



# 2025 AFRICA REGIONAL CONFERENCE & EXHIBITION ON EDUCATION AND SKILLS DEVELOPMENT (ARC-EDS)

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## GLOBAL EDUCATION EVENT ON QUANTUM SCIENCE AND TECHNOLOGY

HARNESSING ENTREPRENEURSHIP AND  
INNOVATION TO TACKLE YOUTH  
UNEMPLOYMENT.

5th – 7th  
August 2025

Accra International  
Conference Centre



# ABOUT THE CONFERENCE

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The Africa Regional Conference & Exhibition on Education and Skills Development (ARC-EDS) is a premier platform driving innovation, policy transformation, and industry-academia collaboration in education and workforce development across Africa. An initiative of ESDEV Foundation Africa, ARC-EDS serves as a dynamic convening space where educators, policymakers, industry leaders, researchers, and development partners engage in high-impact dialogue, knowledge-sharing, and solution-driven partnerships.

At the core of ARC-EDS is a commitment to equipping Africa's youth with future-ready skills, fostering entrepreneurial mindsets, and strengthening technical and vocational education and training (TVET) as a catalyst for economic growth and job creation. Through thought-provoking panel discussions, hands-on workshops, immersive exhibitions, and capacity-building sessions, ARC-EDS drives tangible action towards an inclusive and sustainable education ecosystem.

## THE THEME: Harnessing Entrepreneurship and Innovation to Tackle Youth Unemployment

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Focuses on harnessing the talents, skills, and energy of Africa's young population to drive positive change in various sectors of society and the economy. It emphasizes the importance of investing in youth development, education, entrepreneurship, and employment opportunities to unleash Africa's demographic dividend and catalyse socio-economic progress across the continent. The theme underscores the critical role of youth empowerment in shaping a prosperous and sustainable future for Africa.

Date	Venue	Time
5th - 7th August 2025	Accra International Conference Centre	9:00 am

## The Conference Objectives

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The 2025 ARC-EDS aims to achieve the following specific objectives:

- Deepen the promotion of entrepreneurial education by integrating entrepreneurship and innovation into educational curricula across Africa, equipping young people with the skills necessary for self-employment.
- Facilitate knowledge exchange by providing a platform for the exchange of ideas, best practices, and experiences among educators, policymakers, industry leaders, and young entrepreneurs.
- Showcase innovations by highlighting successful youth-led startups and projects that address unemployment, offering inspiration and investment-ready opportunities for stakeholders.
- Strengthen partnerships by fostering collaborations among educational institutions, industry, government, and development partners to create a supportive ecosystem for sustainable enterprises.
- Engage policymakers to create enabling environments that support youth entrepreneurship and innovation, fostering investment opportunities for impactful change.
- Explore the potential of quantum science and quantum technology to drive youth entrepreneurship and create new job opportunities through innovation in advanced technologies.

## Target Audience

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The conference targets a diverse and influential audience, including:

- Government officials and legislators involved in education, labour, and economic development seeking practical, scalable solutions for youth unemployment.
- Representatives from Technical Universities, technical institutions, and vocational training centres eager to transform curricula to meet modern demands.
- Business executives, entrepreneurs, and innovators from various sectors seeking investment opportunities in scalable youth-led initiatives.



- Aspiring and established young entrepreneurs, students, and youth organizations interested in mentorship, funding, and market access.
- United Nations Specialized Agencies, international organizations, NGOs, and foundations focused on education and employment, offering funding and strategic support.
- Venture capitalists, impact investors, and philanthropic organizations looking to fund innovative solutions with measurable social and economic returns.

## Focus Areas

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- **Fostering Innovative Educational Models for Entrepreneurship:**  
This sub-theme will explore educational models that cultivate entrepreneurship among the youth. It will showcase how Technical Universities, and allied institutions can enhance curricula to integrate entrepreneurship effectively, while presenting successful case studies and investment-ready educational innovations.
- **Youth Empowerment through Skills Development:**  
This sub-theme will emphasize equipping young people with practical skills aligned with market demands. Discussions will focus on vocational training, apprenticeships, and partnerships with industry to ensure graduates are employment-ready. Investors will have the opportunity to explore scalable models for workforce development.
- **Industry Collaboration and Employment Opportunities:**  
This sub-theme will strengthen partnerships between educational institutions and industry, highlighting internships, co-op programs, and industry-led projects that bridge the gap between education and employment. Discussions will identify actionable strategies for scaling these collaborations to create more employment opportunities.
- **Policy and Institutional Support for Youth Innovation:**  
This sub-theme will advocate for supportive policies and institutional frameworks that encourage innovation and entrepreneurship among youth. It will explore funding opportunities, institutional reforms, and partnerships needed to support Africa's next generation of entrepreneurs.



## ■ **Harnessing Green Entrepreneurship to Empower Youth for Sustainable Development and Employment:**

This sub-theme will focus on green entrepreneurship as a sustainable employment pathway. It will highlight policies, training programs, and innovations that equip young people to lead eco-friendly businesses. Successful green enterprises and investment opportunities will be showcased.

## ■ **Quantum Science and Technology as a Catalyst for Youth Job Creation:**

This sub-theme will explore how advancements in quantum science and technology can drive innovation and entrepreneurship among African youth. It will highlight opportunities for young people to leverage quantum technologies in fields such as computing, communications, and energy, and discuss strategies for integrating quantum science into education and industry collaborations. Successful global and regional examples will be showcased, emphasizing Africa's potential to lead in this emerging field.

