



Physical Sciences Seminar

Quantum Seminars: Non-perturbative Cavity QED

Peter Rabl (TU Vienna)

Host: Johannes Fink

In quantum optical systems the coupling between a single dipole and a single cavity mode is always much smaller than the absolute energy scales involved, which allows us to understand and model light-matter interactions in terms of well-defined atomic and photonic excitations. With recent advances in the field of circuit QED it is now possible to go beyond this well-established paradigm and enter a fully non-perturbative regime, where the coupling between a single artificial atom (e.g. a superconducting qubit) and a microwave photon exceeds the energy of the photon itself. Such conditions can be associated with an effective finestructure constant of order unity and in this talk I will give a brief introduction about the basic models and novel effects that govern the physics of light-matter interactions in this previously inaccessible regime.

Tuesday, September 10, 2019 11:00am - 12:00pm

IST Austria Campus Heinzl Seminar Room / 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: <https://ist.ac.at/en/campus/how-to-get-here/> The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.