



AFRICA REGIONAL CONFERENCE ON EDUCATION AND SKILLS DEVELOPMENT

Unlocking Africa's Youth Potential for Socio-economic Transformation





Conference Objectives



The conference seeks to have the following specific objectives:

- To contribute to finding solutions to the challenges of unemployment, and skills development for employability and entrepreneurship facing Africa's youth population.
- To raise awareness on the interconnectedness and contribution of a skilled youth population to Africa's socio-economic progress and sustainable development.
- To promote TVET and other skills development programmes as a viable and attractive options that empower young people with entrepreneurial knowledge and capacities, and ultimately contributing to reducing unemployment and dependency in the Africa region.
- To provide an opportunity for interaction involving governments, the youth, and other stakeholders on how to accelerate progress towards the achievement of SDG 4.3 and 4.4 targets.

Target Audience and Beneficiaries



- Policy makers in governmental and non-governmental institutions in Africa,
- Ministries of Education, Labour and Employment, and related departments and agencies of governments.
- Faculties and students at Technical Universities and Polytechnics
- Formal and non-formal skills training institutions.
- Youth groups and Associations.
- Artisanal Associations.
- Trade Unions and other Employment Associations.
- Educators and Teacher Unions.
- Individuals etc.

Expected Outcome



- A diverse community of stakeholders well equipped with innovative solutions designed to address challenges of skills development for employability and entrepreneurship facing Africa's growing youth population.

Partners



- The Africa Union and Sub-regional blocs
- International Development Organizations
- Relevant UN Agencies
- UNESCO
- International Non-Governmental Organizations, Foundations, and similar institutions
- Technical Universities and Polytechnics in Africa and beyond
- NGOs
- Private sector partners

Focus Areas



- Redefining education to address skill gaps for youth employment: The need for broader policy framework for African governments.
- Leveraging emerging technologies for youth employment in Africa.
- Maximising African youth potential for Sustainability and Sustainable development.
- Harnessing the power of African youth populations as human capital for socio- economic transformation.
- Bridging youth unemployment gaps: Strategies for effective skills acquisition for Africa.





In the 2023 United Nations Report, Secretary-General Mr. Antonio Guterres admits that only 12% of the 17 Sustainable Development Goals (SDGs) are currently on track to be achieved by 2030. The report emphasizes that, without a significant increase in efforts, it is unlikely that all the goals will be accomplished by the set deadline. Particularly of concern is Goal 8, which emphasizes inclusive and sustainable economic growth, full and productive employment, and decent work for all. The realization of this goal seems unattainable for many African countries, as the current youth unemployment rate is over 30% in many sub-Saharan African countries.

Meanwhile, the United Nations projects Africa's population to reach 2.5 billion by 2050. This means that nearly one-third of the world's population would be on the Continent of Africa in less than three decades. What does this mean for African governments? Studies by the International Labour Organization suggest that nearly 13 million young people in Africa are unemployed, with more than one in four young people either not in employment, education, or training. Two-thirds of these individuals are women. While most of these young people would like to work, they face multidimensional challenges in searching for and obtaining jobs.

With such a burgeoning youth population, Africa is currently at a crossroad. Despite its demographic advantage, the Continent continues to face significant challenges in education and skill development for employability. This scenario undoubtedly calls for collective thinking and action by African governments and all stakeholders to appropriately equip the youth and adults with relevant skills for employment, decent jobs, and entrepreneurship opportunities.

For this reason, the ESDEV Foundation Africa initiated the ARC-EDS to promote quality education and skill development, innovative research, and lifelong learning opportunities for Africa's socio-economic transformation. The Foundation believes that Africa's projected population growth must be viewed as "alarm bells" for governments and all stakeholders to urgently initiate policy interventions at all levels to address the socio-economic and environmental sustainability dimensions associated with this phenomenon.



Distinguished Guests, Esteemed Colleagues, Ladies and Gentlemen,

It is with great pleasure that I stand before you today at this significant gathering – the Africa Regional Conference on Education and Skills Development, organized by the ESDEV Foundation Africa and Accra Technical University. I extend my heartfelt gratitude to the organizers for bringing together such a diverse and distinguished group of stakeholders, including policymakers, representatives from the United Nations, faculty members, students, civil society organizations, artisans, and non-formal skills development organizations.

The theme for this conference, ***“Unlocking Africa’s Youth Potential for Socio-Economic Transformation,”*** resonates profoundly with the aspirations and future of Ghana and by extension, our continent. Africa’s youth are not just the leaders of tomorrow; they are the dynamic force of today, poised to drive our nations towards greater socio-economic development and global competitiveness.

In Ghana, we have long recognized that the key to sustainable development lies in empowering our youth through quality education and robust skills development programs. It is essential that we provide our young people with not only the knowledge but also the practical skills needed to thrive in an ever-evolving global economy.

Commitment to Education and Skills Development

Our commitment to education and skills development is unwavering. We are dedicated to implementing policies and initiatives that ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. We are focusing on:

Curriculum Reforms: Updating our education curriculum to meet the demands of the 21st century, emphasizing critical thinking, problem-solving, and digital literacy.

Technical and Vocational Education and Training (TVET): Expanding and modernizing our TVET programs to equip students with the technical skills required in various industries.

Partnerships and Collaborations: Strengthening collaborations



with industry, civil society, and international organizations to enhance the relevance and impact of our educational programs.

Innovation and Entrepreneurship: Encouraging innovation and entrepreneurship among our youth to foster job creation and economic growth.