## **Expected Outcomes**

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The 2025 ARC-EDS is expected to achieve the following outcomes:

- **Enhanced Entrepreneurial Ecosystem:** Collaboration between educational institutions, industry, and government, resulting in a more supportive environment for youth entrepreneurship.
- **Actionable Recommendations:** Clear and practical guidelines for integrating entrepreneurship and innovation into educational systems, aligned with investor needs and market realities.
- **A collection of success stories, innovative solutions, and actionable strategies** shared with stakeholders across the continent to tackle youth unemployment effectively.
- **Increased awareness and capacity** to pursue entrepreneurial ventures, leading to a rise in youth-led startups with investment-ready models.
- **Formation of partnerships** between stakeholders to fund and scale youth-led initiatives and innovative solutions.





ESDEV Foundation Africa is a Pan-African non-governmental organisation advancing quality education, skills development, and sustainable innovation. Inspired by the legacy of the late Prof. Francis K. A. Allotey, ESDEV works to unlock Africa's human potential by bridging education, technology, and development.

We believe in education as a driver of inclusive growth. Partnering with governments, academia, industry, and civil society, we implement high-impact programmes that align learning with livelihoods and transform policy into practice.

Our flagship platform, the Africa Regional Conference & Exhibition on Education and Skills Development (ARC-EDS), convenes stakeholders from across Africa and globally to shape the future of education, TVET, and youth employment. ARC-EDS 2025, themed "Harnessing Entrepreneurship and Innovation to Tackle Youth Unemployment," will host over 1,000 participants and spotlight global celebrations for the International Year of Quantum Science and Technology (IYQ2025), coordinated nationally by ESDEV.

Through Innovate4Employment, we empower young people with innovation and entrepreneurial skills, while InnovateLaunch supports early-stage student ventures through incubation and mentorship. Our Kurasa TLAP platform—co-developed with Kurasa Africa and approved by the Ghana Education Service—is digitising teaching and learning in Ghana's basic schools.



With partners such as UNESCO, the British Council, Kurasa Africa, and Ghana's Technical Universities, ESDEV Foundation Africa remains a trusted catalyst for scalable, transformative impact across Africa's learning and innovation ecosystem.

### Our strategic focus spans:

- Workforce-oriented TVET reform
- Digital transformation in education
- Youth entrepreneurship
- Frontier science promotion

For more information: visit [www.esdev.org](http://www.esdev.org)






Currently, ESDEV is leading a Deep-Dive Programme in three Northern Ghana Technical Universities to identify barriers to student innovation and co-create solutions with faculty and students.



# PROGRAMME OUTLINE

## Opening Ceremony

	Arrival of Participants	08:00
	<b>Special Video Feature:</b> Quantum Science and Technology (IQ 2025)	08:50
	<b>Introduction of Chairman</b> – Eric Mawuena Egbeta	09:00
	<b>Chairman's Acceptance Remarks:</b> Prof. Jophus Anamuah-Mensah, International Advisory Board Chair, ESDEV Foundation Africa.	
	<b>Welcome Address:</b> Prof. Francis Owusu-Mensah, CEO, ESDEV Foundation Africa	09:05
	<b>Statement:</b> Professor Amevi Acakpovi, Vice-Chancellor (Ag.), Accra Technical University	09:15
	<b>Musical Interlude / Cultural Performance</b>	09:20
	<b>Goodwill Messages:</b> <ul style="list-style-type: none"><li>• British Council Ghana</li><li>• Ghana National Research Fund</li><li>• Ghana Commission for UNESCO</li><li>• Ambassador R. M. Chitiga, Zimbabwe</li><li>• UNESCO Country Office</li><li>• Ministry for Education</li><li>• Ministry for Environment, Science, and Technology</li></ul>	09:35
	<b>Message by Steering Committee Chair, International Year of Quantum Science and Technology</b>	10:05
	Closing Remarks by Chairperson Photographs	10:15

# Day 1: Entrepreneurship and Innovation in Tackling Youth Unemployment

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## *Plenary Session 1:*

**Moderator:** Eric Mawuena Egbeta

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### **1st Presentation:**

**11:00**



- **Presenter:** Dr. Stephen Nwolley, CEO, Npontu Technologies, Chairman of ICT Sector, Association of Ghana Industries
  - **Topic:** *Reimagining the Education-to-Work Pathway: A Call for Bold Partnerships between Industry, Academia, and Government.*
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### **2nd Presentation:**

**11:30**



- **Presenter:** Prof. Benno Werlen, UNESCO Chair on Global Understanding for Sustainability, Friedrich Schiller University, Jena, Germany
  - **Topic:** *Education to avoid Youth Unemployment. Lessons from The Jena Declaration (TJD).*
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### **Panel Discussions**

**12:00**



**Moderator:** Ms. Sarah Osei, Programmes & Communication Lead, ESDEV Foundation Africa

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**Topic:** *Curriculum Innovation in TVET & Higher Education: Industry-academic collaborations.*

