



QP-TECH.EDU

Experimental Quantum Technologies

Hands-on Training – March 2024

14-15 March 2024

Abbe Center of Photonics, Albert-
Einstein-Str. 6, 07745 Jena

Contact Person:
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Schedule	
Day 1: Entanglement and Superposition	
10:00	Reception at the ACP entrance
10:15 – 11:00	Overview of Quantum Science and Technology
11:00 – 13:00	<p>Lab: Single Photon experiments</p> <ul style="list-style-type: none"> • Particle Nature of Photons • Quantum Random Number Generation • Single Photon Michelson Interferometer • Quantum Eraser
13:00 – 13:45	Lunch
13:45 – 15:45	<p>Lab: Photon-pair experiments</p> <ul style="list-style-type: none"> • Hong-Ou-Mandel 2-Photon Interference • Entanglement characteristics
15:45 – 16:00	Coffee break
16:00 – 18:00	Quantum Cryptography

Day 2: Quantum Applications	
08:30 – 10:30	Quantum Communication and Cryptography by Fraunhofer Institute for Applied Optics and Precision Engineering (IOF) Jena
10:30 – 10:45	Coffee break
10:45 – 13:00	<p>Lab: Quantum Sensing using Diamond Magnetometer</p> <ul style="list-style-type: none"> • NV Center Fluorescence • Optically Detected Magnetic Resonance (ODMR) • Spin Relaxation Time • Magnetic Field Sensing
13:00 – 13:45	Lunch
13:45 – 15:45	<p>Lab tours: Quantum Imaging Extended hands-on lab sessions & discussions</p>
15:45 – 16:00	Closing session