



# UNIVERSITY OF DAR ES SALAAM

## 11<sup>TH</sup> RESEARCH AND INNOVATION WEEK

9<sup>TH</sup> - 11<sup>TH</sup> JUNE 2026

### PROGRAMME

**Theme: Harnessing Tanzania's Mineral Wealth for Renewable Energy, Digital Transformation and Societal Security**

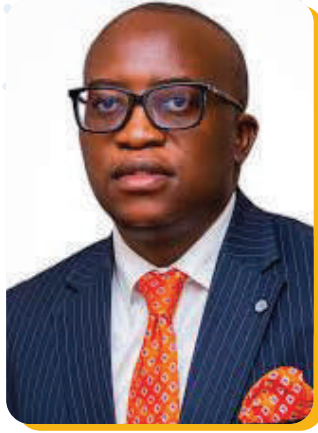


**Opening Ceremony**  
Venue: Nkrumah Hall



**Closing Ceremony**  
Venue: UDSM Library





**Hon. Anthony Peter Mavunde (MP)**  
**Minister, Ministry of Minerals**



**Prof. Carolyne Ignatius Nombo**  
**Permanent Secretary, Ministry of Education,  
Science and Technology**





**Prof. William A. L. Anangisye**  
Vice Chancellor, University of Dar es Salaam



**Prof. Nelson M. K. Boniface**  
Deputy Vice Chancellor - Research, University of  
Dar es Salaam



## INTRODUCTION

Since its inception in 2015, the University of Dar es Salaam (UDSM) Research and Innovation Week (RIW) has served as a premier platform for showcasing cutting-edge research, technological innovations, and creative solutions developed by researchers, students, and collaborators. Over the years, the event has evolved into a strategic forum that promotes multidisciplinary knowledge exchange, strengthens university–industry partnerships, and facilitates the translation of research outcomes into practical solutions for national and global challenges.

The 11th Research and Innovation Week (RIW) in 2026 is organized under the theme “Harnessing Tanzania’s Mineral Wealth for Renewable Energy, Digital Transformation and Societal Security.” This theme reflects Tanzania’s growing recognition of the strategic importance of its mineral resources in supporting sustainable development, technological advancement, and national resilience. Tanzania is endowed with diverse mineral resources including graphite, rare earth elements, lithium, nickel, gold, and other strategic minerals that are essential inputs in renewable energy technologies, digital infrastructure, and advanced manufacturing systems. As the global economy transitions toward green energy and digital economies, these minerals are becoming increasingly critical in powering solar panels, wind turbines, electric vehicles, energy storage systems, advanced electronics, and digital communication networks.

Within this evolving global context, universities play a crucial role in generating knowledge, developing innovative technologies, and guiding policy frameworks that ensure responsible and value-added utilization of natural resources. As Tanzania’s premier higher learning institution, UDSM is strategically positioned to contribute to this agenda through cutting - edge research, innovation, and knowledge transfer that link mineral resources to renewable energy technologies, digital transformation, and societal security. By fostering interdisciplinary research across fields such as engineering, geosciences, environmental science, information technology, economics, and social sciences, the University seeks to support national efforts to maximize the benefits of mineral wealth while ensuring sustainability, security, and inclusive economic growth.

The RIW 2026 therefore, aims to highlight how Tanzania’s mineral endowment can catalyze innovation ecosystems, strengthen technological capacity, and drive the transition toward renewable energy systems and digitally enabled economies. Through exhibitions, symposia, strategic dialogues, and collaborative engagements, the event will showcase research outputs and innovations that demonstrate the transformative potential of minerals in supporting sustainable energy, digital infrastructure, and societal wellbeing.

Furthermore, the theme aligns closely with Tanzania’s national development priorities, including Tanzania Development Vision 2050, the National Five-Year Development Plan (2026/27 - 2030/31), the African Union Agenda 2063, and the Sustainable Development Goals (SDGs). These frameworks emphasize sustainable resource utilization, industrialization, technological innovation, and energy transition as key drivers of socio-economic transformation.





