



## Dept. of Physics & Engineering Physics Fall 2021 Physics Colloquium Series

Lindy Boggs Energy Center, Rm. 240  
Monday, October 18, 03:00-04:30 pm

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### ***The Africa that CAN: Reimagining Applied Sciences, Engineering and Technology Skills Development and Research in Africa and the Role of International Partners***

**Dr. Ekua Bentil**

*Education Specialist, The World Bank*

In the midst of the current fourth industrial revolution (4IR), society is also in an ongoing global energy and green transition, providing an unprecedented opportunity for Africa to accelerate its economic development. Although the continent has experienced economic gains, challenges still remain, including the global covid-19 pandemic, high poverty rates, conflict, and low utilization of its human capital. With the growing threat of climate change and the risk of not being able to maximize the opportunities offered by the 4IR, African governments and their development partners have increasingly been exploring sustainable approaches, including smart cities; smart transportation systems; smart and sustainable energy sources; smart agriculture; and sustainable land use systems. With the onset of the covid-19 pandemic, countries are also rethinking their social services, education and health delivery systems and how to leverage digital technologies to make them more resilient, efficient and inclusive. Does Africa have an adequately skilled workforce to drive and realize the above development transformations? And does it have a research and innovation ecosystem that can equip its young people with employable skills and produce relevant research to support knowledge-intensive, and high value-added activities across its priority sectors? In light of its growing youth population, investment in human capital in Africa remains a key priority. The World Bank is therefore very committed in supporting this agenda. Since 2015, the World Bank has been supporting governments in sub-Saharan Africa in implementing 49 national and regional skills development and higher education projects, at an estimated \$4.8 billion, which is about 43% of its global funding in these education sub-sectors.

In this talk, we will discuss the World Bank's efforts in sub-Saharan Africa, in ensuring equitable access to quality and relevant training programs at the higher education level; and the quest to improve research production and impact in key sectors such as energy, water, ICT, environment, infectious diseases and agriculture. Specific examples of ongoing innovative research will be highlighted. We will also emphasize key interventions, successful approaches, and the role of international partners (including academics) in accelerating positive outcomes, particularly in the promotion of applied sciences, engineering and technology-related fields in sub-Saharan Africa.

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*Dr. Ekua Bentil is an Education Specialist in the Education Global Practice of the World Bank, with a focus on higher education, digital skills, use of technology in education and STEM agendas in Africa, and improving the participation of women in these areas. She is part of a core team developing the World Bank's Education Strategy for West and Central Africa (leading the Skills and Higher Education aspects of the Strategy). She has been working at the World Bank since 2015. Dr. Bentil is a team lead on various regional higher education projects and initiatives, including: the World Bank's Digital Economy for Africa (DE4A) Initiative (digital skills pillar); and the Africa Centers of Excellence for Development Impact projects (ACE Impact), a US\$274 million investment, focusing on graduate education and research across various priority sectors in 11 African countries. Prior to joining the World Bank, Dr. Bentil worked on Wall Street at Goldman Sachs, in New York, as a Market Risk Modeler. She holds a PhD and Master's degrees (2011, 2008) in Electrical Engineering from Princeton University and a 3-2 dual bachelor's degree (2006) in Physics from Bryn Mawr College and Electrical Engineering from the California Institute of Technology -Caltech.*