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Continental Conference on  
Transforming Science, Technology,  
Engineering and Mathematics in Africa



## Introduction

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Building on the African Union's (AU) 2024 theme, "Educate an African fit for the 21st Century", UNESCO and the AU with key continental organizations, are co-organizing a three-day conference to forge a continent-wide strategic partnership to build a transformative science, technology, engineering and mathematics (STEM) ecosystem. This comprehensive approach, coupled with strong collaboration among stakeholders, aims to position Africa as an equal player in the future of STEM education, innovation, entrepreneurship and diplomacy.

Africa is poised for a transformative leap. It has the youngest population in the world, with over 400 million youth aged 15 and 35. By 2030, young Africans will comprise up to 42 percent of the world's youth. This demographic dividend presents a tremendous opportunity, but a critical skills gap threatens to hinder progress. Millions of young people on the continent require STEM skills crucial for navigating the demands of the 21<sup>st</sup> Century workforce. The World Economic Forum's [Future of Jobs Report 2023](#) highlights that Africa will need an additional 23 million STEM graduates by 2030 to fill critical positions in engineering, healthcare and information technology.

The AU's [Agenda 2063](#) recognizes the critical role of education, science, technology, and innovation in achieving its ambitious goals. Continental strategies, including the [Continental Education Strategy for Africa \(CESA\) 2016-2025](#), the [Science, Technology and Innovation Strategy for Africa \(STISA\) 2024](#) and the [Continental Artificial Intelligence Strategy](#) operationalize this vision, with a strong emphasis on STEM education across the continent. UNESCO also has prioritized this as part of Global Priority Africa, notably through its [Operational Strategy for Priority Africa 2022-2029](#) including Flagship Programmes addressing higher education, new and emerging technologies, innovation and development and open science.

But Africa faces significant challenges in ensuring quality STEM education, due to inadequate infrastructure, a scarcity of qualified teachers, and a persistent gender gap exacerbated by societal stereotypes, cultural barriers and limited resources. The brain-drain of skilled STEM professionals further hinders innovation while insufficient funding restricts the development of STEM infrastructure, laboratories and educational facilities. Conventional STEM curricula, often misaligned with technological advancements and global best practice, leave students unprepared for the demands of the 21<sup>st</sup> Century workforce.

Advancing innovation, entrepreneurship, and excellence in STEM is undeniably critical for achieving the Sustainable Development Goals and addressing Africa's development challenges, such as energy, poverty reduction, disease, and climate change. However, Africa lags behind the global average in terms of researchers per capita, limiting its contribution to global knowledge. With just 0.59% of its GDP allocated to research and development (R&D) compared to the global average of 1.79%, Africa contributes less than 1% of global research output. To bridge this gap, the World Bank estimates a need for 100,000 PhD graduates within a decade to meet labor market demands and drive development.

By fostering collaboration, identifying strategic solutions, and mobilizing resources, we can empower Africa to unlock its full potential in science, technology, engineering and mathematics.

## Conference objectives

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The overarching objective is to foster a thriving African STEM ecosystem that drives sustainable development by addressing critical challenges, cultivating a future-ready workforce, and stimulating innovation and entrepreneurship. This can only be achieved through targeted investments, policy reforms and capacity building, aligned with the goals of CESA 16- 25, STISA-2024 and the Global 2030 Agenda for Sustainable Development.

The specific objectives of the conference are to catalyze transformation actions and partnerships to:

- **Strengthen the foundations of STEM education** to align curricula with local needs, real-world applications, and basic literacy and numeracy, and empower teachers with effective and gender responsive pedagogical skills and other necessary resources to enhance interactive STEM teaching and learning.

- **Advance gender equality and inclusion in and through STEM** by addressing the root causes of gender gaps, stereotypes, and biases to create an inclusive and equitable STEM ecosystem and establish networks of eminent women in STEM to mentor and inspire the next generation.
- **Foster STEM innovation, entrepreneurship and engineering** by building entrepreneurship capacity, fostering collaboration between academia, industry and government, and strengthening R&D infrastructure and research-industry partnerships.
- **Promote STEM financing, science diplomacy and partnerships** through increased funding, public-private partnerships, and international collaboration in STEM, and by leveraging science diplomacy to address Africa's development challenges such as climate risks, water scarcity and related disasters while retaining and attracting STEM talent.

## Expected outcomes

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The Continental Conference on Transforming STEM in Africa is envisioned as a catalyst for long-term, transformative change in STEM ecosystems across the continent. It aims to strengthen cooperation, catalyze action, financing and innovation over the long-term.

## Format

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The three-day conference at the Africa Union's Convention Center will consist of different sessions:

- **STEM Experience Hub**, a dynamic space where educators, students, entrepreneurs and policymakers can deepen their understanding of cutting-edge STEM concepts, develop practical skills, and build partnerships. Through interactive demonstrations, workshops and hands-on activities, participants will have the opportunity to explore emerging technologies such as AI, robotics, coding, 3D fabrication, and micro-kits. The Hub will run from 26 – 28 November.
- **Four Technical Thematic Tracks** are designed to address critical challenges, opportunities, and actions needed to build a vibrant STEM ecosystem in Africa. Each track, featuring specific subthemes, will serve as a platform for in-depth discussions and knowledge sharing. The Thematic Tracks will have a dedicated programme on 27 November, with the opportunity to present key recommendations during the plenary session on 28 November.
- **High-level Interactive Plenaries** will bring forward key findings and recommendations, future actions and commitments to transforming STEM in Africa. These sessions will take place on 28 November and conclude with a Continental Call to Action for STEM in Africa.

## Participants

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Participants at the conference will represent a wide range of stakeholders, including: African Ministries and other relevant government bodies crucial to shaping policies, allocating resources and creating an enabling environment for STEM education and innovation; businesses, industries and private sector companies who can catalyze innovation, entrepreneurship, and excellence; universities, research centers and schools driving gender-transformative and inclusive STEM education; African STEM experts, researchers and entrepreneurs contributing valuable knowledge, experience, and networks; and international and philanthropic organizations and partners providing financial and technical assistance to support STEM development in Africa. In addition to sharing knowledge during the conference, participants will contribute to a joint Post-Conference Action Plan to implement recommendations, scale up STEM programmes, and foster collaboration and progress.

## Interpretation

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Interpretation for all sessions will be in English and French.

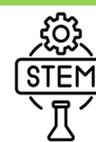
## Programme

### Day 1: 26 November 2024 - STEM Experience Hub

08:00 – 09:00	Registration		
09:00 – 17:00	<p><b>STEM Experience Hub:</b> A dynamic space where educators, students, entrepreneurs and policymakers can deepen their understanding of cutting-edge STEM concepts, develop practical skills, and build partnerships. Through interactive demonstrations, workshops and hands-on activities, participants will have the opportunity to explore emerging technologies such as AI, robotics, coding, 3D fabrication, engaging scientific experiments and innovative exercises, transformative learning materials, including online resources, access to practical examples of STEM programmes transforming Africa’s development, and spaces to network, exchange and learn from others.</p> <p>The <b>STEM Experience Hub</b> is organized across five zones:</p>		
	 Tech zone	 Lab zone	 STEM ED resources zone
	 STEM4D zone	 STEM lounge zone	
Recharge breaks	Morning	Lunch	Afternoon
	10:30 – 11:00	13:00 – 14:00	15:30 – 16:00

### Day 2: 27 November 2024 - Technical Thematic Track Sessions

08:00 – 09:00	Registration		
09:00 – 17:00 <i>(detailed programme follows)</i>	<b>Track 1:</b> <b>Strengthening the foundations of STEM education</b>  Small Conference Hall 1	<b>Track 2:</b> <b>Advancing gender equality and inclusion in and through STEM</b>  Small Conference Hall 2	<b>Track 3:</b> <b>Fostering STEM innovation, entrepreneurship and engineering</b>  Small Conference Hall 3
	<b>Track 4:</b> <b>Promoting STEM financing, science diplomacy and partnerships</b>  Small Conference Hall 4		
Recharge breaks	Morning	Lunch	Afternoon
	11:00 – 11:30	13:00 – 14:00	15:30 – 16:00



## Track 1: Strengthening the foundations of STEM education

TRACK 1

09:00 – 09:20	<p>Session Opening:  <b>Ms. Sophia Ndemutilla Ashipala</b>, Head of the Education Division, African Union</p> <p>Welcome Message:  <b>Ms. Stefania Giannini</b>, Assistant Director-General for Education, UNESCO</p> <p>Keynote Address:  <b>H.E. Nathaniel Cisco, Jr.</b>, Minister for STEM/TVET and Inclusive Education, Liberia</p>
09:20 – 11:00	<p><b>Sub-theme 1.1: Foundations for STEM success: Facilities, curriculum and resources</b></p> <ol style="list-style-type: none"> <li><b>Defining STEM education:</b> What does 'STEM education' mean in the African context? Does it require a fully integrated curriculum? Can it serve to enrich existing curricula?</li> <li><b>Transforming STEM teaching facilities:</b> How can we transform traditional classrooms to collaborative spaces, and shift perceptions that STEM education requires high-tech labs?</li> <li><b>STEM in early childhood education:</b> Why is early exposure to STEM essential? What foundational skills and mindsets should be developed for future STEM studies?</li> <li><b>Equitable access to STEM resources:</b> How can we provide quality, culturally and linguistically relevant STEM resources that align with 21st-century workforce needs?</li> </ol> <p>Speakers:</p> <ul style="list-style-type: none"> <li><b>Dr. Mary Wakhaya Sichangi</b>, Coordinator, ADEA ICQN-MSE, Head of Partnerships, Centre for Mathematics, Science and Technology Education in Africa (CEMESTEA), Ministry of Education, Kenya</li> <li><b>Mr. Nazaire Biwole Mbiocok</b>, Director, Center of Excellence in Microscience (CEM), UNESCO Category 2 Centre, Cameroon</li> <li><b>Mr. Maurice Nkusi</b>, Manager of Academic Development Support in Teaching, Learning and Technology, Namibia University of Science and Technology (NUST), Namibia</li> <li><b>Dr. Gertrude Namubiru</b>, Secretary General, African Curriculum Association (ACA), Uganda</li> <li><b>Dr. Laura Hosman</b>, Co-Founder, Co-Director and Associate Professor, SolarSPELL at Arizona State University, USA</li> </ul> <p>Moderator: <b>Ms. Fraciah Kagu</b>, Advocacy and Partnerships Officer for the Forum for African Women Educationalists</p>
11:00 – 11:30	<p><b>Morning Recharge Break</b></p>
11:30 – 13:00	<p><b>Sub-theme 1.2: Strengthening teacher capacity for effective STEM education</b></p> <ol style="list-style-type: none"> <li><b>Quality STEM teaching:</b> What knowledge, skills, and mindsets do teachers need to effectively deliver engaging STEM education?</li> <li><b>Professional development strategies:</b> How can we best support teachers in acquiring new skills, including through AI? How can we establish communities of practice?</li> <li><b>Effective STEM pedagogy:</b> What are the most impactful teaching strategies and approaches for engaging and retaining students in STEM studies?</li> <li><b>Modern assessments:</b> How can we enhance teacher skills in authentic assessment methods to support competency-based evaluations that reflect real-world skills?</li> </ol> <p>Speakers:</p> <ul style="list-style-type: none"> <li><b>Dr. Marguerite K. Miheso-O'Connor</b>, Senior Lecturer, Department of Educational Communication and Technology, Kenyatta University, Kenya</li> <li><b>Mr. Abdallah Loucif</b>, President of the National Program Council, Ministry of National Education, Algeria</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Ms. Fatima Rihane</b>, Senior Educational Development Manager, Member of Casio Institute for Educational Development, Casio Middle East and Africa</li> <li>• <b>Ms. Jacinta Akatsa</b>, Chief Executive Officer, Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA), Kenya</li> <li>• <b>Ms. Geritte Laurina Bakala</b>, Teacher, UNESCO Youth Coding Initiative (UNESCO-CODEMAO), Republic of the Congo</li> <li>• <b>Prof. Dr. Yashwantrao Ramma</b>, Deputy Director-General (Academic), University of the Mascareignes, Mauritius</li> </ul> <p>Moderator: <b>Ms. Louisa Kadzo</b>, Regional Coordinator, VVOB</p>
<b>13:00 – 14:00</b>	<b>Lunch</b>
<b>14:00 – 15:30</b>	<p><b>Sub-theme 1.3: Bridging the digital divide in STEM education</b></p> <ol style="list-style-type: none"> <li>1. <b>Access to technology:</b> What are the key barriers to equitable access to technology/AI/digital resources in Africa, and what practical solutions can help bridge this gap?</li> <li>2. <b>Digital literacy and skills development:</b> How can we enhance digital literacy among students, educators and school leaders to effectively use technology in STEM education?</li> <li>3. <b>Partnerships for digital inclusion:</b> How can we foster partnerships between governments, NGOs and the private sector to promote digital inclusion in STEM education?</li> <li>4. <b>Data management:</b> How can we enhance Education Management Information Systems (EMIS) in Africa to improve disaggregated data for informed decision-making?</li> </ol> <p>Speakers:</p> <ul style="list-style-type: none"> <li>• <b>Dr. Daniel April</b>, Associate Project Officer (Research), Global Education Monitoring Report, UNESCO</li> <li>• <b>Mr. Tengandé François Niada</b>, Programme Manager, Swiss Cooperation Niger, Thematic Advisor, Education and Vocational Training, West &amp; Central Africa, Swiss Agency for Development and Cooperation/Federal Department of Foreign Affairs</li> <li>• <b>Ms. Betelhem Dessie</b>, Founder and CEO of iCOG, Ethiopia with alumna <b>Ms. Liya Tegared</b></li> <li>• <b>Ms. Aretha Mare</b>, Unit Manager, Data and Security Infrastructure and Governance, Smart Africa Secretariat</li> <li>• <b>Mr. Muhammed Safa Sahin</b>, Associate Project Officer, Section of Education Policy, Division of Policies and Lifelong Learning, UNESCO</li> </ul> <p>Moderator: <b>Mr. Maurice Nkusi</b>, Manager, Academic Development Support in Teaching, Learning and Technology, Namibia University of Science and Technology (NUST)</p>
<b>15:30 – 16:00</b>	<b>Afternoon Recharge Break</b>
<b>16:00 – 16:45</b>	<b>Discussion and preparation for the High-Level Plenary Recommendations</b>
<b>16:45</b>	<b>Closing</b>