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- **Panelists:**
- Prof. Amevi Acakpovi, Vice-Chancellor (Ag.) Accra Technical University
- Mr. Nicholas Issaka Gbana, Development Economist & Climate Investment Specialist
- Engr. Dr. Stephen Turkson, Consultant for CTNET
- Ms. Hanna Schlingmann, Project Lead, DigiVibe Initiative, AFOS Foundation for Entrepreneurial Development Cooperation
- Ms. Odwa Sonqishe, Senior Manager, Automotive Industry Development Centre, Eastern Cape, South Africa
- Mr. Michael Boateng, National Project Officer and TVET Expert for the Better Education for Africa's Rise





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## Contributions, Questions and Answers

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### ***Lunch Break***

**13:00**

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### **3rd Presentation:**

**14:00**



- **Presenter:** From Innovation to Impact: Reimagining Teaching and Assessment in Africa's Classrooms
- **Topic:** Mr. William Nguru, CEO, Kurasa Africa, Nairobi – Kenya

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### **4th Presentation:**

**14:20**



- **Presenter:** Engr. Theophilus Tetteh Zogblah, Deputy Director, Standards and Curriculum Development, CTVET
- **Topic:** *Beyond the Classroom: Strengthening Internships, Co-ops, and Public-Private Partnerships for Work-Integrated Learning.*

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### **5th Presentation:**

**14:50**



#### **Introduction of 2025 Exhibition**

**Presenter:** Dr. Sara Jones

Chairperson, Panel of Judges, 2025 ARC-EDS

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### ***Summary of Day 1 and Closing***

**15:55**

**Presenter:** Sarah Osei, Programme & Communication Lead, ESDEV Foundation Africaa

## Day 2: Global Education Event on Quantum Science and Technology

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### Plenary Session 2:

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**Moderator:** Prof. Joseph Niemela, Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy

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**Statement by:** 09:00

- Minister, Ministry of Environment Science, Technology and Innovation
  - President, Ghana Academy of Arts & Sciences
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**1st Presentation:** 09:30



- **Presenter:** Prof. Sergej Faletic, Univeristy of Ljubljana, Slovenia
  - **Topic:** *Quantum education: what do we want and how can we get there?*
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**2nd Presentation:** 10:20



- **Presenter:** Prof. Muhammed Sabieh Anwar, LUMS, Pakistan
  - **Topic:** *Easy-to-do Single Photons Experiments for Quantum Education*
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**Coffee Break** 10:50

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**3rd Presentation:** 11:10






- **Presenter:** Dr. Humberto Cabrera Morales, Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy.
  - **Topic:** *Ultrasensitive and Affordable Methods for Efficient Cancer Phototherapy*
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**4th Presentation:** 11:40



- **Presenter:** Prof. Heather Lewandowsky, University of Colorado Boulder, USA
  - **Topic:** *Equipping the Next Generation: Quantum Education and Workforce Development.*
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<b>Lunch Break</b>		<b>12:30</b>
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<b>5th Presentation:</b>		<b>14:00</b>
	<ul style="list-style-type: none"> <li>• <b>Presenter:</b> Prof. John Fredy Barerra Ramirez, University of Antioquia, Colombia</li> <li>• <b>Topic:</b> <i>Light-Based Security: Experimental Advances in Optical Data Protection</i></li> </ul>	
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<b>6th Presentation:</b>		<b>14:30</b>
	<ul style="list-style-type: none"> <li>• <b>Presenter:</b> Dr. Jess Wade, Imperial College, UK</li> <li>• <b>Topic:</b> <i>Materials for Quantum</i></li> </ul>	
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<b>Coffee Break</b>		<b>15:00</b>
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<b>7th Presentation:</b>		<b>15:30</b>
	<ul style="list-style-type: none"> <li>• <b>Presenter:</b> Prof. Muhammed Sabieh Anwar, LUMS, Pakistan</li> <li>• <b>Topic:</b> <i>Showcasing the properties of light and where it comes from: a peep into the quantum world".</i></li> </ul>	
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<b>Announcement of Shortlisted Exhibitors for Pitching</b>		<b>16:30</b>
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<b>Summary of Day 2</b>		<b>16:40</b>
<b>Presenter:</b> Sarah Osei, Programme & Communication Lead, ESDEV Foundation Africaa		



## Day 3: Charting the Path Forward: Sustaining Momentum beyond IYQ2025

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### Plenary Session 3:

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**1st Presentation:** 09:00



- **Presenter:** Prof. David Hutchinson, University of Otago, New Zealand
  - **Topic:** *Cutting-edge research is essential for emerging economies: the future is in our people*
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**2nd Presentation:** 09:30



- **Presenter:** Dr. Henry Martin, Department of Physics, Kwame Nkrumah University of Science and Technology, Ghana
  - **Topic:** *The State of Quantum Science & Technology (QST) in Ghana: Addressing the Quantum Divide and Ensuring Inclusiveness For All Through The SDGs*
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**Coffee/Cocoa Break** 10:00

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**Panel Discussions** 10:30

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**Moderator:** Dr. Ralph Twum, Department of Mathematics, University of Ghana

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**Topic:** *Ghana's Quantum Future: Sustaining momentum for lasting legacies*

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#### Panelists:

- Dr. Augustine Larweh Mahu, University of Ghana, Legon
  - Dr. Joseph Essandoh-Yeddu, Energy Expert and former Director for Strategic Planning and Policy, Energy Commission, Ghana
  - Engr. Dr. Mrs. Miriam Eduful, Electricity Company of Ghana
  - Prof. Kester Quist, Chairman of the Centre for Research, Information Technology and Advanced Computing (CRITAC), Ghana
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**Lunch Break** 12:00

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### 3rd Presentation:

