variants contributing to childhood hearing loss. The study found that commonly implicated global genes, such as GJB2 and GJB6, play a limited role in Rwanda. Instead, variants in CDH23, MYO7A, and TMC1 emerged as major contributors, alongside several previously unreported variants and two novel candidate genes. These findings expand current knowledge of the condition's genetic diversity and underline the importance of studying underrepresented African populations. The results have significant clinical relevance and support the development of more accurate diagnostic tools, improved genetic counseling, and future screening strategies for hearing impairment in Rwanda.

Supervisor: Professor Ambroise Wonkam (Medical Genetics)
Co-supervisor: Professor Leon Mutesa (Human Genetics)

Jacqueline Wahura Waweru
Thesis Title: *Investigating symbiont-based immunity in Microsporidia MB infected Anopheles arabiensis mosquitoes against Plasmodium falciparum*

Jacqueline Wahura Waweru holds a BSc in Biochemistry from Karatina University, Kenya and an MSc in Molecular Biology and Bioinformatics from Jomo Kenyatta University of Agriculture and Technology. She joined the Computational Biology Division, UCT, in 2023 for her PhD studies.

Jacqueline Wahura's thesis focuses on understanding the mechanistic basis that Microsporidia MB, a symbiotic microbe of the mosquito, uses in impairing the transmission of Plasmodium falciparum, the causative agent of malaria. In her work she integrates omics approaches including RNAseq and metagenomics to elucidate the role of Microsporidia MB in influencing gene and gut microbiota profiles in Anopheles arabiensis mosquitoes. She observed that mosquito infection with Microsporidia MB activates the host immune system, and when these mosquitoes are exposed

to Plasmodium falciparum infection, limited cellular resources are available for the development of the parasite. From gut microbiota profiling, microbes previously associated with impairing Plasmodium parasite development proliferate with blood feeding. Cumulatively, her work points to Microsporidia MB initializing a complex interplay between immune system activation, nutrient deprivation and modulation of the gut microbiota to impair the transmission of Plasmodium parasites.

Supervisor: Prof Nicola Mulder (Computational Biology)
Co-supervisors: Dr Jeremy Keith Herren (International Centre of Insect Physiology and Ecology, Nairobi, Kenya); Dr Daniel Masiga (International Centre of Insect Physiology and Ecology, Nairobi, Kenya)

Kristin Ruth Winkler
Thesis Title: *Elucidating genetic interactions in mycobacterial DNA metabolism using combinatorial CRISPR interference*

Kristy Winkler completed her BSc and BSc (Hons) qualifications at UCT, before undertaking full-time postgraduate research in advanced molecular mycobacteriology.

Kristy Winkler's thesis reports the development and application of high-throughput CRISPRi screening methodologies to map genetic interactions in Mycobacterium smegmatis, a proxy for the closely related human pathogen, M. tuberculosis, which causes tuberculosis. Her approach involved screening whole-genome CRISPRi libraries across six genetic backgrounds, including targeted disruptions of a major mycobacterial mutagenic pathway, under baseline conditions and following DNA damage induced by exposure to low-dose moxifloxacin, a second-line anti-tuberculosis drug. She developed a custom computation pipeline for the identification of interaction partners across screening conditions, applying it to identify known roles for the mutasome in moxifloxacin resistance, while revealing unexpected interactions involving cell wall biosynthesis and amino acid metabolism. Together, her findings demonstrate the power of CRISPRi-based genetic interaction screens to uncover vulnerabilities and adaptive mechanisms in mycobacteria.

Supervisor: Professor D Warner (Pathology)
Co-supervisors: Dr. M Mason (Pathology); Dr. R Dinkele (Public Health); Dr. T de Wet (Pathology); Emerita Professor V Mizrahi (Pathology)

Lilly Wonkam
Thesis Title: *Feasibility and acceptability of a communication-focused parent-mediated intervention for French-speaking children with autism spectrum disorder in Yaoundé, Cameroon*

Lilly Wonkam holds a Bachelor's degree from La Haute École de la Ville de Liège in Belgium and a Master of Science degree from UCT. She joined the Division of Communication Sciences and Disorders at UCT in 2019 to pursue doctoral studies focusing on autism intervention in African contexts.

