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#### MINISTER'S FOREWORD



The Department of Science and Innovation (DSI) has been running the South African Women in Science Awards (SAWiSA) since 2003, interrupted only by the Covid pandemic. Held in Women's Month, SAWiSA rewards and celebrates excellence among both young and established women in science and research, profiling them as role models for other women and girls. The initiative also awards fellowships to outstanding students already registered for master's and PhD studies.

The 2024 theme for SAWiSA, "Transition towards an Innovation Economy: The Role of Women Leaders in STEM", was inspired by the 2024 International Day of Women and Girls event hosted by Qatar University in partnership with the UNESCO Office for the Gulf States and Yemen. Two special awards were conferred to researchers whose work aligns with the theme.

The awards ceremony, which takes place in a different province each year, was held in Mpumalanga. In honour of the renowned artist and cultural innovator from the province, the 2024 DSI Fellowships were presented as the DSI-Esther Mahlangu Fellowships to honour her inspirational legacy. Dr Mahlangu's artistic contributions have played a role in promoting innovation, cultural preservation and economic development in South Africa and beyond, illustrating how the innovation economy extends beyond the natural and engineering sciences, important as they are.

As the Minister of Science, Technology and Innovation, I would like to congratulate all the finalists and winners.

Prof. BE Nzimande, MP Minister of Science, Technology and Innovation



#### **DORCAS "DIDI" LEKGANYANE**

Tribute to Dorcas "Didi" Lekganyane: an inspirational young environmental scientist who had keen interest in traditional medicine and protection of biodiversity.

The 32-year-old Lekganyane tragically passed away in July 2024, a few weeks after being named in the 200 Mail & Guardian Young South Africans awards, Climate Change and Environment category.

Lekganyane earned her master's degree in environmental science, with a focus on botany and plant biotechnology, with a bursary won as part of the Women in Science Awards in 2017. She was committed to growing our understanding of the natural world and preserving it.

Her research, which delved deeply into traditional medicinal herbs in South Africa, was respected by her peers and mentors, but her influence and passion extended beyond her scientific achievements.

Lekganyane was determined to bridge the gap between indigenous knowledge and modern science. Her innovative spirit and deep respect for South Africa's cultural heritage have done much to break the stigma surrounding the use of traditional medicine.

Minister of Science, Technology and Innovation, Prof. Blade Nzimande spoke of her scientific prowess and her role as a trailblazer for young women in science.

"Dorcas Lekganyane's passing is a significant loss to the scientific community, to those who knew her, and to the nation as a whole," said the Minister, describing Lekganyane as "a symbol of the potential that lies within our young scientists to drive innovation, honour our traditions, and lead us into a future where science and culture coexist harmoniously.

"As we mourn her loss, let us also celebrate her life and the indelible mark she has left on the world of science and beyond. Dorcas's legacy will continue to inspire future generations of scientists, particularly young women, to pursue their passions, challenge the status quo, and contribute to the betterment of our society and environment."

The Minister reaffirmed government's commitment to supporting young scientists and innovators who, like Lekganyane, strive to make a difference. "May her spirit of inquiry, her dedication to breaking barriers, and her love for our natural world continue to inspire us all."



### NATURAL & ENGINEERING SCIENCES – DISTINGUISHED WOMAN RESEARCHERS



#### Prof. Olubukola Oluranti Babalola

Prof. Olubukola Oluranti Babalola (Pr.Sci.Nat, MASSAF, FASLP, FTWAS, FAS, FAAS, FISC), is the vice president of The World Academy of Sciences (TWAS) and the Organization for the Africa region of Women in Science for the Developing World (OWSD). Prof. Babalola is an MBA graduate and a research director and principal investigator at North-West University (NWU), and the foreign secretary of the Nigerian Academy of Science.

With over 21 years of experience in rhizosphere metagenomics, Prof. Babalola advocates for the use of biofertilizers over chemical fertilizers for plant health management. Her work supports Sustainable Development Goal 2, "Zero Hunger", in Africa, promoting food security and sustainable agriculture. Prof. Babalola holds a National Research Foundation (NRF) C2 rating and has authored over 350 peer-reviewed publications, including papers in leading journals like Microbiological Research and Frontiers in Microbiology. She is a frequent keynote speaker at global conferences and has received numerous national and international awards. Prof. Babalola has mentored 24 postdoctoral fellows and supervised 35 PhD, 25 master's, and over 120 honours students. Currently, she supervises six PhD and five master's students.

Prof. Babalola is affiliated with several professional organisations, including the Soil Science Society of South Africa, the South African Council for Natural Scientific Professions, the South African Society of Crop Production, the South African Society of Microbiology,

the American Society for Microbiology, and the International Society of Root Research. Her international experience spans six continents. She was the Clarivate Highly Cited Researcher in 2022 and 2023. Her recent Springer book is titled Food Security and Safety: Africa's Perspective.

Prof. Babalola is ranked first in Africa for soil science and plant nutrition expertise. She is an American Association for Advancement of Science-TWAS science diplomacy alum. She is a fellow of TWAS, the Academy of Science of South Africa (ASSAf), the Nigerian Academy of Science, and the African Academy of Sciences.

She serves on the editorial boards of several prestigious journals, including BMC Microbiology, Applied and Environmental Microbiology, Microbiology Spectrum, Archives of Microbiology, Transgenic Research, Frontiers in Research Metrics and Analytics, and others. Prof. Babalola is also a guest associate editor for Research Policy and Strategic Management at Frontiers, and a guest editor for Frontiers in Fungal Biology, the Turkish Journal of Agriculture and Forestry, and the Journal of Advanced Research.

Prof. Babalola's advisory roles include serving on boards and panels for TWAS, OWSD, the F1000 Research Plant Science Gateway, the Nano-Horizons journal, Mothers in Science, the South African Young Academy of Science, the Africa Community of Practice on Forgotten and Underutilized Food, the Council of Higher Education Quality Committee, the NRF Advisory Panel for Microbiology and Biochemistry, the Convocation of NWU, and the Selection Committee for the OWSD-Elsevier Foundation Awards (2022, 2023, and 2024).