13:00



- **Presenter:** Prof. Cather Simpson, University of Auckland, New Zealand
- **Topic:** *What do Agriculture and Quantum Technologies have in common?*

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### 4th Presentation

13:30

#### Launch of FKA Allotey Lecture on Quantum Science and Technology

##### Introduction to FKA Allotey legacy by:

- Prof. RoseEmma Mamaa Entsua-Mensah Fellow, Ghana Academy of Arts and Sciences
- Mr. Francis Aikins, Nephew of the late Prof. F. K. A. Allotey



- **Presenter:** Prof. John Dudley, Université Marie et Louis Pasteur, Besancon, France
- **Topic:** *Quantum Light: the International Day of Light and the International Year of Quantum Science & Technology*

14:00

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### Shortlisted Exhibitors Pitch

15:05

Daniel Taylor, AHK Ghana

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### Closing Ceremony

15:35

Presentation of Exhibition Awards  
Chairman's closing remarks  
Departure







**ACCRA**  
TECHNICAL UNIVERSITY

**Empowering Africa's Workforce through  
Innovation, Skills, and Sustainability**

### **Strategic Vision**

Having successfully implemented its five-year Strategic Plan (2021–2025), Accra Technical University is now advancing its vision to become:

*"The most preferred technical university in West Africa for sustainability-driven, industry-led, and innovation-based education, producing highly skilled graduates for national and continental transformation."*

### **Our Mission**

ATU is committed to providing practical, competency-based, and career-focused education, underpinned by research, partnerships, and entrepreneurship to meet the challenges of the Fourth Industrial Revolution (4IR).

### **Core Pillars of ATU's Development**

- Curriculum Innovation
- Centre of Excellence in Skills Training
- Internationalization & Partnerships
- Youth Employability & Entrepreneurship

*Contact*

**Website:** <https://atu.edu.gh>

**Email:** [info@atu.edu.gh](mailto:info@atu.edu.gh)

### **ATU's Contribution to Education & Skills Development**

- ATU produces job-ready graduates through virtual internships, industry-led projects, and enterprise-based learning.
- The university's approach integrates STEM, digitalization, sustainability, and indigenous knowledge into its academic and research strategy.

### **Flagship Projects**

- ACTIVATE Project (AgriTech & TVET for Youth – Mastercard Foundation)
- DTI-ATU Collaborative project in Welding, Fashion and Electricals
- GIZ-AFOS Digital Literacy & Skills Transformation
- Empowering Mechanics with Smart Vehicle Diagnostics (GSDF)
- Africa Health Research and Innovation Project (RISA Fund)

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**| Accra Technical University**



Programmes  
at ATU



How to apply  
to ATU



ATU Rankings



## SPEAKER PROFILES

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### **Prof. Jophus Anamuah-Mensah**

*International Advisory Board Chair, ESDEV Foundation Africa.*

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Prof. Jophus Anamuah-Mensah is a visionary educator and reformist, currently serving as Executive Chair of TESSA and Chairman of the International Advisory Board of ESDEV Foundation Africa. He is the former Pro-Vice-Chancellor of the University of Cape Coast and founding Vice-Chancellor of the University of Education, Winneba, Africa's first university dedicated solely to teacher education. A pioneer in science education and distance learning, he has led national reforms in Early Childhood Development, basic education, and STEM advancement. He also established key national centres for educational innovation and community engagement. In 2006, he was awarded the prestigious Order of the Volta for his exceptional service to Ghana's education sector.



### **Prof. Francis Owusu-Mensah**

*CEO, ESDEV Foundation Africa*

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Prof. Francis Owusu-Mensah is a distinguished expert in Distance Education, e-Learning, and Developmental Psychology, with over three decades of experience in higher education. He has led national and international consultancies for institutions such as the World Bank, DfID, UNESCO, and the British Council, including developing quality assurance guidelines for Ghana's Colleges of Education. A pioneer in Ghana's distance learning sector, he helped establish UEW's Institute for Distance and eLearning (IDeL) and later served as its Director (2017–2021) and founding Principal of CoDeL (2021–2022). He holds a Ph.D. in Education (ODEL) from the University of Nottingham, and postgraduate degrees from the University of London and the University of Ghana.





## Prof. Amevi Acakpovi

- *Acting Vice Chancellor, Accra Technical University.*
- *President, IEC National Committee of Ghana.*

Prof. Amevi Acakpovi is the Acting Vice Chancellor of Accra Technical University and a leading expert in energy systems and development project management. With a PhD in Energy Systems Engineering, he has spearheaded numerous internationally funded initiatives from KOICA, GIZ, the World Bank, and others in education, renewable energy, and digital transformation. As President of Ghana's IEC National Committee, he contributes to global standards development. His leadership has positioned ATU as a national TVET model focused on sustainability, innovation, and industry relevance, making it one of the most dynamic institutions in West Africa.



## Dr. Stephane Nwolley

*CEO, Npontu Technologies, Chairman of ICT Sector, Association of Ghana Industries*

Dr. Stephane Nwolley is a seasoned technology executive with over 20 years of experience in digital transformation, AI, and Big Data across sectors including education, healthcare, and finance. He is the Founder and CEO of Npontu Technologies Ltd and serves as Chairman of the ICT Sector at the Association of Ghana Industries. A board member of CSIR College of Science and Technology and adjunct lecturer at Ashesi University, he is also a global keynote speaker. Passionate about ESG principles, Dr. Nwolley champions ethical, inclusive innovation. He holds a Ph.D. in ICT Management and is fluent in English and French.