<b>18:30</b>	<b>Reception/Dinner, Hyatt Regency, Meskel Square, Addis Ababa</b>
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## Track 2: Advancing gender equality and inclusion in and through STEM



### TRACK 2

09:00 – 09:20	<p>Session Opening:</p> <p><b>Dr. Martha Muhwezi</b>, Executive Director, Forum of African Women Educationalists (FAWE)</p> <p>Keynote Address:</p> <p><b>Dr. Quentin Wodon</b>, Director, UNESCO International Institute for Capacity-Building in Africa (UNESCO-IICBA)</p>
09:20 – 11:00	<p><b>Sub-theme 2.1: Breaking stereotypes, changing mindsets and transforming practices</b></p> <ol style="list-style-type: none"> <li><b>Mindset and societal change:</b> What works to overturn implicit and unconscious bias and challenge stereotypes and unequal expectations preventing more youth and adults, particularly girls and women, to pursue STEM studies and careers?</li> <li><b>Role models, mentors and media:</b> How are role models, mentors and the media changing perceptions on who can study and work in STEM fields, and what's needed to create a greater impact?</li> <li><b>Partnerships for gender equality and inclusion:</b> What partnerships, networks and connections between governments, NGOs and the private sector are creating equal pathways in STEM and how can we upscale these?</li> <li><b>Transforming institutional and workplace cultures:</b> What institutional and workplace measures promote diversity, equity and inclusion and create safe spaces for advancement in STEM careers?</li> </ol> <p>Youth pitch:</p> <ul style="list-style-type: none"> <li><b>Ms. Ruvarashe Sadya</b> and <b>Ms. Sabrina Atwiine</b>, Technovation Alumnae from Zimbabwe and Uganda</li> </ul> <p>Speakers:</p> <ul style="list-style-type: none"> <li><b>Prof. Diallo Kadia Maiga</b>, Secretary-General, National Commission of Mali to UNESCO, Ministry of Education, Mali</li> <li><b>Ms. Efua Adabie</b>, Founding Head Teacher, African Science Academy, Programme Manager for Chevron ELP, Ghana</li> <li><b>Ms. Caroline Nyaga</b>, Founder/CEO, Women in STEAM initiative, Kenya</li> <li><b>Mr. Gordon Aomo</b>, Senior Knowledge Management Officer, Forum for African Women Educationalists (FAWE)</li> </ul> <p>Moderator: <b>Ms. Alice Yakubu</b>, Programs Officer for the Gender Advocacy Working Group, All-Africa Students Union (AASU)</p>
11:00 – 11:30	<p><b>Morning Recharge Break</b></p>
11:30 – 13:00	<p><b>Sub-theme 2.2: Girls' and women's participation, retention and leadership</b></p> <ol style="list-style-type: none"> <li><b>Levers that close gender gaps in STEM:</b> What factors influence girls' and women's participation, retention and progression in STEM fields, and how can we leverage positive factors?</li> <li><b>Bridging transitions:</b> What works to promote adolescent girls' transitions into post-secondary technical and vocational education and training and tertiary education STEM pathways?</li> <li><b>Plugging the 'leaky pipeline':</b> What policies and actions close the widening gender gaps as women progress in their careers, and help retain and progress women in STEM?</li> <li><b>Breaking glass ceilings:</b> What is needed to break glass ceilings for women in leadership positions in academia, research and government bodies driving STEM innovations?</li> </ol>

	<p>Keynote address:</p> <p><b>H.E. Ambassador Stefanie Sullivan</b>, United States Mission to the African Union</p> <p>Speakers:</p> <ul style="list-style-type: none"> <li>• <b>Dr. Jennifer Batamuliza</b>, Lecturer &amp; Head of Data Driven Incubation Hub &amp; Short Professional Courses, University of Rwanda and <b>Ms. Dianah Mutoni</b>, PhD Student, Assistant Lecturer, University of Rwanda</li> <li>• <b>Mr. Salifou Boubacar</b>, National Programme Manager, Capacity Development for Education (CapED) Programme, UNESCO Niger</li> <li>• <b>Ms. Mulunesh Tsegaye</b>, Programme Coordinator, African Girls Can Code Initiative (AGCCI), UN Women, along with AGCCI alumna <b>Ms. Sinit Mulugeta Hailay</b>, <b>Ms. Amsale Gebrehana</b> and <b>Ms. Lidya Berhanu</b></li> <li>• <b>Dr. Aminata Dembele</b>, CEO/Founder, MASSAMOUSSO (Queens of Technologies), Mali</li> <li>• <b>Ms. Doreen Irungu</b>, Executive Chairperson of Ustawi Afrika, Africa's Coordinator for NAWFAT (Network of African Women in Food and Agritech), Kenya</li> </ul> <p>Moderator: <b>Ms. Simone Yankey</b>, Ag. Coordinator, African Union International Centre for Girls &amp; Women's Education in Africa (AU/CIEFFA)</p>
13:00 – 14:00	<b>Lunch</b>
14:00 – 15:30	<p><b>Sub-theme 2.3: Educational, workplace and societal policies fostering a culture of inclusion</b></p> <ol style="list-style-type: none"> <li>1. <b>From paper to practice:</b> What policy instruments exist at the national, regional and continental level to promote gender equality and inclusion in STEM, and what works to ensure these are acting on and implemented?</li> <li>2. <b>Educational strategies to open pathways in STEM:</b> How can we ensure that all students, regardless of their gender, socioeconomic status or background, have access to quality STEM education at the foundational level?</li> <li>3. <b>Workplace environments that attract, retrain and advance:</b> What policies and actions promote diverse, inclusive and equal STEM workplaces where women and other underrepresented groups can thrive?</li> <li>4. <b>Society-wide interventions and policies:</b> What broader education, gender, labour or other policies can be leveraged to promote equality in STEM and how can we promote cooperation across sectors to maximise impact?</li> </ol> <p>Speakers:</p> <ul style="list-style-type: none"> <li>• <b>Ms. Olivia Opare</b>, Director of Science Education, Ghana Education Service, Ministry of Education, Ghana</li> <li>• <b>Mr. Dylan Busa</b>, Technical Advisor, FHI 360</li> <li>• <b>Ms. Mmampei Chaba</b>, Chief Director, Multilateral and Africa Cooperation, Department of Science and Innovation, South Africa</li> <li>• <b>Ms. Maria Omare</b>, Founder, The Action Foundation, Kenya</li> <li>• <b>Mr. Dawit Teshome</b>, Youth Advisor, Digital Opportunity Trust, Ethiopia</li> </ul> <p>Moderator: <b>Ms. Justine Sass</b>, Chief, Section of Education for Inclusion and Gender Equality, UNESCO</p>
15:30 – 16:00	<b>Afternoon Recharge Break</b>
16:00 – 16:45	<b>Discussion and preparation for the High-Level Plenary Recommendations</b>
16:45	<b>End</b>
18:30	<b>Reception/Dinner, Hyatt Regency, Meskel Square, Addis Ababa</b>

## Track 3: Fostering STEM innovation, entrepreneurship and engineering



### TRACK 3

09:00 – 09:20	<p>Keynote Address:  <b>H.E. Dr. Bonginkosi Emmanuel Nzimande</b>, Minister of Science, Technology and Innovation, South Africa</p> <p>Special Engineering Note:  <b>Mr. Mustafa Shehu</b>, President, World Federation of Engineering Organizations (WFEO)</p>
09:20 – 11:00	<p><b>Sub-theme 3.1: Building inclusive STEM innovation and entrepreneurship ecosystems</b></p> <ol style="list-style-type: none"> <li><b>1. Entrepreneurship and innovation mindsets:</b> What transformative strategies and experiences best cultivate these mindsets, equipping learners and professionals to drive impactful STEM innovation in Africa?</li> <li><b>2. Advancing STISA-2024:</b> What are countries doing to enhance professional and technical competencies, and provide an enabling environment for STI skills development?</li> <li><b>3. Youth as catalysts for STI Transformation:</b> How are young people catalysing STI skills development, and creating waves of support towards the Africa we want?</li> <li><b>4. Equity and inclusion:</b> What policies and support structures can ensure that innovation ecosystems are accessible to all, particularly to women, girls, and marginalized groups, enabling their active participation and leadership?</li> </ol> <p>Speakers:</p> <ul style="list-style-type: none"> <li>• <b>Eng. Papias Kazawdi</b>, President, Federation of African Engineering Organisations (FAEO), Nigeria</li> <li>• <b>Ms. Djeneba B. Thiam</b>, Data Scientist, Co-founder and Executive Director of Go4STEAM, Senegal</li> <li>• <b>Mr. John Matogo</b>, Middle East and Africa Leader, IBM Corporate Social Responsibility</li> <li>• <b>Ms. Tirelo Ramasedi</b>, Botswana SGCI Gender Equality and Inclusivity Team, Department of Research and Knowledge Business, Botswana</li> <li>• <b>Mr. Nyuor Maxwell Ksnyire</b>, Student, Pan African University West, Ghana</li> </ul> <p>Youth Pitch:</p> <ul style="list-style-type: none"> <li>• <b>Dr. Mariamawit Yonathan Yeshak</b>, Associate Professor, Department of Pharmacognosy and Pharmaceutical Chemistry, School of Pharmacy, Addis Ababa University</li> <li>• <b>Ms. Sicelo Dube</b>, CEO, STEM Lady Holdings, Zimbabwe</li> <li>• <b>Mr. Kelvin Solo</b>, Winner of Engineers Without Borders UK-UNESCO Africa Engineering Week 2024 Design Challenge, Kenya</li> </ul> <p>Moderator: <b>Ms. Anjani Harjeven</b>, CEO, WomEng and WomHub</p>
11:00 – 11:30	<b>Morning Recharge Break</b>
11:30 – 13:00	<p><b>Sub-theme 3.2: Strengthening R&amp;D infrastructure and innovation ecosystems</b></p> <ol style="list-style-type: none"> <li><b>1. R&amp;D as a catalyst for STEM innovation:</b> How can R&amp;D drive technological breakthroughs and practical solutions in Africa's STEM landscape, and what examples highlight this role effectively?</li> <li><b>2. Building sustainable STEM R&amp;D ecosystems:</b> What works to link innovators to funding, technical resources and other factors that sustain a robust STEM R&amp;D ecosystem in Africa?</li> <li><b>3. Connecting innovation ecosystems:</b> How can African incubators and accelerators link up across Africa and beyond to promote mutual benefits and close innovation gaps?</li> </ol>

		<p>4. <b>Academia, government and industry collaboration:</b> How are governments and the private sector creating supporting environments for STEM innovation through policy incentives, partnerships and public-private cooperations?</p> <p>Case study presentations:</p> <ul style="list-style-type: none"> <li>• <b>Dr. Ali Hassanali</b>, Senior Research Scientist, Condensed Matter and Statistical Physics, International Center for Theoretical Physics (ICTP), Trieste, Italy</li> <li>• <b>Ms. Lwandle Simelane</b>, Secretary-General of National Commission to UNESCO, Eswatini</li> </ul> <p>Speakers:</p> <ul style="list-style-type: none"> <li>• <b>Prof. Nkem Khumbah</b>, Head of STI Policy Systems, Governance and Partnerships (STI-PGA), African Academy of Science</li> <li>• <b>Prof. Carla Puglia</b>, International Science Programme (ISP), Uppsala University, Sweden</li> <li>• <b>Prof. Taye Demissie</b>, Associate Professor, Faculty of Science, University of Botswana</li> <li>• <b>Prof. Yalemtehay Mekonnen</b>, Principal, Vice-President, Ethiopian Academy of Sciences, Fellow, World Academy of Sciences &amp; The African Academy of Sciences, Ethiopia</li> <li>• <b>Prof. Ladslaus Mnyone</b>, Director of Science, Technology and Innovation, Ministry of Education, Science and Technology, Tanzania</li> </ul> <p>Moderator: <b>Prof. Martial Zebaze Kana</b>, Head of Science, UNESCO Regional Office of Southern Africa</p>
	13:00 – 14:00	<b>Lunch</b>
	14:00 – 15:30	<p><b>Sub-theme 3.3: Catalysing Africa’s digital economy through STEM innovation</b></p> <ol style="list-style-type: none"> <li>1. <b>Leveraging digital technology for economic growth:</b> How are countries leveraging digital technology to advance STEM economies that boost economic growth, job creation and advance sustainable development?</li> <li>2. <b>Smart engineering for development:</b> How can smart engineering technologies catalyze technical knowledge, solutions and infrastructure needs to advance development, and what’s needed to overcome the shortage of engineering skills on the continent?</li> <li>3. <b>Lifelong skills development:</b> How can continuing professional development opportunities build high-quality digital skills that meet international standards and evolving capacities?</li> <li>4. <b>Closing the gender gap in digital and ICT skills:</b> What works to close gender gaps in digital skills and ICT studies and ensures girls’ and women’s participation, retention and leadership in these fields?</li> </ol> <p>Fireside chat:</p> <ul style="list-style-type: none"> <li>• <b>Ms. Anushka Soma-Patel</b>, Product Manager, Input Output Hong Kong (IOHK) Group and Co-Chair, South African Financial Blockchain Consortium</li> </ul> <p>Expert Panel Discussion Speakers:</p> <ul style="list-style-type: none"> <li>• <b>Prof. Abdon Atangana</b>, Professor, University of the Free State, South Africa and Chair, African Mathematical Union Commission for Research and Innovation (AMU-CRIMS)</li> <li>• <b>Mr. Daouda Hamadou</b>, CEO, NOVATECH, Niger</li> <li>• <b>Mr. Emmanuel Manasseh</b>, Regional Director for Africa, ITU</li> <li>• <b>Ms. Manamolo Kobong</b>, Ministry of Education and Training, Planning Unit, EMIS, Lesotho</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Ms. Anushka Soma-Patel</b>, Product Manager, Input Output Hong Kong (IOHK) Group and Co-Chair, South African Financial Blockchain Consortium</li> </ul> <p>Moderator: <b>Ms. Rovani Sigamoney</b>, Education Programme Specialist, UNESCO Regional Office of Southern Africa</p>
<b>15:30 – 16:00</b>	<b>Afternoon Recharge Break</b>
<b>16:00 – 16:45</b>	<b>Discussion and preparation for the High-Level Plenary Recommendations</b>
<b>16:45</b>	<b>Closing</b>

