



DRAFT Programme

## Africa Regional Science, Technology and Innovation Forum

**“Building forward better: towards a resilient and green Africa to achieve the 2030 Agenda and Agenda 2063”**



**Date: 25–26 February 2021**

**Venue: Brazzaville**

**Draft programme**



25 February 2021	
8–9.30 a.m.	<b>Registration</b>
9.30–10.30 a.m.	<p><b>Opening session</b></p> <p>Director of Ceremony: Jean-Paul Adam, Director, Technology, Climate Change and Natural Resources Management, ECA</p> <p>Welcome remarks:</p> <ul style="list-style-type: none"> <li>• <b>Shamila Nair-Bedouelle</b>, Assistant Director-General for Natural Sciences, UNESCO</li> <li>• <b>Vera Songwe</b>, Under-Secretary General of the United Nations and Executive Secretary of ECA, Ethiopia</li> <li>• Remarks by Mrs Arlette Soudan-Nonault, Minister of tourism and environment, Congo</li> </ul> <p><b>Keynote addresses</b></p> <ul style="list-style-type: none"> <li>• Outgoing Chair: Amon Murwira: Minister of Higher and Tertiary Education, Innovation, Science and Technology Development, Zimbabwe</li> <li>• Incoming Chair: Parfait Aimé Coussoud Mavoungou, Minister for Scientific Research and Technological Innovation, Congo,</li> </ul> <p><b>Overview of the STI Forum by Jean-Paul Adam, Director, Technology, Climate Change and Natural Resources Management, ECA</b></p> <p>Moderator: <b>Jean-Paul Adam, ECA</b></p> <p style="text-align: center;">-</p>
10.30–11.30 a.m.	<p><b>Assessing Progress on Implementing Recommendations of the Forum</b></p> <p>The first and second Africa Regional Forum made several recommendations and key messages to enable member States leverage science, technology and innovation to meet the Sustainable Development Goals. The key messages of the first Forum included: Inadequate hard and soft STI infrastructure; a) Inadequate investment by African countries in STI; b) importance of harnessing the innovative spirit of Africa’s youth; c) development of relevant and realistic STI policies and strategies; and d) promotion of Intra-African STI collaboration as essential.</p>



The second Forum This session will focus on actions taken by ECA, partners and member States. Second Forum call on countries to: a) build capacity in the basic sciences and engineering; b) significantly scale up investments in research and development; c) align the critical skills at country level to effectively respond to a future that is increasingly driven by science, technology and innovation; d) establish innovation hubs, incubators and common equipment centres; e) develop a strategy that co-implements the fourth industrial revolution, while taking advantage of established technologies in order to catch up and meet the aspirations of the 2030 Agenda and Agenda 2063 of the African Union; f) strengthen collaboration and partnerships at a continental and regional level; g) draw lessons from the experiences of other regions to make significant inclusive and sustainable development gains; h) adopt and promote renewable energy technologies and i) redesign the curricula of higher education to produce goods and services. For details, see the reports of the 2019 and 2020 Forums.

Presentation (10 minute each)

**Jean-Paul Adam**, Director, Technology, Climate change and Natural Resource Management Division, ECA

UNESCO

**Panel discussion on enhancing implementation and reporting**

Anneline Morgan (SADC)

David Blaise Ossene, Expert STI (ECCAS)

EAC

**Moderator:** Ghaith Fariz, Regional Director, UNESCO Regional Office for Science in the Arab States

**Rapporteur:** Ms Lindiwe Gama, Department of Science and Technology (DSI), South Africa

Samuel Partey, Science Programme Specialist, UNESCO



11:30 a.m.–1  
p.m.

### **High-level policy dialogue on design, implementation and evaluation of science, technology and innovation policies for the Sustainable Development Goals**

The Addis Ababa Action Agenda underlined the importance of science, technology and innovation policies at the national level to ensure that science, technology and innovation serve as driving forces and enablers in fulfilling the 2030 Agenda for Sustainable Development. Similarly, the African Union Science, Technology and Innovation Strategy for Africa 2024, which forms part of the set of measures for the first phase of implementing Agenda 2063, has prioritized science, technology and innovation policymaking as one of the four pillars of this undertaking. The United Nations inter-agency task team on science, technology and innovation for the Sustainable Development Goals and the 10-member group appointed by the Secretary-General launched the science, technology and innovation road map initiative in pursuit of those same goals.