The Role of Stakeholders

The participation of a broad range of stakeholders is crucial in this endeavor. Policymakers must continue to formulate and implement policies that create an enabling environment for education and skills development. The United Nations and other international bodies can provide valuable support and resources to complement our efforts. Faculty and educators are at the heart of this transformation, as they shape the minds and skills of our future leaders. Students, the primary beneficiaries, must be engaged and motivated to take full advantage of the opportunities presented to them. Civil society organizations, artisans, and non-formal skills development organizations play a vital role in reaching out to those in the informal sector and ensuring that no one is left behind.

Conclusion

In conclusion, unlocking Africa's youth potential for socio-economic transformation is not just a goal; it is an imperative. It requires a collective effort from all sectors of society to ensure that our youth are well-equipped to contribute to and benefit from the socio-economic advancements of our nations. Let us work together to create a future where every young person in Africa can realize their full potential and contribute meaningfully to the prosperity of our continent.

I wish you all a successful conference filled with insightful discussions and innovative ideas that will pave the way for a brighter future for Ghana and Africa.

Thank you.





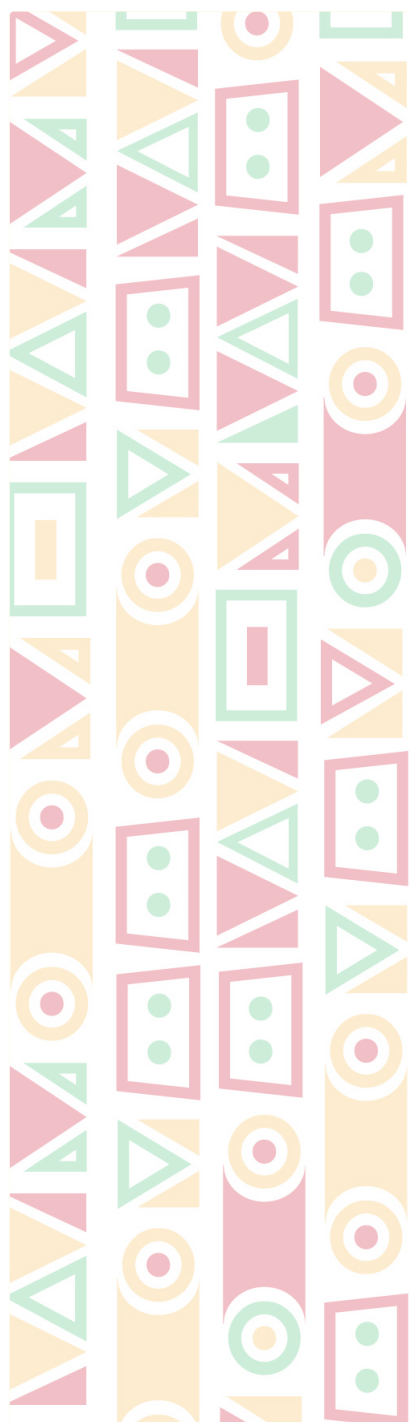
Dear Esteemed Participants,

It is with great enthusiasm and a profound sense of purpose that I extend my warmest greetings to all participants of the Africa Regional Conference on Education and Skills Development, themed "Unlocking Africa's Youth Potential for Socio-Economic Transformation." This conference, organized in collaboration between Accra Technical University (ATU) and ESDEV Foundation Africa, marks a significant milestone in our collective efforts to address the pressing challenges of youth unemployment through innovative skill development and entrepreneurship initiatives.

As the Acting Vice-Chancellor of Accra Technical University, I am deeply passionate about solving the youth unemployment crisis by bridging the skill gap and fostering a culture of entrepreneurship among our students. My background in Electrical and Energy Systems Engineering has endowed me with a strong understanding of the vital role technical and vocational education and training (TVET) programmes play in equipping our youth with the necessary skills to thrive in today's dynamic economy. This conference's theme resonates profoundly with my commitment to empowering the youth, enabling them to become catalysts for socio-economic transformation.

Over the past year, ATU has made significant strides in advancing TVET education and promoting entrepreneurial spirit among our students. Our institution has successfully launched new Bachelor of Technology and Master's programmes, expanded our facilities to accommodate growing student numbers, and established robust partnerships with industry leaders to provide hands-on training and cooperative education opportunities. These initiatives have laid a strong foundation for our students to develop the skills and competencies needed to excel in the modern workforce.

This conference represents a continuation of our dedication to sustainable development and our unwavering commitment to nurturing a new generation of skilled, innovative, and entrepreneurial young Africans. The partnership between ATU and ESDEV Foundation Africa, formalized through the



Message from the Acting Vice Chancellor of Accra Technical University (ATU)