<b>18:30</b>	<b>Reception/Dinner, Hyatt Regency, Meskel Square, Addis Ababa</b>
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## Track 4: Promoting STEM financing, science diplomacy and partnerships



### TRACK 4

09:00 – 09:20

Session Opening:

**Dr. Rita Bissoonauth**, Director, UNESCO Addis Ababa Liaison Office

Keynote Address:

**Dr. Martha T.M. Phiri**, Director, Human Capital, Youth and Skills Development Department, African Development Bank (AfDB)

09:20 – 11:00

### Sub-theme 4.1: Promoting STEM financing

1. **AU accelerators:** How can the AU Agenda 2063, STISA-2024, CESA 2026-35, and the AI Strategy be leveraged to attract investments from Member States, development partners, and the private sector to accelerate STEM in Africa?
2. **Government investments in STEM:** How can governments effectively prioritize budget allocations for STEM, and how can advocacy drive increased national funding for these sectors?
3. **Innovative financing mechanisms:** What innovative financing models can mobilize significant resources for STEM in Africa, and how can challenges be addressed to maximize their impact?
4. **Microfinancing for innovation and entrepreneurship:** How can microfinance models better support innovative, high-growth ventures with specific recommendation to Africa?
5. **The investment case:** What are the returns on investment for financing STEM education, entrepreneurship and innovation?

Speakers:

- **H.E. Torerayi Moyo**, Minister of Primary and Secondary Education, Zimbabwe
- **Prof. Saidou Madougou**, Director, Education, Science Technology and Innovation, African Union Commission (AUC/ESTI)
- **Dr. Martha T.M. Phiri**, Director, Human Capital, Youth and Skills Development Department, African Development Bank (AfDB)
- **Prof. Laura Viganò**, Professor of Banking, Insurance, and Microfinance, University of Bergamo, Italy
- **Dr. Hungi Njora**, Senior Project Officer, UNESCO International Institute for Capacity-Building in Africa (UNESCO-IICBA), and **Mr. Tadesse Teressa**, STEAM Desk Head, Ministry of Education, Ethiopia

Moderator: **Dr. Abdoulaye Salifou**, Chief, Education Sector, UNESCO Addis Ababa Liaison Office

11:00 – 11:30

**Morning Recharge Break**

11:30 – 13:00

### Sub-theme 4.2: Fostering science diplomacy and international partnerships

1. **Science diplomacy:** How can science diplomacy be leveraged to harness the power of AI and STEM to address Africa's pressing development challenges and drive sustainable development?
2. **Leveraging international cooperation:** How can international partnerships be leveraged to strengthen Africa's STEM? What lessons can be learned from existing EU-Africa or intra-Africa collaborations to strengthen future partnerships and maximize their impact?
3. **Enhancing South-South cooperation in STEM:** How can South-South cooperation and networks be strengthened to address common challenges and opportunities in STEM?
4. **Public-private partnership for STEM:** How can we align the interests of governments, businesses, and academic institutions in STEM financing to leverage public-private partnerships for STEM?

	<p>Speakers:</p> <ul style="list-style-type: none"> <li>• <b>Dr. Phil Mjwara</b>, Ambassador Designate of South Africa to UNESCO</li> <li>• <b>Mr. John Villiers</b>, Programme and Policy Officer, European Union (EU)</li> <li>• <b>Dr. Max Paoli</b>, Programme Coordinator, The World Academy of Science (TWAS)</li> <li>• <b>Dr Dorothy Ngila</b>, Director: Knowledge and Institutional Networks, National Research Foundation, South Africa</li> <li>• <b>Dr. Julius Ecuru</b>, Manager, RSIF Regional Coordination Unit, ICIPE</li> </ul> <p>Moderator: <b>Dr. Immolatrix Linda Geingos</b>, Acting Director, Directorate of Research and Innovation, Ministry of Higher Education, Technology and Innovation, Namibia</p>
13:00 – 14:00	<b>Lunch</b>
14:00 – 15:30	<p><b>Sub-theme 4.3: Leveraging diaspora networks for STEM development and talent retention</b></p> <ol style="list-style-type: none"> <li>1. <b>Diaspora engagement and policy:</b> What policies and strategies can African countries adopt to foster diaspora engagement in STEM development and talent retention? How can these be effectively communicated and implemented?</li> <li>2. <b>Closing the brain drain and retaining STEM talent:</b> What approaches are effective in retaining STEM professionals in Africa and attracting those in the diaspora back to the continent?</li> <li>3. <b>Knowledge transfer and capacity-building:</b> How can knowledge transfer between diaspora professionals and African STEM institutions, researchers, and entrepreneurs be facilitated to drive innovation?</li> <li>4. <b>Diaspora Initiatives and Funding:</b> What successful diaspora-led STEM initiatives and funding models exist, and how can they be replicated or scaled across African countries?</li> </ol> <p>Speakers:</p> <ul style="list-style-type: none"> <li>• <b>H.E Dr. Bayissa Badada</b>, State Minister at the Ministry of Innovation and Technology, Ethiopia</li> <li>• <b>Prof. Olusegun Obadina</b>, Project Officer, Quality Assurance and Accreditation, Association of African Universities (AAU)</li> <li>• <b>Mr. Zinsou Cosme Odjo</b>, Student, Pan African University</li> <li>• <b>Ms. Moume Anne Lawrence Frédérique</b>, Head of Section, Director of the Education Transformation Programme, Cameroon</li> <li>• <b>Dr. Alex Blanshard</b>, Head, Chemistry Department, Fourah Bay College, University of Sierra Leone</li> <li>• <b>Mr. Christopher Okonji</b>, Programme Officer, African Union Development Agency (AUDA-NEPAD)</li> </ul> <p>Moderator: <b>Dr. Chomora Mikeka</b>, Director, Science, Technology and Innovation, Ministry of Education, Malawi</p>
15:30 – 16:00	<b>Afternoon Recharge Break</b>
16:00 – 16:45	<b>Discussion and preparation for the High-Level Plenary Recommendations</b>
16:45	<b>Closing</b>

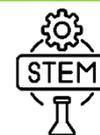
18:30	<b>Reception/Dinner, Hyatt Regency, Meskel Square, Addis Ababa</b>
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## Day 3: Nov 28, 2024 – High-level Plenaries: Accelerating Africa's STEM Transformation

Location: Nelson Mandela Hall, AUC

08:00 – 09:30	<b>STEM Experience Hub Breakfast</b>
9:30 – 10:15	<b>Opening Remarks</b> <ul style="list-style-type: none"><li>• <b>Mr. Firmin Edouard Matoko</b>, Assistant Director-General for Priority Africa and External Relations, UNESCO</li><li>• <b>H.E. Prof. Mohammed Belhocine</b>, Commissioner for Education, Science Technology and Innovation, African Union</li><li>• <b>H.E Dr. Bayissa Badada</b>, State Minister at the Ministry of Innovation and Technology</li></ul> Moderator: <b>Dr. Rita Bissoonauth</b> , Director, UNESCO Addis Ababa Liaison Office
10:15 – 11:00	<b>Presentation of Thematic Track Outcomes</b> <ul style="list-style-type: none"><li>• <b>Track 1: Strengthening the foundations of STEM education9//</b></li><li>• <b>Track 2: Advancing gender equality and inclusion in and through STEM</b></li><li>• <b>Track 3: Fostering STEM innovation, entrepreneurship and engineering</b></li><li>• <b>Track 4: Promoting STEM financing, science diplomacy and partnerships</b></li></ul>
11:00 – 11:15	<b>Presentation: Addis Ababa Communiqué on Transforming STEM in Africa</b> <b>Dr. Phil Mjwara</b> , Ambassador Designate of South Africa to UNESCO
11:15 – 12:15	<b>High-level Dialogue: Leveraging partnerships to transform STEM in Africa</b> <ul style="list-style-type: none"><li>• <b>H.E. Javier Niño Pérez</b>, Ambassador, Delegation of the European Union to the African Union</li><li>• <b>H.E. Pietro Mona</b>, Ambassador, Permanent Representative of Switzerland to the African Union, IGAD, UNECA, and Ambassador to Djibouti</li><li>• <b>Mr. Mustafa Shehu</b>, President, World Federation of Engineering Organizations (WFEO)</li><li>• <b>Dr. Nada Al Nafea</b>, CEO, Abdallah Al Fozan Foundation for Education</li></ul>
12:15 – 13:15	<b>High-level Dialogue: Ministerial actions to transform STEM in Africa</b> <ul style="list-style-type: none"><li>• <b>H.E. Torerayi Moyo</b>, Minister of Primary and Secondary Education, Zimbabwe</li><li>• <b>H.E. Nathaniel Cisco, Jr.</b>, Minister for STEM/TVET and Inclusive Education, Liberia</li><li>• <b>H.E Dr. Bayissa Badada</b>, State Minister, Ministry of Innovation and Technology, Ethiopia</li><li>• <b>H.E. Dr. Bonginkosi Emmanuel Nzimande</b>, Minister of Science, Technology and Innovation, South Africa</li></ul> Moderator: <b>H.E. Prof. Mohammed Belhocine</b> , Commissioner, Education, Science, Technology and Innovation, African Union
13:15 – 13:30	<b>Closing</b> <ul style="list-style-type: none"><li>• <b>H.E. Prof. Mohammed Belhocine</b>, Commissioner, Education, Science, Technology and Innovation, African Union</li></ul>
13:30 – 14:30	<b>Official Visit to the STEM Experience Hub &amp; Lunch</b>
<b>END</b>	

## Speaker and Moderator Biographies



### Track 1: Strengthening the foundations of STEM education

#### Jacinta Akatsa



Jacinta Akatsa is the CEO of the Centre for Mathematics, Science and Technology Education in Africa (CEMASTE) a pan-African institution whose mandate is STEM Training and Research. As CEO she has contributed immensely in upskilling the Kenyan teachers' Pedagogical skills in the teaching of Mathematics, Science and ICT integration thereby revolutionizing the teaching of sciences through STEM. At the international front, Mrs. Akatsa is the Executive Secretary for Strengthening Mathematics and Science Education in Africa (SMASE-Africa), a network of 29 African Countries. Through the network CEMASTE builds capacity of teachers and educators from the member countries and organizes the annual regional conferences in those member countries. As the CEO, Mrs. Akatsa hosts the Association of Development of Education in Africa (ADEA) Inter-Quality Node for Mathematics and Science on behalf of the Ministry of Education. Through the ICQN-MSE she spearheads policy dialogues on STEM education in Africa drawn from research.

#### Daniel April



Dr. Daniel April joined the GEM Report team in 2018, where he coordinates the Profiles Enhancing Education Reviews (PEER). Previously, he held roles as Academic Director and French as a Second Language Teacher at Université Sainte-Anne, and as a Research Associate at Université Laval. Since 2016, he has served as Vice-President of Communications for ADERAE. Daniel holds a Ph.D. in Educational Administration and Policy Studies, a Master's in Educational Administration, and a B.Ed. in French Second Language Education from Université Laval. His research interests include instructional leadership and professional learning communities. He has authored six books and numerous articles, presenting over thirty papers internationally. Recognized for his academic excellence, Daniel is a two-time recipient of the Governor General's Academic Medal of Canada and has received awards including the Vanier Research Fellowship and the Thomas B. Greenfield Award for Canada's Best Doctoral Dissertation in Educational Administration.

#### Sophia Ndemutla Ashipala



Sophia Ashipala, a distinguished educator with over 20 years of experience, has been pivotal in advancing equitable, quality, and inclusive education. Her dedication stems from the belief that every child deserves access to quality learning, regardless of their background. In her tenure at Namibia's Ministry of Education, she contributed significantly to curriculum development, teacher training, and educational outreach initiatives in underserved communities, driving projects to boost literacy and numeracy in rural schools. Her leadership has been instrumental in launching projects aimed at improving literacy and numeracy rates in rural schools. Currently, as Head of the Education Division at the African Union (AU), Ashipala shapes education policy and strategic programs, focusing on quality access, gender equality, and innovation. Her leadership has propelled initiatives promoting inclusive education across member states. Recognized for her dedication to addressing systemic challenges in education, she partners regionally and globally to create sustainable educational models, fostering lasting improvements in Africa's educational landscape.

