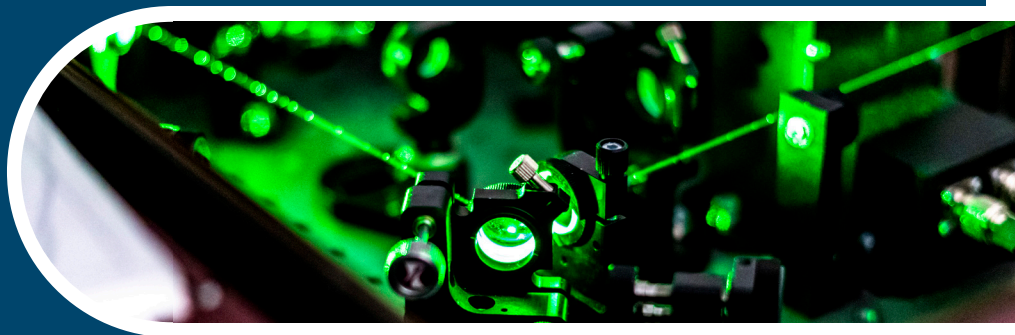Supporting Program ESA Quantum Satellite Networks Workshop 2025

Quantum Safe Communication for Engineers

In-Depth, Hands-On Training in Quantum Encryption Technologies

| March 3rd & 4th 2025 |

In conjunction with European Space Agencies' QUANTUM NETWORKS 2025 workshop in Vienna, QURIOS offers a comprehensive training program. The workshops aim at people interested in Quantum Communication Technologies and require no prior knowledge of the field, but interest and expertise in related topics. We focus on use cases and real-world scenarios. The participants are invited to contribute their own background, creating an interdisciplinary encounter.

Program:

Day 1: Cryptography and Quantum Technologies

8:00-9:00 Reception and Morning Coffee

9:00-12:00 Quantum Information Technologies

- Introduction to Classical Cryptography
- Principles of Quantum Information
- The Physics behind it
- How Quantum Computing kills classical cryptography
- Timelines for a transition to Quantum Safe Cryptography

12:00-13:00 Lunch Break

13:00-15:00 Quantum Key Distribution

- Fundamental protocols for QKD: Advantages and Drawbacks
- Free space and fiber-based QKD
- Quantum Networks
- Technical implementations of QKD

15:00-15:30 Coffee Break

15:30-17:00 Hands-on QKD

Day 2: Quantum Keys in the Real World

9:00-11:00 Technical Aspects

- Standardization and certification
- User perspective
- Attack scenarios

11:00-11:30 Coffee Break

11:30-13:00 Implementation
- Experiences with deploying QKD
- Post Quantum Cryptography
- Interdisciplinary Reflection on the Impact of QKD

Location: Vienna • in-person • 1750.- Euro • Complimentary lunch &coffee breaks
Registration: office@qurios.academy • www.qurios.academy

QURIOS
THE QUANTUM TECHNOLOGIES ACADEMY

...where complexity meets curiosity