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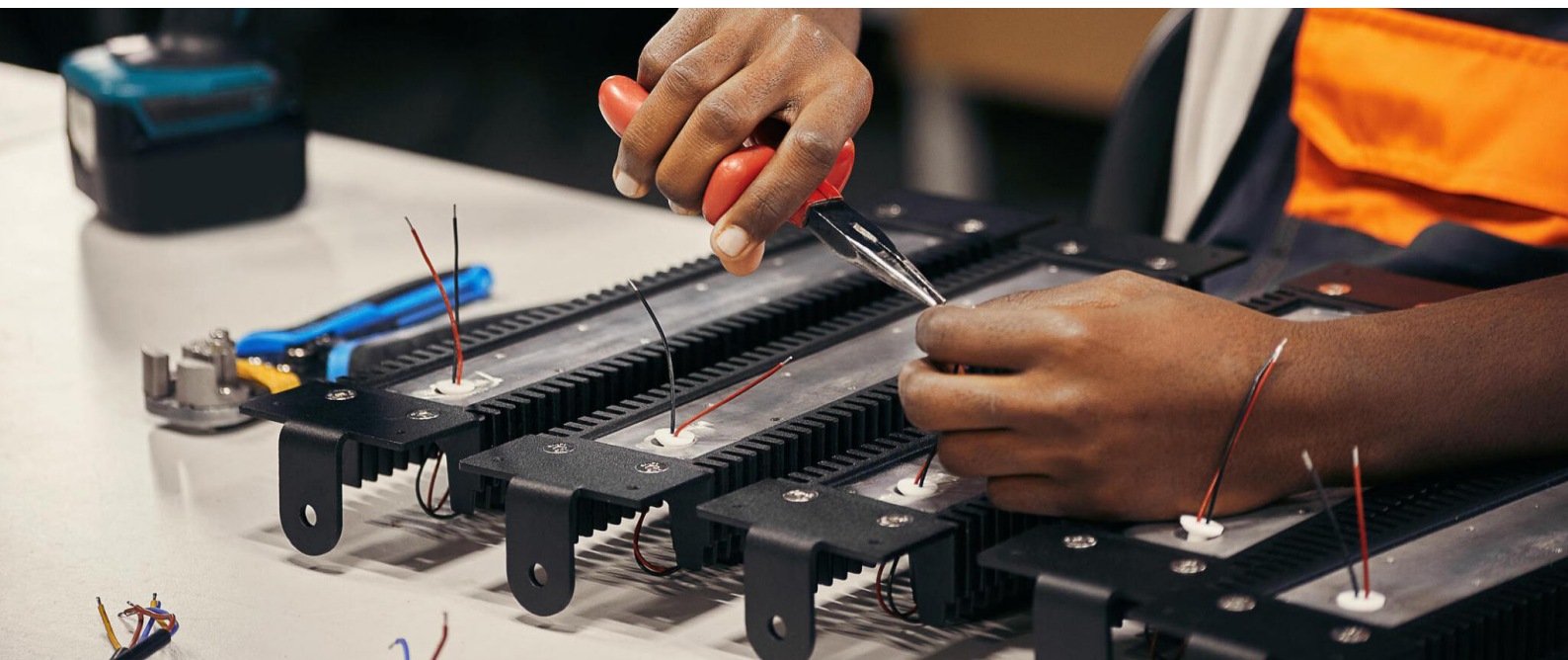
Memorandum of Understanding, signed on February 28, 2024, exemplifies our shared vision for creating a brighter future for Africa's youth.

I am confident that the deliberations and outcomes of this conference will significantly contribute to shaping policies and programmes that will unlock the immense potential of Africa's youth. Together, we can build a more prosperous and inclusive society, driven by skilled and empowered young individuals ready to lead the continent into a new era of socio-economic transformation.

I wish all participants a fruitful and inspiring conference, and I look forward to witnessing the positive impact of our collaborative efforts in the years to come.

With warm regards,

**Prof Amevi Acakpovi, FPE IET-GH,
Snr. M.IEEE Acting Vice-Chancellor,
Accra Technical University**





Distinguished Participants,

It is with great pleasure and a profound sense of responsibility that I welcome you to the 2024 edition of the **Africa Regional Conference on Education and Skills Development (ARC-EDS)**, an initiative the **ESDEV Foundation Africa** proudly leads in partnership with Ghana's premier Technical University – The **Accra Technical University**.

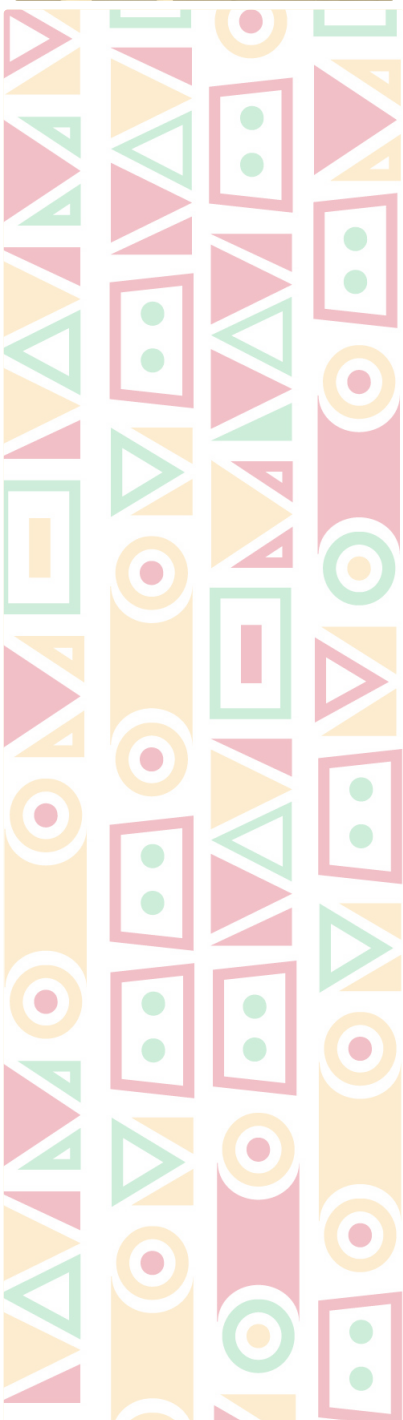
The significance of this Conference cannot be overstated. At a time when Africa's youth population is burgeoning, we are confronted with the dual challenge of unemployment and skills gaps. Our mission at this conference is to provide viable and innovative solutions to these pressing issues, ensuring that our young people are equipped with the necessary skills and knowledge to thrive in today's competitive job market.

