

The Era of Quantum Information Technology - Promises and Pitfalls

3 May, 12:30-1:30 NY time

Description:

Quantum information technology is a class of emerging technologies that improves information processing capability by harnessing principles of quantum mechanics. These technologies are expected to have profound impacts, but no one really knows how a quantum future will look like.

Applications could be far-ranging, from rapid simulation of chemical reactions, supporting development of medicines, revolutionizing healthcare, automating scientific experiments, to addressing climate change through far more accurate forecasting, to better batteries, and financial modelling, and logistics optimization, all the way to potentially making general “strong AI” possible. Even under conservative assumptions, quantum technologies are expected to significantly support our efforts towards sustainable development.

Several challenges are also anticipated, such as the concern regarding its threat to many existing cryptography algorithms that are fundamental to ICT security and also the risk that less technologically or economically advanced nations could again find themselves being left behind in the quantum era.

Policy makers are gradually paying attention to this new class of emerging technologies - to understand the opportunities available and challenges posed. It is important for policy makers to plan ahead towards ensuring that their nations do not get left behind, to provide an enabling environment to support related innovations in their private sector and academic institutions, and to consider the necessary guardrails to mitigate the challenges posed.

This session will provide a brief introductory overview of quantum technologies for policy makers, provide a snapshot of some of its potential opportunities across sectors, examine some of the challenges encountered in its deployment, and highlight some recommendations for policy makers.