

# Motivational and role model talks

11 September 2023

## Speakers' biographies:



10:10-10:40

*Access to opportunities for impact and leadership  
in STEM*

**Prof Usisipho Feleni** is an Associate Professor at iNanoWS, UNISA. Her research expertise is on electrochemical biosensors, electrocatalysis/catalysis for monitoring disease biomarkers (pathogens for SARS-CoV-2), pharmaceutical contaminants in water and carbon capture. She has published more than 60 papers in the areas of various nanomaterials and their applications in electrochemical sensors, electrocatalysis and photocatalysis. Additionally, she has graduated 3 MSc students at UNISA and is currently supervising/co-supervising 8 MSc, 8 PhD students and mentoring 1 Postdoctoral fellow. Prof Feleni obtained external research grants from TIA, NRF, SAASTA, TESP, RSC, WiR and University of Michigan STEM-Africa Initiative. Her recent awards and recognition include: (i) Winner of the 2023 South African Women in Science "Distinguished Young Women Researchers category", (ii) 2022/2023 TW Kambule NSTF Award: Emerging Researcher, (iii) Principal's Award for Excellence in Research 2022; (iv) the University of Michigan African Presidential Scholars (UMAPS) Fellowship 2021/2022; (v) the South African Department of Science and Innovation (DSI) TATA Women in Science, Engineering and Technology Award 2016; and (vi) the L'Óreal-UNESCO Women in Science Doctoral Fellowship Awards 2016.



10:40-11:10

*Outliers, living with success*

**Prof Salome Maswime** is a Professor and the Head of the Global Surgery Division at the University of Cape Town (UCT); an obstetrician and gynaecologist. She is a member of the Academy of Science of South Africa (ASSAf), and chairperson of the Health Systems Trust Board. After specializing, she completed her MMED and PhD in Obstetrics and Gynaecology. She did a postdoctoral research fellowship at the Massachusetts General Hospital and Harvard Medical School. She has a Diploma in Project Management, a Certificate in Leading Organisations and Change from Massachusetts Institute of Technology (MIT), a Certificate in Programme Management from UCT, and a certificate in Higher Education Teaching from Harvard. Salome Maswime is a clinician-scientist and her research is about access to safe and timely surgery. She has received numerous awards for her research contribution to maternal and women's health, including the trailblazer and young achiever award by the President of South Africa in 2017, she was listed in the Mail&Guardian's 50 most powerful women in South Africa in 2020, and as a Young Shaper of the Future of Health and Medicine by Encyclopedia Britannica in 2021, the NSTF-SAMRC Clinician-Scientist Award and the Excellence in Health Award from the Charlotte Manny-Maxeke Institute in 2023.

**Prof Nosipho Moloto** is a full Professor of Inorganic Chemistry at the University of the Witwatersrand (Wits) where she holds the NEDBANK-DSI SARCHI Chair in Energy Materials. Nosipho obtained her Master's in Nanotechnology studying quantum dots at the University of Zululand with links to the University of Manchester. She then obtained a PhD in Nanotechnology still working on quantum dots, from the CSIR/Wits (2008-2010). This was followed by a postdoctoral stint at MIT in the US (2010). She was a visiting senior scientist at the Institute for Photonic Sciences (Spain) working with the Functional Optoelectronic Nanomaterials Group.

In 2014 Nosipho was awarded the Distinguished Young Woman in Science



11:10–11:40

*Attributes required to be successful in the 4IR era*

(Physical and Engineering Sciences) by the Ministry of Science and Technology (South Africa) and in 2016 she was awarded the National Research Foundation (NRF) Research Excellence Award for Early Career/Emerging Researchers and recently, in 2023, the NSTF-South32 Award for Engineering Research Capacity Development. From Wits University, she has received the Friedel Sellschop Research Excellence Award for emerging researchers and the Faculty of Science Supervision Award in 2021. Nosipho is an associate editor for the South African Journal of Chemistry (Nanotechnology) and she has been on selection committees for the Lindau Laureates Meetings (Germany), Serrapiheira Institute's The Science Program (Brazil) and the King Faisal Prize (UAE). Nosipho Moloto has co-authored more than 100 papers on the syntheses of semiconductor nanomaterials for water, energy, biomedical and sensor applications.