Lilly Wonkam's thesis addresses the critical shortage of autism services in francophone sub-Saharan Africa. She investigates whether a culturally adapted, online parent-mediated intervention could effectively support French-speaking children with autism in Yaoundé, Cameroon. Using a rigorous three-phase implementation science design, she first mapped the global evidence, then partnered with local professionals to systematically adapt the Project ImPACT programme to the Cameroonian context. The pilot study with twelve families demonstrated high acceptability and strong engagement, along with statistically significant but preliminary improvements in parenting competence and children's social communication. Despite infrastructural constraints, the intervention proved feasible for telehealth delivery. This work established one of the first evidence-based, culturally grounded autism intervention models in Central Africa and provided a scalable framework for expanding equitable, contextually relevant autism services across the region.

Supervisor: Associate Professor Shajila Singh (Health and Rehabilitation Sciences)
Co-supervisor: Associate Professor Gillian Ferguson (Health and Rehabilitation Sciences)

Nesbert Zinyakatira
Thesis Title: *Risks of acquisition and treatment outcomes of drug-resistant TB in a high HIV prevalence setting*

Nesbert Zinyakatira completed a BSc Honours in Statistics at the University of Zimbabwe, and an MPhil in Demography and an MPH (Epidemiology) at UCT. He began his PhD studies in 2022.

Nesbert Zinyakatira's thesis examines risks associated with the acquisition of multidrug or rifampicin-resistant tuberculosis (MDR/RR-TB), TB recurrence and treatment outcomes using a retrospective cohort of routinely collected public health data. He shows people living with HIV(PLHIV) to be at increased risk of acquired-rifamycin resistant TB and subsequent MDR/RR-TB diagnosis compared to HIV-negative individuals after initiating first-line TB treatment. He also shows extremely high risks of TB recurrence in both PLHIV and HIV-negative individuals, particularly those with lower CD4 cell counts and prolonged hospitalisation. He further shows low treatment success and increased mortality due to HIV and diabetes mellitus during second-line TB treatment, with bedaquiline-containing regimens contributing to better outcomes. These findings support a need for differentiated TB treatment approaches that consider immunocompromise, post-treatment monitoring, shorter and more effective MDR/RR/TB treatment options, and stronger and more effective TB infection control measures in healthcare settings.

Supervisor: Professor Helen Cox (Medical Microbiology)
Co-supervisor: Professor Nicki Tiffin (SA Bioinformatics Institute)

Andre Yvan Zolo Ossou
Thesis Title: *Strengthening surgical systems in Africa through global surgery and surgical education: A comprehensive evaluation and implementation study*

Andre Zolo Ossou earned his Doctor of Medicine from the University of Buea, Cameroon, and a Master of Science in Medicine (Global Surgery) with distinction from UCT, funded by the Mandela Rhodes Foundation. He commenced his PhD in Global Surgery at UCT in 2024.

Andre Zolo Ossou's thesis investigates how to strengthen surgical systems in Africa through education. It begins by mapping global training competencies and identifying a critical educational deficit among surgeons in East, Central, and Southern Africa. The core of the work evaluates two novel educational models pioneered at UCT: an executive leadership program for surgical systems leaders and a multidisciplinary course for public health students. The research demonstrates that these programs successfully build leadership capacity and reconceptualise surgery as a public health imperative. The findings provide an evidence-based framework to strategically scale up surgical systems education across the continent.

Supervisor: Professor S Maswime (Surgery)
Co-supervisor: Professor W Mulwafu (College of Surgeons of East, Central, and Southern Africa, Kamuzu University of Health Sciences)

DOCTOR OF SCIENCE IN MEDICINE

*Alan Gregory Morris

Alan Morris completed his undergraduate studies in Biology (B.A. Biology) at Wilfrid Laurier University, Honours equiv. (Anthropology) from McMaster University and a PhD in Anatomy from the University of Witwatersrand. His doctoral work laid the foundation for a lifelong engagement with the skeletal record of African populations, bridging the disciplines of anatomy, archaeology, and anthropology. His work for the degree of Doctor of Science focused on "The History of Physical Anthropology in South Africa." His body of work has played a central role to debates on the origins of modern humans, particularly through his involvement in the analysis of the Hofmeyr skull, a Late Pleistocene fossil that provided crucial evidence for the dispersal of early Homo sapiens.

Alan Morris's scholarship extended beyond evolutionary questions to the social dimensions of science. He critically examined the role of physical anthropology in South Africa's racial classification systems, exposing how scientific practices were entangled with apartheid ideology. This dual focus—on both the biological and historical dimensions of human diversity—made his work uniquely impactful. He continues to be a respected voice in anthropology, remembered not only for his scientific contributions but also for his commitment to interrogating the ethical dimensions of his discipline. His career exemplifies the integration of rigorous science with critical reflection on its social context—a legacy that continues to shape African anthropology.

Supervisor: Professor L. Green-Thompson

VISION AND MISSION
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