Technical and Vocational Education and Training (TVET) stands at the forefront of our agenda. We believe that TVET is not merely an alternative educational pathway but a crucial vehicle for empowering our youth with the entrepreneurial skills and practical knowledge required for sustainable development. By advocating for and investing in TVET, we aim to unlock the potential of young Africans, reducing unemployment rates and fostering a culture of self-reliance and entrepreneurship.

The 2024 ARC-EDS is more than just a Conference; it is a platform for collaboration, innovation, and transformation. It brings together policymakers, educators, industry leaders, and young aspiring professionals to engage in meaningful dialogue, share best practices, and forge partnerships that will drive the future of education and skills development in Africa.

Beyond this Conference, the ESDEV Foundation Africa will continue to deepen its collaboration with Technical Universities in Ghana and across Africa through our flagship projects: 'Innovate 4 Employment' and 'InnovateLaunch' – which has already been launched in South Africa and Nigeria. This tried and tested model is designed to empower student entrepreneurs by providing the resources, mentorship and support necessary to transform innovative ideas into successful start-ups.

The programme will begin in Ghana with our Technical Universities in August 2024, and will target students with a passion for entrepreneurship and TVET, offering them a



Goodwill Message from the CEO of ESDEV Foundation Africa



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structured pathway to develop, refine, and launch their business ventures.

Excellencies, ladies and gentlemen, it is with deep sense of urgency that I invite you to support the ESDEV Foundation Africa in this initiative which is already transforming lives and creating a dynamic ecosystem where students can develop practical skills, engage in real-world problem-solving, and enhance their career readiness. Together, we are paving the way for a brighter, more prosperous future for the younger generation in Ghana and the entire African continent.

Finally, to our sponsors, I extend my heartfelt gratitude for your unwavering support and collaboration in championing this course. I encourage everyone to actively participate, share insights, and embrace the opportunities that this conference presents. Let us work together to create a legacy of empowerment and growth for our youth.

Thank you for your commitment to this noble course. I wish you all a productive and inspiring conference.

Prof. Francis Owusu – Mensah (PHD)
CEO, ESDEV Foundation Africa



08:00 GMT

- Registration of Participants
- Walk-Through Exhibition

09:00 GMT

- Introduction of Chairman – MC
- Chairman’s Response:
Professor Jophus Anamuah-Mensah



09:05 GMT

- Welcome Address by Professor Amevi Acakpovi, Ag. Vice-Chancellor, Accra Technical University



09:15 GMT

- Statement by Professor Francis Owusu-Mensah, CEO - ESDEV Foundation Africa



09:20 GMT

- Musical Interlude / Cultural Performance

09:35 GMT

- Goodwill Messages:
 - Ministry of Environment, Science, Technology, and Innovation
 - Ambassador, Vanuatu Trade Commission
 - UN Resident Coordinator

10:15 GMT

- Address by Guest of Honour, Dr. Yaw Osei-Adutwum, Minister for Education, Republic of Ghana

10:30 GMT

- Closing Remarks by Chairperson
- Photographs
- Snack Break

11:00 GMT

Plenary Session 1:

- Redefining education to address skill gaps for youth employment: The need for a broader policy framework for African Governments.
- **Moderator:** Professor Humphrey Danso, AAMUSTED, Kumasi Ghana
- **1st Presentation:**
- *Rethinking Education and Didactics in the Age of Obsolescence of Paradigms and Skills.*
- **Presenter:** Professor Piero Dominici, Università Degli Studi di Perugia, Umbria, Italy



11:20 GMT

Contributions, Questions, and Answers

11:30 GMT

- **2nd Presentation:**
- *Quality education and skilling of youth is the way to reap the demographic dividend in Africa.*
- **Presenter:** Dr. John Mugo, Executive Director, Zizi Afrique Foundation, Nairobi, Kenya



11:50 GMT

Contributions, Questions, and Answers

12:00 GMT

Panel Discussions:

- *The Perspective of Technical and Vocational Education and Training in addressing Skills Gaps for youth employment in Africa.*
- **Panellists:**
- Representative, Academia
- Representative, Industry
- Representative, Policy/Regulatory Authority
- Representative, Youth Practitioner

12:30 GMT

3rd Presentation:

- *The Jena Declaration in unlocking Africa's Youth Potentials.*
- **Presenter:** Professor Benno Werlen, UNESCO Chair on Global Understanding for Sustainability, Friedrich Schiller University, Jena, Germany



12:50 GMT

Contributions, Questions, and Answers

13:00 GMT

Lunch Break

14:00 GMT

Plenary Session 2:

- Leveraging emerging technologies and pathways to address youth employment challenges in Africa.
 - **Moderator:** Ms. Winifred Kotin, CEO Eagle Innovations, Tech Career Coach, Consultant
- **4th Presentation:**
- *Development of AI competencies of Students and Teachers for the AI Era.*
 - **Presenter:** Prof. Fengchun Miao, Chief, Unit for Technology and AI in Education, UNESCO, Paris