Keynote Speaker

# Eng. Asa Mwaipopo

Fellow and President of the Institution of Engineers Tanzania

Eng. Asa Mwaipopo is a highly accomplished Tanzanian mining professional and an independent mining consultant with more than 30 years of experience in both the public and private sectors. He currently serves as the President of the Institution of Engineers Tanzania and also holds Non-Executive Director positions in government institutions and companies linked to the mining industry. Throughout his career, he has demonstrated strong leadership in mining operations, governance, sustainability, and strategic management within some of the world's leading mining organizations.

Over the years, Eng. Mwaipopo has worked with major mining companies including AngloGold Ashanti, African Barrick Gold, Mantra Tanzania and Acacia Mining. His professional journey began in government service as a Mines Inspector before transitioning to the private sector, where he rose through various technical, operational and executive leadership positions. These included roles such as Mining Engineer, Mining Operations Manager, Mining Manager, Mine General Manager, Group Sustainability General Manager and Managing Director, reflecting his broad expertise across the mining value chain.

Professionally, Eng. Mwaipopo is a Fellow and President of the Institution of Engineers Tanzania, a member of the Australasian Institute of Mining and Metallurgy, and a Registered Consulting Engineer under the Engineers Registration Board. He is also certified by the Institute of Directors Tanzania and is a member of the Tanzania Institute of Arbitrators. Academically, he holds a Bachelor of Science in Mineral Sciences and Mining Engineering from the University of Zambia and a Master degree from the Camborne School of Mines in the United Kingdom. Beyond his professional commitments, he enjoys playing golf, walking and reading books.





Keynote Speaker

# Prof. Agnes Mwakaje

Professor of Agriculture and Natural Resource Economics, UDSM

Prof. Agnes Mwakaje is a distinguished scholar, researcher, and academic specializing in agricultural and natural resource economics. She earned her Bachelor of Science in Agriculture from the Sokoine University of Agriculture, a Master's degree from the University of Reading, and a PhD from the University of London. She currently serves at the Institute of Resource Assessment of the University of Dar es Salaam as a Full Professor of Agriculture and Natural Resource Economics focusing on agriculture, renewable energy, climate change, natural resource management, and sustainable development. Through teaching, research, and supervision of postgraduate students, she has made significant contributions to academic advancement and policy dialogue in these fields.

Before joining academia, Prof. Mwakaje worked with the Ministry of Agriculture as a Planner in the Department of Planning and Marketing, where she was involved in agricultural planning and policy development. She also served at CRDB Bank as a Credit Supervisor, gaining valuable experience in financial management, credit administration, and development financing. These professional roles strengthened her interdisciplinary understanding of agriculture, rural development, and economic systems, which later became central to her academic and research work.

Prof. Mwakaje's research portfolio covers SMART agriculture, renewable energy systems, climate change adaptation and resilience, rural livelihoods, environmental impact assessments, and sustainable natural resource management. She has contributed extensively to national and international research initiatives and publications aimed at promoting environmental sustainability and improving rural livelihoods. In addition to her academic work, she has held several leadership positions including Director of Postgraduate Studies, Manager of Consultancy Bureau, and Director of the Institute of Resource Assessment at the University of Dar es Salaam. She also served as Acting Deputy Vice Chancellor (Academic) at the Mwalimu Nyerere University of Agriculture and Technology, where she contributed to institutional growth, academic leadership, and strategic development.



# Exclusive Symposium

**Theme:** Harnessing Tanzania's Mineral Wealth for Renewable Energy and Digital Transformation: Reflecting on UDSM's Research and Innovation Pathways toward Societal Security and Sustainable Development



**Dr. Magreth S. Dotto**  
Lecturer

Dr. Magreth S. Dotto, Ph.D., is a Lecturer in Mining Engineering at the University of Dar es Salaam with over 15 years of experience in academia and the mining industry. She earned her Ph.D. and Master's degrees in Mining Engineering from the University of Alberta and a Bachelor's degree with honors from the University of Dar es Salaam. Her research focuses on mine planning, equipment selection, and blast-induced fragmentation. Dr. Dotto is a registered Professional Engineer in Tanzania and has held leadership roles in TBS and IET Women Chapter while actively contributing to international mining and engineering professional bodies.



