LEAPS League of European Accelerator-based Photon Sources

Light Sources for Europe

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
DESY
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 computing with topological 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 momentum

Ben Murdin
University of Surrey
Entanglement by FEL radiation

Adriana Pálffy
University of Würzburg
Nuclear quantum optics

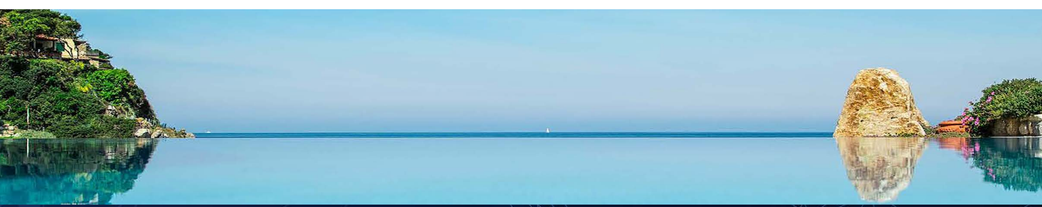
Jean-François Roch
CNRS and ENS Cachan
NV-centers and RT superconductivity

Kai Rossnagel
DESY/CAU Kiel
Experiments at synchrotron and FEL sources

Sharon Shwartz
Bar Ilan University Ramat-Gan
Quantum imaging

Andreas Wallraff
ETH Zürich
Hybrid qubits
(tbc)

Jörg Wrachtrup
University of Stuttgart
NV-centers



To register, follow the link under

https://agenda.infn.it/event/19730/

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

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