#### Prof. Zodwa Dlamini

Prof. Zodwa Dlamini is a leading figure in molecular oncology who is dedicated to advancing precision oncology. As the founding director of the University of Pretoria Pan African Cancer Research Institute (PACRI), Prof. Dlamini spearheads research to combat cancer across Africa. In her roles as Director of the South African Medical Research Council (SAMRC) Precision Oncology Research Unit and the DSI/NRF South African Research Chair in Precision Oncology and Cancer Prevention, Prof. Dlamini tailors cancer treatments to individual genetic profiles, thus driving significant progress in precision medicine.

Prof. Dlamini's influence extends beyond institutional boundaries through her organisation of major conferences and committees. She has served as the programme committee chair for the PACRI Launch in 2022, the Inaugural PACRI International Cancer Meeting in 2023, and as the programme committee co-chair for the 2nd PACRI International Meeting in 2024. The meetings focused on innovative approaches to cancer control, prevention, and addressing inequities in cancer care across Africa.

Prof. Dlamini also plays key advisory roles and contributes to editorial work. As a distinguished member of the American Association for Cancer Research (AACR) Regional Advisory Committee on Sub-Saharan Africa, she influences cancer research initiatives. Her leadership in the AACR Pathology Resources in Africa Advisory Group addresses critical gaps in cancer pathology services, ensuring broader access to accurate diagnoses and effective treatments.

Prof. Dlamini's editorial contributions are pivotal in disseminating research in oncology. Prof. Dlamini serves on the Editorial Advisory Committee for the South African Health Review, which shapes cancer services and policies in South Africa. Additionally, she is an

associate editor for esteemed journals such as Frontiers in Oncology and Frontiers in Genetics, and an editor for influential cancer books published by Springer Nature, Elsevier, and Taylor & Francis.

Prof. Dlamini's remarkable contributions have earned her prestigious honours as an overseas Fellow of the Royal Society of Medicine and a Professional member of the New York Academy of Sciences.

Beyond her research and editorial work, Prof. Dlamini is committed to translating her findings into tangible improvements in patient care. She collaborates with international institutions to expand access to advanced cancer treatments in underserved populations. Through her initiatives, she trains the next generation of scientists and clinicians across South Africa and the broader region, fostering new expertise in cancer research and treatment.





#### Prof. Stephanie Midgley



Prof. Stephanie Midgley is an extra-ordinary professor in horticultural science at Stellenbosch University and a specialist scientist: climate change at the Western Cape Department of Agriculture. With over 30 years of experience, Prof. Midgley's research and policy work focus on climate change and its impacts on agriculture and natural resources in South Africa and the southern African region. She is recognised as a specialised and transdisciplinary domain expert, scientific leader, and strategic planner with an international profile.

Prof. Midgley's current role at the Western Cape Department of Agriculture involves climate change and risk assessment. Her career spans research, academia and the private sector. Her research expertise lies in agricultural production technologies to improve yield, product quality and water use efficiency, reduce climate risk, and build resilience to climate change through adaptation and mitigation. Her work has paved the way for climate change resilience in the province's agricultural sector.

Since 1999, Prof. Midgley has developed strong relationships with the deciduous fruit industry (Hortgro Science) and the wine industry (Vinpro and South Africa Wine). She contributes to strategic research planning, raising awareness about climate risks, impacts, adaptation, mitigation and sustainability. She also collaborates with other industry organisations, including those for table grapes (South African Table Grape Industry), citrus (Citrus Growers' Association), grain (Grain SA and Protein Research Foundation), and organised agriculture (Agri Western Cape and AgriSA).

Prof. Midgley holds a C3 NRF rating and has authored 49 peer-reviewed scientific papers in international journals, such as Scientia Horticulturae and Journal of the American Society for Horticultural Science. She has also contributed six book chapters, 24 peer-reviewed scientific conference papers, 64 research-based technical and policy reports, and

58 research-based popular articles in industry journals and sectoral newsletters. She is a frequent keynote speaker at international conferences and has received several national scientific awards, including the 2024 Hortgro Daan Strydom Research and Technical Award for excellence in research, science and technology.

Throughout her career, Prof. Midgley has successfully mentored one postdoctoral fellow, supervised seven PhD, 12 master's, and two honours students, and currently supervises three PhD and one master's student. She is often requested to act as an examiner for master's and PhD theses at Stellenbosch University and other South African universities. In the past five years, she has examined three PhD and six master's theses across four universities and participated in PhD proposal and thesis defence panels.

As a specialist scientist in climate change, Prof. Midgley is registered as a Professional Natural Scientist in Agricultural Science with the South African Council for Natural Scientific Professions (SACNASP). She is also a professional member of the International Society of Horticultural Sciences and the Southern African Society for Horticultural Sciences.



### INNOVATION ECONOMY – DISTINGUISHED WOMAN RESEARCHERS



Prof. Zukiswa Zingela

Prof. Zukiswa Zingela is the executive dean at Nelson Mandela University (NMU) Faculty of Health Sciences, whose research focuses on catatonia and occupational mental health in the health professions. She is the immediate second vice president of the International Narcotics Control Board (INCB) and serves as its rapporteur.

She has produced numerous self-help articles through the South African Medical Association and Insider and authored a book on coping skills for the public titled EPT to Bloom, published in late 2023. Her PhD research and related work have significantly impacted both the South African and global mental health fields. During the Covid-19 pandemic, she developed multidisciplinary group interventions resulting in scientific and public-oriented outputs. Her research on catatonia, a relatively unexplored area in South Africa and Africa, has led to the establishment of a multi-site catatonia registry project. Prof. Zingela also collaborated to establish the Ukhanyo Community Clinic at the Missionvale Campus of NMU to address the mental health needs of the community.

Prof. Zingela is the author of approximately 50 peer-reviewed publications in leading international journals, including Science, Nature Genetics, The Lancet, PLOS One, BMJ Open, and BMC Psychology. Additionally, she serves on the editorial board of the South African Journal of Psychiatry. A frequent keynote speaker at international conferences, she has received several national and international awards, including the Discovery Foundation Rural Award in 2020 for her work on botched circumcisions. In 2021, she was an integral

part of the team that won the Pamela Sklar Innovation Award for their research on the genetics of psychosis in African populations.