#### Betelhem Dessie Asnake



Betelhem Dessie is a leader dedicated to empowering communities and addressing pressing social issues using AI. As the founder and CEO of iCog Previously known as iCog Anyone Can Code (iCog-ACC), she has pioneered AI education initiatives in Ethiopia, equipping young people with the skills to become innovators and problem-solvers. Betelhem's AI projects have a significant social impact, ranging from improving agricultural yields to enhancing access to healthcare. Her initiatives, such as "Leyu," contribute to the development of AI tools for low-resource languages, promoting linguistic diversity and empowering marginalized communities. By fostering a new generation of AI creators, Betelhem is driving positive change and shaping a brighter future for Ethiopia.

#### **Geritte Bakala**



Geritte Bakala is a civil servant and language teacher at Lycée NGANGA EDOUARD in Brazzaville. She has been teaching for almost ten years, and is particularly interested in teaching methods that incorporate new technologies. Geritte Bakala has been selected by her school authorities to take part in a training course organized by UNESCO in partnership with CODEMAO on the Kitten Editor, first in Brazzaville in December 2021, then in China at the end of July and beginning of August 2024. She holds a Master's degree in teaching, and a Research Master's giving her access to research into the impact of NICTs on language learning. During this conference, she will share her experience of participating in various training courses with CODEMAO.

#### **H.E. Nathaniel K. Cisco, Jr**



Assistant Minister Nathaniel K. Cisco Jr. is a prominent educator and advocate for the integration of technology in education in Liberia. Currently, he serves as the Assistant Minister for STEM and Technical Vocational Education and Training (TVET) and Inclusive Education. His career reflects a deep commitment to enhancing educational standards and making learning more accessible and relevant to students. His background in Information and Communication Technology has significantly influenced his approach to education. He recognizes the critical role that technology plays in modern learning environments and actively promotes its incorporation into curricula and teaching methods. His passion for technology in education stems from a belief that equipping students with digital skills is essential for their success in an increasingly technology-driven world. In his position as Assistant Minister for STEM/TVET & Inclusive Education, the Minister works to reform educational systems, ensuring that they are responsive to the needs of students and the economy. He advocates for improved teacher training, resource allocation, and the development of vocational programs that align with the demands of the job market.

#### **Stefania Giannini**



As the leading United Nations official in education, she oversees UNESCO's Education Sector, guiding the global implementation of Sustainable Development Goal 4, which advocates for inclusive, equitable, and quality education for all. A linguist by training, Ms. Giannini earned her PhD in Linguistics and became a professor in 1992, later serving as Rector of the University for Foreigners of Perugia (2004–2012), one of Italy's youngest and first female rectors. She contributed to international education initiatives, including as a member of the Erasmus Mundus Selection Committee and Italy's Commission for the Promotion of Italian Culture Abroad. From 2013 to 2018, she was a Senator of Italy and Minister of Education, Universities, and Research (2014–2016), where she spearheaded structural reforms emphasizing social inclusion and cultural awareness. As Chair of the EU Education Council in 2014, she championed creativity, cultural heritage, and innovation to foster social cohesion.

#### **Laura Hosman**



Dr. Laura Hosman is Associate Professor at Arizona State University, with a joint appointment in the School for the Future of Innovation in Society and The Polytechnic School. Her action-oriented work focuses on the social impacts of new technologies in developing countries, particularly in education, lifelong learning, and information literacy. She is also co-founder and co-director of the SolarSPELL initiative, housed at ASU. SolarSPELL is an offline solar-powered digital library and information literacy initiative designed for low-resource locations globally that may lack access to books, libraries, and internet connectivity. SolarSPELL's approach combines 1) co-created libraries featuring localized, educational, open-access digital content, 2) easy-to-use, ultra-portable, rugged, solar-powered technology, 3) partnered capacity-building, and 4) impact evaluation.

**Louisa Kadzo**



With over 18 years of experience in education, Louisa Kadzo is passionate about inspiring young people to realize their full potential. She currently serves as the Regional Coordinator for VVOB Kenya, where she plays a key role in coordinating the Gender Transformative Pedagogy (GTP) flagship theme within the EU-led Regional Facility for Teachers in Africa (RFTA) initiative. Louisa has previously held several strategic roles in education, including as a Strategic Education Advisor at VVOB, where she provided technical guidance on education policy and partnerships. Throughout her career, she has worked with various stakeholders, including policymakers and education professionals, to improve educational outcomes in Kenya and beyond.

**Fraciah Kagu**



Fraciah Kagu is the Advocacy and Partnerships Officer for the Forum for African Women Educationalists (FAWE). She holds a master’s degree in project management from the Catholic University of Eastern Africa, a Bachelor of Laws from the University of Nairobi, and a diploma from the Kenya School of Law. Admitted to the High Court of Kenya in 2014, she brings extensive expertise in advocacy, litigation, coalition building, policy influence, children’s rights, research, community development, and project management. Kagu has worked at national, regional (RECs), and African Union levels, excelling as a trainer in gender, education, and child rights governance. Previously, she held roles at organizations such as The CRADLE and the Eastern Africa Child Rights Network, focusing on child rights governance and anti-trafficking. She also contributed to the CSO Forum on the African Charter on the Rights and Welfare of the Child.

**Abdallah Loucif**



Abdallah Loucif holds a state diploma in educational and professional guidance, as well as a Master’s degree in psychological and educational sciences. He currently serves as President of the National Programs Council at the Ministry of National Education in Algeria. In this senior role, he leads a multidisciplinary team of educational inspectors from the primary, middle, and secondary education cycles, responsible for designing curricula and their teaching guides. Mr. Abdallah has extensive experience in both national and university education. Over the course of his career, he has served as an Inspector of National Education, a university lecturer, and the Director of the National Institute for Training National Education Personnel (INFPE). He is committed to strengthening STEM education through the appropriate use of artificial intelligence.

**Aretha Mare**



Aretha Mare is the Unit Manager for the Data and Security Infrastructure and Governance Unit at the Smart Africa Secretariat, where she leads efforts to build a fair, secure, and trusted data economy for Africa. She drives the creation of governance strategies and roadmaps, overseeing the implementation of critical pilot projects across the continent. Through the Africa Smart Women and Girls in ICT Initiative, Aretha collaborates with member states and key partners to accelerate the development of interventions that empower women and girls through STEM/ICTs, championing their participation in the digital economy.

**Nazaire Biwole Mbiok**



Dr. Nazaire Biwole Mbiok is a Physics and Chemistry teacher, a National Pedagogical Inspector of Chemistry in Cameroon and a Lecturer in the Chemistry Department of the Ecole Normale Supérieure de Yaoundé (University of Yaoundé I). He has a PhD in Applied Chemistry (Mention: Very Honorable) obtained in 1992 at the Ecole Supérieure d'Ingénieurs de Poitiers of the University of Poitiers, France. He is Cameroon's representative in Projet ARCHES, in charge of harmonizing Physical Science curricula in French-speaking Africa and the Designer of Projet Microscience in Cameroon, in collaboration with the University of de Witwatersrand (South Africa). He is presently the Director of the Centre d'Excellence en Microscience (CEM) in Yaoundé and was the Rapporteur of the Commission in charge of drafting the Agreement between UNESCO and the Cameroon Government on the establishment of the CEM as a UNESCO category 2 center.

#### **Marguerite K. Miheso-O'Connor**



Dr. Marguerite K. Miheso-O'Connor is a senior lecturer in Mathematics Education at Kenyatta University, with 40 years of experience in teacher education. Her expertise includes population studies, technology, STEM education and gender studies. She developed distance learning modules for Rwandan teachers with VVOB. Dr. Miheso has been a judge for the XPRIZE Global Learning Challenge and serves as Principal Investigator for projects like the global HP Catalyst initiative. She has published extensively in mathematics education and is an active supervisor for graduate students at Kenyatta University, and an external examiner for other institutions. After completing her postdoctoral fellowship at the University of Witwatersrand, she collaborated with Linnaeus University in Sweden to develop innovative mathematics education initiatives, including published books that emphasize new pedagogical approaches.

#### **Gertrude Namubiru**



Dr. Gertrude Namubiru is the Secretary General of the African Curriculum Association (ACA) and coordinator representative of the Continental Education Strategy for Africa (CESA) Curriculum cluster at the African Union. A professional teacher holding a Ph.D. in educational management, she has an MA degree in education management, leadership, planning and administration, a diploma in education majoring in mathematics and early childhood, and a post graduate diploma in curriculum studies. Additionally, she is a researcher and curriculum specialist in charge of mathematics at the National Curriculum Development Centre (NCDC) in Uganda and an international expert on mathematics education.

#### **Tengandé François Niada**



Tengandé François Niada is an expert in education and vocational training across West, Central, and North Africa, as well as Switzerland. He has collaborated with NGOs and international organizations, including Solidar Suisse, HELVETAS, PAMOJA Afrique, UNESCO, and the Jacobs/Zurich Foundations. Mr. Niada's work as an international consultant spans non-formal education, vocational training, and education in emergencies. Since 2022, he has served as Regional Thematic Advisor for Education, Training and Education in Emergencies for sub-Saharan Africa at the Swiss Agency for Development and Cooperation in Bern and, as of September 2024, as First Secretary at the Embassy for Development Cooperation in Niger, overseeing education, vocational training, and culture. He is committed to modernizing education in Africa, enhancing quality, promoting youth employment, and fostering inclusivity for marginalized groups. Active in educational networks in Switzerland and Africa, he has authored numerous reports and articles on education and training, with a focus on inclusion and local economies.

#### **Maurice Nkusi**



Maurice Nkusi is an international expert and researcher in education with a Master's degree in computer science and in Education; working for the Namibia University of Science and Technology as the Manager of newly establish Academic Development and Support for Teaching, Learning and Technology (ADS-TLT). He has 30 years of experience in the field of educational technology and also in continuing professional development programmes for educators at all levels, including basic and tertiary levels. Mr. Nkusi is involved in various projects, such as in capacity development for curriculum experts cross Africa and beyond organised by UNESCO-IBE, and also project in the area of techno-pedagogy, including 'integration of artificial intelligence and the impact of the fourth industrial revolution 4IR on education in general. He has been able to integrate these technological innovations on the different digital learning platforms, including offline solutions for equity and inclusiveness purposes.

#### **Yashwantrao Ramma**



Professor Yashwantrao Ramma has an M.Sc in Physics and Mathematics (Belarus), an M.A in Education (UK), a Ph.D. in Physics (Belarus), and a Post Graduate Certificate in Professional Education Studies [Mentoring] (UK). He is the Deputy Director General (Academic) at Université des Mascareignes, Mauritius. Previously, he headed the School of Science and Mathematics at the Mauritius Institute of Education. He has authored various articles on Science, Physics, and Technology education and has also written local textbooks for Primary Science and Grade 9 Science and Teacher's Guide. He has initiated multiple research projects in science and physics education at both primary and secondary levels. He led a joint project with Homi Bhabha Centre for Science Education, TIFR, on critical thinking in STEM subjects. A module for the PGCE programme has been developed, and it can be viewed at <https://online.fliphtml5.com/eisr/jjip/>; this emanated from an international research collaboration.

#### **Fatima Rihane**



Fatima Rihane is a distinguished leader in Educational Technology, currently serving as Senior Manager for Educational Business Development at CASIO Middle East and Africa. With a strong track record of forging strategic partnerships with Ministries of Education across the MENA region, she drives initiatives that integrate technology into STEM education, transforming diverse classrooms. Fatima has led large-scale teacher training programs in KSA, the UAE, Egypt, Morocco, Nigeria, and Kenya, and has overseen the rollout of educational content on national television in Nigeria, Lebanon, and Saudi Arabia. Her background as an educator and curriculum developer at Canadian University Dubai equips her with valuable insights into practical educational needs. As a judge for STEM competitions, she actively supports the development of critical thinking and innovation in students. Fatima, who holds an MBA from Davenport University, USA, is a regular speaker at international conferences and continues to advance educational reform through her expertise in technology integration and STEM-focused initiatives.

#### **Muhammed Safa Sahin**



Muhammed Safa Sahin is an Associate Project Officer in the Section of Education Policy, Division of Policies and Lifelong Learning at UNESCO, working on strategic planning and management in education. Safa is experienced in developing education sector analyses, plans, and strategies in diverse contexts including emergencies. Specializing in education management information systems and governance, he contributes to the design, coordination and implementation of policies, programs, and projects.

#### **Mary Wakhaya Sichangi**



Mary Wakhaya Sichangi heads the partnerships and linkages department at the Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA), Kenya and a Senior Mathematics Education expert with over 29 years' experience conducting research and teacher trainings in Africa. She holds a ministerial appointment to coordinate ADEA's ICQN-MSE a policy dialogue forum; and executive committee member, SMASE Africa network of 29 African countries. She holds a Doctor of Philosophy in Educational Communication and Technology, University of Nairobi-Kenya and Post-Graduate-Diploma-in-Teacher-Education, Hiroshima-University-Japan. She is passionate about capacity development in STEM education.

#### **Liya Tegared**



Liya Tegared is a passionate advocate for youth empowerment and a former participant in the iCOG training program. She has remained actively engaged with the organization, contributing as a trainer during summer camps and sharing her insights as a panelist in discussions hosted by MCF for International Women's Day and by UNICEF on youth-focused topics. She is the 6th National Science and Engineering Fair 2021 Best Girl Award recipient and is currently attending university at Addis Ababa University.

