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**Economic Commission for Africa**  
**Fifth African Science, Technology and Innovation Forum**  
Niamey (hybrid), 26 and 27 February 2023e

## **Accelerating development and diffusion of emerging technologies for a green, inclusive and resilient Africa**

### **Provisional programme of work**

#### **Venue: PdC Plenary**

#### **Sunday, 26 February 2023**

8.30–9 a.m.

**Registration**

9–10 a.m.

**Opening session****Welcoming remarks**

- United Nations Educational, Scientific and Cultural Organization, Regional Director and Representative, Multisectoral Regional Office for West Africa, **Dimitri Sanga**
- African Union Commissioner for Education, Science, Technology and Innovation, **H.E. Prof. Mohamed Belhocine**
- Acting Executive Secretary of the Economic Commission for Africa, **Antonio Pedro**

**Keynote addresses**

- **Outgoing Chair:** Minister for Education, Rwanda, **Valentine Uwamariya**,
- **Incoming Chair:** Minister for Higher Education and Research, Niger, **Mamoudou Djibo**

**Moderator:** Director, Technology, Climate Change and Natural Resources Division, ECA, **Jean-Paul Adam**

10–10.15 a.m.

Coffee break

10.15–11.30 a.m.

**High-level panel on strengthening science, technology and innovation systems in Africa**

Acceleration of knowledge development, deployment and diffusion to meet the Goals and aspirations of citizens in Africa depends on strong linkages, interactions and relations among entities that produce, apply and use knowledge and technology, as well as the government regulatory, administrative and support entities. The case of COVID-19 vaccines has demonstrated the need of government entities, universities, industries and not-for-profit organizations to undertake research and development activities together and bring innovative solutions to the masses in the shortest possible time. This session will explore and showcase a) measures governments and international agencies are undertaking to strengthen national systems of innovation to accelerate the attainment of all the SDGs and AU Aspirations; b) mobilization of external partners, especially the Africa diaspora, to contribute to STI development; c) empowerment of the youth to drive innovation and entrepreneurship and d) leverage regional and continental initiatives, such as the Continental Free Trade Area.

**Moderator:** Director of the African Institute for Economic Development and Planning, **Karima Bounemra Ben Soltane**

**Panellists:**

- Executive Secretary of ECA, **Antonio Pedro**
- Minister for Higher Education and Research, Niger, **Mamoudou Djibo**
- Minister for Education, Rwanda, **Dr. Valentine Uwamariya,**
- The Minister for Posts, Telecommunications and Digital Economy, Republic of Congo, **Monsieur Leon Juste IBOMBO**
- Deputy Minister of Information and Communication Technologies, Namibia, **Emma Theophilus**
- Regional Director and Representative for Southern Africa, UNESCO, **Prof. Lidia Brito**
- Deputy Director-General, International Cooperation and Resources, Department of Science and Innovation, South Africa, **Mr Daan du Toit**
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- Representative of youth **General discussion**

11.30 a.m.–1 p.m. **High-level policy dialogue on inclusive science, technology and innovation policy formulation and implementation**

Science, technology and innovation (STI) policies of some African countries rarely major challenges such as climate change, food insecurity, youth unemployment, energy poverty but assume increased investment in and support for higher education and public research will ultimately have an impact. This session will address a number of questions: a) How can countries elevate STI policy design, implementation and monitoring from a sectorial to national level? b) How can STI policy design and implementation take a multidisciplinary, intersectoral and short-term and long-term development goals? c) What measures are needed to ensure STI policies balance the needs for three components and their players: science, technology and innovation? and d) How do we ensure the executive, parliamentary, judiciary, industry, academia and other public and private stakeholders are involved in STI policy implementation and monitoring?