Prof. Zingela has successfully mentored one postdoctoral fellow, supervised 11 master's students, and currently supervises two PhD and four master's students. Registered as a medical research scientist with the Health Professions Council of South Africa (HPCSA) and the General Medical Council in the UK, she is also a Fellow of the College of Psychiatrists of South Africa and a member of the American Psychiatric Association.



# NATURAL & ENGINEERING SCIENCES – DISTINGUISHED YOUNG WOMAN RESEARCHERS



Dr Taskeen Docrat

DrTaskeen Docrat is a young researcher in medical biochemistry, hosted by the Applied Microbial Health and Biotechnology Institute (AMHBI) at the Cape Peninsula University of Technology. Her research in nutritional neuroscience focuses on preventative remedies for neurodegenerative diseases like Alzheimer's. Since 2023, Dr Docrat has led the cell culture unit at AMHBI, conducting pioneering multidisciplinary studies in Africa. Her findings on the impact of herbal medicine, particularly rooibos, on brain health have significantly advanced understanding in this field, offering novel preventive strategies for neurodegenerative diseases.

Dr Docrat's work addresses critical societal challenges by improving health outcomes and healthcare practices both locally and internationally. She has authored nearly 17 peer-reviewed publications in journals such as Chemico-Biological Interactions, BMC Medical Genetics and European Journal of Pharmacology. As a keynote speaker at international conferences, Dr Docrat has made significant contributions to biomedical research and has received several prestigious awards, including an Erasmus+ research mobility grant in 2023, and international travel awards from IBRO-ARC School in 2022 and Africa-UniNet in 2022.

Recognised for her science communication skills, Dr Docrat won first place for an elevator pitch at the Postdoctoral Research Summit hosted by Stellenbosch University in 2020. She won 2nd and 3rd places for oral presentations at the University of KwaZulu-Natal College of Health Sciences Research Symposium in 2023.

Dr Docrat has successfully mentored two postdoctoral fellows and supervised two PhD, six master's, and four honours students. She currently supervises two PhD and two master's students. She is registered with the HPCSA and is a member of the World Women in Neuroscience, Society of Toxicology, and ALBA Network. Additionally, she serves as a peer reviewer for established international journals.





#### Dr Busiswa Ndaba-Vatsha

Dr Busiswa Ndaba-Vatsha joined the Institute for Catalysis and Energy Solutions at the University of South Africa as a senior lecturer in February 2024. Her research focuses on improving energy and crop production through biological and nanotechnology techniques, particularly using non-edible feedstock like cellulosic biomass for fuel energy production and waste valorisation to develop agricultural fertilizers, embracing a circular economy approach.

Dr Ndaba-Vatsha has published over 25 peer-reviewed papers and book chapters on nanofertilizer development and biofuel production, edited one book, and contributed non-peer-reviewed articles to public domain magazines. Her work supports the UN Sustainable Development Goals (SDGs) two (Zero Hunger) and seven (Affordable and Clean Energy), through advancements in clean energy and food production. Dr Ndaba-Vatsha has won several awards, including a 2019 L'Oréal-UNESCO for Women in Science Award and being named one of the Mail & Guardian's 2023 Top 200 Young South Africans in the technology and innovation category. The Government Communication and Information System also featured her as a trailblazer in their August 2023 Public Sector Manager Women's issue magazine.

Dr Ndaba-Vatsha has presented at national and international conferences and workshops in Austria, China, Switzerland, Italy, Germany and Senegal. She has successfully mentored one postdoctoral fellow and one PhD student. Furthermore, she has supervised one master's (cum laude) and one PhD student and currently supervises three PhD and two master's students.

Dr Ndaba-Vatsha is a full member of the Organization for Women in Science for the Developing World and is registered with SACNASP. She is also part of the L'Oréal-UNESCO for Women in Science alumni community.



Prof.Thandiwe Sithole is an associate professor in the Faculty of Engineering and the Built Environment at the University of Johannesburg (UJ). She was a non-executive director and the technical advisory chair at The Platinum Incubator.

Prof. Sithole's research focuses on environmental engineering, particularly the circular economy, through waste valorisation and solidification, and remedial treatment of wastewater using secondary resources. Her work includes turning industrial solid waste into useful building materials via alkaline/acidic activation and recovering resources from industrial waste. Another of her key focuses is wastewater remediation through adsorption. The primary goal of her research is to develop zero-waste discharge models and create value-added products from solid waste materials for building and construction applications. Prof. Sithole's research supports sustainable construction and aligns with the UN SDGs for environmental sustainability, specifically SDG three (Good Health and Wellbeing) and SDG six (Clean Water and Sanitation).

Prof. Sithole is the author of nearly 58 peer-reviewed publications in leading international journals such as the Journal of Cleaner Production, Construction and Building Materials, and Case Studies in Construction Materials. She has successfully mentored three postdoctoral fellows, supervised six master's and 14 honours students, and currently supervises eight PhD and seven master's students. Prof. Sithole has applied for the 2024 NRF rating and is awaiting the outcome. In 2023 she won the UJ Vice-Chancellor's Distinguished Award for Most Promising Young Researcher of the Year.

An engineering research scientist registered with the Engineering Council of South Africa, Prof. Sithole serves on the editorial board of established journals like Frontiers in Environmental Chemistry.





Dr Charlotte Maserumule

Dr Charlotte Maserumule is a chief scientist in the Health Platform at Mintek and serves as the director of the Biolabels Unit at the DSI/Mintek Nanotechnology Innovation Centre (NIC). She leads Mintek's research and development efforts in biomarker discovery and rapid diagnostic test development (RDT) for priority diseases, as well as their manufacturing. Dr Maserumule has expertise in molecular immunity, molecular medicine, and biotechnology, with a focus on aptamer technology and nanobiotechnology. She holds a PhD in medicine from the University of Cambridge and pursued postdoctoral studies there before serving as principal scientist at Hutano Diagnostics.

