

Quantum Africa 6 (QA6)

Sixth Edition of the Quantum Africa (QA) Conference Series

12 - 16 September 2022

University of Rwanda, Kigali - Rwanda and online

The main goal of the Quantum Africa conferences is to promote research collaboration between African researchers and their counterparts in the rest of the world and at the same time build and increase human capacity and scientific awareness in quantum phenomena among scientists in Africa. Thus, the conference is open to researchers in Africa and researchers from all over the world.

This will be the sixth (6th) Quantum Africa (QA) conference and will be focused on Quantum Information Processing (this includes quantum computing, quantum communication, quantum cryptography, quantum simulations), together with all its algorithmic and hardware aspects.

Quantum phenomena, including quantum information and entanglement, for example, occur in many areas and are intrinsically important, apart from the recent potential technological applications (e.g., in quantum computation). We consider it important that researchers and scientists in Africa contribute significantly to this broad field in both the science (understanding) and technology/engineering (applications) of quantum phenomena.

Focus topics for QA6 include:

- Quantum control
- Quantum computing
- Quantum thermodynamics
- Quantum communication
- Quantum simulations
- Quantum optics
- Quantum materials (sensing)
- Quantum metrology
- Materials and phenomena in condensed-matter physics for quantum computing

Workshop Structure:

• QA6 will be hybrid with participants joining in person in Kigali and online. Also unique to QA6 is that pedagogical presentations as well as a large number of talks from industry practitioners in quantum phenomena and quantum computing will be a significant part of the conference.

• Postgraduate students, postdocs, and early career researchers are particularly encouraged to participate and will have opportunities to present their work in posters

• QA6 will feature cutting edge research talks from invited speakers. There will also be contributed talks and poster sessions (both online and in-person).

Total duration:

Five (5) working days.
Dates: 12-16 September 2022

Sessions will be 9 am to 5 pm each day



United Nations
Educational, Scientific and
Cultural Organization



ICTP - East African Institute
for Fundamental Research
under the auspices of UNESCO

Organizers:

Franco Nori (RIKEN and University of Michigan)
Barry Sanders, University of Calgary, and University of Science and Technology of China
Marcello Dalmonte, (ICTP, Trieste Italy)
Rosario Fazio, (ICTP, Trieste Italy)
Omololu Akin-Ojo (EAIFR, Rwanda)
Alex Rogers (ALU, Rwanda)
Marie Chantal Cyulinyana (UR, Physics)
Christian Kwisanga (UR, Physics)
Steve Ndengue (EAIFR, Rwanda)
Damien Hanyurwimfura (ACEIoT, UR)
Richard Musabe (UR and Rwanda Polytechnic)
Blaise Tchabnda (AIMS, Rwanda)
UR, Univ. of Rwanda, EAIFR, East African institute for Fundamental Research

Steering Committee:

Barry Sanders, University of Calgary, and University of Science and Technology of China
Fabio Benatti, University of Trieste
Andreas Buchleitner, University of Freiburg
Artur Ekert, University of Oxford and National University of Singapore
Yassine Hassouni, Mohamed V-Agdal University, Rabat
Sir Peter Knight, Imperial College London and Kavli Royal Society International Centre at Chicheley Hall
Francesco Petruccione, University of KwaZulu-Natal
Laura Greene, National Maglab, Florida State University, and Center for Emergent Superconductivity
Haikel Jelassi, National Centre for Nuclear Sciences and Technologies, Tunisia

Invited Speakers:

From Industry
Trond Andersen (Google Quantum)
Abe Asfaw (Google Quantum)
Fernando Brandao (AWS)
Oliver Dial (IBM Yorktown Heights)
Mercedes Gimeno-Segovia (PsiQuantum)
Helmut Katzgraber (AWS)
Jarred McClean (Google Quantum)
Marco Pistoia (JPMorgan Chase & Co.)
Pedram Roushan (Google Quantum)
Terry Rudolph (PsiQuantum)
Simone Severini (AWS)
Nathan Shammah (Unitary Fund)
From Academia
Meigan Aronson, (UBC, Vancouver Canada)
Tommaso Calarco, (Julich, Germany)
Susan Coppersmith, (UNSW, Sidney)
Marcello Dalmonte, (ICTP, Trieste Italy)
Rosario Fazio, (ICTP, Trieste Italy)
Giulia Galli, (Univ. Chicago USA)
Steve Girvin, (Yale, USA)
Jens Koch, (Northwestern Univ. USA)
Erika Kawakami, (RIKEN, Japan)
Daniel Loss, (RIKEN and Univ. Basel, Switzerland)
Tiago Mendes, (University of Ausburg, Germany)
Will Oliver, (MIT, USA)
Francesco Petruccione, (Stellenbosch, South Africa)
Anna Sanpera, (UAB, Barcelona, Spain)
Christine Silberhorn, (Paderborn University, Germany)
Charles Tahan, (White House Office for Quantum, USA)
Mark Tame, (Stellenbosch, South Africa)
J.S. Tsai, (RIKEN and UTS, Tokyo Japan)
Benoit Vermersch, (CNRS, Grenoble France)
Frank Wilhelm-Mauch, (Julich, Germany)
Peng Xue, (CSRC, China)

How to apply:

Online application:
https://qa.eaifr.org/?page_id=739

Registration:

see:
qa.eaifr.org

For further information contact:
qa@eaifr.org

IUPAP: <https://iupap.org/>

ICTP-EAIFR: <https://eaifr.ictp.it/>

University of Rwanda: <https://ur.ac.rw>

