Speaker: **Matthias Bundy, University of Freiburg**

Title: **Preparation of non-classical states of light in the micromaser setup**

Date: **Friday, January 30, 11:00 am (s.t.).**

Place: **Seminar room 915**

Title: Preparation of non-classical states of light in the micromaser setup

Any desired state of a single, quantized cavity mode can be prepared by sequentially interacting with a string of two-level atoms. However, the fidelity of the preparation process much depends on the desired target state, the number of atoms, and the degree of their mutual entanglement. Here we investigate the state preparation process from a geometric perspective, by establishing an appropriate metric for the length of state preparation trajectories. We quantify how the entanglement of the atomic string shortens the path from the cavity mode's initial to target state, and discuss how these trajectories differ for classical and non-classical target states.