This session will focus on tools and practices that countries have used to design, implement and monitor their national and regional science, technology and innovation policies and the spaces or flexibilities built in to enable the integration of regional and international dimensions and to respond to new challenges as they emerge, noting that policies have a horizon of between 5 and 20 years. They also address ways in which countries could enhance the design, efficiently implement, adequately track and evaluate their science, technology and innovation policies.

#### **Presentations (15 minutes each)**

- Mr Clovis Freire Junior, Economic Affairs Officer, UNCTAD, Switzerland
- Dr. Robert Ridley, Former Director of WHO/TDR and currently Vice-Chancellor, Unicaf University, Malawi
- Dr. Peggy Oti-Boateng, Director- Science, Policy and Capacity building, UNESCO, France

#### **Panellists**

- Parfait Aimé Coussoud Mavoungou, Minister for Scientific Research and Technological Innovation, Congo
- H.E. Gabriel Changson Chang, Minister of Higher Education, Science and Technology, South Sudan
- H.E. José Mpanda Kabangu, Minister of Scientific Research and Innovation, Democratic Republic of Congo,
- Dr (Mrs) Wilhelmina Quaye, Director, Science and Technology Policy Research Institute, CSIR, Ghana
- Dr. Solomon Benor, Director General, Ministry of Science and Higher Education, Ethiopia
- Representative of SADC – minister Higher Education, Namibia?



	<p><b>Moderator:</b> Ms. Karima Bounemra Ben Soltane,, Director of the African Institute for Economic Development and Planning (IDEP), Senegal</p> <p><b>Rapporteur:</b> UNESCO</p>
1–2 p.,m.	<b>Lunch</b>
2–4 p.m	<p><b>Parallel Session on emerging technologies for regional competitiveness and sustainable development</b></p> <p>Emerging technologies offer developing countries unique opportunities to catch up with leading countries and improve living standards in ways that mature and tested technologies do not. Emerging technologies disrupt existing business models and systems (such as wireless technologies and advanced energy technologies), open up new technological niches (such as mobile money, which works as a game changer in poorer countries but serves as a mere add-on in more advanced countries) that allow less developed countries to leapfrog old technologies (such as animal-drawn carts, landlines, thermal electricity generation stations), and reduce entry barriers through co-learning by both developing and developed countries alike (such measures as the governance of cryptocurrencies and taxing of digital firms are being implemented in rich and poor countries alike). The less developed countries, however, face the challenge of limited intellectual assets, financial resources and key infrastructure, and also of the institutions needed to acquire, learn, use, manage and further upgrade new and emerging technologies.</p> <p>Panellists will draw on national, regional and international experience in considering, among others, the following topics:</p> <ul style="list-style-type: none"> <li>• How can Africa position itself to realize the promises of emerging technologies in advancing industrial development and economic growth (Goal 8), reducing food insecurity (Goal 2), reducing inequalities (Goal 10) and reducing environmental degradation (Goal 13)?</li> <li>• How can Africa best build the human, industrial and governance capacities needed to harness emerging technologies?</li> <li>• What role should education, research and development institutions and the private sector play?</li> <li>• Where are the best opportunities for Africa and how can African countries set their priorities?</li> </ul> <p>In the face of multiple technologies and their interdependencies, and given limited capacity in national government departments, how can African countries design integrated national or regional strategies that address the needs of emerging technologies, that are inclusive?</p>