**Moderator:** Head of Training and Research, IDEP, **Thierry Amoussougbo.**

**Presentation**

Science, Technology and Innovation Policy Formulation and Implementation Guide, ECA

**Panellists**

- Vice President, Nanyang University of Technology, Singapore, **Prof. Timothy White**
- Director General, Ministry of Higher Education, Ethiopia, **Dr. Solomon Benor,**
- Director, Science and Technology Policy Research Institute, Ghana, **Dr. Wilhemina Quaye**
- **Prof. Tom Ogada**, CEO of Kenya National Innovation Agency
- **Dr Peggy Oti-boateng**, Executive Director, African Academy of Science

**General discussion**

1–2 p.m. Lunch break

**Parallel Sessions:**

2–4 p.m. **a). Universities as engines of regional and national transformation:** Alliance of Entrepreneurial Universities in Africa

The role of universities in local and national development and transformation is well recorded. As such, this session will explore a) how government are encouraging universities to be entrepreneurial; b) how university leadership has cultivated, fostered and sustained entrepreneurial culture across their institutions; and c) the measures put in place to mobilize internal and external resources (talent, skills, time, funding etc) for the university's entrepreneurial strategies and initiatives in the long run. It will also address ways to promote and support staff and student entrepreneurial skills, development and mindset, and in connecting them to entrepreneurship initiatives in the region, country and beyond both with the with private and public entities.

**Moderator:** Head of Secretariat, African Materials Research Society, AMRS, Botswana, **Samuel Chigome,**

**Panellists:**

- Chief Executive Officer of Universities Kenya and Chair of the Alliance, **Mr Geoffrey Monari,**
- **Professor**, Faculty of Science and Technology, Universite Cheikh Anta Diop, Dakar, Senegal, **M. Balla Diop Ngom,**
- Director @iBizAfrica Innovation and Incubation Centre, Strathmore University, Kenya, **Dr. Joseph Sevilla**
- Design Thinking and Innovation Hub, University of Cape Coast, Ghana, **Dr Keren Naa Abeka Arthur**
- Co-founder, Mo Angels, Mauritius, **Isabelle de Melo**

**Discussion**

**b) Capacity building in digital skills, AI and emerging technologies in Africa & Official Launch of the UNESCO - AI movement Project “African Women in Tech and AI”**

**Venue: PdC Committee Room 1**

We live in a world that is increasingly shaped by digital and emerging technologies. In Africa, those technologies have the potential to be a great lever for development if they are accessible and used to develop inclusive and sustainable solutions to local and regional challenges. In this context, and in the framework of its Operational Strategy for Priority Africa 2022-2029, UNESCO has developed strategic partnerships and large-scale international capacity building initiatives aiming at strengthening digital and AI capacities in Africa. The session will serve as a platform for sharing results of on-going projects and forging new synergies at the regional and local levels, with a special focus on South-South collaboration, as well as African youth and African women.

**Moderator:** Dr Lebreton-Traoré, Expert, Unit of Contextual Analysis and Foresight for Priority Africa, UNESCO

Introductory remarks by **Mr Mohammed Elfarnawany**, Director, Division for Priority Africa Coordination, UNESCO

**Panellists:**

**(i) The UNESCO – CODEMAO Youth Coding Initiative**

- **Mr Zhan Tao**, Director, UNESCO Institute for Information Technologies in Education
- **Mr Tianchi Li**, CEO, CODEMAO (China) (TBC)
- **Mr Abdoulaye Ibrahim**, Head, Unit of Contextual Analysis and Foresight for Priority Africa, UNESCO

**(ii) Focus on the African Youth**

- **Ms Malebogo Bowe**, Liaison Officer, Unit for Relations with African Member States and Partnerships, UNESCO
- **Mr Ibrahim Abdou**, Pan-African Youth Network for a Culture of Peace (PAYNCoP)
- **Mr Cérafin Itoua** One certified teacher of the Youth Coding Initiative
- **Ms Houda Saffi**, Prize winner of the 2022 Hackathon on “AI for Women Empowerment & Gender Equality” organized by Ai movement – UM6P

**(iii) Official Launch of the UNESCO - Ai movement Project “African Women in Tech and AI”**

- **Prof. Amal El Fallah Seghrouchni**, Executive President, Center Ai movement of the University Mohammed VI Polytechnic (Morocco)
- **Mr Abdoulaye Ibrahim**, Head, Unit of Contextual Analysis and Foresight for Priority Africa, UNESCO

4–4.15 p.m.

Coffee break

4.15–6 p.m.

