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





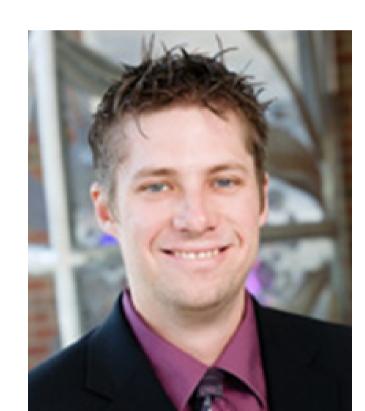
Paul G. Evans
University of
Wisconsin-Madison

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



molecular qubits

Nathalie de Leon Princeton University

Quantum
Engineering
(online)



lan 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

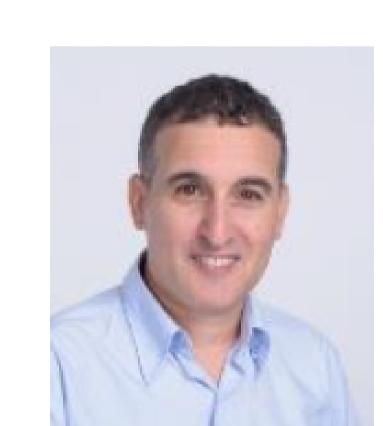
NV-centers and RT superconductivity



Kai Rossnagel

Experiments at synchrotron and

DESY/CAU Kiel



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)