14:15 GMT

• **Contributions, Questions, and Answers**

14:20 GMT

• **5th Presentation:**

- *Leveraging Emerging Technologies for Youth Employment in Africa.*
 - **Presenter:** Professor Nnamdi Nwulu, School of Electrical Engineering, University of Johannesburg, South Africa



14:35 GMT

• **Contributions, Questions, and Answers**

14:40 GMT

• **6th Presentation:**

- *An Innovative Route to Confront Youth Unemployment in Ghana: A Policy Brief for the Government of Ghana.*
 - **Presenter:** Dr. Jamie P. Halsall, University of Huddersfield, United Kingdom



14:55 GMT

• **Discussions, Questions, and Answers**

15:00 GMT

Plenary Session 3:

- Digital Transformation in Education and Skills Development in Africa: A pitch by selected business leaders in education.
 - Moderator: MC
- **7th Presentation:**
Mr. Willian Nguru, CEO, Kurasa - A Kenyan-based EdTech Platform that offers a revolutionary way to implement and manage Competency-Based Curriculum (CBC) online easily. It enables teachers to create lesson plans, conduct formative and summative assessments to support a competency-based approach to teaching and learning. Guardians are also able to closely monitor learner progress continuously during term time.



15:15 GMT

- **8th Presentation:**
Mr. Ramesh Balan, CEO, Knomadix AI, Texas, USA. Knomadix is a Background-AI powered learning platform that systemically integrates Artificial Intelligence into K-12 curricula for scalable personalized learning.



15:25 GMT

- **Rapporteur Summary Report**

15:40 GMT

- **Introduction to Exhibition:**
Ing. Dr. Glenn Gyimah, Lecturer, Accra Technical University



15:45 GMT

- **Pitch by Shortlisted Exhibitors**

16:00 GMT

- **Announcement of Exhibition Awards:**
Dr. Sara Jones, Chairperson, Exhibition Panel of Judges



16:10 GMT

- **Presentation of Awards**

16:20 GMT

- **Chairman's Closing Remarks**

16:30 GMT

- **Cocktail & Networking**

17:30 GMT

- **Departure**

Event Venue



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Professor Humphrey Danso, AAMUSTED, Kumasi Ghana

Engr. Prof. Humphrey Danso is a highly motivated individual with Sustainable Construction, Competency-Based Training (CBT), and TVET Education background. He is a Professor, a Consultant and a Researcher in Sustainable Construction Materials, Construction Management, and TVE Education. He is currently the Dean of School of Graduate Studies of the Akyem Appiah-Menka University of Skills Training and Entrepreneurial Development, Kumasi-Ghana. He was the former Dean of the Faculty of Technology Education, and Head of Department of the Construction and Wood Technology Education. He has twenty-seven (27) years of working experience in both pre-tertiary and tertiary education in Ghana, Russia, the United Kingdom and Australia.

He is a holder of PhD (Civil Engineering) from the University of Portsmouth, UK, MPhil (Civil Engineering) from the Voronezh University of Architecture and Civil Engineering, Russia; MTech (Competency-Based Training) from the University of Education, Ghana; and B.Ed. (Construction Technology) from the University of Education, Ghana. He is also a holder of MSc. in Strategic Management and Leadership from the Kwame Nkrumah University of Science and Technology, Ghana.

Engr. Prof. Danso possesses excellent communication and writing skills, interpretation and analytic skills, and fluent in written and oral English. This is evident in his over Ninety (90) international journal articles publication and international conference presentations.

He has consulted widely for the Commonwealth of Learning (COL), Internationale Zusammenarbeit (GIZ) GmbH, NUFFIC, National Teaching Councils (NTC), and the Commission for Technical and Vocational Education and Training (CTVET). Engr. Prof. Danso is a member of Institution of Engineering and Technology, Ghana; African Foundation for Quality e-Learning in TVET; International Union of Laboratories and Experts in Construction Materials, Systems and Structures; Ghana Institute of Construction; International Building Performance Simulation Association; UK Higher Education Academy for Teaching and Learning; and International Association of Engineers.



Professor. Piero Dominici, **Universita Degli Studi di Perugia, Umbria, Italy**

Prof. Piero Dominici (PhD), Associate Professor, sociologist, philosopher, Educator and Systems Thinker, is Scientific Director of CHAOS (2011) – International Research and Education Programme on “Complex Human Adaptive Organizations and Systems” -, UNESCO IPL Expert and official delegate to UNESCO. Fellow of the World Academy of Art & Science (WAAS) and of the International Engineering and Technology Institute (IETI), UN Expert and invited speaker, he is Director (Scientific Listening) at the Global Listening Center.

Vice President of the World Complexity Science Academy (WCSA) and of WCSA LatAm, Expert of JRC Group – European Commission – and Member of the International Political Science Association (IPSA), he teaches Public Communication, Education towards Complexity and Unpredictability, Sociology of Social Complexity, Global Networks and Security and Intelligence. Complex Systems and Networks, at the University of Perugia and he is a referee for prestigious scientific journals worldwide. As scientific researcher, educator, author and international speaker for almost thirty years, his main areas of expertise and interest encompass (hyper) complexity, complex systems, transdisciplinarity and knowledge sharing in the fields of education, higher education, systems theory, technology, intelligence, security, citizenship and communication.

Member of the MIUR Register of Revisers (Italian Ministry of Higher Education and Research) and Fellow of the New England Complex Systems Institute and of European Complex Systems Society, he is also standing member of several of the most prestigious national and international scientific committees. Author of numerous essays, scientific articles and books.



