



**CO.CO.MAT**

CONTROL OF QUANTUM CORRELATIONS IN TAILORED MATTER  
SFB/TR 21 – STUTTGART, ULM, TÜBINGEN

## Kolloquium

**Dr. Stefan Scheel**  
(Imperial College London)

### **QED in dielectrics -- what's all the (quantum) noise about?**

In this talk I will present a quantum theory of light in the presence of realistic dielectric/metallic bodies with dispersion and absorption that is consistent with both quantum-theoretical as well as statistical requirements. I will discuss its main concepts in the framework of linear response theory and give extensions to nonlinear susceptibilities. Such a quantum theory is particularly well suited to describe atom-surface interactions such as modified spontaneous decay, spin-flip lifetimes, and van der Waals-Casimir forces, and to understand the origin of unavoidable decoherence processes.

**Wann?** Freitag, 16.06.2006, 14:00 Uhr

**Wo?** Universität Tübingen, Raum D4 A19