



Physical Sciences Seminar

Quantum Communication over long distances

Rupert Ursin (Austrian Academy of Sciences)

Host: Johannes Fink

Quantum networking is the next big issue in quantum communication science. We recently implemented a WDM fiber network, deploying polarization qubits for four users. This network is scalable and fully connected - the perfect start for a future quantum internet [1]. I will discuss recent experiments we performed in collaboration with the Chinese Academy of Sciences using a LEO Satellite to perform quantum link to an optical ground station in Graz. Further I will discuss my future plans to implement a 24/7 quantum network spanning on international glass fibers between Vienna-Bratislava and Budapest and possibly also beyond.[1] 1. Wengerowsky, S., Joshi, S. K., Steinlechner, F., Hbel, H. & Ursin, R. Entanglement-based wavelength multiplexed quantum communication network. *Accept. Publ. Nat.* (2018). (<https://arxiv.org/abs/1801.06194>)

Tuesday, December 18, 2018 11:00am - 12:30pm

IST Austria Campus Big Seminar room Ground floor / Office Bldg West (I21.EG.101)



This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: http://ist.ac.at/fileadmin/user_upload/pdfs/IST_shuttle_bus.pdf The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.