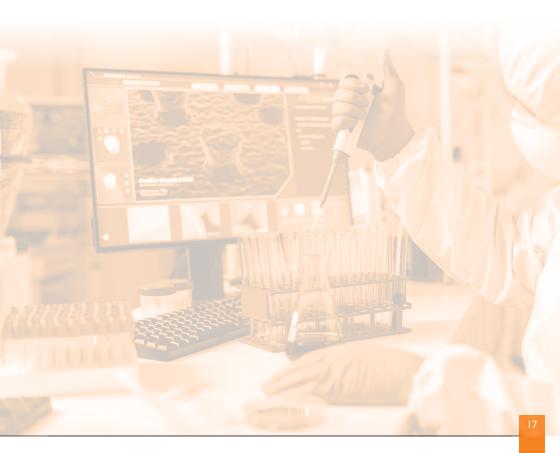
Dr Maserumule has produced several peer-reviewed publications, patents, and diagnostic device prototypes and products. In April 2024, she and her team submitted an HIV RDT for World Health Organization prequalification. She is a frequent speaker at international forums on health products innovation and manufacturing in Africa and was recently invited to be part of the Global Health Labs Innovation Speakers series.

As second-in-command at the Mintek Health Platform, Dr Maserumule leads over 20 individuals, including principal/senior scientists, scientists, postdoctoral students, and undergraduate students. She oversees the funding, research activities, and reporting for the NIC Biolabels Unit, which includes research and development at Mintek and the

University of the Western Cape. She has successfully mentored one postdoctoral fellow and is currently supervising one PhD candidate and one master's student.

Dr Maserumule has received several honours, including the Innovation hub Biotech Fundi Young Researcher Award in 2018, the Master's Fellowship Award at the 2013 South African Women in Science Awards, the Cambridge Commonwealth Trust PhD Scholarship, and accolades in national and international entrepreneurship competitions. In 2022 she was recognised by AfricaBio as a Rising Star in Health Biotech in Africa.

As a research scientist and innovator in molecular immunity, and medicine and biotechnology, Dr Maserumule serves on the Mintek Health Steering Committee and is part of the faculty for AfricaBio's BIO Africa Student Academy and Biotech Start-up Programmes.



### HUMANITIES AND SOCIAL SCIENCES – DISTINGUISHED WOMAN RESEARCHERS



Prof. Helena Barnard

Prof. Helena Barnard is a full professor at the Gordon Institute of Business Science (GIBS) at the University of Pretoria, where she heads the doctoral programme.

Prof. Barnard's research focuses on innovation and international business, particularly in Africa. She studies how knowledge, technology, organisational practices and innovation transfer between more and less developed countries. Her work examines both organisational mechanisms, such as emerging multinationals and internet-enabled businesses, and individual mechanisms like scientific collaborations, the diaspora, and doctoral training. To address the lack of African perspectives in management scholarship, she redesigned the GIBS doctoral programme to develop African voices in business and management research. Under her leadership since 2013, GIBS has produced nearly 90 doctorates and received support from the Canadian International Development Research Centre and the British Council/Department of Higher Education and Training.

Prof. Barnard is the founding chair of the Emerging Markets Shared Interest Group of the Academy of International Business (AIB) and previously served as vice-president (Administration) of the AIB until 2020.

A leading scholar on business in Africa, Prof. Barnard is a mentor for researchers focused on Africa or emerging markets. She has published numerous editorials and perspective pieces on this topic. Her scholarly handbook for qualitative researchers in emerging

markets brings together 34 scholars globally to consolidate best practices for underresearched contexts. Passionate about supporting new scholarly voices, she hosts online paper development workshops for scholars across Africa.

With an NRF B2 rating, Prof. Barnard has authored over 60 peer-reviewed publications, including papers in top journals like the Journal of Management, Research Policy, and the Journal of International Business Studies. She has been an invited keynote speaker for various prestigious platforms, including the Center for Applied Research and Innovation in Supply Chain-Africa, the AlB Africa chapter, and the AlB Digitalisation Shared Interest Group. She has received numerous international accolades, such as the Dunning Fellow at the University of Reading (2018/2019) and the Distinguished Editor award from the Management and Organization Review Journal (2021). Her paper with Mamabolo on religion as an institution in African business won the Best Paper award from the Journal of World Business in 2023.

Prof. Barnard has supervised 14 PhDs to completion, including eight women, eight black, and two Indian scholars, along with over 50 master's students. She currently supervises seven PhD and five master's students. She serves as associate/area editor for the Academy of Management Perspectives and the Journal of International Business Policy. She has previously completed terms at the Africa Journal of Management and Management and Organization Review, where her emphasis was on developing African-focused research in the management field.





#### Prof. Pragashnie Govender

Prof. Pragashnie Govender is a full professor of occupational therapy and serves as the academic leader of research in the School of Health Sciences at the University of KwaZulu-Natal, where she oversees eight professional health science disciplines. Her scholarly focus is primarily on paediatrics, particularly in early detection and interventions in child health.

As a first-generation graduate and one of the youngest occupational therapy professors in South Africa, Prof. Govender has achieved significant recognition in her field. She holds an NRF Y-rating and has authored nearly 100 peer-reviewed publications in prestigious international journals. Her work has earned her several accolades, including the Bongani Mayosi National Health Scholars Programme award from the SAMRC in 2013, two NRF Research Excellence Awards, and the Venus International Healthcare Awards OT Researcher of the Year award in 2019. She has also been a finalist in the 2020 NSTF-South32 Awards.

Prof. Govender's impact extends beyond her research through her dedication to mentorship. Over the past decade, she has guided one postdoctoral fellow, seven PhD, 36 master's, and 85 honours students, with a strong focus on empowering black female scholars. Many of her mentees have progressed to significant academic and managerial roles, contributing to the transformation of their respective fields.

Prof. Govender is registered with several professional organisations, including the HPCSA, World Federation of Occupational Therapists, Occupational Therapy Africa Regional Group, Occupational Therapy Association of South Africa, Organization for Women in Science for the Developing World, South African Medico-Legal Association, and South African Institute for Sensory Integration. She also serves as assistant editor of the South African Journal of Occupational Therapy and has participated in numerous national and international scientific committees.

Her commitment to developing the next generation of professionals, especially young women, is deeply rooted in her upbringing by strong women. Prof. Govender's dedication to inclusivity and empowerment is not only professional but personal, as she strives to pave the way for her daughter with special needs and others to realise their potential.