## Prof. Benno Werlen

*(UNESCO Chair on Global Understanding for Sustainability, Friedrich Schiller University, Jena, Germany)*

UNESCO Chair on Global Understanding for Sustainability at Friedrich Schiller University Jena, Prof. Benno Werlen is a globally renowned geographer and founder of The Jena Declaration and the International Year of Global Understanding (IYGU). A fellow of the World Academy of Art & Sciences and Academia Europaea, his work promotes citizen–science–policy collaboration for sustainable development. He has authored 17 books, over 200 scientific papers, and delivered 400+ keynotes worldwide. Honored with the Lauréat d'honneur by the IGU, Prof. Werlen is a leading thinker on space, place, and sustainability in global contexts.



## Ms. Sarah Osei

*Founding Partner, ESDEV Foundation Africa*

Sarah Osei is a visionary education leader and Founding Partner of ESDEV Foundation Africa, a Pan-African nonprofit driving youth employment, TVET transformation,

and EdTech innovation. She leads Ghana's largest cross-sectoral education platform, the Africa Regional Conference on Education and Skills Development (ARC-EDS), bringing together all 10 Technical Universities, government, and industry to tackle youth unemployment. Sarah also leads the rollout of the Kurasa TLAP, a digital teaching and assessment solution aligned with Ghana's curriculum. Formerly West Africa Lead at Instill Education, she supported over 50,000 teachers. Her work spans policy reform, STEM equity, and global engagement, including with UNESCO. She holds advanced degrees in International Development, Marketing, and Education.



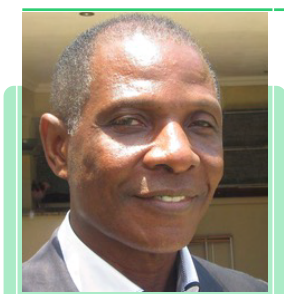




## Mr. Nicholas Issaka Gbana

*Development Economist & Chartered Accountant*

Nicholas Issaka Gbana is a seasoned Development Economist and Chartered Accountant with over 30 years of experience in TVET, job creation, SME development, access to finance, trade facilitation, and climate action across Africa. His sectoral expertise spans agribusiness, energy, transport, finance, and public policy. He has held senior roles with USAID, Solidaridad, TechnoServe, and PwC, including as West Africa Regional Director for the USAID Africa Trade and Investment Program. Nicholas holds an M.A. in Economic Policy Management and a BSc in Administration from the University of Ghana. He is a Member of the Institute of Chartered Accountants, Ghana.



## Engr. Dr. Stephen Turkson

*Consultant for CTNET*

Engr. Dr. Turkson holds Master's Degree in Education (Educational Technology), PhD in International Education.

He has over 40 years experience in various senior leadership capacities in formal, informal and non-formal Technical and Vocational Education and Training (TVET) and in the Building Construction Industry. Eng. Dr. Turkson worked in Botswana for 17 years as a Lecturer and Principal Technical Education Officer and was involved with their TVET reform.

He was the main TVET/CBT Expert in JICA TVETS Project that Piloted the Competency-Based Training (CBT) reform in Ghana. His experience and in-depth knowledge in CBT helped the Commission of Technical and Vocational Education and Training (CTNET) in the (CBT) implementation in Ghana. He has prepared a lot of CBT Policies, Manuals and Guidelines that are being used in Ghana by CTNET. He has facilitated many curricula development groups in CBT curriculum development since 2007 to date in Malawi, Liberia, Kenya, Sierra Leone and Ghana. Dr. Turkson has a strong passion for TVET reform, he has prepared and presented TVET reform papers in local and international workshops, seminars and conferences.



## Ms. Hanna Schlingmann

*Project Lead, DigiVibe Initiative, AFOS Foundation for Entrepreneurial Development Cooperation*

Hanna Schlingmann (MA Cultural Studies) is passionate about impacting and being impacted by people.

As a researcher, manager, facilitator, consultant and curator of education and cooperation projects, she is all about collaboration, continuous learning and catalyzing meaningful change. With over 15 years of managing projects and educational interventions, she has served in different capacities in leadership positions in Germany, Nigeria and Ghana. She initiated and led international projects in the creative and cultural sectors, as well as in the areas of capacity development, career advancement and women's empowerment.

Among others she served as Head of Language Department at the Goethe-Institut in Ghana and lecturer and country representative of the German Academic Exchange Program DAAD in Nigeria. Currently, she is with the AFOS Foundation for Entrepreneurial Development Cooperation, a German NGO, as the Project Lead for the DigiVibe Program in Ghana, an initiative that supports young tech-savvy women in Ghana through experiential learning, mentorship, and access to opportunities to thrive in the digital economy.



## Ms. Odwa Sonqishe

*Senior Manager, Automotive Industry Development Centre, Eastern Cape, South Africa*

Odwa Sonqishe is a seasoned automotive industry professional with over 13 years of experience in engineering, project management, and future skills

development. She holds a BTech in Mechanical Engineering and a Postgraduate Diploma in Business Administration. Currently serving as Senior Manager for Future Skills at the Automotive Industry Development Centre – Eastern Cape, she leads curriculum and workforce development initiatives aligned with industry needs. Her global experience includes working in India for Toyota as a Supplier Development Manager. Odwa brings deep expertise in lean manufacturing, strategic planning, and aligning local skills with global automotive standards.





