

**CORRELATION EFFECTS IN TRANSPORT THROUGH QUANTUM DOTS:
RENORMALIZATION-GROUP APPROACHES**

A TALK BY PROF. DR. SABINE ANDERGASSEN,
STRONG CORRELATIONS AND MESOSCOPIC PHYSICS, INSTITUTE FOR THEORY OF STATISTICAL PHYSICS, RWTH AACHEN IN AACHEN, GERMANY

DATE / TIME	03.10.2011, 11:10 a.m. (CEST)
LOCATION	ViCoM Workshop October 2011, "Baumkircher Konferenzsaal" in the "Burg Schlaining"-Castle, A-7461 Stadtschlaining, Austria

We investigate the effect of Coulomb interactions on the electronic transport through quantum dots. Using recently developed renormalization-group approaches, we present

- i) an application to multi-level carbon nanotube quantum dots providing theoretical understanding for recent experiments. The observed bending of the Kondo ridges at finite magnetic field with respect to the ones at zero field is traced back to the renormalization of the level-reservoir coupling strength.
- ii) analytical results for the non-equilibrium transport and relaxation dynamics for a minimal model for a charge-fluctuating quantum dot. Exploring the entire parameter space we find a rich physical behavior in the stationary regime as well as in the time evolution characterized by voltage-dependent oscillations and a power-law decay.