#### **Prof. Caroline Ncube**



Prof. Caroline Ncube is a full professor of intellectual property (IP) law and holds the DSI/NRF South African Research Chair in IP, Innovation and Development at the University of Cape Town (UCT). Prof. Ncube is a prominent member of several influential bodies, including the UN Economic Commission for Africa's African Policy Research and Advisory Group on Science, Technology and Innovation, the Advisory Board of the African Network of International Economic Law, the ASSAf, and the AU Scientific Technical Research Commission Taskforce on IP Protection in Joint Research and Collaboration During Outbreaks. She also serves on the African Continental Free Trade Area (AfCFTA) trade and industrial development advisory council.

Prof. Ncube has provided expert and technical advice to various organisations, including the World Intellectual Property Organization and the Southern African Development Community (SADC). Her research primarily focuses on IP law and its alignment with socio-economic goals in African states, emphasising innovation in the informal sector. Her contributions have significantly influenced law and policy across Africa, leading to her active participation in several advisory boards and panels.

As a co-leader of the award-winning Open African Innovation Research network, Prof. Ncube has helped build robust scholarship on the continent. She holds an NRF B2 rating and has co-authored or co-edited seven books, 37 peer-reviewed journal articles, 37 book chapters, and 22 other publications, including policy briefs. Her work is featured in leading IP journals such as the Journal of Intellectual Property Law & Practice and The WIPO Journal. She is a sought-after keynote speaker for international events, including plenary sessions at the WIPO Standing Committee on Copyright and Related Rights.

She has successfully mentored four postdoctoral fellows and supervised 12 PhDs, 30 master's, two postgraduate diplomas, and five LLB students. She currently supervises six

PhD and six master's students. Her dedication to mentorship has significantly impacted the academic and professional development of numerous scholars.

Prof. Ncube serves on the editorial boards of several prestigious journals, including the South African Intellectual Property Law Journal, African Journal of International Economic Law, Law, Technology and Humans, Journal of World IP, and The African Journal of Intellectual Property. Nationally, she is on the editorial boards of the Journal for Corporate and Commercial Law and Practice, African Journal of Information and Communication, and UCT Law's Contemporary Studies in Legal and Applied Research series.

Prof. Ncube's extensive expertise and contributions to the field of IP law have positioned her as a leading figure in shaping law and policy in Africa, promoting innovation, and fostering academic excellence.





Prof. Lieketseng Ned is an associate professor of Disability and Rehabilitation Studies in the Department of Global Health at Stellenbosch University. Prof. Ned also heads the Division of Disability and Rehabilitation Studies and is the editor-in-chief and founder of the African Journal of Disability. Her research focuses on disability-inclusive health systems, community-based rehabilitation, critical disability studies, decolonial health and education, and indigenous methodologies.

In 2022, Prof. Ned co-established the Disability Research Hub at Stellenbosch University as a co-founding director. She leads efforts to expand capacity for transdisciplinary research, strengthen ties between African and international researchers, and secure funding for large-scale disability research. She is the incoming chairperson of the African Network of Evidence-to-Action on Disability, which focuses on translating evidence into action.

Prof. Ned's work has garnered national recognition, including being named as one of the Mail & Guardian Top 200 Young South Africans in 2019 and awards from the NRF and SAMRC in 2020. Internationally, she has reviewed for 14 journals and Routledge book proposals. She recently published the International Routledge Handbook in Disability and Global Health as lead editor:

Prof. Ned has authored nearly 40 peer-reviewed publications in leading journals, such as Human Resources for Health, Disability Studies Quarterly, Global Health Action,

and the Journal of Black Studies. She frequently delivers keynote speeches and lectures internationally. She has received numerous national and international research grants, including from the Arts and Humanities Research Council (United Kingdom Research Initiative) in 2023, Special Olympics International in 2023, and the Sexual Violence Research Initiative in 2024.

Prof. Ned has successfully mentored two postdoctoral fellows, supervised nine master's students, and currently supervises six PhD and seven master's students, most of whom are women. She has also been involved in consultancies, including for the FirstRand Foundation's corporate social investments, on mainstreaming disability and designing for inclusiveness.





Prof. Sisanda Nkoala is a distinguished researcher and leader in rhetoric and media studies. Prof Nkoala is vice-president of the South African Communications Association and secretary-general of the African Journalism Educators' Network. Her expertise has led to various significant roles, including vice chair of the Media Education Research Section of the International Association of Media and Communications Research, the Board of Brand South Africa, and the Film and Publications Board Tribunal. She has also been a visiting scholar at North Carolina State University and trained AU Media Fellows.

Prof. Nkoala holds a Y2 rating from the NRF and has authored over 30 peer-reviewed publications in leading international journals. She has presented at more than 30 conferences, securing over R1 million in research grants. Her research primarily focuses on rhetoric, media, and digital technologies, with an emphasis on using digital tools for social engagement, multilingualism in journalism education, and the impact of technology on traditional media. She is dedicated to decolonising knowledge production and has received several awards for her work on digitising the Early South African Black Press texts.

Prof. Nkoala leads a multi-country research project titled "Bridging the Academic-Journalistic Gap in African Media: A Multi-Case Study" and a multi-state research project titled "An Underexplored Interplay: Emotions and Radio News in Africa". These projects examine the relationship between academic research and journalistic practice in Africa and the interplay of radio, emotions and news in the African context.

A former award-winning journalist, Prof. Nkoala now serves as a public representative on the South African Press Council and is a member of the Education and Training Committee of the South African National Editors' Forum. She is committed to community engagement and has organised numerous workshops and webinars on media ethics, science communication, and inclusivity in South African news media. Her expertise has led to interviews with various media outlets, including the SABC, Cape Talk, Radio 702, Sunday Times, and Newzroom Afrika.



Prof. Tlou Ramoroka is a full professor of development planning and management at the University of Limpopo. Prof. Ramaroka's research focuses on urban and rural development, settlement planning, land use management, and educational information and communications technology governance. Her work at the Human Sciences Research Council has contributed to policy development for various organisations, including the Department of Correctional Services (DCS), the Office of the Public Service Commission, the City of Johannesburg (COJ), the Department of Women, Youth and Persons with Disabilities (DWYPD), and the Limpopo Department of Basic Education.