**Parallel session**

**(a) High-level policy dialogue on development and application of emerging technologies for water and sanitation**

The Coronavirus disease (COVID-19) placed a special spotlight on the numerous communities without access to reliable, clean and safe water; the multiple innovations that communities developed to bring water to multitudes but remains uncommercialized; and how access to water is intricately linked to health and wellbeing. Clean and safe water is key to the proper functioning of sectors such as education, healthcare, agriculture, manufacturing, transport and hospitality. This session will address the STI applications in improving and cleaning up the sources of water (e.g. polluted rivers); the development solutions for bringing safe and clean water to multitudes in unplanned settlements; advances in solutions for water harvesting, processing, storage, distribution, recycling and disposal, among others

**Moderator: Maha Sall**, Science Programme Specialist, UNESCO Multisectoral Regional Office for West Africa

**Panellists:**

- Prof. Shane Allen Snyder**, Executive Director, Nanyang Environment and Water Research Institute, Nanyang University of Science and Technology, Singapore,
- Makarigakis, Alexandros K. **Regional Hydrologist for Africa**, UNESCO Regional Office for Eastern Africa
- Dr Valerie Naidoo**, Executive Manager for Business Development and Innovation, Water Research Commission, South Africa
- Kenya
- NIGER**

**General discussion**

**(b) Policy dialogue on science and technology for industrial and infrastructure development in Africa**

**Venue: PdC Committee Room 1**

Industrial revolutions have been underpinned by major leaps in technological paradigms: from the coal powered steam engines and electricity enabled automation, to electronics and computer-enabled industries (internet, social media) and now the integration of the info-bio-nano-energy technologies that are opening up new opportunities and challenges. While the future is unclear, Africa needs to be ready to participate in new industrial development. This session will explore measures that Africa can put in place to prepare its people and its industries to ensure future gains are inclusive and sustainable; support its industries and entrepreneurs to be competitive; and the infrastructure that is fit for purpose.

**Moderator: ECA**

- Director @iBizAfrica Innovation and Incubation Centre, Strathmore University, Kenya. **Dr. Joseph Sevilla**,

- Proposed East Africa Hub, Vice Chancellor, Dedan Kimathi University of Technology, Kenya, **Professor P. Kioni**
- Executive Director, Uganda Industrial Research Institute, Uganda **Prof. Charles Kwesiga,**
- Head of Secretariat, African Materials Research Society, AMRS, Botswana, **Samuel Chigome**
- Representative of Morocco
- Representative of Niger**
- Representative of Congo

#### **General discussion**

**Monday, 27 February 2023**

9–11 a.m.

#### **Parallel sessions**

##### **(a) Policy dialogue on science and technology for sustainable cities and communities in Africa**

##### **Venue: PdC Plenary**

Cities are major drivers of scientific discovery and early adopters of new and emerging technologies and innovations. Yet, some cities are more inclusive, innovative and dynamic than others. This session will explore how technology and innovation can help build sustainable, inclusive and safe cities and communities in Africa; measures that Africa cities and communities can employ to attract, retain and grow talent and investments to remain globally competitive and emerging initiatives that are improving the quality of living and wellbeing of citizens in cities and communities.

#### **Moderator:**

- Director, Science and Technology Policy Research Institute, Ghana **Dr Ms. Wilhemina Quaye,**
- Business Development & Policy Lead, Octavia Carbon, Kenya, **Ms. Diana Maranga.**
- Portfolio Manager: Natural Resources Technology Innovation Agency, South Africa, **Manju Surju**
- Chair, Africa Development Futures Group, **Prof Nkem Khumbah**
- Two representatives of the private sector
- NIGER**

#### **General discussion**

##### **(b) Implementation of UNESCO Recommendation on Open science**

**Venue: PdC Committee Room 4**

The UNESCO recommendations on Open Sciences calls on member States to: promoting a common understanding of open science and its associated benefits and challenges, as well as the diverse paths to open science; developing an enabling policy environment for open science; investing in infrastructure and services which contribute to open science; investing in training, education, digital literacy and capacity-building, to enable researchers and other stakeholders to participate in open science; fostering a culture of open science and aligning incentives for open science; promoting innovative approaches to open science at different stages of the scientific process; and promoting international and multistakeholder cooperation in the context of open science with a view to reducing digital, technological and knowledge gaps. This session will focus on measures and mechanisms to unlock the potential of open science.