## Track 2: Advancing gender equality and inclusion in and through STEM



### Efua Adabie



Efua Adabie is a transformative STEM educator, consultant, and advocate for gender equality with extensive experience across Africa and Europe. As the founding Head Teacher of the African Science Academy, an innovative science and technology school for young women from across the continent, she played a pivotal role in equipping the next generation of female scientists with the skills to excel. With leadership roles as Head of Science and Technology in Ghana, South Africa, and the UK, Efua now consults with educators across Africa to enhance STEM teaching and learning. She has led teacher training initiatives to improve education quality and support high-achieving, low-income students, diversifying the STEM pipeline. A TEDx speaker and co-founder of the Breaking Doors Foundation, Efua is committed to empowering African youth to pursue STEM careers and fostering gender equality to advance STEM education across the continent.

### Gordon Aomo



Gordon Aomo is the Senior Knowledge Management Officer at Forum for African Women Educationalists (FAWE), with over 14 years' work experience in Results-based Monitoring and Evaluation. He has worked with development partners in the humanitarian, public health, social development, adolescent & young population), human rights and gender programmes. He has led in the design and operationalization of Results Based Monitoring & Evaluation systems. He has previously worked for international programmes in Kenya. He holds post graduate studies in Project Monitoring & Evaluation and bachelors' degree in Statistics. He is a member of Evaluation Society of Kenya, African Evaluation Association and American Evaluation Association. He has co-authored several publications e.g. Modelling Key Population Attrition in the HIV and AIDS Programme in Kenya Using Random Survival Forests with Synthetic Minority Oversampling Technique-Nominal Continuous. He is currently championing STEM uptake among girls and young women in Africa.

### Sabrina Atwiine



Sabrina Atwiine is a Ugandan tech entrepreneur focusing on Product management and development. She is the Founder/CEO of Nimarungi, a youth-led startup utilizing data, digital capacity-building programmes, and practical skills to address education inequality and foster resilience among learners. She is also a Chapter Ambassador for Technovation, recruiting, inspiring and mentoring girls aged 8-18 to identify problems and solve them using mobile applications. She won the Technovation Alumnae Changemaker Award in 2023 and was awarded a grant to empower women in Kabale district, a rural area in Uganda. Sabrina won the 2022 Social Entrepreneur Award for Uganda, She was a country winner for Global Startup Award, She was a Nominee for the Globant Women that Build, Recently she was recognized among the 40Under40 powerful women in Uganda by HiPipo.

### Lidya Berhanu



Lidya Berhanu is graduating this year from Addis Ababa science and technology university in the field of environmental engineering. She is involved in different youth advocacy platforms in tech and climate, and has been part of the African Girls Can Code Initiative (AGCCI).

### Salifou Boubacar



Salifou Boubacar is presently the manager of UNESCO's CapED (Capacity Development for Education) programmes in Niger. With a Master's 2 in education and training expertise from Paris 5 Descartes, Salifou's career path was as follows: trainer at ENI (Écoles normales de Niger) for seven years; head of the programs and training division, then director of initial and continuing training at Niger's Ministry of National Education before becoming national manager of UNESCO's CapEFA programme in 2012.

### Dylan Busa



Dylan Busa has worked in formal and informal STEM education for over 25 years as a teacher, curriculum developer, content and textbook author, teacher trainer and programme leader. He started his career as a mathematics and science high school teacher, before joining Mindset Network, a non-profit producing and broadcasting educational media across Africa, where he led content development. In 2014, he joined FHI 360 as the Southern African Programme Manager for Design Squad Global, an out-of-school engineering programme, before consulting independently from 2017 to private organizations, non-profits and national governments on curriculum and content development, education technology, and education policy, and directed the development of six textbooks and a national technical education programme. In 2021, he rejoined FHI 360 to

lead learning and content for Next Engineers, a global out-of-school college- and career- readiness programme designed to increase the diversity of young people in engineering, currently operating in five cities.

### Mmampei Chaba



Mmampei Chaba has been Chief Director responsible for Multilateral and Africa engagements within the Department of Science and Innovation (DSI), South Africa for the last 13 years. She manages South Africa's global and African multilateral Science, Technology (STI) and Innovation relations with organisations such as the UN, SADC and the African Union and oversees 26 STI bilateral agreements between South Africa and strategic African nations. Previously, she was Director of Multilateral Cooperation (2006-10) within the DST and as a Deputy Director in Multilateral Cooperation (2004-06) and was seconded to the UK in 2008. Earlier, she worked as a Medical Scientist in the Department of Health for 5 years. Ms. Chaba holds a BSc in Chemistry and Biochemistry from the University of Cape Town, an Honours degree in Human Genetics, and a Master's in Responsible Leadership, both from the University of Pretoria.

### Aminata Dembele



Aminata Dembele is a cybersecurity expert with a PhD from PAUSTI, specializing in AI-driven network intrusion detection. She leads MASSAMOUSSO (Les Reines du numérique), empowering Malian women through technology. She has won a hackathon for a mobile alert app, KAKOFO (DENOUNCE), to combat corruption and harassment in Mali. She is committed to using technology for social change and empowering marginalized communities. She is also a commissioner for political affairs at the African Youth Commission.

### Amsale Gebrehana



Amsale Gerbehana graduated from Addis Ababa University in software engineering. She is currently working as a freelance full-stack developer on Upwork, a part-time full-stack developer at a USA startup company and a backend developer at Kemer Habesha.

### Sinit Hailay



Sinit Hailay is a third-year student at Addis Ababa University studying business administration and ICT systems. She is also a dedicated website developer, teaching children gaming and animation as part of her commitment to empowering the last generation in tech. Her journey began in 2018 when she joined the African Girls Can Code Initiative (AGCCI) camp. This experience changed her life, deepening her passion for technology and inspiring her to uplift other girls by sharing digital skills. The AGCCI camp opened doors, helping her to gain confidence and skills that set the foundation for her future.

#### **Doreen Irungu**



Doreen Irungu is the Executive Chairperson of Ustawi Afrika and Africa's Coordinator for NAWFAT, leading impactful initiatives in women's empowerment, technology, and agriculture. At Ustawi Afrika, she supports over 7,000 rural women in semi-arid regions through training in regenerative farming, water harvesting, and climate-smart agritech, enhancing food production and income while addressing climate challenges. Doreen holds a Bachelor of Commerce in IT and a Diploma in Community Development, combining entrepreneurship with community-driven solutions. She has showcased her work on international platforms such as Katapult Future Fest and the African Women in Technology Conference. Recognized as a 2024 Leading African Women in Agriculture Fellow and World Food Prize TAP Pioneer, Doreen is noted for advancing gender equality and technology in agriculture. She co-founded Mentor-Match under TechWomen, an initiative designed to connect women in STEM with role models, fostering leadership and professional growth in the field.

#### **Diallo Kadia Maiga**



Professor Diallo Kadia Maiga is Secretary General of the Malian National Commission for UNESCO and ICESCO, and Professor of Microbiology and Biochemistry at the Faculty of Science and Technology, Université des Sciences des Techniques, et des Technologies de Bamako. She is also researcher at the Laboratoire de Recherche en Microbiologie et Biotechnologie Microbienne at USTTB and Member of the Executive Council of the Islamic World Organization for Education, Science and Culture. She is the Coordinator of the Scientific Coordination Committee of the Miss Sciences contest in Mali (2018 - 2024). She is also Vice-president of the Editorial Committee of the textbook: The Saints of the Timbuktu mausoleums inscribed on UNESCO's World Heritage List, and Member of the Mission Universitaire de Ségou et de Tombouctou. She is also the author of several scientific publications, including: Des souches microbiennes pour une production de datou amélioré published by the Editions Universitaires Européennes.

#### **Martha Muhwezi**



Dr. Martha Muhwezi leads the FAWE Regional Secretariat, overseeing daily operations, fiscal management, fundraising, advocacy, HR, and strategic program implementation across the FAWE network. She previously coordinated FAWE programs in 34 National Chapters, aligning them with strategic objectives. Before this, she served as Technical Advisor and later Executive Director of FAWE Uganda and worked as a Program Officer at Child Fund International. With over 20 years in civil society, Dr. Martha specializes in Organization Management, Program Coordination, Gender Mainstreaming, Strategic Planning, Advocacy, and Monitoring and Evaluation. She holds a PhD in Gender Studies from the University of Nairobi, a Master's in Women Studies, and a Bachelor's in Education from Makerere University, Uganda.

#### **Dianah Mutoni**



Dianah Mutoni is an academic staff member at the University of Rwanda's College of Business and Economics and a PhD candidate at KU Leuven, Belgium, under a programme funded by the Flemish Interuniversity Council (VLIR-UOS). Her research investigates the factors that foster engagement and enthusiasm among female high school students in STEM education in Rwanda. Dianah's study seeks to identify the barriers faced by girls in STEM fields and to propose strategies for creating a supportive and empowering educational environment that encourages more girls to pursue STEM careers, addressing the persistent gender imbalance in these disciplines.

#### **Caroline Nyaga**



Caroline Nyaga is a professional in the field of Education with expertise in STEM education where she taught STEM subjects in different schools across Kenya. Caroline is currently a Teacher Trainer working with Digital Education Africa Network (DEAN), where she trains teachers on digital literacy skills and 21st century skills. Caroline is also the passionate founder and CEO of Women in STEAM initiative, an innovative educational organisation that seeks to empower, educate and engage girls and young women to take up STEM for

economic development and empowerment. Her passion is to reduce the gender gap in STEM and have more girls take up STEM career pathways. She is also the vice president of Wi-STEM Africa and the Head of African Womens Network in STEAM of Alliance STEAM Afrika Education (ASAE).

#### **Maria Omare**



Maria Omare is the founder and executive director of TheAction Foundation, an organization working to build inclusive and resilient communities where children and young people with disabilities can thrive. She is an award-winning disability inclusion advocate, social entrepreneur, and educator committed to inspiring change and hope in underserved communities. She is passionate about early childhood development, social justice, youth advocacy, human rights, and gender equality. Among other accolades, she has been awarded the prestigious Cordes Fellowship, Ford Motor Company International Fellowship, Akili Dada Fellowship, Business Daily's Top 40 under 40, and in 2019 she received the U.S. State Department Professional Fellows Program Alumni Impact Award.

#### **Olivia Serwaa Opare**



Olivia Serwaa Opare is a dedicated Science Educationist and advocate for women's empowerment. She serves as Director of Science Education at Ghana's National STEM Resource Centre and is the STEM Ambassador for the Ghana Education Service. Olivia is also the deputy focal point for AUDEA-NEPAD and the government point of contact for GLOBE-GHANA. During the COVID-19 pandemic, she created digital science lessons for primary and junior high students in Ghana. Known for integrating climate education, she trains educators and students on climate change and the green economy. As a Curriculum Panel member and curriculum guide writer for Senior High Schools, she works to strengthen education. Olivia contributed to developing the Master's in Mathematical Sciences for Teachers and the Girls in Mathematical Sciences Program at AIMS Ghana. Her international presentations on STEM education underscore her commitment to making Ghana and Africa STEM-focused societies.

#### **Ruvarashe Sadya**



Ruvarashe Sadya is a Zimbabwean tech education advocate and current Program Support Intern at Technovation Global. Her journey with Technovation began as a participant in their global coding challenge for young girls, where she reached the World Semifinals. This experience ignited her passion for technology and social impact. Now, she supports initiatives to make education more accessible, focusing on empowering African communities. A computer science student at Ashesi University in Ghana, she also serves as Lead Organizer for TEDxAshesiUniversity, aiming to amplify African narratives on the global stage. She believes that when young African girls see themselves in tech and entrepreneurship, they dare to dream bigger – a journey she experienced firsthand as a Technovation alumna.

#### **Justine Sass**



Justine Sass is presently the Chief of the Section of Education for Inclusion and Gender Equality at UNESCO Headquarters in Paris, France. Over the past 25 years, she has championed gender equality, girls' and women's empowerment, and the right to education and health. Within UNESCO, Justine has worked as Asia-Pacific Regional Advisor for Health Education in the UNESCO Bangkok Office, and as Senior Programme Specialist in the Health and Education Section. Justine has also worked for other international organizations, NGOs and government agencies in Asia and the Pacific, Sub-Saharan and North Africa and Eastern Europe. Justine holds Masters degrees in Gender and Development Studies and Public Health.

#### **H.E. Stephanie S. Sullivan**



President Biden appointed Stephanie S. Sullivan as Ambassador to the African Union on June 21, 2024, following her Senate confirmation on June 20. Sullivan served as Acting U.S. Deputy Representative at the U.S. Mission to the United Nations for five months in 2024. Her prior roles include U.S. Ambassador to Ghana (2018-22), where she was also Political Chief from 1997-2001, and U.S. Ambassador to the Republic of Congo (2013-17). Additionally, she held positions in Cameroon and acted as Principal Deputy Assistant Secretary for the Bureau of African Affairs. Joining the State Department in 1986, Sullivan worked in crisis management

and served in the White House Situation Room. She was Chief of Staff to the Deputy Secretary for Management and Resources and a desk officer for West African nations. A former Peace Corps volunteer in the Democratic Republic of Congo, she holds degrees from Brown University and the National War College. Sullivan speaks French and Lingala.

#### **Dawit Teshome**



Dawit Teshome is a versatile Learning and Development Specialist, Project Manager, and Trainer with a strong foundation in capacity building programs. Based in Addis Ababa, Ethiopia, Dawit brings over four years of professional experience in delivering impactful training programs, managing projects, and leading community development initiatives. Dawit's expertise extends to facilitating youth empowerment, employability skills, and leadership development, including work with marginalized groups. As a member of the Global Youth Leadership Advisory Board at DOT, Dawit has participated in climate initiatives and represented Ethiopian youth in international forums.