## Mr. Michael Boateng

*National Project Officer and TVET Expert for the Better Education for Africa's Rise (BEAR 3)*

Michael Boateng is a seasoned TVET expert with over 13 years of experience in sustainable skills development, particularly in agriculture TVET. He has led major initiatives with UNESCO, GIZ, and the British Council, focusing on curriculum design, policy advisory, and inclusive vocational training. Currently the National Project Officer and TVET Expert for UNESCO's BEAR III Project in Ghana, he champions competency-based training, gender-responsive education, and digital transformation in TVET. Michael holds an M.Sc. in Strategic Management and Leadership from KNUST and actively contributes to national and regional TVET forums and policy dialogues.



## Mr. William Nguru

*CEO, Kurasa Africa, Nairobi – Kenya*

He champions the integration of competency-based education through innovative technology to improve learning outcomes across Africa. A graduate of Strathmore University with a BSc in Telecommunications, William has over a decade of expertise in the tech and educational sectors. His leadership at Kurasa has been instrumental in developing solutions that support CBE, which is crucial for equipping Africa's youth with the skills necessary for today's dynamic workforce. Under his direction, Kurasa has become a critical tool in transforming traditional education models, enhancing both teaching and learning experiences. William is dedicated to leveraging CBE to foster economic growth and reduce unemployment among young Africans.



## Engr. Theophilus Tetteh Zogblah

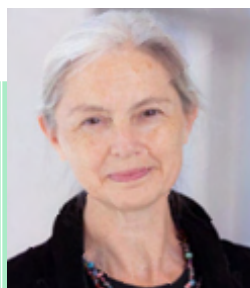
*Deputy Director, Standards and Curriculum Development, CTVET*

Engr. Theophilus Tetteh Zogblah is the Deputy Director for Standards and Curriculum Development at the Commission for Technical and Vocational Education

and Training (CTVET), where he has served since 2010 (formerly COTVET). A seasoned educationist in TVET, he began his career in 1994 as an instructor in Automotive Technology and related subjects. He also served as an Education and Career Guidance Coordinator during his teaching tenure.

He holds a Motor Vehicle Technicians Part 3 certificate, a Certificate of Education, and both Bachelor's and Master's degrees in Vocational Technical Education. At CTVET, he plays a key role in facilitating collaboration between industry and academia for the development of Competency-Based Training (CBT) curricula. He is a member of the Institution of Engineering and Technology, Ghana (IET, G).

## Chairperson of Exhibition Panel of Judges



## Dr. Sara Jones

*City University of London, UK*

Sara's research and practice takes an interdisciplinary approach to the study of creativity and design thinking in the contexts of innovation, education and entrepreneurship. During the course of her career, she has been a principal or co- investigator on funded research grants and contracts, together worth around £13 million, and has published over 120 peer- reviewed papers in academic conferences and journals. Sara has consulted for a number of major organisations, and supervised 9 PhD students to completion. She holds a PhD in Computer Science from City, University of London.





## Dr. Joseph Niemela

*Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy*

Dr. Joseph Niemela is a scientist emeritus at the Abdus Salam International Centre for Theoretical Physics (ICTP), a category 1 Institute of UNESCO located in Trieste, Italy. He has served as a member of the permanent scientific staff since 2003, publishing over 125 research papers, and heading its Office of External Activities, Applied Physics Group, and Training and Research in Italian Laboratories (TRIL) programme as well as representing it as an observer on the SESAME Council. He has also served as Senior Consultant to the Natural Sciences Sector at UNESCO. He currently serves as Chair of IUPAP Commission 13, Chair of the Physics for Development group of the European Physical Society, Vice President of the International Commission for Optics, co-Chair of the UNESCO International Day of Light Steering Committee and Chairs the Executive Committee of the International Year of Quantum Science and Technology 2025. He is a past-chair of the Forum on International Physics of the American Physical Society and served for 7 years as Treasurer of the ICO. He has received the Galileo Galilei Silver medal by the Italian Physical Society, and the Dwight Nicholson Medal from the American Physical Society.



## Prof. Muhammad Sabieh Anwar

*LUMS Syed Babar Ali School of Science and Engineering, Pakistan*

Prof. Sabieh Anwar is a Professor of Physics and founding faculty member of the Syed Babar Ali School of Science and Engineering at LUMS, Pakistan. He is renowned for pioneering physics education through his PhysLab innovations, widely adopted across universities. His research spans spintronics, magnetism, and optics, with over 100 publications in top journals. A Rhodes Scholar and former postdoc at UC Berkeley, he authored a book on single-photon quantum experiments. He co-founded Qosain Scientific and Astrolab and leads science outreach through the Khwarizmi Science Society and Lahore Science Mela. He is the recipient of the TWAS medal in physics for Pakistan in 2008 and the National Innovation Prize in 2015. He also serves as Advisory Board Member of several Pakistani Universities.