Dr. Jamie P. Halsall, **University of Huddersfield, United Kingdom**

Jamie P. Halsall is a Reader in Social Sciences in the School of Human and Health Sciences and is currently the Director of Graduate Education at the University of Huddersfield. His research interests include communities, globalisation, higher education, public, and social policy. Jamie’s research has been published in high impact social science and pedagogy journals (e.g. Entrepreneurship Education, Housing Studies, International Journal of Sociology and Social Policy, International Journal of Sustainable Society, Labour & Development, Local Economy, Social Responsibility). He has published a number of books with other academics, the most recent of which is Contestations in Global Civil Society (2022) (with Roopinder Oberoi and Micheal Snowden). Jamie has also published numerous book chapters on ageing, entrepreneurship and innovation, and public policy, as well as reports commissioned by external organisations.

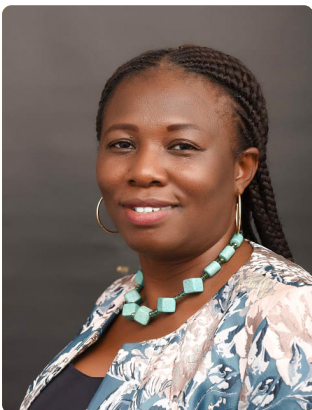


Dr. John Mugo, **Executive Director, Zizi Afrique Foundation, Nairobi, Kenya**

John Mugo is the Executive Director of Zizi Afrique Foundation. His research and programs address key themes connected to foundational learning, whole-child development, parental engagement and empowerment, and assessment of core competences and values. He leads the Action for Life Skills and Values in East Africa (ALIVE), the largest initiative assessing and promoting social emotional learning competences in Africa.

Over the past decade, John has researched extensively on youth skills and employment in Kenya, and the evidence produced by Zizi Afrique has informed many public and policy decisions, including the review of the TVET framework of competences, integration of essential skills in the Trainer curriculum, development of a national integrated communications plan for youth skills development, and the development of national safeguarding standards for TVET institutions in Kenya. Currently, John is working to establish a longitudinal observatory for the future of work, with a pilot commencing now in the city of Mombasa.

Previously, John headed the Uwezo learning assessments in East Africa and chaired the Department of Special Needs Education at Kenyatta University. An accomplished and well-published scholar, John holds a Doctorate and Masters degree in special needs education from the University of Hanover (Germany), and a bachelors of education (Music) from Kenyatta University. He sits in many boards at local, regional and global levels.



Ms. Sarah Osei, **Rappporteur General**

Sarah Osei, a founding partner of ESDEV Foundation Africa and the project team lead for ARC-EDS, brings over 15 years of experience in education to the table. She excels in strategic partnerships, program development, and STEM education. As the Regional Lead (West Africa) at Instill Education, Sarah is dedicated to enhancing teacher training and educational outcomes through innovative technology. Her passion for empowering Africa's youth drives her initiatives across Ghana and the broader West African region, where she has made significant strides in educational reform and development.

Sarah's achievements include training over 40,000 teachers in Ghana and establishing key educational partnerships across West Africa. With an MA in International Relations & Development, an MBA in Marketing Management, and a B.Ed in Arts, Sarah is well-equipped to lead transformative educational projects. Connect with Sarah to join her journey in transforming education for a sustainable future.



Professor Benno Werlen, UNESCO Chair on Global Understanding for Sustainability, Friedrich Schiller University, Jena, Germany

Prof. Benno Werlen holds the UNESCO Chair on Global Understanding for Sustainability, the Friedrich Schiller University Jena (Germany). He is a fellow of the World Academy of Art & Sciences, a member of the Academia Europaea, the initiator and director of the 2016 International Year of Global Understanding (IYGU) approved by the UNESCO General Conference and The Jena Declaration. For almost a decade he served as a Panel Member of the 'European Research Council'.



Prof. Fengchun Miao, Chief, Unit for Technology and AI in Education. UNESCO, Paris

Dr Fengchun Miao is the Chief of the Unit for Technology and Artificial Intelligence (AI) in Education at Education Sector, UNESCO Headquarters in Paris, he is also a Professor (on leave) in AI and Education. He is leading programmes of the Education Sector of UNESCO on technology and AI in education including the programmes on guidance for generative AI in education, AI competency frameworks for school students and teachers, the report on AI and the Futures of Learning, as well as supporting policies on digital education, AI and education, and Open Educational Resources. He is managing UNESCO Prize for the Use of ICTs in Education.

Highlights of his achievements include leading the organization of 4 editions of international forums on AI and education (2019, 2020, 2021, and 2022) and the development and adoption of the Beijing Consensus on AI and Education; the launch and continuous organization of Mobile Learning Week of UNESCO for 10 years and the launch of the new UNESCO flagship annual event Digital Learning Week in 2023. He is the leading author of more than 20 important publications of UNESCO in various domains of digital education. Five reports he produced were ranked top 50 from 2022-2-23 among all UNESCO publications. He has coordinated the support for more than 70 countries in the formation of national digital education policies.





Prof. Nnamdi Nwulu, **School of Electrical Engineering, University of Johannesburg, S.A.**

Professor Nnamdi Nwulu is the Chair Holder South Africa/Switzerland Bilateral Research Chair in Blockchain Technology, Professor of Sustainable Cyber-Physical Engineering Systems and the Director of the Centre for Cyber-Physical Food, Energy & Water Systems (CCP-FEWS) at the University of Johannesburg.