<p>2–4 p.m.</p>	<p><b>The Future is Intelligent: A focus on AI</b></p> <p><b>Presentations:</b></p> <ul style="list-style-type: none"> <li>• Amani Abou, Director, Division of Water Sciences, UNESCO – AI and Water Security in Africa</li> <li>• Dr. Mousa Garba, Data Scientist, Paris, France.</li> </ul> <p><b>Panellists</b></p> <ul style="list-style-type: none"> <li>• Leon Juste Ibombo, Minister for Postal, Telecommunications and Digital Economy, Congo</li> <li>• Professor Raissa Malu, Director, Investing in People, Democratic Republic of Congo</li> <li>• Dr. Chomora Mikeka, Director-, Ministry of Education, Science and Technology, Malawi</li> <li>• Noeline Raondry Rakotoarisoa, Division of Ecological and Earth Sciences, UNESCO</li> <li>• <i>Next Einstein Forum (Mme Therese Vanesa (UNESCO to confirm))</i></li> </ul> <p><b>Moderator:</b></p> <p><b>Rapporteur: Mama Plea, Science Programme Specialist, UNESCO UNESCO</b></p>	<p><b>The Future is Nano: A focus on nanotechnology</b></p> <p><b>Presentations</b></p> <ul style="list-style-type: none"> <li>• <i>UNESCO Chair in Nanotechnology and Nanoscience – Prof Malik - South Africa</i></li> <li>• Nanotech Applications in Mineral Processing for enhanced Mineral Recovery - Tatenda C Madzokere, <b>Midlands State University</b>, Zimbabwe</li> </ul> <p><b>Panellists</b></p> <ul style="list-style-type: none"> <li>• Mokhtar Sellami, Algeria</li> <li>• Dr, Adewale O Adeloye, Nigeria</li> <li>• Dr Maryse Dadina Nkoua Ngavouka, Diretor, IRSEN, Ministry of Scientific Research and Technological Innovation, Congo</li> </ul> <p><b>Moderator: Samuel Chigome</b></p> <p><b>Rapporteur: DSI</b></p>
<p>4–5 p.m.</p>	<p><b>Key messages of the day</b></p>	
<p><b>26 February 2021</b></p>		



<p>9:30 a.m.–11:30 a.m.</p>	<p><b>High-level policy dialogue on advancing entrepreneurial universities in Africa to deliver the 2030 Agenda for Africa</b></p> <p>Both the first and second Science, Technology and Innovation Forums underlined the importance of promoting innovation and entrepreneurship in higher education in Africa. In addition, higher education is seen as a key component of two of the four pillars of the African Union Science, Technology and Innovation Strategy for Africa 2024, namely, building technical competencies and promoting innovation and entrepreneurship. More important, the best teaching universities in the world are generally those that perform research at the frontiers of knowledge generation and contribute to the development of their regional and national communities and firms.</p> <p>While not all universities in a country are research and innovation-intensive, the existence of universities that promote research, innovation and entrepreneurship is important to the scientific sector, industry and governments for different reasons. These include, among others, the quest for excellence in teaching and research, growth of innovative and competitive businesses, contribution to poverty reduction and export diversification. As such, advancing entrepreneurial universities in Africa would directly address poverty reduction (Goal 1), quality of education (Goal 4), decent work (Goal 8), industry and innovation (Goal 9) and collaborations and partnerships (Goal 17). Efforts in pursuit of these Goals will indirectly contribute to almost all the Goals.</p> <p>This session will address, among other topics:</p> <ul style="list-style-type: none"> <li>• The measures that governments are taking to ensure the emergence, promotion and growth of entrepreneurial universities; to encourage universities to include and advance entrepreneurship in teaching; to promote research and innovation; to ensure that university administrations, staff and students are supported and empowered to attract</li> </ul>	<p><b>High-level policy dialogue on technologies for improved health-care outcomes in Africa: lessons from the COVID-19 pandemic</b></p> <p>The COVID-19 pandemic has exposed some of the weaknesses of healthcare systems in Africa. At the beginning of the pandemic, a majority of African countries lacked the capacity to simply test and detect the virus that causes COVID-19. Their health infrastructure is too weak to meet the needs of a pandemic, they are over-reliant on external sources for almost all medical supplies and their institutional coordination and collaboration are inadequate, with impacts on the effectiveness and efficiency of service provision. For instance, few countries are tracking the evolution and emergence of different strains of the virus and even fewer are participating in the discovery, development and production of vaccines and treatments and yet Africa has a predominantly young population that is increasingly well educated.</p> <p>At the same time, African countries have also been innovative in their response to COVID19 and have often adapted technological solutions to address issues related to testing, contact tracing and the production and supply of personal protective equipment. Several African universities, firms and innovation hubs have showcased and brought to market products that have saved lives and created jobs and wealth.</p> <p>This session focuses on well-being and health (Goal 3); it also look at the positive and negative impacts on education (Goal 4), poverty (Goal 1) and collaborations and partnerships (Goal 17) from a science, technology and innovation perspective. Some of the questions under discussion could include ways in which countries can:</p> <ul style="list-style-type: none"> <li>• Mobilize and build adequate numbers of researchers in all areas of sciences – from natural sciences, health and veterinary to humanities and social sciences;</li> <li>• Stimulate research, innovation and entrepreneurship</li> </ul>
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entrepreneurial talent from around the world; to achieve excellence and drive development in their regions

