

SEMINAR: Breaking the scaling barrier in quantum networks: from materials synthesis to metro-scale deployment

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September 01, 2026

12:00 to 13:00

Seminar Room

Scaling quantum networks from laboratory demonstrations to metro-scale systems remains a central challenge, requiring coherent optical interfaces that connect heterogeneous quantum nodes via low-loss telecom photonic channels. In this talk, I will present a vertically integrated approach to overcome this scaling barrier, spanning materials synthesis, integrated photonics, and system-level network architectures, enabled by rare-earth-based quantum interconnect technologies. We foresee that this array of technologies will accelerate and broaden the development of multi-scale, high-performance quantum interconnect and networking using quantum memories, transducers, and designer solid-state atomic qubits.

Hosted by: Prof. Dr. Hugues de Riedmatten