#### **Mulunesh Tsegaye**



Mulunesh Tsegaye is a Gender, Social Development, and Public Health Specialist with nearly 20 years of experience. As the dynamic and driven Coordinator of a continental of the African Girls Can Code Initiative (AGCCI) at the UN Women Liaison Office to the AUC and UNECA, she focuses on improving the resource poor communities particularly women and youth in the developing world. Mulunesh integrates gender, diversity, and inclusion in grassroots development interventions. Her extensive project management background spans education, reproductive health, and agricultural development for food security and nutrition. With over seven years in the CGIAR system, Mulunesh has conducted qualitative and quantitative research and co-authored publications, including in peer-reviewed journals. She has contributed to program designs, led project implementation, conducted policy analysis, and used evidence to influence policymakers – ensuring gender aspects are strongly incorporated. Mulunesh holds master's degrees in Gender Studies and Public Health (MPH) and a BA in Business Management.

#### **Quentin Wodon**



Quentin Wodon is Director of UNESCO IICBA, he worked at the World Bank, including as Lead Economist, Lead Poverty Specialist, and manager of the unit on values and development. Before that, he taught with tenure at the University of Namur. He has also taught at Addis Ababa University, American University, and Georgetown University. A business engineering graduate, after an assignment in Asia as Laureate of a Prize, he worked in brand management for Procter & Gamble. He then shifted focus to join a nonprofit working with the extreme poor. This led him to pursue a career in international development. Quentin holds four PhDs, has over 700 publications, and has worked on policy across sectors in over 60 countries. As part of his volunteer work, he has held multiple leadership positions with nonprofits. His research has been covered by leading news media globally.

#### **Alice Yakubu**



Alice Yakubu is a passionate young Ghanaian leader dedicated to empowering young people in Ghana and beyond. As the Founder and Team Lead of Alice TalkWorld, she creates socio-economic platforms for tertiary students to connect with the corporate sector, organizing nationwide networking events and inspiring startups aligned with the SDGs. Her impactful roles include serving as Assistant Education and Eco Club Coordinator at the Green African Youth Organization (GAYO) and as the 57th Deputy Head for Adolescent and Menstrual Hygiene Working Group under the National Union of Ghana Students (NUGS). An active volunteer with organizations like Plastic Punch and McKingtorch Africa, she champions sustainability and youth development. Currently pursuing a BSc in Information Technology at the University of Ghana, Miss Yakubu also serves as Programmes Officer for Gender Advocacy at the All-Africa Students Union (AASU), redefining youth advocacy and fostering lasting change across the continent.

**Simone Yankey**



Simone Yankey is the Acting Coordinator of the African Union/International Centre for Girls and Women’s Education in Africa (AU CIEFFA) and serves as Senior Policy Officer, overseeing various portfolios. She previously worked as a Senior Program Officer at the African Union Commission’s Women, Gender, and Youth Directorate in Ethiopia. She holds a D.E.S.S in Human Rights from the Catholic University of Louvain, Belgium, and a Master’s in Governance & Development from the University of Antwerp, Belgium. Certified in areas like gender-responsive policy, negotiation skills, results-based management, and gender-sensitive education planning, she brings extensive expertise. Mrs. Yankey has also been a social worker in Belgium and a legal advisor on Arts, Culture, and Human Rights in Ivory Coast. Her vision is an Africa where girls and women achieve social, economic, and political empowerment

through lifelong quality education. Her vision is to see “An Africa in which girls and women are socially, economically and politically empowered through quality education throughout their lives”.



**Abdon Atangana**



Prof. Abdon Atangana is a renowned mathematician and a professor at the University of the Free State in Bloemfontein, South Africa. He is celebrated for his groundbreaking work in fractional calculus, particularly the development of fractional differential operators with non-local and non-singular kernels. Since 2013, he has published extensively in over 165 international accredited journals, covering applied mathematics, applied physics, geo-hydrology, and bio-mathematics. Prof. Atangana's research has practical applications in various fields, including modeling the spread of infectious diseases, analyzing heat transfer, and studying groundwater flow and contamination<sup>1</sup>. He has introduced several innovative mathematical operators, such as the Atangana-Baleanu fractional derivative and the Atangana-Gomez fractional differential operators. His contributions have earned him numerous accolades, including being named a UNESCO-AI Fozan International Prize Laureate in 2023.

**Kazawadi Papias Dedeki**



Kazawadi Papias Dedeki is a visionary engineer yearning for proper shaping of Africa's destiny and a catalyst for change in engineering landscape for reliable solutions aimed at sustainable progress and prosperity. With 25+ years of expertise, he is the President of the Federation of Africa Engineering Organizations (FAEO), Immediate Past chair of WFEO Committee on Anti-Corruption (CAC), the Immediate Past President of the Institution of Engineers Rwanda (IER) and the founder of STAR CONSTRUCTION AND CONSULTANCY Ltd among others. Mastery in Circular Economy, Construction Project Management, Arbitration and Mediation. IAPM, AETDEW, and AAET Fellow. Eng. Kazawadi is also an entrepreneur and the driving force behind TASKS AFRICA CBC, which is a dynamic social enterprise committed to transforming the landscape of the built environment in Africa. Committed to nurturing future leaders' talents for problem-solving mindsets and advancing AfCFTA for the "Africa we want" in 2063.

**Taye Demissie**



Professor Taye Demissie is a faculty member at the University of Botswana, specializing in experimental and computational research for drug discovery aimed at treating breast cancer and bacterial infections. So far, he has published more than 95 research articles in high impact factor journals. In addition to teaching and research, Professor Demissie is deeply committed to promoting STEM education across Botswana and Africa. Through the European Council-funded FAST4Future project, he drives a dynamic STEM movement that includes initiatives in Space Science and Astronomy, impacting Botswana, South Africa, Zambia, and Nigeria. He is the Chairman of the Dissemination and Outreach Committee of FAST4Future. His efforts are highlighted by the organization of annual STEM festivals in each of these countries, fostering a strong interest in science among young minds. As a member of

Botswana's National Organizing Committee for National Science Week and STEM Festivals, Professor Demissie's contributions extend to nationwide STEM activities, inspiring the next generation of scientists and innovators.

**Sicelo Dube**



Sicelo Dube is the CEO of STEM Lady Holdings in Zimbabwe and a prominent advocate for STEM education, girl empowerment, and entrepreneurship. She is a Mandela Washington Fellow and a member of the STEM expert knowledge network under the United Nations Office of the Adviser to Africa Dube founded LEC Biotech at the age of 23 to support science education by providing essential laboratory equipment and chemicals, particularly in rural schools. She also established Elevate Trust, a non-profit organization focused on youth development and mentoring girls in STEM careers through initiatives like the Innovators Hub Club and STEMFem Network. Dube holds an MBA from the University of Gloucestershire, an MSc in Applied Microbiology and Biotechnology from the National University of Science and

Technology, and a BSc in Biological Science and Biochemistry from the University of Zimbabwe. Her work continues to inspire and drive innovation in STEM education across Zimbabwe.

#### Daouda Hamadou



Daouda Hamadou is CEO of NOVATECH, where he has driven digital transformation in Niger for a decade, focusing on solutions in Agriculture, Health, and Education. An EMIG Niamey graduate in Industrial Computer Science (2004) and MBA holder from ADU Niamey (2019), he specializes in Leadership, Innovation, and Entrepreneurship. He is presently pursuing a Master's in AI at ESTIA France. With 19 years in ICT, Management, and Innovation, Daouda has led impactful projects in E-Health, E-Agriculture, E-Education, and AI for Good. Daouda's contributions in the integration of AI-driven solutions in sectors such as agriculture and healthcare are significant. His work includes enhancing crop yield predictions and public

health analytics through AI. He consults for major organizations like the African Development Bank, EU, FAO, ITU, UNICEF and the World Bank. Recognized through YALI and the Young Leaders Africa-France Program, Daouda also manages Niger's National Robotics Team, promoting AI in education. He is a Tony Elumelu Foundation beneficiary and a World Bank competition winner.

#### Anjani Harjeven



Anjani Harjeven is a transformation specialist and CEO of WomHub. Anjani champions the growth of an inclusive STEM ecosystem for girls and women, spanning education, technology, and investment. Leading strategy and development, she shapes WomHub's offerings at the intersection of gender, tech, sustainability, and finance. Anjani collaborates with public and private stakeholders to advance DE&I initiatives shaping future economies. As a thought leader, she focuses on gender transformation, entrepreneur investment needs, and women's leadership development. With 24 years' experience across Africa, Europe, and Asia, she has led major change programmes and advisory roles in business growth, capability development, change and talent management, and cultural transformation. Passionate about human potential and change leadership, she excels as a facilitator, mentor, and coach. Anjani resides in Johannesburg with her teenage daughter and maintains global affiliations, including Johns Hopkins University, the Royal Academy of Engineering, Stanford Seed, and the Global500 group.

#### Ali Hassanali



Professor Ali Hassanali obtained his PhD in 2010 in Theoretical Physical Chemistry at The Ohio-State University, and then did Postdoc Fellowship at ETH-Z. He is presently a Senior Research Scientist at The Abdus Salam International Center for Theoretical Physics (ICTP) in Trieste where he leads a research group in Condensed Matter Physics studying liquids, biological systems and light-matter interactions.

#### Emmanuel Manasseh



Dr. Emmanuel Chifuel Manasseh is the ITU Regional Director for Africa, based in Addis Ababa, Ethiopia. He has over 17 years of experience in the telecommunications sector, specializing in public policy and evidence-based policy analysis. Dr. Manasseh holds a Doctor of Engineering from Hiroshima University, Japan, where he also earned his master's degree. He completed his Bachelor's degree in Telecommunications Engineering at the University of Dar es Salaam, Tanzania. His career includes roles as a lecturer at the Nelson Mandela African Institute of Science and Technology (NM-AIST) in Arusha, Tanzania, and as Director of Industry Affairs at the Tanzania Communications Regulatory Authority (TCRA). Dr. Manasseh has also worked as a Telecommunications Engineer at Celtel Tanzania Limited (now Airtel Tanzania). He is

actively involved in professional organizations, including the Engineers Registration Board of Tanzania and the Institute for Electrical and Electronics Engineers (IEEE).

### **John Matogo**



John Matogo is the Corporate Social Responsibility Leader for Africa and the Middle East at IBM, a role he has held since September 2014. He brings extensive experience from the academic community and innovation ecosystem in Africa. Matogo's responsibilities include leading IBM's social impact programs in the region, focusing on skilling learners at various levels, promoting volunteerism, and advancing sustainability initiatives. Before joining IBM, Matogo was the founding Manager of @iBizAfrica, the business innovation center at Strathmore University, and a faculty member in the Faculty of Information Technology. He has been instrumental in forging collaborations with numerous institutions of higher education and ministries of education, resulting in over 3,000 certifications and training for more than 50,000 students and faculty members on emerging technologies. His work continues to drive significant social and educational advancements across the Middle East and Africa.

### **Yalemtsehay Mekonnen Tadesse**



Yalemtsehay Mekonnen Tadesse is a Professor of Cell and Human Physiology. She is an academic staff at the College of Natural and Computational Sciences of Addis Ababa University, Ethiopia. In leadership positions she was involved and has initiated a number of national and international research networks and collaborations. She has also mentored young professionals specially women. She has received several awards; excellent achievements Gold medal by the Addis Ababa University in 2009, the 2015 the African Union Kwame Nkrumah Scientific Awards for high achievement for women in science. She has been appointed as Ambassador Scientist by Alexander von Humboldt Foundation of Germany as part of a worldwide network for excellence in science from 2016 to 2021. She is one of the founding fellows and the current Principal Vice President of the Ethiopian Academy of Sciences and also a fellow of The African and the Third World Academy of Sciences.

### **H.E. Dr. Bonginkosi Emmanuel Nzimande**



H.E. Dr. Bonginkosi Emmanuel Nzimande is the Minister of Science, Technology and Innovation on Previously, he served as Minister of Higher Education, Science and Technology (2019-2024). Amongst his responsibilities, he led projects and initiatives in the fight against Covid-19, including the establishment and funding of the genomic surveillance project that led to the discovery of variants of Covid-19. Dr. Nzimande's academic background includes a PhD in Sociology from the University of Natal, where he also completed his Honours and Master's degrees in Psychology and Industrial Psychology, respectively. His career is marked by a strong commitment to education and social justice, having been involved in anti-apartheid activism and labor movements. As the former General Secretary of the South African Communist Party (1998-2022), Nzimande has been a key figure in shaping South Africa's educational policies. His extensive experience in both academic and political spheres positions him well to drive innovation and technological advancement in his current ministerial role.

### **Carla Puglia**



Carla Puglia is the Director of the Physics Program at the International Science Programme (ISP), Uppsala University in Sweden. ISP is a unit working with research and education capability building in Physics, Chemistry and Mathematics in low- and lower middle-income countries. She is also responsible for the ISP program promoting the access of girls to higher education and research at the supported institution. As Professor in Condensed Matter Physics, at the Department of Physics and Astronomy at UU, she led a research activity focused on synchrotron based spectroscopic characterization of molecular materials with potential applications in renewal energy devices. Carla has worked for a long time with internationalization, as Masters' program and Erasmus exchange coordinator. She also created a Masters' Program for double and triple degrees with the Sorbonne (France) and the University of Antwerp (Belgium).

#### Mustafa Shefu



Engr. Mustafa Balarabe Shehu is a distinguished electrical engineer. He is the World Federation of Engineering Organizations (WFEO) president. He studied electrical engineering at Ahmadu Bello University and began his career at the 1,320MW Lagos Thermal Power Station in Egbin. He later joined the Kano State Rural Electricity Board, rising to the position of Assistant Director in 1998. In 2000, he co-founded MBS Engineering Limited, specializing in electrical, mechanical, and power engineering, as well as Oil and Gas services. Shehu served as President of the Nigerian Society of Engineers (2012-2013) and the Federation of African Engineering Organizations (2015-2016). He is a Fellow of both the Nigerian Society of

Engineers and the Solar Energy Society of Nigeria. In March 2022, he was elected President-Elect of. His leadership continues to advance engineering practices globally.

