

The Virtual Nanotech Innovation and Investment Forum 2020

“A nanotech Future for a Transformed and Prosperous Africa.”



Date: 14-18 December, 2020

Venue: Cisco Webex - Addis Ababa time



Online platform opens on 13 December 2020	
Monday – 14 th December 2020	
13:00-14:00	<p>Opening Session House keeping</p> <p>Overview of the Forum</p> <ul style="list-style-type: none">• Dr. Samuel Chigome, President – African Materials Research Society, Botswana.• Jean-Paul Adam, Director – TCND, UN ECA <p>Keynote Addresses: Vera Songwe- United Nations Under Secretary General and Executive Secretary of UN ECA</p> <p>Presentation: Africa Nanolandscape and Foresight: Prof. Malik Maaza, UNESCO UNISA ITL/NRF Africa Chair in Nanosciences & Nanotechnology,</p> <p>Moderator: Jean-Paul Adam, Director - TCND, UNECA</p>
14:00-15:00	<p>High Level Panel on Investing in Emerging Technologies: A small tech for a large continent?</p> <p>Can Africa afford not to invest in nanotechnology? This session will focus on why and how investment in emerging technologies is key to meeting Africa's development aspirations and the meeting the SDGs. It will look at how countries could build their nanotechnology capabilities, and the benefits and costs of specialized (soft and hard) infrastructure for research, innovation and industry; and how such investments could aid the fight against poverty, disease, hunger, unemployment and economic diversification, among others. Specifically, the session will specify the different components of the nanotechnology value chain, evaluate the infrastructure, including skills, needs of each stage and the opportunities for developing countries at each of the phases of the value chain.</p> <ul style="list-style-type: none">• Dr. mahama Ouedraogo, Director, Human Resources, Science and Technology, African Union Commission• Prof. Nelson Torto, Permanent Secretary in the Ministry of Tertiary Education, Research Science and Technology, Botswana <p>Moderator: Jean-Paul Adam, Director - TCND, UNECA</p>



15:00-16:00	<p>Special Session: The Nanotechnology Trailblazers in Africa</p> <p>Turning potential into actual opportunities is the goal of all innovators and entrepreneurs. This session will feature some of Africa's emerging nanotechnology innovator and entrepreneurs. For many, nanotechnology is largely a promissory note yet to be cashed or realized. This session will feature some of Africa's nanotechnology-based firms, start-ups and enterprises and may look at some of the existing and emerging opportunities, technology and markets, entry barriers, investment and industrial alliances, among others.</p> <ul style="list-style-type: none">• Dr. Sabelo Mhlanga, Managing Director- SabiNano (Pty) Ltd, South Africa• Prof. Hulda Swai, Director - Africa Center of Excellence CREATES - The Nelson Mandela African Institution of Science and Technology, Arusha• Prof. Anne Globler, North Western University, South Africa <p>Moderator: Victor Konde</p>
16:00-17:30	<p>Showcasing of nanotechnology research, innovation and industrial infrastructure in Africa</p> <p>This session will showcase some of institutional research and innovation support nanotechnology infrastructure in Africa. This may range from infrastructure in academia, government to that in industry, including their conditions for access and collaboration with other parties in the country, region and the world. Some indications of the capabilities and costs, and alternative ways that Africa can consider to build additional nanotechnology research infrastructure.</p> <ul style="list-style-type: none">• Prof. Kamel Besbes, Director General, Center for Research on Microelectronics and Nanotechnology (CRMN) - Novation city- Sousse, Tunisia• Prof. John Baptist Kirabira, Director, African Center of Excellence in Materials, Product Development and Nanotechnology, Makerere University, Uganda• Associate Prof. Archana Bhaw-Luximon, Biomaterials, Drug Delivery and Nanotechnology Unit, Réduit, Mauritius• Dr Mike Masukume, Council for Scientific and Industrial Research, South Africa <p>Moderator: Victor Konde</p>
17:30	<p>Closing remarks</p>



Tuesday – 15 December 2020	
14:00-15:30	<p>Nanotechnology for improved healthcare in Africa</p> <p>Nanotechnology is finding wide applications in healthcare that include applications to enhance disease diagnostics, drug delivery, and drug and vaccine development, treatments for cancer, health monitoring, etc. Drugs can be designed to target specific organs of the body with enhanced precision and increased absorption, which could be effective at a lower dosage and, thus, reduce side effects or toxicity. This session will address how nanotechnology could be employed and is being used to bring more effective, safer and targeted medications and other healthcare products to the market. Where do the opportunities and what are the key measures and steps that need to be addressed?</p> <p>Presentations:</p> <ul style="list-style-type: none">• Dr. Obi P. Adigwe, Director General and CEO, National Institute for Pharmaceutical Research and Development (NIPRD), Abuja, Nigeria• Prof. Admire Dube, University of Western Cape, South Africa• Dr. Jeremiah Gathirwa, Kenya Medical Research Institute (KEMRI) Kenya,• Dr. Yolandy Lemmer, Council for Scientific and Industrial Research, South Africa.• Catherine Namuga, College of Engineering, Design, Art and Technology, Makerere University, Uganda <p>Chair: Professor Hulda Swai, African Centre of Excellence CREATES, NM-AIST, Arusha</p>
15:30-17:00	<p>Showcasing Leading Nanotechnology Research and Innovations/Products (Pitching session)</p> <p>Closing Session Moderator:</p>
1700-17L300	
Wednesday, 16 December 2020	