**Dr. Joseph Kihedu**  
Senior Lecturer

Dr. Joseph H. Kihedu is a Senior Lecturer at the Department of Mechanical and Industrial Engineering, College of Engineering and Technology, University of Dar es Salaam, in Tanzania. Dr. Kihedu has a background in Electro-Mechanical Engineering and Energy Engineering specialty. His research interests include renewable energy sources, energy conversion technologies, thermal energy storage, combustion of fuels, computational fluid dynamics and multiphase flow in pipelines. His research interests include renewable energy sources, energy conversion technologies, thermal energy storage, combustion of fuels, computational fluid dynamics and multiphase flow in pipelines. He has extensive experience in conducting inter-institutional and multi-national research projects covering South-South-North research partnership. He has worked widely on capacity building initiatives, students and staff exchange programmes, as well as joint curriculum development and reviews.





**Dr. Mathew Mndeme**  
Lecturer

Dr. Mathew Mndeme is a Lecturer at the Department of Computer Science and Engineering, College of Information and Communication Technologies, University of Dar es Salaam, with over 20 years of ICT experience in academia, government, and consultancy. A Commonwealth Scholar, he holds a PhD in Digital Health Systems from the University of Leeds and has contributed significantly to national ICT policies, e-government systems, and digital health projects in Tanzania. His expertise spans ICT governance, information systems, project management, digital transformation, and capacity building in both public and private sectors.

---



**Dr. Steven Kirama**  
Senior Lecturer

Dr. Stephen Luke Kirama is a Senior Lecturer at the Department of Economics, University of Dar es Salaam, and a Research Fellow at the Environment for Development Tanzania Centre. With over 12 years of experience, his expertise includes public sector, transport, health, and energy economics, as well as poverty analysis, monitoring and evaluation, and impact assessment. He previously served as a Senior Economist in Tanzania's Ministry of Communications and Transport and has led research and consultancy projects on natural resources, public spending, tourism, and infrastructure development.



# Strategic Partnership Dialogue

Strategic Partnerships for Sustainable Development:  
Leveraging Tanzania's Mineral Wealth for Renewable Energy  
and Digital Transformation to Enhance Societal Security.



## **Prof. Elisante Mshiu**

Associate Professor and  
Dean, SoMG

Prof. Elisante Elisaimon Mshiu is an Associate Professor of Geology at the University of Dar es Salaam, currently serving as the Dean of the School of Mines and Geosciences. He specializes in geological mapping, geological remote sensing, mineral exploration, GIS, applied geochemistry, and geothermal resources. Prof Mshiu holds a PhD in Geological Remote Sensing for Earth Resources Exploration from Martin Luther University Halle-Wittenberg in Germany, as well as an MSc in Geology and a BSc with Geology from the University of Dar es Salaam.

Prof. Mshiu has held several academic leadership positions, including Head of the Department of Geology and later Dean of the School of Mines and Geosciences. His leadership has contributed to advancing mining education, strengthening research activities, and enhancing community engagement initiatives within the School of Mines and Geosciences.

Prof. Mshiu is also active in professional organizations, currently serving as President of the Tanzania Geological Society (TGS) and Chairperson of the Tanzania Bureau of Standards (TBS) Mineral Exploration Committee. His research work focuses on areas such as geological remote sensing, geological mapping, mineral exploration, geothermal resources, applied geochemistry, and GIS applications in geosciences.





**Eng. Sengelema James**

Automation Foreman

Eng. Sengelema James is an accomplished industrial automation specialist and currently serves as the Automation Foreman at Barrick Gold Mine, where he oversees advanced automation systems, digital operations, and technology-driven process optimization within one of Tanzania's largest mining operations Barrick Mining Company.