## Prof. Sergej Faletič

*The Abdus Salam International Centre for Theoretical Physics, Italy*

Sergej Faletič is assistant professor at University of Ljubljana Faculty of Mathematics and Physics. He studied physics in Ljubljana and obtained his PhD in

physics in the topic of nuclear magnetic resonance. Already during his studies, he began research in physics education, specifically in the teaching and learning of quantum physics at pre-university level. He completed his post-doctoral research fellowship with prof. Marisa Michelini, one of the earliest researchers of pre-university quantum education, at the University of Udine. He has devoted his research to understanding how novice students construct knowledge about the quantum world and how teachers can help them in this effort. He is co-founder of the GIREP community for teaching and learning quantum physics and has organised several discussion workshops with the leading experts in the field. He is also member of the QTedu community, a community of educators within the European Quantum Flagship project, and has collaborated on many pilot projects by the group.



## Dr. Humberto Cabrera

*The Abdus Salam International Centre for Theoretical Physics, Italy*

Humberto Cabrera, is a native of Cuba, completing his undergraduate work in physics at the St. Kliment Ojhridski University in Sofia, Bulgaria before obtaining

his Ph.D in optical sciences from the Venezuelan Institute for Scientific Research (IVIC). He is currently a researcher at The Abdus Salam International Centre for Theoretical Physics (ICTP), where he coordinates the ICTP optics laboratory within the Science Technology and Innovation unit, including advanced training for early career scientists in partnership with SPIE, the International Society of Optics and Photonics. In addition, he is an Associate of the Istituto Nazionale di Fisica Nucleare (INFN) in Trieste, Italy, where he has played a major role in the development of a solid-state laser system for spectroscopy of muonic hydrogen. Currently, his main research activities are focused on the development of affordable photothermal and laser-based methods for thermo-optical characterization of metamaterials.





## **Prof. Heather Lewandowski**

*Imperial College, London*

Heather Lewandowski is a professor of physics and Fellow of JILA at the University of Colorado Boulder. She also serves as the Faculty Director of the CUBit Quantum

Initiative focused on Education and Workforce. She leads two research programs, one in experimental molecular physics, and the other in physics education research. Her molecular physics research efforts focus on studying interactions and reactions of cold, chemically important molecules and ions. Her physics education research program studies ways to increase students' proficiency in experimental scientific practices, as well as research in the area of quantum science education and workforce development.



## **Prof. John Fredy Barrera Ramirez**

*University of Antioquia, Colombia*

Prof. John Fredy Barrera is a Full Professor at the University of Antioquia, Colombia, and Coordinator of its Optics and Photonics Group. A recipient of the ICO/ICTP Gallieno Denardo Award and numerous national honors, he is internationally recognized for contributions in optical encryption, holography, and photonics. He has published over 90 peer-reviewed articles, holds two patents, and has delivered more than 100 conference presentations. Prof. Barrera is a Senior Member of OPTICA and SPIE, a TWAS Affiliate, and an editorial board member. His work bridges advanced optics research, scientific outreach, and mentorship of emerging scientists.



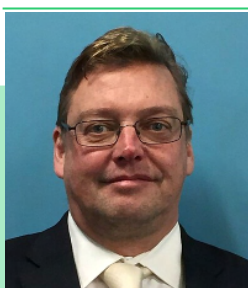


## Dr. Jess Wade

*Imperial College, London*

Dr Jess Wade is a Royal Society University Research Fellow and Lecturer in Functional Materials in the Department of Materials at Imperial College London.

Her research considers new materials for optoelectronic devices and quantum technologies, with a focus on chiral systems and the identification of strategies to control photon and electron spin. Outside of the lab, Jess is involved with several science communication and outreach initiatives. She is committed to improving diversity in science, both online and offline. She has written two children's picture books; 'Nano: the spectacular science of the very, very small,' and 'Light: the extraordinary energy that illuminates our world,'.



## Prof. David Hutchinson

*University of Otago, New Zealand*

David A. W. Hutchinson is a quantum physicist and professor at the University of Otago, New Zealand. He was the founding director of the Dodd-Walls Centre for Photonic and Quantum Technologies (2015–2023). His research spans ultracold atomic physics, quantum biology, and quantum mathematics. Hutchinson chairs the Otago Museum board and served as a science advisor for New Zealand's Ministry of Business, Innovation and Employment (2021–2024). In 2022, he received the Royal Society Te Apārangi's Thomson Medal. He is committed to science outreach, especially in schools and communities, and promotes the intersection of science and the arts through events like Quantum Crossroads.





## Dr. Henry Martin

*Department of Physics, Kwame Nkrumah  
University of Science and Technology, Ghana*

Dr. Henry Martin is a Lecturer in the Department of Physics at KNUST and a Research Fellow at the National Institute for Mathematical Sciences (NIMS-GH). He coordinates the Mathematical & Computational Physics Unit and serves as Local Coordinator for the Interdisciplinary Mathematics Network (RealMaths Consortium). He also leads the MSc Physics programme under the Institute of Distance Learning and is the Department's Postgraduate Coordinator.

Dr. Martin holds a PhD in Scientific Computing & Industrial Modelling from KNUST, with research exchange at the University of L'Aquila (Italy) and a visiting position at the University of Oulu (Finland). His academic journey includes training at institutions in Germany, Italy, and the University of Rome 'La Sapienza'. His research focuses on digital twin approaches to real-world problems through multiscale multiphysics modelling (DFT, MD, MC, FE), machine learning, and statistical analysis. His work spans water systems, aerodynamics, renewable energy, and materials science.



## Dr. Ralph A. Twum

*Department of Mathematics, University of Ghana*

Ralph A. Twum obtained his PhD in mathematics from Howard University in July 2012. He has been a faculty member at the Department of Mathematics, University of Ghana since January 2013, serving in various academic and administrative positions in the department over the past decade. He uses tools from Category Theory, Representation Theory, and Di eology in his area of research.