#### Rovani Sigamoney



Rovani Sigamoney is a chemical/environmental engineer from South Africa who started in the platinum refinery/mining sector and then moved on to researching bioenergy systems and biofuels for Africa. She joined UNESCO HQ in Paris, France in 2007, in the Natural Sciences Sector. She thereafter took over the UNESCO Engineering programme. Rovani is passionate about women in engineering and encouraging more youth to pursue careers in engineering and STEM. Now, as part of the Education team in Harare, Rovani is excited to be continuing with Girls in STEM and also working on Higher Education, TVET, Climate Change, Disaster Risk

Reduction Education and Early Childhood Development. She has contributed to published articles on Life-cycle assessment, Engineering Education and Girls in STEM. Rovani coordinated the 2nd engineering report, one of UNESCO's flagship publications, entitled "Engineering for Sustainable Development", printed 10 years after the first one, which was published on World Engineering Day in 2021.

#### Lwandle Simelane



Lwandle Simelane brings over six years of experience in the Science and Innovation sector. Currently, she serves as the Secretary General of the Eswatini National Commission for UNESCO, where she focuses on UNESCO's key areas of competency, including education, science, culture, and information and communications. Lwandle holds a master's degree in biotechnology, a Postgraduate Diploma in Business Administration, and a certificate in Strategic Management. She is also a former Next Einstein Forum Ambassador for Eswatini and a proud alumna of the Mandela Washington Fellowship. As a diligent, teachable, and highly motivated individual, Lwandle is deeply committed to addressing critical issues related to

women and youth representation and opportunities within the National System of Innovation. Her passion and expertise make her an invaluable advocate for developing innovative solutions and fostering inclusive growth in her community.

#### Kelvin Solo



Kelvin Solo is a mechatronics engineer who is passionate about sustainable mobility. He is a Senior Hardware Engineer at Mazi Mobility Limited and designs and develops infrastructure to support the adoption of E-Mobility in Kenya. His expertise lies in the seamless integration of mechanical, electrical and computer engineering principles to design robust and scalable infrastructure tailored to the evolving needs of the EV ecosystem. He has played a pivotal role in designing and developing the first locally made smart battery-swapping station for 2 wheelers in Kenya and Africa.

#### Anushka Soma-Patel



Anushka Soma-Patel is a recognized leader in blockchain-based digital identity and self-sovereign identity solutions. Since 2018, she has pioneered advancements in digital identity, aiming for a more equitable and secure digital future. As an ambassador for the Global Acceptance Network (GAN), she governs decentralized digital trust infrastructure. Anushka also serves as Co-Chair of the South African Financial Blockchain Consortium (SAFBC) Identity Working Group and leads the AUDA-NEPAD Blockchain Report. She lectures on blockchain at the University of Cape Town's Fintech Program and contributes to the South African National Blockchain Alliance (SANBA), the Bankser Africa Digital Identity Project, and the Trust over IP

Foundation. With over 25 years of industry experience, Anushka bridges existing and emerging worlds, analyzing blockchain technology's potential for social and economic change. Her open and empowering approach connects people and organizations, driving both local and global blockchain initiatives.

#### **Djeneba Beldohore Thiam**



Djeneba Beldohore Thiam is a data scientist with over ten years of experience in designing and implementing complex health studies. With expertise in statistics, she supports teams and partners through key stages of project planning and execution. Her work encompasses public health, resilience, agriculture, and development initiatives with international organizations. As a dedicated STEM advocate, she co-founded Go4STEAM, an organization committed to breaking down barriers that discourage young women in Senegal from pursuing STEM education and careers. Go4STEAM addresses gender stereotypes by providing young girls with hands-on STEM activities and inspiring role models, empowering them to innovate, lead projects, and create impactful solutions for their communities.

#### **Mariamawit Yonathan Yeshak**



Dr. Mariamawit Yonathan Yeshak is an Assistant Professor of Pharmacognosy at Addis Ababa University. She holds a PhD in Pharmacognosy from Uppsala University, Sweden. Her research focuses on drug discovery from natural products, particularly Ethiopian medicinal plants with potential antimalarial activity. Dr. Yeshak leads the Bioactive Secondary Metabolites for Improving Life (BaSIL) research group, funded by the International Science Program at Uppsala University. She is also a member and vice chair of the Ethiopian Young Academy of Sciences, reflecting her commitment to using science for societal benefit. Dr. Yeshak's work on cyclotides, a class of plant peptides, is of significant interest in her research. Her contributions to pharmacognosy and her leadership in scientific research continue to impact the field positively.

#### **Martial Zebaze Kana**



Prof. Martial Zebaze Kana is currently the Head of Science, UNESCO Regional Office for Southern Africa. He was previously the Chief of Section, Innovation and Capacity Building in Science and Engineering at UNESCO Headquarters in Paris where he also served as executive secretary of the International Basic Science Programme. Prior to joining UNESCO in 2017, he was the Deputy Provost, College of Engineering and Technology, Kwara State University, Nigeria. He was also the UNESCO Chairholder in alternative energy at the same institution. Martial Zebaze Kana has been a visiting professor in many universities and research laboratories. His research focused on experimental studies of inorganic, organic and hybrid devices with special interest in devices on flexible or stretchable substrates in the field of renewable energy. He holds a PhD degree in experimental Solid State Physics.



**Rita Bissoonauth**



Dr. Rita Bissoonauth is currently the UNESCO Director to the Liaison Office to the African Union & UNECA as well as the Representative to Ethiopia. She previously headed the African Union International Centre for Girls and Women's Education in Africa (AU/CIEFFA) based in Ouagadougou, Burkina Faso from 2014-2022. In 2020, Rita was honoured as one of the 100 Most Influential African women. Before moving to Ouagadougou, she was a Senior Policy Officer in Education for five years at African Union Commission in Addis Ababa. She has also worked as a Senior Lecturer at the Mauritius Institute of Education in Mauritius and the University of Quebec in Montreal, Canada teaching Biochemistry, Molecular Biology and Science Education. Rita holds a Master's degree in Biochemistry from the University of Lyon, France and a Ph.D. in Education from the University of Quebec in Montreal, Canada.

**Alex Blanshard**



Dr. Alex Blanshard, holding a BSc (Hons) in Chemistry along with an MSc and PhD in Food Science, has two decades of STEM education experience in the UK, including ten transformative years as a changemaker focused on equitable access to quality STEM education. Passionate about advancing education in Sierra Leone, Dr. Blanshard leveraged diaspora networks to address barriers to STEM learning. He secured Comic Relief funding to investigate challenges faced by girls in Freetown and Moyamba District and played a key role in rewriting Sierra Leone's Senior Secondary School Science Curriculum in 2021. He also collaborated with Sierra Leone's Nutrition Directorate and the University of Greenwich's Natural Resources Institute on preliminary research into using indigenous crops to produce Ready-to-Use Therapeutic Foods (RUTF) for infants. Currently, Dr. Blanshard heads the Chemistry Department at Fourah Bay College and serves as Policy, Monitoring, and Promotion Officer for NSTIC-SL, driving science and innovation for national development.

**Tadesse Deme**



Tadesse Deme, born in Jeldu, Oromia, pursued his education across various regions, completing preparatory studies at Hawassa Tabor Preparatory School. He holds a Bachelor of Education in Physics from Dilla University, an MEd in Physics from Addis Ababa University, and an MA in Educational Leadership from Kotobe University of Education. Additionally, he earned a Bachelor of Orthodox Tewahedo Theology from Holy Trinity Theological University. Tadesse's career began as a physics teacher and department head at Asko Secondary School in Addis Ababa, followed by six years at the School of Tomorrow. He then joined the Ministry of Education's Mathematics and Science Education Improvement Center as a national physics trainer and is currently the director of the STEAM Education Development Desk. He has coordinated STEAM training frameworks, science guidelines, and contributed to research and academic module development. Tadesse also represents Ethiopia at international conferences with JICA, UNESCO and SMASE Africa.

**Julius Ecuru**



Dr. Julius Ecuru is a Principal Scientist at the International Centre of Insect Physiology and Ecology (icipe) and Manager, Regional Coordination Unit of the Regional Scholarship and Innovation Fund (Rsif) and BioInnovate Africa, a regional science and innovation programme at icipe. Dr. Ecuru works on issues related to technological innovation and supports scientists to translate research outputs into practical uses in society. He also contributes to scholarly work in the chemical and bioengineering sciences and supports regulatory science and research ethics capacity development in academic and research environments. Dr. Ecuru received a B.Sc (Chemistry) Honours and M. Sc in Environment and Natural Resources from Makerere University, Kampala, and has a Ph.D in Technology from the Blekinge Institute of Technology, Sweden. He also has a postgraduate diploma in International Research Ethics from the University of Cape Town, South Africa, and an MBA from the United States International University-Africa in Kenya.

### **Njora Hungi**



Njora Hungi is a Senior Project Officer at UNESCO-IICBA where he leads research in a range of areas including most recently burnout among university lecturers, the impact of the COVID-19 pandemic on school leadership, and how to deliver distance learning on e-platforms. He joined IICBA in 2019 from the APHRC where he provided leadership on education projects – including evaluating the impact of a preschool intervention; assessing 21-century skills among youth; examining schooling and learning among children in rural settlements; evaluating the impact of fee-funding on school participation; and assessing the effects of community-based interventions. Before joining APHRC, he oversaw technical aspects of SACMEQ in 14 countries in SSA. Hungi has also worked as a consultant in various international projects. He holds a Ph.D. in Education Measurement from Flinders University, Australia.

### **Chomora Mikeka**



Chomora Mikeka is the Director of Science, Technology and Innovation in Malawi's Ministry of Education and an Associate Professor of Physics (Wireless Communications) at Chancellor College, University of Malawi. He holds a Doctorate in Engineering from the Division of Physics, Electrical and Computer Engineering at Yokohama National University, Japan (2012), and is the Chairperson of the African Standards Organization (ARSO TC 78 - Medical Devices), National Commission for Science and Technology, Pharmacy, Medicines and Regulatory Authority and Southern African Development Community (SADC) Regional Medical Devices Forum Technical Working Group. Director Mikeka was recently appointed to the Malawi

Space Agency Taskforce. He is, on behalf of the Malawi Government, the 1st Vice Chair for the African Union Specialized Technical Committee on Education, Science and Technology 4th Bureau (2022-24) and the Co-Chair for the African Union, European Union High Level Policy Dialogue driving the AU-EU Innovation Agenda.

### **Phil Mjwara**



Dr. Phil Mjwara served as Director General of South Africa's Department of Science and Technology (2006-24), overseeing science policy development, government laboratory management, and implementation of the National Research and Development Strategy and DST's 10-Year Innovation Plan. Notably, he led the creation of the White Paper on Science, Technology, and Innovation and the Decadal Plan (2021-31). Before this, he was Group Executive for Research and Development at CSIR, strengthening its science base and human capital. As head of the National Laser Centre, he advanced the center's activities and initiated the African Laser Centre network. Dr. Mjwara has been Director of Technology and professor

of S&T policy and lectured in physics at various universities. His expertise includes technological innovation management and policy formulation. He serves on advisory boards, including the World of Platinum Board and the University of Johannesburg Council. Recently, he was appointed Ambassador Designate to UNESCO.

### **Torerayi Moyo**



H.E. Torerayi Moyo, Zimbabwe's Minister of Primary and Secondary Education, is an educator and leader dedicated to improving access to and quality of education. Born in rural Gokwe, he received his primary education locally before graduating from Gweru Teachers College in 1993 with a Diploma in Education, followed by a B.A. with honors and an M.A. in Economic History from the University of Zimbabwe. Continuing his lifelong learning, he completed a PhD in Humanities at Rhodes University (2015-17). Mr. Moyo's career began as a teacher at Dalny Mine Secondary School (1994-95), then Ngezi High School (1995-2002) and St. Oswald's

High School (2002-03). He then taught at Harare Polytechnic (2004-05) and the University of Zimbabwe (2005-18).

Elected Member of Parliament for Gokwe Chireya in 2018 and re-elected in 2023, he chairs the Parliamentary Education Portfolio Committee. Appointed Minister in September 2023, Moyo aims to implement inclusive, evidence-based policies, focusing on curriculum development, teacher training and technology integration.

Married to Professor Stanzia Moyo, he is the father of three accomplished children.

### Dorothy Ngila



Dr. Dorothy Ngila is a leader in global science partnerships and programme management. As Director of Knowledge and Institutional Networks at South Africa's National Research Foundation (NRF), she led the O.R. Tambo Africa Research Chairs Initiative (ORTARChI), establishing ten research chairs in seven African countries. Dr. Ngila coordinated the first global survey on trends in science funding agencies' gender-disaggregated data practices and has forged strategic partnerships with government, science funders and philanthropy, within and beyond Africa. Since 2023, she has been part of the Global Research Council's (GRC) Executive Support Group, contributing to strategic policy, science diplomacy, and supporting NRF leadership within GRC structures. Her expertise spans strategic advice, fundraising, and advancing mandates for science academies and public science funders. Passionate about strengthening Africa's scientific institutions, Dr. Ngila champions gender and intersectionality in science. Dr. Ngila holds a PhD (Science and Technology Studies) from Stellenbosch University in South Africa.

