

PROGRAM

Fermions 2009

Obergurgl, October 13 - 18



Tuesday, October 13

- 09:00 - 09:30 **Manfred Salmhofer** (Univ. Heidelberg)
Introduction
- 09:30 - 10:20 **Maurice Rice** (ETH Zürich)
The high- T_c cuprates viewed in k -space
- 10:20 - 10:40 Coffee break
- 10:40 - 11:30 **Bernhard Keimer** (MPI Stuttgart)
Neutron scattering from conventional and unconventional superconductors
- 11:30 - 12:00 **Evgeny Kozik** (ETH Zürich)
Diagrammatic Monte Carlo for correlated fermions
- 12:15 Lunch
- 16:30 - 17:20 **Thomas Maier** (Oak Ridge)
Simulations of disorder and inhomogeneity effects in high-temperature superconductors
- 17:20 - 17:50 Coffee break
- 17:50 - 18:40 **Claudio Castellani** (La Sapienza, Rome)
Unconventional superconducting properties of expanded A_3C_{60} fullerides
- 18:40 - 19:10 **Christoph Husemann** (Univ. Heidelberg)
Decomposed one-loop RG for the Hubbard model
- 19:30 Dinner

Wednesday, October 14

- 09:00 - 09:50 **Andy Mackenzie** (Univ. St Andrews)
Thermodynamic studies of phase formation in the vicinity of quantum criticality in $Sr_3Ru_2O_7$
- 09:50 - 10:20 **Alexei Tsvelik** (Brookhaven)
Thermal fluctuations in 2D superconductors
- 10:20 - 10:40 Coffee break
- 10:40 - 11:30 **Christian Pfleiderer** (TU München)
Topological Solitons in Superconductors and Chiral Magnets
- 11:30 - 12:00 **Max Metlitski** (Harvard)
Fluctuating spin density waves in metals
- 12:15 Lunch
- 16:30 - 17:20 **Dunghai Lee** (Berkeley)
AFM correlation and the pairing mechanism in the iron pnictides and the (overdoped) cuprates
- 17:20 - 17:50 Coffee break
- 17:50 - 18:40 **Daniel Podolsky** (Technion)
Emergent symmetry in the iron pnictides
- 18:40 - 19:10 **Christian Platt** (Univ. Würzburg)
Superconductivity in the iron pnictides: a functional RG study
- 19:30 Dinner

Thursday, October 15

- 09:00 - 09:50 **Dietrich Belitz** (Univ. of Oregon)
Second order versus first order quantum phase transitions in magnetic systems
- 09:50 - 10:20 **Dionys Baeriswyl** (Univ. Fribourg)
Crossover and fidelity
- 10:20 - 10:40 Coffee break
- 10:40 - 11:30 **Philipp Gegenwart** (Univ. Göttingen)
Quantum phase transitions in strongly correlated electron systems

- 11:30 - 12:00 **Walter Metzner** (MPI Stuttgart)
Turning a first order quantum phase transition continuous by fluctuations
- 12:15 Lunch
- 16:30 - 17:20 **Andrey Chubukov** (Univ. of Wisconsin)
Spin conservation and a Fermi liquid near a magnetic quantum critical point
- 17:20 - 17:50 Coffee break
- 17:50 - 18:40 **Silvano De Franceschi** (CEA Grenoble)
Spin-dependent transport and superconducting proximity effect in self-assembled semiconductor nanostructures
- 18:40 - 19:10 **Christoph Karrasch** (RWTH Aachen)
The interacting resonant level model in and out of equilibrium
- 19:30 Dinner

Friday, October 16

- 09:00 - 09:50 **Natan Andrei** (Rutgers)
Quantum Impurities out of Equilibrium
- 09:50 - 10:20 **Jesko Sirker** (Univ. Kaiserslautern)
Diffusion and ballistic transport in clean one-dimensional conductors
- 10:20 - 10:40 Coffee break
- 10:40 - 11:30 **Avraham Schiller** (Hebrew Univ. Jerusalem)
From the adiabatic to the anti-adiabatic regimes of phonon-assisted tunneling
- 11:30 - 12:00 **Sabine Andergassen** (RWTH Aachen)
A real-time RG analysis for the interacting resonant level model
- 12:15 Lunch
- 16:30 - 17:20 **Gergely Zarand** (Univ. Budapest)
Disorder effects in interacting Bose-Fermi mixtures
- 17:20 - 17:50 Coffee break

- 17:50 - 18:40 **Reinhold Egger** (Univ. Düsseldorf)
Iterative path integral simulations for nonequilibrium transport in correlated quantum dots
- 18:40 - 19:10 **Theo Costi** (IFF Jülich)
Numerical renormalization group approach to transport properties of correlated nanostructures
- 19:30 Dinner

Saturday, October 17

- 09:00 - 09:50 **Klaus Ensslin** (ETH Zürich)
Time-resolved correlated electron transport through quantum dots
- 09:50 - 10:20 **Mikhail Pletyukov** (RWTH Aachen)
Real-time evolution of the Kondo model in a magnetic field out of equilibrium
- 10:20 - 10:40 Coffee break
- 10:40 - 11:30 **Jens Paaske** (Niels Bohr Institute)
Inelastic cotunneling in dots and molecules
- 11:30 - 12:00 **Verena Koerting** (Niels Bohr Academy)
Non-equilibrium scaling properties of a double quantum dot system: comparison between perturbative RG and flow equation approach
- 12:15 Lunch
- 16:30 - 17:20 **Ulrich Schneider** (Univ. Mainz)
Ultracold fermionic atoms in optical lattices: An experimental realization of the Hubbard model
- 17:20 - 17:50 Coffee break
- 17:50 - 18:40 **Stefan Flörchinger** (Univ. Heidelberg)
Ultracold fermions with three components: Cooper pairs, molecules and trions
- 18:40 - 19:10 **Vyacheslavs Kashcheyevs** (Univ. of Latvia)
Dynamic quantum dot spectroscopy via strongly non-adiabatic electron counting
- 19:30 Dinner

Sunday, October 18

- 09:00 - 09:50 **Achim Rosch** (Univ. Köln)
Strongly interacting fermionic atoms in optical lattices in and out of equilibrium
- 09:50 - 10:20 **Lorenz Bartosch** (Univ. Frankfurt)
Renormalization of the BCS-BEC crossover by order parameter fluctuations
- 10:20 - 10:40 Coffee break
- 10:40 - 11:10 **Sebastian Huber** (Weizmann Institute)
Many body Rabi oscillations of ultracold atoms in coupled one-dimensional tubes
- 11:10 - 12:00 **Wilhelm Zwerger** (TU München)
Attractive Fermi gases at infinite coupling
- 12:15 Lunch