

### CoV precautions

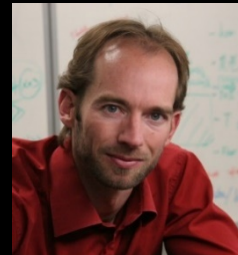
- Please register if attending in person: [dk-alm@uibk.ac.at](mailto:dk-alm@uibk.ac.at)
- Video-Conference: <https://lms.uibk.ac.at/bigbluebutton/102524899197234>

# Innsbruck Physics Colloquium

## How to catch a photon

**Wolfgang Tittel**

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Starting with the demonstration of lasing more than 50 years ago, the special properties of rare-earth ion doped crystals and glasses have given rise to the development of numerous solid-state lasers and amplifiers, which are crucial for the functioning of today's world-wide Internet. As a fascinating generalization of their use in optical communication infrastructure, it became clear during the past decade that, when cooled to cryogenic temperatures of a few Kelvin, rare-earth crystals also promise the creation of technology for quantum communication networks.

In this talk, I will introduce and discuss our experimental work on a key ingredient of such networks: a storage device for quantum states of light based on a thulium-doped crystal cooled to around 1K. This work is interesting from a fundamental point of view, and furthermore paves the path towards a quantum repeater, which will ultimately allow quantum communications over arbitrary distances.

**Colloquium: Tuesday, 13.10.2020**

**17:15 h in lecture hall A**



**DK-ALM Pre-Talk: 16:30 h**

**Christian Schneider : Superconducting Quantum Magnetomechanics**