### Adewale Olusegun Obadina



Adewale Olusegun Obadina is a Professor of Food Safety and Biotechnology at the Federal University of Agriculture, Abeokuta, Nigeria, and serves as Project Officer for Quality Assurance at the Association of African Universities, Ghana. He is a Visiting Professor at the Department of Biotechnology and Food Technology, University of Johannesburg, South Africa. Formerly, he was Director of the Biotechnology Centre and Head of the Food Science Department at the Federal University of Agriculture, Abeokuta, Nigeria. Obadina has been on the Board of Directors the International Union of Food Science and Technology and currently serves on that of the African Continental Association of Food Protection. He chairs the Global Harmonization Initiative's Food Safety Education and Training Working Group, and is a member of the African Union Food Safety Expert, and part of WHO's 2023-25 Guideline Development Group on reducing health risks in traditional markets. A TWAS grantee and Research Fellow, his research focuses on enhancing the quality and safety of processed and ready-to-eat foods in Africa.

### Christopher Okonji



Christopher Okonji is a Programme Officer in the Directorate of Human Capital and Institutional Development at the African Union Development Agency-NEPAD. He is supporting the Directorates work on establishing a STEM Initiative for Africa. He has worked in the field of development and development economics for the last 7 years. Mr. Okonji is passionate about the contributing to the change of Africa's development trajectory in a more increasingly dynamic environment. He holds a Master of Economics -Cooperation and Human Development and a Bachelor of Economics and Finance.

### Max Paoli



With a B.Sc. Hons. in Biochemistry and a D.Phil. in Chemistry, Max Paoli worked in the area of protein structure and molecular recognition for almost 20 years in academic institutions such as the Harvard Medical School and the University of Cambridge. Max Paoli has worked with The World Academy of Sciences (TWAS) for the last five years, serving as Programme Coordinator. He overlooks the Academy's activities, such as the PhD and Postdoctoral Fellowships, Research Grants, Exchanges, Prizes. In addition, he delivers lectures and presentations on various topics related to sustainability, environmental ethics, sustainable development and education for a sustainable future.

### Martha T.M. Phiri



Dr. Martha T.M. Phiri, Director of Human Capital, Youth and Skills Development and Acting Director for Gender, Women, and Civil Society at the African Development Bank, has over 25 years of experience in development planning and financing. She oversees public health and social protection programs and co-led the Bank's \$4.1 billion COVID-19 Crisis Response, which supported African countries in saving lives and jobs during the pandemic. Dr. Phiri led the design of the Strategy for Quality Health Infrastructure in Africa (2022-2030) and the Skills for Employability and Productivity in Africa (2022-2026). She previously served as Country Manager in Rwanda and Country Economist for Malawi, Mauritius, and Namibia, leading strategies for job-creating growth and policy reforms. Prior to joining the Bank, she worked as

an Economist in the Ministries of Finance and Economic Planning and Development. A published author of African Economic Outlook notes, she holds a PhD in Economics from the University of Liverpool and an MSc in Agricultural Economics from the University of Malawi.

#### **Madougou Saidou**



Professor Madougou Saidou has been appointed Director of the African Union Department of Education, Science, Technology, and Innovation (ESTI). In this role, he will advance science and technology research, foster educational cooperation among member states, and support youth participation in African integration. His mandate includes implementing Agenda 2063 initiatives like the African Virtual and E-University and the Africa Outer Space Strategy, and oversight of the implementation of continental educational policies and strategies, such as the CESA, the STISA, the TVET Continental Strategy, and the AU School Feeding initiative. A physicist at Abdou Moumouni University in Niger with nearly 20 years of experience, Professor Madougou has overseen major educational reforms and founded the CEA/IEA-MS4SSA. He has led the Laboratory of Energetics and supervised numerous PhD theses. Internationally, he contributed to the STC of Mathematics-Physics-Chemistry at CAMES and served as general rapporteur. With over 50 published articles and participation in 40+ scientific conferences, he is highly accomplished and recognized as an Officer of the Order of Academic Palms of Niger and a Knight of OIPA/CAMES. His dedication to nurturing talent and promoting excellence has significantly impacted STEM education in Africa.

#### **Abdoulaye Salifou**



Dr. Abdoulaye Salifou, a National School of Administration graduate, holds a PhD in Communication specializing in ICT Law and e-learning (University of Lille 3, France) and a Master's in Social Development Strategies. With over 25 years of international and academic experience, he currently serves as Chief of Education at UNESCO's Liaison Office to the African Union and the UN Economic Commission for Africa in Addis Ababa, Ethiopia. He held several management positions before joining UNESCO in 2017; he was Regional Director for Southern Africa at UCLG-Africa, Regional Administrator of the AUF Caribbean Office, and Director of Studies of the Institute of Francophonie for Management in the Caribbean. He also served as Deputy Director for Scientific Policy of AUF for Central Africa and the Great Lakes Region, and Director of AUF Digital Campuses in Benin and Mali. Dr. Salifou was the former Addis Convention Secretary (2021-23).

#### **Laura Viganò**



Laura Viganò is Professor of Banking, Insurance, and Microfinance at the University of Bergamo (UniBg, Italy). She holds a PhD in Finance and Capital Markets and has studied and collaborated with The Ohio State University's Rural Finance Group. Her expertise centers on finance for development and microfinance. Editor of the Journal of Savings and Development, she leads the FinDev (Finance and Development) research group and CESC research center at the University of Bergamo. She founded and directed the first international Master's program in Microfinance at UniBg (2001-2010) that attracted global participants, especially from Africa. She served as Scientific Director for the "Giordano Dell'Amore" Foundation (Finafrica – Milan), dedicated to advancing training, research, and technical assistance in finance and development. She has consulted for various national and international research and development agencies, with a particular focus on Africa and the Middle East. Her research publications primarily address topics of financial inclusion.

## High-level Plenaries: Accelerating Africa's STEM Transformation

### Nada Alnafea



Dr. Nada Alnafea is an architect, designer, and CEO of the Abdullah Al Fozan Foundation for Education, and founder of the UNESCO Al Fozan International Prize for Young Scientists in STEM. She is part of the Advisory Committee for the Saudi Umran Society and earned her PhD in 2006 from London South Bank University, researching the evolution of Saudi women's roles and its impact on home design. Dr. Alnafea has advised numerous universities and organizations, establishing Interior Design programs, developing curricula, and implementing strategic plans. She collaborated extensively with the Saudi Council of Engineers and was a part-time consultant for the Ministry of Education. Her key leadership roles include Dean of the Art and Design College at Princess Nourah University and Vice Rector of Quality and Development at Dar Al Uloom University. Dr. Alnafea has also been an active reviewer for the National Commission for Academic Accreditation and Assessment (NCAAA).

### H.E. Professor Mohammed Belhocine



Professor Mohammed Belhocine, an Algerian national, has had a distinguished career in public health and medicine. He was Head of Internal Medicine in Algeria, held positions at the Faculty of Medicine and the Ministry of Health, and joined the international civil service in 1997. He served as Director of the Division of Non-Communicable Diseases at the WHO Regional Office for Africa and was WHO Representative in Nigeria and Tanzania. From 2009 to 2013, he was the UN System Coordinator and UNDP Resident Representative in Tunisia. He returned in 2015-2016 as WHO Representative in Guinea, contributing to the Ebola response. Professor Belhocine is an international consultant in Public Health and Development and served on the Scientific Committee monitoring Covid-19. In October 2021, he was elected

Commissioner for Education, Science, Technology, and Innovation at the African Union. He is married, with three children and six grandchildren.

### Rita Bissoonauth



Dr. Rita Bissoonauth is currently the UNESCO Director to the Liaison Office to the African Union & UNECA as well as the Representative to Ethiopia. She previously headed the African Union International Centre for Girls and Women's Education in Africa (AU/CIEFFA) based in Ouagadougou, Burkina Faso from 2014-2022. In 2020, Rita was honoured as one of the 100 Most Influential African women. Before moving to Ouagadougou, she was a Senior Policy Officer in Education for five years at African Union Commission in Addis Ababa. She has also worked as a Senior Lecturer at the Mauritius Institute of Education in Mauritius and the University of Quebec in Montreal, Canada teaching Biochemistry, Molecular Biology and Science Education. Rita holds a Master's degree in Biochemistry from the University of Lyon, France and a Ph.D. in Education from the University of Quebec in Montreal, Canada.

### Firmin Edouard Matoko



Firmin Edouard Matoko is the Assistant Director-General for Priority Africa and External Relations at UNESCO. Previously, he served as UNESCO's director for multi-country offices in Quito (Ecuador) and Bamako (Mali), as well as representative to Ethiopia and director of the UNESCO Liaison Office with the African Union (AU) and UNECA. An expert in conflict prevention, he led peace, human rights, and democracy education initiatives at UNESCO in Paris. An accomplished author, Mr. Matoko's works include *Les fondements endogènes d'une culture de la paix en Afrique* and the award-winning *L'Afrique par les Africains. Utopie ou révolution*. His extensive fieldwork spans Africa, Asia, and Latin America, reflecting a lifelong dedication to fostering peace and development. Mr. Matoko holds degrees in economics

from La Sapienza University, political science and international relations from the University Cesare Alfieri, and advanced studies from the Diplomatic and Strategic Study Centre in Paris.

#### **H.E. Pietro Mona**



H.E. Pietro Mona is the Ambassador extraordinary and plenipotentiary to the Republic of Djibouti and the Permanent Representative to the African Union, the Intergovernmental Authority on Development (IGAD) and the Economic Commission for Africa (ECA) since January 2021. Prior to this he served as the Ambassador for Development, Forced Displacement and Migration from (2017-20), in different roles, including Deputy Head of the Global Programme on Migration and Development, at the Swiss Agency for Development and Cooperation, and in roles in the ECOWAS Commission and the Federal Department of Foreign Affairs. He has a Master's Degree from International Studies from the Geneva Graduate Institute.

#### **H.E. Torerayi Moyo**



H.E. Torerayi Moyo, Zimbabwe's Minister of Primary and Secondary Education, is an educator and leader dedicated to improving access to and quality of education. Born in rural Gokwe, he received his primary education locally before graduating from Gweru Teachers College in 1993 with a Diploma in Education, followed by a B.A. with honors and an M.A. in Economic History from the University of Zimbabwe. Continuing his lifelong learning, he completed a PhD in Humanities at Rhodes University (2015-17). Mr. Moyo's career began as a teacher at Dalny Mine Secondary School (1994-95), then Ngezi High School (1995-2002) and St. Oswald's High School (2002-03). He then taught at Harare Polytechnic (2004-05) and the University of Zimbabwe (2005-18). Elected Member of Parliament for Gokwe Chireya in 2018 and re-elected in 2023, he chairs the Parliamentary Education Portfolio Committee. Appointed Minister in September 2023, Moyo aims to implement inclusive, evidence-based policies, focusing on curriculum development, teacher training and technology integration. Married to Professor Stanzia Moyo, he is the father of three accomplished children.

#### **H.E. Dr. Bonginkosi Emmanuel Nzimande**



H.E. Dr. Bonginkosi Emmanuel Nzimande is the Minister of Science, Technology and Innovation. Previously, he served as Minister of Higher Education, Science and Technology (2019-2024). Amongst his responsibilities, he led projects and initiatives in the fight against Covid-19, including the establishment and funding of the genomic surveillance project that led to the discovery of variants of Covid-19. Dr. Nzimande's academic background includes a PhD in Sociology from the University of Natal, where he also completed his Honours and Master's degrees in Psychology and Industrial Psychology, respectively. His career is marked by a strong commitment to education and social justice, having been involved in anti-apartheid activism and labor movements. As the former General Secretary of the South African Communist Party (1998-2022), Nzimande has been a key figure in shaping South Africa's educational policies. His extensive experience in both academic and political spheres positions him well to drive innovation and technological advancement in his current ministerial role.

#### **H.E. Javier Niño Pérez**



H.E. Javier Niño Pérez, the European Union Ambassador to the African Union and ECA, began his role in Addis in January 2024. Prior to this, he was Director/Deputy Director General for the Americas at the European External Action Service (EEAS) from June 2020. He led the U.S. and Canada Division (2018-20) and Turkey Division (2015-18) at EEAS in Brussels. His diplomatic posts include EU Ambassador to Haiti (2012-15), Chargé d'affaires in Cuba (2007-12), and political roles in Burkina Faso (1997-2001) and Trinidad and Tobago (2001-02) as well as other positions in Brussels. Joining EU institutions in 1994, he holds a law degree from the University of Valladolid, an LL.M in European law from the Free University of Brussels, and an MA in European studies from the College of Europe. He has been awarded the National Order of Burkina Faso (officer), the Grand Cross of the National Order of Honor and Merit of Haiti, the Order of San Carlos (Grand Officer) of Colombia and the Officer's Cross of the Order of Isabel the Catholic of Spain. He is a guest of honour of the Buenos Aires municipality (Argentina).

### **Mustafa Shefu**



Engr. Mustafa Balarabe Shefu is a distinguished electrical engineer. He is the World Federation of Engineering Organizations (WFEO) president. He studied electrical engineering at Ahmadu Bello University and began his career at the 1,320MW Lagos Thermal Power Station in Egbin. He later joined the Kano State Rural Electricity Board, rising to the position of Assistant Director in 1998. In 2000, he co-founded MBS Engineering Limited, specializing in electrical, mechanical, and power engineering, as well as Oil and Gas services. Shefu served as President of the Nigerian Society of Engineers (2012-2013) and the Federation of African Engineering Organizations (2015-2016). He is a Fellow of both the Nigerian Society of Engineers and the Solar Energy Society of Nigeria. In March 2022, he was elected President-Elect of. His leadership continues to advance engineering practices globally.



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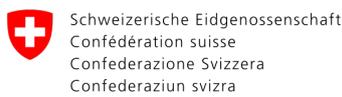
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