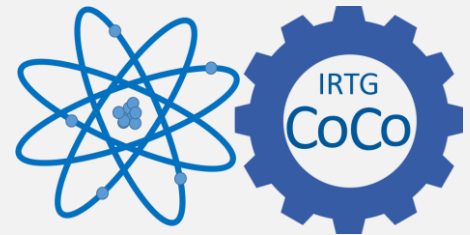


IRTG-Seminar



PD Dr. Sebastian Slama

University of Tübingen

“Cooperative coupling of cold atoms and surface plasmons - towards a single photon source on demand”

High cooperativity between optical emitters and light modes is an important condition for many applications ranging from the generation of single photon sources to the reliable read-out of quantum information. We have recently demonstrated that high cooperativity can be reached by positioning ultracold atoms close to metallic surfaces and coupling the atomic emission to surface plasmons. A maximum Purcell enhancement of $\eta P=4.9$ is reached at a distance of $z=250$ nm from the surface. Furthermore, the coupling leads to the observation of a Fano resonance in the spectrum.

**Tuesday, October 11th, 2016, 4:00 p.m., HS II,
Physics High Rise, Hermann-Herder-Str. 3**