Prof. Ramoroka's notable contributions include a study on the feasibility of electronic monitoring in the DCS, aimed at reducing overcrowding in correctional centres and recidivism. Despite challenges such as limited network and electricity connections, the study indicated a need for electronic monitoring in South Africa. For the COJ, she conducted a feasibility study on investing in innovative urban agriculture technologies to improve food security. Her work for the DWYPD evaluated the implementation of Education White Paper 6, identifying successes and challenges in providing inclusive education and support services for children and youth with disabilities. Another study developed a gender mainstreaming strategy inclusive of youth and disability variables.

Prof. Ramoroka has authored 22 peer-reviewed publications in journals such as Development Southern Africa and the Journal of Science, Technology, Innovation and Development. She has successfully supervised one PhD, six master's, and 17 honours students, and currently supervises two PhD students and one master's student.

**DOCTORAL FELLOWSHIPS** 

### Dr Gabriella Hyman (Natural Sciences)



Dr Gabriella Hyman holds an MBBCh with distinction from the University of the Witwatersrand, and a Master of Public Health (Global Health) from Harvard TH Chan School of Public Health. Currently pursuing a PhD at the University of the Witwatersrand, Hyman's research is on surgery and public health, specifically the identification of critical indicators of the South African public health system's capacity to deliver surgical care.

Her research investigates key performance indicators affecting the delivery and quality of surgical care in the South African public health sector. Through a multi-method approach, she aims to enhance the effectiveness and efficiency of surgical services, assessing systemic challenges and proposing sustainable health system policy reforms and innovations. Dr Hyman evaluates the impact of policy interventions, resource allocation, and innovative economic strategies to expand health system capacity. Her initiatives include developing tools, implementation methodologies and databases, collaborating with international partners such as the UK's National Health Service to strengthen health system governance.

Dr Hyman's work aims to foster economic reform and innovative strategies to advance sustainable health system strengthening and equitable surgical care. She has innovated health worker training pathways, and integrated a designated science, technology, engineering and mathematics (STEM) Master of Public Health at Harvard, focusing on comparative health systems, economics, and public health leadership. Her efforts align with promoting an innovation economy and advancing women's leadership in STEM.

Recognised as the 2019 intern doctor of the year at Chris Hani Baragwanath Hospital, Dr Hyman has garnered multiple awards, including placements on the Dean's Merit List and University Council Merit Scholarships. She was one of the first recipients of the SAMRC's Institutional Clinician-Researcher Programme Scholarships and a 2022 Regional Finalist for the Rhodes Scholarship for Southern Africa. She is a Paul Farmer Global Surgery Research Fellow at Harvard University (2023-2025). Dr Hyman has published extensively and presented her research globally, contributing significantly to surgical care and health system development.



### Ms Sinenhlanhla Mthembu (Natural Sciences)

Ms Sinenhlanhla Mthembu is a PhD student at the SAMRC in collaboration with North-West University. Mthembu holds an MSc in Biochemistry from the University of Zululand. Her current research focuses on type 2 diabetes and cardiovascular health, specifically exploring the effects of dyslipidaemia and statin-related dysregulations on co-enzyme Q10 biosynthesis. She is also investigating the potential therapeutic properties of dietary compounds such as aspalathin from rooibos and sulforaphane from broccoli, aiming to understand their cardioprotective effects.

Mthembu aims to contribute valuable insight into cardiovascular health through her research, with the goal of developing innovative therapies and products that can enhance patient outcomes and foster economic growth. She is particularly passionate about empowering women to make informed decisions about their cardiovascular health. By studying the roles of overnutrition, statins and dietary compounds in heart health, she seeks to empower women to manage their cardiovascular risk factors proactively and advocate for their healthcare needs.

Recognised in 2018 as a top achiever at the Moses Kotane Institute and in the Faculty of Science and Agriculture at the University of Zululand, Mthembu has authored or coauthored 22 peer-reviewed articles in journals such as Pharmacological Research and Frontiers in Endocrinology. She has also presented her research at international and national conferences, including the South African Society for Biochemistry and Molecular Biology Congress, the Biomedical Research and Innovation Platform Symposium, the Early Career Scientist Conference, and the International Congress of Endocrinology.

Mthembu's multifaceted research endeavours and academic achievements underscore her commitment to advancing cardiovascular science and promoting women's health through scientific discovery.

## Ms Nokukhanya Thembane (Indigenous Knowledge Systems)



Ms Nokukhanya Thembane is a registered medical laboratory scientist specialising in clinical pathology with the HPCSA. Thembane holds an MTech in Biomedical Technology (cum laude) from Tshwane University of Technology, an MBA from Regent Business School, a Diploma and BTech in Biomedical Technology (both cum laude) from Mangosuthu University of Technology (MUT), and a PGDip in Educational Management (cum laude) from the Management College of South Africa.

She is currently pursuing a PhD at the University of KwaZulu-Natal's Schools of Laboratory Medicine and Traditional Medicine under Prof. Nceba Gqaleni, in collaboration with University College London. Thembane's research focuses on medical biochemistry, specifically the antidiabetic potential of combined aqueous leaf extracts from medicinal plants. Her studies include in-vitro and in-vivo evaluations of phytochemical constituents, cell viability, cytotoxicity, glucose utilisation, insulin secretion and antioxidant activity, as well as in-vivo experiments on Sprague Dawley rats to assess treatment efficacy and safety. Her goal is to develop effective treatments for type 2 diabetes, assessing the critical need for alternative therapies.

Thembane's research not only validates anecdotal evidence from traditional medicine practitioners, but also preserves indigenous knowledge systems through scientific collaboration. She has been received awards such as the MUT Deputy Vice Chancellor (DVC) Novice Researcher Award (Bronze) in 2023, the MUT DVC Teaching Excellence Award in 2022, the Faculty of Education Vice Chancellor Academic Excellence Award in 2022, and the Best Research Project Award at the International Translational and Regenerative Medicine Conference in Italy in 2018. She was also recognised at the Society of Medical Laboratory Technologists in South Africa Congress in 2016.