He holds a bachelor's degree in Telecommunications Engineering, an MBA, and a Professional Certificate of Competence in Automation Engineering, giving him a rare blend of technical expertise, managerial insight, and strategic leadership capacity. His professional focus spans Industrial Automation and Digitalization, with a strong interest in how emerging technologies can enhance operational efficiency, safety, and sustainability in the mining sector.

With hands-on experience in integrating automation technologies into complex industrial environments, Eng. James brings practical perspectives on how digital transformation can unlock value across Tanzania's mineral sector. His work aligns closely with national efforts to leverage mineral wealth for renewable energy development, technological innovation, and long-term societal security.

Eng. James contributes a grounded, industry-informed understanding of the opportunities and challenges in modernizing mineral extraction and processing through automation and digital systems—key pillars in Tanzania's journey toward sustainable development and a resilient digital economy.





**Sandi Zaranyika**  
Managing Director,  
Sandvik

Mr. Sandi Zaranyika serves as Managing Director of Sandvik Mining and Construction Tanzania Limited. In that role, he has overseen Sandvik's collaboration with major mining companies in Tanzania, including operations associated with Barrick Gold Corporation such as the Bulyanhulu and North Mara mines. He also has overseen Sandvik's investments in technical support, vendor-managed inventory systems, automation technologies, and mining equipment services in Tanzania.

As Sandvik Central Tanzania Territory Manager, Mr Zaranyika oversees about 150 employees in Tanzania, the development of the local workforce, training programs, and mining-sector support infrastructure. Under the leadership of Mr. Zaranyika, Sandvik has always been ready to support Tanzania's growing mining industry, including nickel, coal, and graphite projects, and efforts to strengthen local technical skills through training and technology transfer.





**Mr. Mohammed Mashaka**

Director of Information Systems Development, Ministry of Communications and Information Technology), Energy

Mr. Mohammed Mashaka is the Director of Information Systems Development and Services at the Ministry Communication and Information Technology of the United Republic of Tanzania. He is a seasoned ICT professional with over 15 years of experience spanning both the public and private sectors in Tanzania and the United Kingdom. In his current role, he provides strategic leadership in the development, implementation, and management of information systems and digital services that support government operations and enhance public service delivery. He also serves as Project Manager for the Digital Tanzania Project, a flagship initiative aimed at expanding digital connectivity and accelerating the country's digital transformation agenda.

Prior to his current position, Mr. Mashaka held several key leadership roles in Tanzania's ICT sector. He served as Assistant Director for Government ICT Policies and Standards at the President's Office – Public Service Management and Good Governance, where he contributed to the development of policies and frameworks that guide digital governance and technology adoption across public institutions. He also worked as Systems and Support Manager at the National Identification Authority (NIDA) and gained international industry experience with Hewlett Packard (HP) in the United Kingdom.

Mr. Mashaka holds a Bachelor of Science in Computer Science from the University of Dar es Salaam and a Master of Business Administration (MBA) from Glasgow Caledonian University. He is widely recognized for his expertise in digital transformation, e-government systems, ICT policy, and innovation, and remains committed to leveraging technology to drive socio-economic development and improve the quality of public services in Tanzania.





**Jacqueline Kweka**

Jewellery Designer and  
founder of JKMassawe  
jewellery brand

Jacqueline Kweka is a renowned Tanzanian jewellery designer, entrepreneur, and founder of the JKMassawe jewellery brand. Through her work, she has established herself as a leading figure in the African jewellery industry, creating pieces that celebrate the continent's rich cultural heritage while embracing contemporary design.

Known as the "Treasure Hunter," Jacqueline is passionate about discovering, sourcing, and showcasing African gemstones, particularly those found in Tanzania. Her designs skillfully combine natural gemstones, precious metals, and African storytelling, transforming each piece into a unique expression of identity, history, and craftsmanship.

With significant international industry experience, Jacqueline has showcased her work on global platforms. She participated in Milano Jewellery Week in October 2025, and prior to establishing JKMassawe in Tanzania, she exhibited in several shows in London.

