

LEAPS MEETS QUANTUM TECHNOLOGY

1st Biennial LEAPS Conference at ELBA, Italy

MAY 15-20, 2022

Quantum technologies, specifically quantum computing, quantum communication, quantum sensing, as well as quantum materials, present tremendous opportunities in creating a sustainable, ecological, secure and also socially acceptable economy. Driven by these needs and motivated by the recent progress, quantum technology is not only sparking interest under the basic and applied science community but also in industries and the society itself.

The goals of the conference are:

- Presenting an overview on state-of-the-art quantum technologies and how current X-ray probes contribute to this field.

- Providing a platform for the diverse communities to interact.
- Defining needs and actions to promote X-ray based probes to contribute to the progress in quantum technologies.

An important part of the conference will be **tutorial sessions** allowing a deep insight in **quantum technologies** and in **synchrotron radiation methods**, also for non-experts. The selected audience of this meeting will profit from quantum technology experts meeting the light source community in an open atmosphere at the spectacular setting on Elba island in central Italy.

We are accepting abstracts for contributed talks.

INVITED SPEAKERS



Antonio Acin
ICFO Barcelona

*Quantum
cryptography*



Enrico Allaria
ELETTRA

*Free electron
lasers*



Alexei Barinov
ELETTRA

*In operando
band structure
measurement*



Maria Grazia Betti
La Sapienza U. Rome

*Molecular spins
(tbc)*



Tommaso Calarco
Forschungszentrum
Jülich

Quantum Flagship



Stefano Carretta
Università di Parma

*Magnetic
molecular qubits*



Paul G. Evans
University of
Wisconsin-Madison

Nanobeams



Simon Gerber
Paul-Scherrer
Institut

*Quantum
materials*



Matthew Gilbert
University of Illinois
Stanford University

*Quantum comput-
ing with topologi-
cal insulators*



Megan Hill
University of
Cambridge

*3D imaging of
nanowires*



Peter Krogstrup
University of
Copenhagen and
Microsoft

*Hybrid Quantum
materials*



Nathalie de Leon
Princeton University

*Quantum
Engineering
(online)*



Ian McNulty
MAX IV Lund
University

*Soft x-ray orbital
angular momen-
tum*



Ben Murdin
University of Surrey

*Entanglement
by FEL radiation*



Adriana Pálffy
University of
Würzburg

*Nuclear quantum
optics*



Jean-François Roch
CNRS and ENS Cachan

*NV-centers and RT
superconductivity*



Kai Rossnagel
DESY/CAU Kiel

*Experiments at
synchrotron and
FEL sources*



Sharon Schwartz
Bar Ilan University
Ramat-Gan

Quantum imaging



Andreas Wallraff
ETH Zürich

*Hybrid qubits
(tbc)*



Jörg Wrachtrup
University of Stuttgart

NV-centers



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(Browser must be Firefox, Chrome, Edge or similar)

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