11:40-12:10

Starting a business with a scientific idea

**Mr Tshepo Mangoele** is a chemical engineer who spent several years honing his skills with globally recognised companies. He thrives on working as part of a team and enjoys taking on leadership roles. Both skills have served him well as the CEO of a start-up. An entrepreneur and changemaker, Tshepo founded LignOrganic (PTY) Ltd. in 2017, a South African-based company and the first on the continent to produce sulphur-free lignin. Through an innovative process using green technology, LignOrganic utilises waste plant biomass to produce soda lignin, hemicelluloses, bioplastics, and organic liquid soaps aimed at promoting the wider use of sustainable and eco-friendly solutions, particularly in Africa.

His training as a chemical engineer enhanced his problem-solving acumen. He enjoys finding solutions for both technical and design problems and applies his unique blend of scientific and creative thinking to his daily business operations. Coupled with his technical background, Tshepo also does abstract art painting, and creative writing and is into playing various sports.

	<p>His niche area of expertise is making processes greener through the use of biomimicry and green chemistry. Tshepo's vision for his company is to spearhead the global transition from fossil fuels to more renewable plant-based solutions by building the first ever Total Biomass Valorisation Biorefinery.</p>
<div data-bbox="300 571 713 1182" data-label="Image"> </div> <div data-bbox="430 1216 584 1247" data-label="Text"> <p>12:10-12:40</p> </div> <div data-bbox="221 1281 793 1357" data-label="Text"> <p><i>What is the difference between being educated and being trained?</i></p> </div>	<p><b>Prof Jonathan Jansen</b> is Distinguished Professor of Education at the University of Stellenbosch and President of the Academy of Science of South Africa (ASSAf). He started his career as a Biology teacher in the Cape and holds a PhD from Stanford as well as honorary doctorates from Edinburgh, Vermont, Cleveland State and the University of Cape Town (UCT). He is the author of the award-winning book, <i>Knowledge in the Blood</i> (Stanford University Press) and his recent books include <i>The decolonization of knowledge</i> (Cambridge University Press, with Cyrill Walters) and <i>Corrupted: A study of chronic dysfunction in South African universities</i> (Wits University Press). He was recently elected to membership of the American Academy of Arts and Sciences and holds an A1 rating from the National Research Foundation (NRF).</p>
<div data-bbox="300 1402 713 2002" data-label="Image"> </div>	<p><b>Dr Philemon Mjwara</b> is the Director General (DG) of the Department of Science and Innovation (South Africa). Dr Mjwara has served as the DG of the Department of Science and Technology (DST) since April 2006. In this capacity, he is responsible for all policy development in the science and technology sector in South Africa, as well as the portfolio management and governance of South Africa's systems of government laboratories. His responsibilities further include the management of South African science and technology official development assistance and the driving of the implementation of South Africa's National Research and Development Strategy and the management of South Africa's new DST 10 Year Innovation Plan.</p>

<p style="text-align: center;">12:40-13:10</p> <p style="text-align: center;"><i>The National System of Innovation and how YOU are part of it</i></p>	<p>Prior to his appointment at DST, Dr Mjwara was the Group Executive: Research and Development; Strategic Human Capital Development at the Council for Scientific and Industrial Research (CSIR). At the CSIR, he was responsible for assisting the CSIR in strengthening its science and technology base including Human Capital Development. In 2001, Dr Mjwara joined the National Laser Centre (NLC) as its head, where he was instrumental in growing the centre's activities since its inception and in creating a network of centres in Africa, i.e. African Laser Centre (ALC).</p> <p>He also held positions at the then Department of Arts, Culture, Science and Technology; as Director of Technology; at the University of Pretoria as professor of S&amp;T policy and at the Universities of the Witwatersrand, South Africa and Fort Hare as a physics lecturer. He was involved in the discipline of Management of Technological Innovation as well as in processes for policy formulation. He led a team that conducted the South African Technology Foresight project. He has published and presented numerous papers on physics, technology analysis and foresighting related topics. Dr Mjwara has served on various advisory councils and review boards. He currently serves on the Board of the World of Platinum of South Africa. He also serves on the Council of the University of Johannesburg (UJ).</p>
---	--