

Opportunity for a PhD student
Advanced quantum communication protocols

Quantum communication networks will be essential for novel technologies like quantum sensing, quantum computing and quantum simulation. A more immediate use for quantum communication is quantum key distribution (QKD). While QKD promises secure communication guaranteed by the laws of physics, practical implementations often have limitations due to device imperfections. This can be overcome by advanced quantum communication protocols. You will perform research targeting such next-generation protocols to help Slovenia and Europe in creating a European Quantum Network.

The topics for the research to be performed are:

- demonstrate entanglement-based QKD
- implement measurement-device-independent QKD
- demonstrate measurement-device-independent QKD over long distances between key locations in Slovenia

For this project, R. Kaltenbaek will employ one PhD student with an expected starting date of **October 1st, 2022**.

Contact: R. Kaltenbaek (rainer.kaltenbaek@fmf.uni-lj.si)
A. Ramšak (anton.ramsak@fmf.uni-lj.si)