Driven by a commitment to promoting African creativity and value addition, Jacqueline works to elevate the profile of Tanzanian gemstones on the global stage. Through JKMassawe, she continues to champion sustainable luxury, support local artisans, and inspire appreciation for Africa's natural and cultural treasures.



## Day 1: TUESDAY, 9<sup>th</sup> June 2026 - Opening Ceremony

| Time        | Event & Responsible   |
|-------------|---|
| 08:00-09:00 | <b>Registration</b><br>Secretariat  |
| 09:00-09:05 | <b>Announcements</b><br>Director of Ceremony  |
| 09:05-09:30 | <b>Arrival of Guest of Honour, Visiting Pavilions by Guest of Honour and Invited Guests</b><br>UDSM Management  |
| 09:30-09:35 | <b>National Anthem and University Song</b><br>University Choir  |
| 09:35-09:50 | <b>Introductory Remarks and Overview of Research and Innovation activities at UDSM</b><br>Prof. Nelson Boniface,<br>Deputy Vice Chancellor - Research |
|             | <b>Signing of MoU with Partner</b><br>Prof. William A.L Anangisye, Vice Chancellor  |
|             | <b>Launching of Research Information Management System (RIMS) 2.0</b><br>Prof. Nelson Boniface,<br>Deputy Vice Chancellor - Research                  |
| 09:50-10:05 | <b>Inviting Prof. Rose Upor, Deputy Vice Chancellor-Academic to recite biographies of Keynote Speakers</b><br>Director of Ceremony                    |
| 10:05-10:20 | <b>Keynote Speaker 1: Eng. Asa Mwaipopo</b>   |
| 10:20-10:35 | <b>Keynote Speaker 2: Prof. Agnes Mwakaje</b><br>Director of Ceremony   |
| 10:35-10:40 | <b>Entertainment</b><br>University Choir  |



|             |  |
|-------------|--|
| 10:40-11:00 | <b>Welcoming Remarks and Inviting the Guest of Honour to Deliver Opening Speech</b><br>Prof. William A.L Anangisye, Vice Chancellor                            |
| 11:00-11:30 | <b>Opening Speech and Launching the 11<sup>th</sup> UDSM Research and Innovation Week</b><br>Hon. Anthony Peter Mavunde (MP)<br>Minister, Ministry of Minerals |
| 11:30-11:45 | <b>Group Photo</b><br>UDSM Photographer  |
| 11:45-16:30 | <b>Exhibitions</b><br>All Participants   |
| 13:00-14:00 | <b>Lunch</b><br>All Participants   |
| 14:00-15:00 | <b>Exhibitions</b><br>All Participants   |
| 15:00-18:30 | <b>Public Lecture by the President of Singapore</b><br>His Excellency Tharman Shanmugaratnam   |

## END OF DAY 1



## Day 2: WEDNESDAY, 10<sup>th</sup> June 2026

| Time          | Event & Responsible  |
|---------------|--|
| 08:00-09:00   | <b>Registration</b><br>Secretariat   |
| 08:30-        | <b>Exhibitions</b><br>All participants   |
|               | <b>Introducing the Exclusive Symposium</b><br><b>Topic:</b> Harnessing Tanzania's Mineral Wealth for Renewable Energy and Digital Transformation: Reflecting on UDSM's Research and Innovation Pathways toward Societal Security and Sustainable Development       |
| 09:00 - 09:15 | Panel Discussion<br>Panelist 1: Dr Magreth Dotto (SoMG),<br>Panelist 2: Dr Joseph Kihedu (CoET),<br>Panelist 3: Dr Mathew Mndeme (CoICT),<br>Panelist 4: Dr Steven Kirama (UDSE)<br><br>Dr. Ernest Mulaya,<br>Moderator  |
| 09:15-11:00   | <b>Discussion and Wrap up</b><br>Dr. Ernest Mulaya,<br>Moderator   |
| 14:00-        | <b>Introducing the Strategic Partnership Dialogue</b><br><b>Strategic Partnerships for Sustainable Development: Leveraging Tanzania's Mineral Wealth for Renewable Energy and Digital Transformation to Enhance Societal Security.</b><br><br>Director of Ceremony |
|               | <b>Welcoming Remarks</b><br>Prof. Nelson Boniface,<br>Deputy Vice Chancellor - Research  |
|               | <b>A Word from the VC</b><br>Prof. William A.L. Anangisye, Vice Chancellor   |