- The measures or efforts that are needed to strengthen institutional arrangements to drive technological and non-technological innovations and entrepreneurship to boost job and wealth creation, to enhance competitiveness in trade and to attract investments through higher education, with a focus on universities

#### **Presentations**

- Dr. Martha Phiri, Director Human Capital, Youth and Skills Development, African Development Bank
- Prof. K. Dzimbo – CEO Zimbabwe council for High Education/ Lead researcher Transformation of Universities

#### **Panellists**

- H.E. Prof. (Dr.) Amon Murwira: Minister of Higher and Tertiary Education, Innovation, Science and Technology Development, Zimbabwe
- Ann Theresa Ndong Jatta, Regional Director and Representative UNESCO Regional Office for Eastern Africa
- Dr (Mrs) Wilhelmina Quaye, Director, Science and Technology Policy Research Institute, CSIR, Ghana
- Dr. Norah Clarke, Director: Entrepreneurship, Universities, South Africa
- Mr. Wondwossen Belete, President – Society for Technology Studies, Ethiopia

- Build the research and industrial development infrastructure needed to quickly bring life-saving solutions to market
- Design reliable domestic and regional supply chains to meet current and future healthcare needs
- Enhance the tracking of emerging health threats around the world and in Africa
- Ensure effective sharing of information, and coordination and service delivery
- Encourage and support co-inventing, co-innovation and co-delivery of services to poorer communities by key science, technology and innovation stakeholders.

#### **Presentations**

- Dr. June Madete, School of Engineering Kenyatta University, Kenya.

#### **Panellists**

- Dr Palesa Sekhenjana, Human Sciences Research Council, South Africa Experience
- Prof. Christian Happi, Director, African Centre of Excellence of Excellence for Genomic of Infectious Diseases, Redeemer's University, Nigeria
- Moshe – UN Technology Bank for the Least Developed Countries, Turkey

Moderator: Dimitri Sanga, Regional Director, UNESCO Regional Office for West Africa (Sahel), Senegal

Rapporteur: Hassan Nazar, UNESCO Senior Science Specialist, UNESCO



	<p>Moderator: <b>Thierry H. AMOUSSOUGBO</b>, Head, E-learning &amp; Knowledge Management Division, African Institute for Economic Development and Planning, ECA</p> <p>Rapporteur: <b>Ms Mandry Ntshani</b>, Department of Science and Innovation, South Africa</p>	
<p>11:30 am–1 p.m.</p>	<p><b>Policy Dialogue making Africa a global research and innovation hub</b></p> <p>Africa has the fastest growing youthful and increasingly educated workforce in the world and among the fastest growing high education sectors – rising from 2.2. million university students in 1991 to about 20 million in 2015) and boasted some 643 tech hubs in 2019 – up from 422 in 2018. The number and size of universities and research centres, and also of technology firms, have grown rapidly over the last decade. Africa has all the key ingredients to become a global research and innovation hub to spur the transformation of the continent into a top manufacturing centre and provider of value-added services. Notwithstanding the continent’s low gross expenditure on research and development (0.4 per cent of its GDP in 2019, far below the world average of 1.7 per cent and the 1 per cent target set by the African Union), countries can employ strategies that have worked in other regions and elsewhere in Africa to expand research and development, in particular in the business and public sectors, enhance the quality and quantity of education through partnerships and promote innovation, entrepreneurship and technology acquisition in the academic, government and industry sectors.</p> <p>The panel may consider different strategies for transforming Africa into a major research and innovation hub for the world, such as enhancing higher education sectors (on the lines of Project 211 in China, which seeks to improve the quality of education, scientific research, management and institutional efficiency of 100 universities and several disciplines for economic and social development), innovative funding models (such as that of the Sao Paulo Research Foundation in Brazil, the Chile Foundation and the Finnish Innovation Fund – SITRA). It may also explore the key role of science and technology agreements in attracting technology-intensive firms (such as the aeronautics clusters in Morocco and the textile industry in Ethiopia) and the importance of international collaborations and alliances (such as the space Industry in South Africa and health care in Kenya).</p> <p><b>Presentations</b></p> <ul style="list-style-type: none"> <li>• Amon Murwira: Minister of Higher and Tertiary Education, Innovation, Science and Technology Development, Zimbabwe</li> <li>• Innovation for National Sovereignty: Why Investing in Research and New Technologies Matters, Prof. John Ouma Mugabe, University of Pretoria, South Africa</li> </ul> <p><b>Panellists</b></p> <ul style="list-style-type: none"> <li>• Bruno Jean Richard Itoua, Minister for Higher Education, Congo</li> </ul>	



