QCALL - Quantum Communications for ALL MSCA-ITN

Quantum Communications for ALL (QCALL) endeavors to take the next necessary steps to bring the developing quantum technologies closer to the doorsteps of end users. Quantum communications (QC) is well-known for its offering ultra-secure cryptographic key-exchange schemes—resilient to any future technological advancement. QCALL will empower a nucleus of researchers in this area to provide secure communications in our continent and, in the long run, to our connections worldwide. With the large scale violations of privacy in the EU exchange of information, this is a crucial moment to pursue this objective. By covering a range of projects, with short, mid, and long-term visions, and using a balanced and multifaceted training programme, QCALL trains a cadre of highly qualified interdisciplinary workforce capable of shaping the R&D section of the field, hence accelerating its widespread adoption. This will ensure that EU will remain at the frontier of research on secure communications and advanced QC systems and devices. In QCALL, we explore the challenges of integrating quantum and classical communication networks; this will be essential in providing cost-efficient services. We experimentally examine and theoretically study new protocols by which network users can exchange secure keys with each other. We investigate disruptive technologies that enable wireless access to such quantum networks, and develop new devices and protocols that enable multi-party QC. Our meticulously planned training programme includes components from shared taught courses through to scientific schools and complementary-skill workshops, supplemented by secondment opportunities and innovative outreach and dissemination activities. This will create a structured model for doctoral training in EU that will last beyond the life of the project, so will the industry-academic collaborations that are essential to the development of the disruptive technologies that will make QC available to ALL.

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Find out more: http://www.qcall-itn.eu/