|             |   |
|-------------|---|
| 14:30-14:40 | <b>Entertainment</b><br>University Choir  |
| 14:40-15:40 | <p><b>Panel Discussion</b></p> <p>Panelist 1: Prof. Elisante Mshiu (Dean, SoMG)</p> <p>Panelist 2: Eng. Sengelema James (Automation Foreman, Barrick Gold Mine)</p> <p>Panelist 3: Sandi Zaranyika (Managing Director, Sandvick)</p> <p>Panelist 4: Mr. Mohammed Mashaka (Director of Information Systems and Services Development, Ministry of Communications and Information Technology), Energy</p> <p>Panelist 5: Jacqueline Kweka (Jewellery Designer and founder of the JKMassawe jewellery)</p> <p>Ms. Zamda George, Moderator</p> |
| 15:40-16:40 | <b>Discussion and Wrap up</b><br>Moderator  |
| 16:40-17:00 | <b>Vote of Thanks</b><br>Prof. Bernadeta Killian,<br>Deputy Vice Chancellor-Planning, Finance and Administration  |
| 17:00-17:10 | <b>Group Photo</b><br>UDSM Photographer   |

## END OF DAY 2



## Day 3: THURSDAY, 11<sup>th</sup> June 2026

### Event & Responsible

|             |  |
|-------------|--|
| 08:00-09:00 | <b>Registration</b><br>Secretariat   |
| 09:00-14:00 | <b>Exhibitions</b><br>All participants   |
| 14:00-14:10 | <b>Announcement</b><br>Director of Ceremony  |
| 14:20       | <b>Arrival of Guest of Honour</b><br>Prof. Carolyne Ignatius Nombo,<br>Permanent Secretary, Ministry of Education, Science<br>and Technology |
| 14:20-14:30 | <b>Signing of MoU with Partner</b><br>Prof. William A.L Anangisye, Vice Chancellor   |
|             | <b>Overview of Competition and Awards</b><br>Prof. Nelson Boniface,<br>Deputy Vice Chancellor – Research                                     |
| 14:30-14:40 | <b>Welcoming Remarks and Inviting the Guest of Honour<br/>to Deliver Closing Speech</b><br>Prof. William A.L. Anangisye, Vice Chancellor     |
| 14:40-15:00 | <b>Closing Speech</b><br>Guest of Honour   |
| 15:00-16:00 | <b>Presentation of Awards to Winners of the RIW 2026</b><br>Guest of Honour  |
| 16:00-16:15 | <b>Entertainment</b><br>University Choir   |
| 16:15-16:25 | <b>Vote of Thanks</b><br>Dr. Mathew Senga,<br>Director of Research and Publication   |
| 16:25-16:30 | <b>Group Photo with Guest of Honour</b><br>UDSM Photographer   |
| 16:30       | <b>END OF EVENTS</b><br>All  |





Thank You!  
Asanteni Sana!

The Vice Chancellor,  
Prof. William Ananginsye  
would Sincerely like to  
thank the following organ-  
izations for their generous  
Support:

## 2026 - Sponsors

1. Barrick
2. NMB Bank
3. Sida
4. GSM
5. CRDB Bank
6. COSTECH
7. SANDVICK
8. Kilimanjaro International  
Leather Industries Co. LTD





**University of Dar es Salaam  
Mwalimu Julius Nyerere Mlimani Campus  
P.O. Box 35091  
Dar es Salaam - Tanzania**

**Hekima ni Uhuru  
[www.udsm.ac.tz](http://www.udsm.ac.tz)**