	<ul style="list-style-type: none"> <li>• Professor Hubert Gijzen, Regional Director and Representative of UNESCO, Regional Office for Southern Africa</li> <li>• Prof Owono Onana Charles, University of Montagnes, Cameroon,</li> <li>•</li> </ul> <p><i>Moderator: Jean-Paul Adam, ECA.</i></p> <p><i>Rapporteur: Anthony Muduekwe, Science Programme Specialist, UNESCO</i></p>
1–2 p.m.	<p><b>Lunch</b></p>
2-2:30 pm	<p><b>Key messages of the Third Africa Regional Science, Technology and Innovation Forum</b></p> <ul style="list-style-type: none"> <li>• Parfait Aimé Coussoud Mavoungou, Minister for Scientific Research and Technological Innovation, Congo</li> <li>• <b>Moderator:</b> Jean-Paul Adam, Director – Technology, Climate Change and Natural Resource Management, ECA</li> </ul>
2.30-3.30 pm	<p><b>Bootcamp Presentation</b></p> <p>This session will showcase and recognize outstanding concepts and performance among the innovative youth teams from the STI Forum Bootcamp 2021 (five to eight teams)</p> <ul style="list-style-type: none"> <li>• Minister of Higher and Tertiary Education, Innovation, Science and Technology, Zimbabwe, Professor Amon Murwira <i>Recognizing exceptional performers (e.g. students and leaders)</i></li> <li>• The Minister for Scientific Research and Technological Innovation, Republic of Congo, His Excellence Parfait Aimé Coussoud Mavoungou, <i>Recognizing outstanding teams (projects)</i></li> </ul> <p><b>Moderators:</b> Jean-Paul Adam</p> <p><b>Proceedings:</b> Victor Konde and Martiale Zebaze Kana</p>



<p>3.30–4.30 p.m.</p>	<p><b>Launch of Origin</b></p> <p>Origin is creating a new set of institutions that are dedicated interdisciplinary research and innovation spaces that primarily focus on product (i.e. goods and services) development, management and commercialization. These spaces would bring together some of the best and brightest from across the continent and beyond, and from different disciplines to address emerging challenges and opportunities, anticipate and prepare for the future with a broad funding base; large pool of private and public institutional partners, collaborators and alliances; a constant flow of innovative, smart and reputable young and senior experts; strong linkages with academia and industry; and good relationship with public and society at large. Above all, it should have a strong and independent steering core or governance arrangements that shield and defend its freedoms to dream and innovate and, learn from both failure and successes.</p> <p>This session will present the Origin Concept- its institutional arrangements, governance, goals, target beneficiaries and potential to transform the African research and innovation landscape. It will also launch the Origin Research, Innovation and Design Competition for Africa’s Future and the Origin Youth Innovations and Entrepreneurship Bootcamp.</p> <p><b>Speakers:</b> Reeta Roy, President and CEO, Mastercard Foundation, Canada Vera Songwe, Under-Secretary General of the United Nations and Executive Secretary of ECA, Ethiopia</p> <p>Moderator: Zain Verjee, ZainVerjee Group</p>
<p>4.30–5.30 p.m.</p>	<p><b>Closing Session</b></p> <ul style="list-style-type: none"> <li>• Salah Khaled, Director of UNESCO Regional Office for Central Africa</li> <li>• Vera Songwe, Under-Secretary General of the United Nations and Executive Secretary of ECA, Ethiopia</li> <li>• Parfait Aimé Coussoud Mavoungou, Minister for Scientific Research and Technological Innovation, Congo</li> </ul>

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