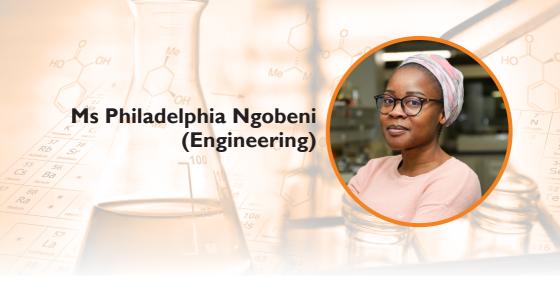
Thembane has authored 15 papers and book chapters in clinical pathology and medical education. She has presented her findings at prestigious international and local conferences, including the International Society for Ethnopharmacology Congress and the African Phytomedicine Scientific Society Congress.



#### Ms Mienke Knipe (Humanities and Social Sciences)

Ms Mienke Knipe is a PhD candidate in transport economics at Stellenbosch University. With a dynamic career spanning the public, private and academic sectors, Knipe was one of the youngest lecturers at Stellenbosch University. Her extensive project engagements include roles in Comprehensive Integrated Transport Plans, the Provincial Land Transport Framework, MyCiti and Dial-a-Ride, collaborating with entities such as the City of Cape Town, Stellenbosch Municipality, Intercape and the World Bank.

Knipe's professional journey reflects her expertise in revenue optimisation. She has served as a revenue manager for a regional airline and led passenger satisfaction initiatives for two prominent long-distance bus operators in South Africa. Currently focused on completing her PhD, she anticipates concluding her five-year academic journey in 2025. After graduation, she looks forward to rejoining the passenger transport sector.



Ms Philadelphia Ngobeni is pursuing her PhD in civil engineering at the University of Cape Town(UCT), focusing on industrial wastewater treatment in the context of a circular bioeconomy. With over a decade of experience in the water sector, Ngobeni has collaborated with leading organisations such as Rand Water, South32, Cape Peninsula University of Technology and UCT. Her areas of expertise include water and wastewater treatment, process optimisation, and research and development.

In addition to her academic and professional roles, Ngobeni is deeply committed to advancing the green economy and fostering inclusive, sustainable development. She actively participates in youth empowerment initiatives and serves as the Western Cape Finance Lead for the Water Institute of Southern Africa's Young Water Professionals, influencing the future of the water sector. Her leadership has been recognised by Black Women in Science, the GreenMatter Fellowship Programme, the Kofi Annan Foundation Changemakers Initiative and the BRICS Young Scientist Forum.

Ngobeni aims to use her extensive knowledge for inclusive socio-economic development, focusing on empowering marginalised communities and promoting environmental stewardship to shape a more equitable future through innovative water management and green technologies.



### Ms Shavani Naicker (Astronomy)

Ms Shavani Naicker is currently pursuing a PhD in Applied Mathematics at the University of KwaZulu-Natal (UKZN) School of Mathematics, Statistics and Computer Science, which is part of the College of Agriculture, Engineering and Science. Naicker's research focuses on relativistic astrophysics and astronomy, with particular emphasis on modified gravity theories and general relativity.

Before starting with her PhD, Naicker achieved an MSc in applied mathematics (summa cum laude) from UKZN. She also has a BSc degree and a BSc Honours in astronomy and applied mathematics. Her academic journey reflects a strong interest in general relativity, modified gravity theories and gravitational collapse studies.

Naicker has contributed three publications to esteemed research journals. She also served as an ad hoc lecturer for first-year mathematics courses at UKZN for three years, enhancing her experience in teaching and academic mentorship.





Ms Kelebogile Gasealahwe earned a MSc in astrophysics and space science from UCT. She is currently pursuing a PhD at the same institution, focusing on stellar astrophysics, with an emphasis on X-ray binaries.

Gasealahwe's doctoral research centres on low mass neutron star X-ray binaries, specifically investigating their radio emissions using the MeerKAT telescope. She explores the physical mechanisms responsible for the relativistic outflows (jets) observed during X-ray outbursts. Her work aims to advance understanding of neutron star X-ray binaries and the processes underlying jet formation during outburst events. By comparing these systems to well-known black hole counterparts, her research provides comprehensive insights into X-ray binaries. She emphasises the significance of studying X-ray binaries in the radio wavelength, highlighting the potential for new discoveries as technical infrastructure improves and opportunities for women in the field expand.

She has received several awards in her academic career, including a National Astrophysics and Space Science Programme postgraduate scholarship (2018-2020), an NRF postgraduate scholarship (2021-present), a South African Astronomical Observatory-Southern African Large Telescope PhD scholarship (2020), and membership of the Golden Key International Honour Society (2021). She also received the ThunderKAT of the Year award (2022) for her contributions to the MeerKAT radio telescope's ThunderKAT survey.

Gasealahwe has published papers in high-impact journals like Monthly Notices of the Royal Astronomical Society and The Astronomer's Telegram, and has presented her research at various international and national conferences, including the McDonnell Center for the Space Sciences seminar series, the South African Radio Astronomy Observatory postgraduate conference, and High Energy Astrophysics Southern Africa Conference.

#### **MASTER'S FELLOWSHIPS**



Ms Pearly Joubert (Natural Sciences)

Ms Pearly Joubert received her BMedSc Honours in neuroscience and physiology magna cum laude from UCT in 2022. Joubert is currently pursuing an MSc in neuroscience at UCT, researching the impact of adjunctive acupuncture on brain structural-functional connectivity coupling and motor performance in ischaemic stroke patients. Her work aims to enhance understanding and improve patient outcomes.

Joubert received a UCT Plus Silver Leadership Award in 2023 as chairperson of the UCT Cortex Club. She currently leads Women in Synthetic Biology Africa and UCT's Student Women Economic Empowerment Programme, promoting STEM leadership and entrepreneurship among students. She co-authored "Bridging the Gap: Generalising State-of-the-Art U-Net Models to Sub-Saharan African Populations" and gave presentations at IndabaX, UCT's Neuroscience Institute Research Day Symposium, and the Organization for Human Brain Mapping Conference. Her team won first prize at the BRICS Future Skills Challenge for developing AbantuArm, a robotic arm for stroke rehabilitation, and she serves as Global Biotech Revolution Ambassador for Africa, advocating gender equality in biotechnology.

### Ms Wendy Mabhulusa (Natural Sciences)



Ms Wendy Mabhulusa is currently pursuing an MSc at the Institute for Nanotechnology and Water Sustainability in the University of South Africa's College of Science, Engineering and Technology. Mabhulusa completed her BSc Honours in chemistry at the University of Fort Hare in 2021.