**Moderator: Maha Sall**, Science Programme Specialist, UNESCO Multisectoral Regional Office for West Africa

**Panellists:**

- **Prof. Martiale Zebaze Kana**, Senior Programme Specialist and Head of Science, UNESCO regional Office for Southern Africa.
- **Dr Magalie Lebreton-Traoré**, Expert-consultant, Sector for Priority Africa and External Relations, UNESCO
- **Dr Peggy Oti-boateng**, Executive Director, African Academy of Science
- **Professor Eddie Mwenje**, Vice Chancellor Bindura University of Science Education, Zimbabwe
- **Dr. Justine Geramo Nzweundji**, President, Global Young Academy, Cameroon.
- **Yousef Torman**, Managing Director, Arab States Research and Education Network (ASREN)
- **Prof. Nozha Ibnkhayat**, École des sciences de l'information du Rabat au Maroc
- **Dr Ms. Wilhemina Quaye**, Director, Science and Technology Policy Research Institute, Ghana
- **Dr Tshiamo Motshegwa**, Director, African Open Science Platform.

**General discussion**

11–11.15 a.m. Coffee break

11.15 a.m.–1 p.m. **Plenary session**

**High-level policy dialogue on emerging energy technologies**

New and emerging energy technologies promise to rewrite the global energy economy with Africa and its vast renewable potential being well positioned to benefit. At the same time, Africa is home to most of the minerals the world needs to bring renewable energy products such as batteries, solar panels etc to market. This session will explore how Africa can build the capacity needed to develop, deploy and maintain renewable energy industries and solutions; lead in building resilient, accessible and environmentally friendly energy services; and how it can exploit its vast natural resources, AfCFTA and growing R&D and industrial base to create value and supply

chains. Which industries and technologies offer Africa greater benefits in the short and long term and what challenges should it address?

**Moderator: Jean-Paul Adam**

- Minister of Industry, Democratic Republic of Congo, **Julien Paluku Kahongy**
- Executive Director, ECOWAS Centre for Renewable Energy and Energy Efficiency, **Francis Sempore**
- Regional Director and Representative for Southern Africa, UNESCO, **Prof. Lidia Brito**
- Chair, Africa Development Futures Group, **Prof Nkem Khumbah**
- Director, Export Development, Afreximbank, **Oluranti Doherty**
- Director: Transport Fuels, Department of Science and Innovation, South Africa, **Somila Xosa,**
- Energy Technologies, Strathmore University, Kenya, **Prof Izael Pereira das Silva,**
- Senior Environmental Affairs Officer, TCND, ECA, **Linus Mofor**
- Representative from NIGER

**General discussion**

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| 1–2 p.m.     | Lunch break   |
| 2–3 p.m.     | <p><b>African Union – European Union. What are we doing together?</b></p> <p><b>Moderator:</b>, Science Counsellor to African Union, European Commission, <b>Piero Venturi</b></p> <p><i>Opening remarks:</i></p> <p>Director for Global Approach and International Cooperation in R&amp;I, European Commission, <b>Maria Cristina Russo,</b></p> <p>African Union Commissioner for Education, Science, Technology and Innovation, <b>H.E. Prof. Mohamed Belhocine</b></p> <p>AU-EU Innovation Agenda and Africa Initiative II: Presentation by <b>Dr. Piero Venturi</b></p> <p><b>Discussion</b></p> |
| 3.–4.30 p.m. | <p><b>Unveiling Project Origin</b></p>  |

Origin Research and Innovation Labs (or ‘Origin’) are designed as sustainable, responsible and innovative spaces that attract the best to make Africa the global pole for solving complex and wicked problems faced by communities and firms; inspiring Africans to generate ground-breaking, revolutionary solutions and; showcasing



innovative solutions that can be deployed on a massive scale in Africa and globally. At least one Origin lab will be developed in each region of Africa over the coming years.

**Presentations:**

Overview of Project Origin by UN ECA, **Victor Konde**

Proposed East Africa Hub, Vice Chancellor, Dedan Kimathi University of Technology, Kenya, **Professor P. Kioni**

University of Turku, Finland, **Professor Jussi S. Jauhiainen**

**Discussants:**

4.30–4.45 p.m. Coffee break

4.45–6 p.m. **Closing of the session**

**Statements:**

- Regional Director and Representative, UNESCO Regional Office for Southern Africa, **Prof Lidia Brito**
  - Director, Technology, Climate Change and Natural Resources Management Division, ECA, **Jean-Paul Adam**
  - Minister for Higher Education and Research, Niger, **Mamoudou Djibo**
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