Prof Nwulu's research focuses on Food, Energy and Water Systems (FEWS) and the inherent nexus between all three. Specifically, his research focuses on applying FEW-N thinking, emerging technologies, mathematical optimisation techniques, and machine learning algorithms in food, energy, and water systems. This research focus has produced several books, inventions and over 200 publications, winning him the 2021 NRF Research Excellence Award for Early Career/Emerging Researchers in Engineering/Technology.

He is a Professional Engineer registered with the Engineering Council of South Africa (ECSA), a Senior Member of the Institute of Electrical and Electronics Engineers (SMIEEE), a Senior Member of the South African Institute of Electrical Engineers (SMSAIEE) and a Y-rated Researcher by the National Research Foundation of South Africa.

Prof. Nwulu is the Editor-in-Chief of the Journal of Digital Food Energy and Water Systems (JD-FEWS), Associate Editor of the IET Renewable Power Generation (IET-RPG) and the African Journal of Science, Technology, Innovation and Development (AJSTID).



Mr. Willian Nguru, **CEO, Kurasa**

William Nguru, CEO and Founder of Kurasa Africa, 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.



Mr. Ramesh Balan, CEO, Knomadix AI, Texas - USA

Ramesh Balan is a serial entrepreneur, successful business executive, AI-patent holder and technologist who has always believed in thinking differently – using unconventional outside-the-box approaches to solve large-scale complex problems in many industries, including Interactive Media, Telecom, Healthcare, and, most importantly, Education.

- BS in Mechanical Engineering, College of Engg, Guindy, India
- MS in Computer Science, University of New Brunswick, Canada
- Head of R&D, Cranston/Csuri Productions – Worked under the “Father of digital art and computer animation” Dr. Charles Csuri (https://en.wikipedia.org/wiki/Charles_Csuri) and built an interactive media platform for the production of world class animation sequences in mid 1980s for ABC, NBC and CBS.
- Chief architect and Head of Innovation, AT&T Bell Labs – Developed a platform for global deployment of next generation wireline and wireless services
- Founder/CEO, Softech Resolutions – Software product engineering firm for Telecom and internet products. Successful exit in 2001
- Founder/CEO, UltiMeta – Mobile App Development Platform for Healthcare, Oil & Gas, Transportation & Logistics.
- Founder/CEO, Knomadix – AI/Augmented Intelligence platform for personalized learning.

Chairperson of the 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.



Rethinking Education And Didactics In The Age Of Obsolescence Of Paradigms And Skills

By Piero Dominici, Professor at Univ.of Perugia, UNESCO IPL and JRC EC selected Expert, Scientific Director of CHAOS, WAAS and IETI Fellow, WCSA VP

In the civilisation of control and total (hyper)simulation, marked by a progressive, as well as exponential, growth of the dimension of the technologically controlled - which marginalises the Human and narrows the space of responsibility - the challenges of change are precisely those of rethinking/redefining the centrality of the Person and the Human, within environments and ecosystems in which there is no longer any boundary/limit between natural and artificial, but also between real and virtual.

Pursuing such an objective/perspective means recovering the complex dimensions of educational complexity (Dominici, 1995-96 further works): empathy, critical thinking, a 'culture of error' (all to be constructed) (ibid.), a systemic view of phenomena, communication education, as well as dimensions that we have deliberately removed, such as the imaginary and creativity.

It means rethinking the relational and communicative space within training and educational institutions, relaunching education in the systemic perspective of an education that can only be socio-emotional. We are in the midst of an anthropological transformation, which is substantiated by the overturning of the complex interaction between biological evolution and cultural evolution (ibid.) and which requires a "new epistemology" (ibid.); this is a profound question, made even more complex and problematic by the absence of a system of thought and a theoretical-interpretative model capable of observing, recognising and (trying to) understand the hypercomplexity and the irruption, in some ways, overbearing of chaos. The aim of my presentation will be to show 'why' and, above all, 'how' we should rethink education without falling back into the 'great misunderstanding' of recent decades that has made the urgency of changing educational and training processes coincide with their substantial adaptation and extension to the 'nature' of technological change.

The hyper-technological and hyper-complex society confronts us with a series of vitally important challenges that are, first and foremost, educational and epistemological: challenges that can no longer be avoided or postponed, since moment that knowledge and paradigms appear as obsolete and inadequate with respect to the systemic, relational and unpredictable dimensions of the Social and the Living.

Africa, in spite of various difficulties and criticalities, with its extraordinary heterogeneity and cultural variety, represents an incredible laboratory with great potential precisely in the attempt to thoroughly rethink our educational and training institutions: the only ones capable of socially and culturally building the foundations of a more open, inclusive and just society.



Quality Education And Skilling Of Youth Is The Way To Reap The Demographic Dividend In Africa

By **Dr. John Mugo**, Executive Director, Zizi Afrique Foundation, Nairobi, Kenya

As a continent, Africa will be the leader of global labour supply by 2050. With a mean age of below 20 years, Africa's opportunity is to focus on human capital development which will yield through quality education and persistent skilling of youth. Yet, despite this rosy demographic circumstance, evidence shows that less than half of Africa's children can read by age 10, and more than half of those completing secondary school enter into unskilled labour.