Mabhulusa's research interests encompass electrochemistry, catalysis, nanotechnology and materials science. Her current focus lies in synthesising nanomaterials for applications in fuel cells. She is driven by the belief that assessing global challenges such as the energy crisis requires diverse representation, and that her dedication will make a lasting impact.

Mabhulusa has presented her research at platforms such as the 15th Green Chemistry Summer School, the international Fame Lab competition, the Black Women in Science-SAWiSA Conference on Climate Change, and the Young Scientists Conference on Climate Change and the Earth System. Mabhulusa is actively involved in Black Women in Science and other women in science organisations. Her academic contributions include three research papers published in peer-reviewed international journals, highlighting her commitment to advancing knowledge in her field.



#### Ms Nonkululeko Malomane (Natural Sciences)

Ms Nonkululeko Malomane earned a BSc Honours in chemistry in 2021 from the University of Venda. Currently pursuing a MSc in chemistry at the Institute for Nanotechnology and Water Sustainability, part of the University of South Africa (Unisa), her research focuses on synthesising and applying porphyrin conjugates with nanostructured materials for water disinfection and biofilm inactivation.

Malomane's current investigation centres on the photodynamic antimicrobial activity of porphyrin conjugates combined with titanium dioxide nanoparticles, targeting biofilms in water storage systems. Her research is aimed at advancing innovative and sustainable solutions for water treatment, to benefit resource-constrained environments and enhance public health.

She was the Best Oral Presenter at the 2023 Unisa Innovation Festival in the Natural and Physical Science (Master's Category) and came second in the 2020 Honours Oral Presentation Category at the University of Venda.

Malomane has contributed to scientific literature and literacy with publications in the Journal of Porphyrins and Phthalocyanines and Frontiers for Young Minds. Recently, she filed a patent for her work on antimicrobial photodynamic inactivation for the inhibition of biofilms.

She has also showcased her research at various national conferences, for example, in 2023, the BIO Africa Convention, the Rhodes Postgraduate Conference, the South African Chemical Institute Central Section's Young Chemists Symposium, the Unisa Innovation Festival, and the 4th Gauteng Catalysis Forum Seminar.





Ms Anele Mthembu holds a Master's in town and regional planning from the University of KwaZulu-Natal (UKZN), along with a Postgraduate Diploma in disaster management from the University of the Free State (UFS). Currently pursuing a Master of Disaster Management at UFS, her research focuses on integrating risk-informed development and nature-based solutions into sustainable human settlements in eThekwini Metropolitan Municipality.

Mthembu's study aims to align built environment practices with natural sciences to mitigate disaster risks and adapt to climate change impacts. Given the frequent hazardous events in South Africa, her research assesses the substantial damage costs incurred by the human settlements sector, emphasising the importance of integrating risk-informed development and nature-based solutions to enhance community resilience.

Mthembu's academic achievements include recognition as the top student for Environmental Planning and Regional Development modules at UKZN in 2017. She received awards for excellence in the Planning Law, Professional Practice, and Urban Reconstruction modules in 2018, and achieved a distinction for the Information Technology in Disaster Management module at UFS in 2022.

Mthembu has contributed papers to Town and Regional Planning and Progress in Human Geography. Her research aligns with the theme of fostering innovation in the economy through novel approaches that integrate natural sciences and built environment practices to build resilience in urban settings like eThekwini Municipality.



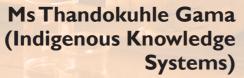
### Ms Kathleen Charlton (Astronomy)

Ms Kathleen Charlton completed her BSc Honours in 2022 at UCT. She is currently pursuing a MSc in astronomy at UCT, focusing on galaxy evolution, active galactic nuclei (AGN) and neutral hydrogen gas (HI).

Charlton investigates the relationship between HI and AGN through the detection of HI absorption in galaxies using observations from the MeerKAT telescope in the MIGHTEE (MeerKAT International GHz Tiered Extragalactic Exploration) survey. She employs novel techniques to blindly search for this absorption, aiming to advance our understanding of galaxy evolution and promote innovative methodologies in South African astronomy.

She achieved 95% for her honours thesis and ranked top in her computer methods module in 2022. She also excelled in extragalactic astronomy during her undergraduate studies, earning recognition as the top student in her course in 2021. Her achievements led to her selection for a prestigious internship at ASTRON, the Netherlands Institute for Radio Astronomy, in 2023.

Charlton is already contributing to scientific literature, with a paper, "Spectral ages of giant radio galaxies with MeerKAT", currently under team review for submission to a high-impact journal. She has presented her research at national events like the SARAO bursary conference in 2022, and at international gatherings such as the Bristol Collegiate Research Society MIGHTEE Symposium in Bristol in 2023 and a LOFAR and MeerKAT Synergies workshop in Stellenbosch in 2024. She is scheduled to present her work at the 2024 International Astronomical Union General Assembly.





Ms Thandokuhle Gama obtained a BSc in forensic science in 2019 and a Bachelor of Medical Science Honours (pharmacology) in 2020 from the University of the Free State (UFS). She is currently pursuing a Master of Medical Science in pharmacology, focusing on diabetes treatment using traditional medicine, at the same institution.

Gama investigates the potential induction of stem cell differentiation from embryonic carcinoma cells into pancreatic insulin-producing  $\beta$ -cells using extracts from plants commonly used in traditional medicine. Her research aims to advance diabetes treatment beyond management to potential cures through innovative methods.

In 2016, she was Dux at Vryheid Landbou High School and a Top 14 finalist in the UFS Matriculant of the Year competition. In 2018, she received an Allan Gray Orbis Foundation Fellowship and became a member of the Association of Allan Gray Fellows. Gama was a runner-up in the central region FameLab competition in 2021 and finished as a semi-finalist in the nationals. She was first runner-up presenter at the Three-Minute Thesis Competition for her faculty.

Gama has presented her research at conferences such as the 21st International Congress of the International Society for Ethnopharmacology in 2022 and the 7th All Africa Congress of Basic and Clinical Pharmacology in 2021, as well as the 54th South African Society for Basic and Clinical Pharmacology Conference 2021.



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