## Dr. Augustine Larweh Mahu

*Department of  
Ghana, Legon*

*Mathematics, University of*

Dr. Augustine Mahu is a theoretical physicist and Lecturer at the University of Ghana, specializing in quantum physics and gauge/gravity duality. He holds a PhD from the University of the Witwatersrand, where he researched black hole microstates and heavy operators in gauge theories. A published scholar in journals such as JHEP and Physical Review D, he has received grants from TWAS and held research roles in South Africa. As an Associate Partner of ESDEV Foundation Africa, he advances quantum science education and curriculum innovation, and is committed to mentoring young physicists across Africa.



## Dr. Joseph Essandoh-Yeddu

*Energy Expert & former Director for Strategic Planning and  
Policy, Energy Commission, Ghana*

Dr. Joseph Essandoh-Yeddu is an Adjunct Professor at the Institute for Oil and Gas Studies, University of Cape Coast, and former Director of Strategic Planning and Policy at Ghana's Energy Commission. He led Ghana's first Strategic National Energy Plan (SNEP 2006–2020) and contributed pioneering research on solar-powered communication systems. A Lead/Review Author for the UN IPCC since AR5, he has consulted for UNFCCC, UNEP, and the IEA. He has held visiting scholar roles in Canada, Nigeria, and Germany. His expertise spans sustainable energy policy, quantum and laser physics, and climate systems. He is a member of IEEE and Ghana Science Association.







## Engr. Dr. Mrs. Miriam Eduful

- *General Manager in charge of Safety, Health and Environment at the Electricity Company of Ghana.*
- *F.GhISEP, F. OSHA (UK), F.PE IET (GH), SMIEE, SEMP*

Engr. Dr. Miriam Eduful is the General Manager for Safety, Health, and Environment at the Electricity Company of Ghana. A Fellow of several professional bodies including GhISEP, IET-Ghana, and OSHA-UK, she holds a PhD in Operations Management and degrees in Electrical Engineering, Business Administration, and Occupational Safety. With over 12 years of engineering experience, she has presented at major global forums including IEEE PES and WCE London. She serves on the Engineering Council of Ghana and Ghana Chamber of Construction Industry. Her expertise spans arc flash safety, hazardous materials, power systems, and risk management.



## Prof. Kester Quist – Aphetsi

*Chairman of CRITAC, and Chair of Ghana National Cyber Intelligence and Cyber Defense Research Project.*

Prof. Kester Quist-Aphetsi is a distinguished cybersecurity and artificial intelligence expert, serving as Chairman of the Centre for Research, Information Technology and Advanced Computing (CRITAC) and Chair of Ghana's National Cyber Intelligence and Cyber Defense Research Project. A Tier 1 Certified Cybersecurity Professional under Ghana's Cybersecurity Act, he brings over a decade of global experience in digital forensics, cyber defense, and emerging technologies. He is a Senior Member of IEEE and ACM, and a member of the United Nations and ITU expert groups on AI for Health and Environmental Efficiency. Prof. Quist has served as a judge in the U.S. State Department's Global Cyber 9/12 Strategy Challenge and has contributed to international standards at ITU, IETF, and IEEE. He has led cybersecurity training for national and international security institutions. As former Dean at Ghana Communications Technology University, he spearheaded the development and accreditation of over 20 academic programmes. Widely published and globally recognized, he is a laureate of the Millennium Excellence Awards for Technology Innovation. He holds a PhD in Computer Science (Distinction) from Université de Bretagne Occidentale, France.



## Prof. Cather Simpson

*University of Auckland, New Zealand*

Cather Simpson is a New Zealand-American physics/chemistry academic and entrepreneur. She is currently a professor at the University of Auckland, a

joint appointment between the physics and chemistry departments. She is the founder of the Photon Factory laser lab at the University of Auckland and the co-founder of three photonics startup companies, Engender Technologies (AgTech sector), Orbis Diagnostics (AgTech & medical diagnostics) and LuminomaDX (medical diagnostics). She sits on the Board of Fisher & Paykel Healthcare, New Zealand's largest technology company, as well as on the Dodd Walls Centre for Photonic and Quantum Technologies and several startups. She is currently the Vice President of SPIE, the International Society for Optics & Photonics. Cather has a strong focus on teaching, mentoring and public outreach and is an outspoken advocate for issues of gender equality and ethics in science. She has also taken a strong interest in the role of universities in sparking innovation and economic benefit, with a particular focus on using light-based technologies to make agriculture more efficient and sustainable.



## Prof. John Dudley

*Université Marie et Louis Pasteur, France*

John Dudley is Professor of Physics at the Université Marie et Louis Pasteur in Besançon and Senior Research Chair at the Institut Universitaire de France, Paris.

He has published extensively in areas of nonlinear fiber optics and optical analogies with nonlinear wave systems, and is also strongly committed to teaching, science communication and public engagement activities. His current outreach actions include fostering trust in science and equipping students with the tools to fight science disinformation, as well as the protection of scientific heritage. He has received a number of national and international distinctions recognizing his contributions to both research and outreach, as well as four honorary degrees. He currently chairs the Steering Committee of the annual UNESCO International Day of Light, a global outreach action that has seen over 3000 events take place in more than 100 countries since its first celebration in 2018.



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