

Prof. Rupert Ursin



A network for quantum communication in middle-eastern European countries

In my presentation I will present our work we achieved so far with regards to quantum sources and new detection schemes. Then some of our free-space and fiber based communication experiments will be presented. Lastly I will sketch a new effort for bridging the borders to expand this networks across Europe and the first steps we will do between Vienna, Bratislava and Budapest on one side and Munich on the other. This informal research seminar is open for everyone – non-specialists and science fans are kindly welcome.

Date: April 27th (Friday) 11:15

Place: QUTE building, Slovak Academy of Sciences, Dúbravská cesta 9, Bratislava - Patrónka

Prof. Rupert Ursin is a group leader and senior scientist at the IQOQI. His main field of research is to develop quantum communication and quantum information processing technologies, mainly for free-space, but also for fibre-based systems. The scope of his work ranges from near term engineering solutions for secure key sharing (quantum cryptography) to more speculative research (de-coherence of entangled states in gravitational fields). Experiments on quantum communication and teleportation using entangled photon pairs is also among his interests, with the long- term goal of a future global quantum network based on quantum repeaters. He has been experimentally active in numerous international collaborations in Germany, Italy, Spain, USA as well as in China and Japan. Lead several ESA funded projects as well as on the national and EU level. These allowed him to perform highly recognized experimental studies e.g. on a 144 km free-space link between La Palma and Tenerife. His group is performing time-energy entanglement distribution over a turbulent atmosphere just recently. To date he and his publication received several international awards and prizes. He was invited to several prestigious conferences to deliver talks (e.g. IEEE, SPIE, QCMC and others) and serves to important conferences as a program committee member e.g. ICSOS, SPIE, QCrypt and others. He currently holds a guest professorship at the University of Science and Technology (USTC) in Shanghai, China.

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