This keynote address will first give an overview of the youth demography in Africa, the move to share research evidence on the opportunities and challenges that exist in the skilling of youth. Specific attention will be given to an analysis of the changing landscape of the skills demanded by the world of work, accruing from the rapid technological changes and shifts in the labour market. Third, the keynote presentation will share experiences of the Ujana360 program in Kenya, the progress made, and lessons learned in getting Kenya's TVET system to embed holistic development competences in policy, research, curriculum, and teacher training.

Three key lessons will be highlighted for programs in other African countries: the need to align programming to government priorities as the way to influence policy priorities; the value of wide participation among stakeholders; and the meaning of an equity and inclusion perspective in reaching the youth furthest behind. The keynote will sign off by pointing the audience to the key priorities for policy, research, and practice in reaping the Africa's demographic dividend (and avoiding a demographic curse), with a strong call to action for everyone to bring their contribution.



Building AI Competencies For Teachers And Students

Prof. Fengchun Miao,
Chief, Unit for Technology and AI in Education, UNESCO, Paris

The talk will start with a summative articulation of human-centred approach to AI and AI in education UNESCO has been promoting. It will present key areas and achievement of UNESCO's programme on digital learning and feature the main publications on AI in education.

The talk will go on to present a human-AI collaboration methodology for the examination of appropriateness of generative AI for education and fundamental controversies around GenAI drawn from UNESCO Guidance for generative AI in education and research.

The talk will go on to talk present UNESCO AI Competency Framework for School Students and UNESCO AI Competency Framework for Teachers.



Leveraging Emerging Technologies for Youth Employment in Africa

By Professor. Nnamdi Nwulu, School of Electrical Engineering, University of Johannesburg, South Africa

Africa's rapidly increasing youth population holds enormous economic potential. However, a considerable skill gap limits their employment and productivity. Emerging technologies provide a promising avenue for solving youth unemployment in Africa. This session will examine how emerging technologies such as blockchain and artificial intelligence, amongst others, can generate new job opportunities and boost existing businesses, thereby empowering young Africans.

The central thesis is that the narrative of increasing youth unemployment in Africa can be tamed by equipping young Africans with the skills and entrepreneurial capacities in emerging technologies they need to flourish as knowledge workers in today's dynamic global economy. This will require carefully integrating emerging technologies in education and training programs and, by extension, into crucial economic sectors like manufacturing and agriculture.

Finally, the session will explore concrete synergistic collaboration strategies that can be leveraged by policymakers, educators, and business leaders to foster the widespread adoption of emerging technologies as a driver for continental human capacity development.



The Jena Declaration in Unlocking Africa's Youth Potential

By Prof. Dr. Benno Werlen, UNESCO Chair

*'Many small people, in many small places
do many small things
change the face of this world'
- Xhosa wisdom*

Confronted with a constantly growing number of global challenges, more and more people are becoming aware that we have not much time left to turn things around. In fact, humanity is very close to missing a last chance to reach the broadly agreed Sustainable Development Goals (SDGs) in time. This insight is shared by most experts.

The current predominance of top-down strategies that generally ignore cultural and regional particularities is at least one important reason for the rather weak engagement of people and the resulting delay.

Overcoming this slow response requires reaching the key agents of change, ordinary citizens with their everyday routines and habits. Mobilizing citizens on a broad front is fundamental to a deep and sustainable change. To this we need new learning strategies around the planet.

To reach such an engagement, first cultural and regional diversities need to be considered respectfully. The generation and implementation of differentiated pathways towards global sustainability is a primary prerequisite for change. And this is what "The Jena Declaration" is calling for: Addressing sustainability by respecting cultural and regional diversity.

This declaration is the outcome of a conference on the cultural and regional dimensions of global sustainability, organized by the Jena based UNESCO Chair on Global Understanding for Sustainability.. Members of the World Academy of Art & Science, The Club of Rome, Academia Europaea, International Council for Philosophy and the Human Sciences, International Science Council, Social Sciences and Humanities Research Council of Canada, Canadian and German Commissions for UNESCO, and the International Geographical Union have contributed to it and are forming to date the consortium behind it.

The ultimate aim of the declaration is to create momentum to enable a deep, but peaceful societal transformation towards living sustainably around the globe, by mobilizing the needed forces on a broad front, to unite for change. To reach this aim we need to chance learning and education programs, oriented towards humanities new challenges. This includes the softening the frontiers of disciplinary silos of knowledge and emphasizing the need for authenticity in learning processes.





Embracing Entrepreneurship and Innovation in Public Policy Circles

Dr. Jamie P. Halsall, School of Human and Health Sciences,
University of Huddersfield, Huddersfield, UK

Levels of unemployment and environmental challenges make social entrepreneurship and social enterprise very important for the sustainability of society. Higher education has played a fundamental role in driving entrepreneurship and innovation in local, national, regional, and global contexts (Winful et al., 2023). Moreover, the classifications of social enterprise evolving from the analysis will inform policy decisions in regulating social enterprises for optimal performance and clearly delineate its relationships with other organisations, such as not-for-profit organisations and businesses in Africa. Social enterprise has the potential to address market failures in our societies when classified appropriately, and the necessary economic platform for their operations.

Hence, the aim of this presentation is to call for an international partnership policy brief that provides realistic solutions for countries in Africa within the context of entrepreneurship education. The author of this presentation, Dr Jamie Halsall, will present findings from an evidence-informed policy brief that he co-wrote for Ministry of Trade, Government of Ghana (Halsall et al., 2023) and he will pay particular attention to the legal framework that needs to be put in place and the required skills development for young people.

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