QP-TECH.EDU

Online Workshop on Quantum Technologies

For up-to-date information, see

www.acp.uni-jena.de/qp-tech-edu

January 20th, 2023

Access via Zoom Link
uni-jena-de.zoom.us/j/66919048495
Meeting-ID: **669 1904 8495**
Password: **qp-tech**

The second quantum revolution is ongoing and will result in novel applications based on the use of quantum phenomena. In order to keep pace with this development, an active response from German industry is vital. In addition to learning the scientific basics, companies recognize the potential of quantum technologies for their own products and markets and derive company-specific strategies. Key scientific players in quantum photonics in Germany and industrial companies are cooperating in qp-tech.edu with the aim of creating the personnel requirements for the implementation of photonic quantum technologies in the German photonics industry.

- Free staff training to educate personnel in quantum technologies
- No prior knowledge about quantum mechanics required
- Applications of optical quantum systems
- Quantum sensing and imaging

Contact Person:
Jobst Ziebell
jobst.ziebell@uni-jena.de

In corporation with:

optonet
Photoniknetzwerk Thüringen

IQBN

Fraunhofer IOF

Workshop Program

10:00 **Introduction**

10:05 **Spin based quantum sensors**

Fedor Jelezko
University Ulm

- Quantum sensing protocols
- Sensitivity, spectral resolution and dynamic range limits
- Entanglement assisted quantum sensing

11:00 **Integration of Quantum Sensors in Battery Cell Systems**

Roland Nagy
University of Erlangen
Nuremberg

- Introduction to quantum sensing with NV-Centers
- Quantum sensing application of electric field sensing in battery cells with NV-Centers

12:00 **Lunch Break**

13:00 **Quantum Imaging**

Frank Setzpfandt
University Jena

- Extension of technically applicable spectral ranges and enhancement of the sensitivity of imaging and spectroscopy using quantum properties of light
- Physical principles and measurement methods

14:00 **Feedback Session**

QP-TECH.EDU

SPONSORED BY THE
Federal Ministry
of Education
and Research