14:00-15:30	<p>Agricultural and Environmental Nanotechnology Research and Innovations</p>
	<p>High Level Panel Discussion on Agricultural and Environmental Nanotechnology Research and Innovation Nanotechnology is enabling the design of new agricultural and food products such as nanofertilizers, nanopesticides, nanobiosensors and nano-enabled remediation strategies for contaminated soils¹ and nano-enhanced food storage and packaging. These products would play an increasingly important role in improving agricultural productivity, pests and weeds management, soil quality monitoring and food waste reduction. This session will discuss opportunities for Africa to use nanotechnology to improve productivity, manage soil and environmental degradation; and to improve food quality and safety.</p> <ul style="list-style-type: none"> • Prof Swadeshmukul Santra, Director, Materials Innovation for Sustainable Agriculture (UCF-MISA Center), University of Central Florida, USA • Prof Kofi Adu, Faculty of Materials Science and Engineering, The Pennsylvania State University-Altoona College, USA • Prof Josephine Ouma, Department of Crops, Horticulture and Soils, Egerton University, Kenya (TBC) • Prof Chen Hongda, National Program Leader for Bioprocess Engineering and Nanotechnology at National Institute of Food and Agriculture (NIFA), United States Department of Agriculture (USDA), USA • Mr. Ronald Kayiwa, College of Engineering, Design, Art and Technology, Makerere University, Uganda • Sagren Govender, Council for Scientific and Industrial Research, South Africa <p>Moderator: Dr. Samuel Chigome, Botswana Institute for Technology Research and Innovation.</p>
15:30-17:00	<p>Showcasing advanced nanotechnology research and innovations in food and agriculture</p> <p>Scaling up of nanofertilizers: <i>Dr Christian Dimkpa</i>, The Center for Nanotechnology and Agricultural Pathogens Suppression, The Connecticut Agricultural Experiment Station, USA Dr Jason White, Director, The Connecticut Agricultural Experiment Station, USA</p> <p>Using Nanotechnology in Plant Pathology: <i>Dr Wade Elmer</i>, The Center for Nanotechnology and Agricultural Pathogens Suppression, The Connecticut Agricultural Experiment Station, USA</p> <p>Dr Elias Elemike – “Title of Talk”</p> <p>“Nanotechnology based biosensors to support sustainable agriculture and food safety”: Prof Antje Baeumner, Institute for Analytical Chemistry, Bio- and Chemosensors, University of Regensburg, Germany</p>

¹ Usman M, Farooq M, Wakeel A, Nawaz A, Cheema SA, Rehman HU, Ashraf I, and Sanaullah M (2020). Nanotechnology in agriculture: Current status, challenges and future opportunities. *Sci Total Environ.* 721:137778.



17:00-17:30	Moderator: Dr. Samuel Chigome , Botswana Institute for Technology Research and Innovation.
Thursday – 17th December 2020	
14:00-15:00	High Level Panel of industrial applications of nanotechnology- a focus on infrastructure (e.g. energy, water etc) and industry This session is open to nanotechnology applications in other sectors, with a special focus on energy and construction sectors given Africa's challenges in lighting up the continent and in building sustainable and easy to manage infrastructure. The world has been investing huge amount of money in nanotechnology applications in energy, electronics, and nanomaterials and devices for the construction of stronger, smart and safer transportation systems. It is foreseeable that nanotechnology research and innovations in one industry may have applications or find use in another sector. <ul style="list-style-type: none">• Dr. Lonji Kalombo, Council for Scientific and Industrial Research, South Africa• Dr. Agmed S, G. Khalil, Department of Physics, Fayoum University - Egypt;• David Dodoo-Arhin, Department of Material Science Engineer, University of Ghana, Ghana;• Dr. Onemus Munyati, Chemistry Department, University of Zambia, Zambia;• Nosipho Moloto, Witwatersrand University, South Africa; Chair: Prof. Mmantsae Moche Diale , SARCHI: Clean and Green Energy, Department of Physics, University of Pretoria, South Africa
15:30-17:00	Showcasing Leading Nanotechnology Research and Innovations/Products (Pitching session)
1730-17:40	Discussion and closing session Moderator:



	Friday – 18th December 2020
14:00-15:30	High Level Panel on Nanotechnology Strategies for the Future This Panel will focus on Building Nanotechnology Human and Research Capacity in Africa with a special focus on nanotechnology education. Specifically, the session will explore the opportunity for launching a Pan-African Nanotechnology Masters Programme online. The panel will discuss the content of the curriculum, areas of focus, facilities and personnel, participation of the private sector, collaborations arrangements, and promotion of entrepreneurship and innovation. <ul style="list-style-type: none">• Prof. Maaza Malik, UNESCO-Unisa Africa Chair for Nanoscience and Nanotechnology, South Africa• Prof. Ayoub HAJ SAID, Scientific Director, Center for Research in Microelectronics & Nanotechnology, Tunisia• Prof Yahya Choonara, Wits University, South Africa Chair: Associate Prof. Archana Bhaw-Luximon , Biomaterials, Drug Delivery and Nanotechnology Unit, Réduit, Mauritius
15:30-16:30	Award giving ceremony
16:30-18:00	Closing Remarks Moderator: Victor Konde

Contact:

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