

Electronic structure of novel materials

Sunday, Sept. 11

13:00-17:00 Hike
16:00-22:00 Registration and check-in
19:00- Sandwiches

Monday, Sept. 12

8:00 Breakfast

9:00-9:10 **Ole Andersen** Welcome

Pnictides. I

Chairperson: Antony Carrington

9:10-9:45 **Shoucheng Zhang** Pairing states with time reversal symmetry breaking in Fe based superconductors
9:45 - 10:20 **David Singh** Superconductivity and Electronic Structure in Iron Pnictides and Related Materials

10:20-10:50 Coffee @ Posters

Pnictides. II

Chairperson: Bernhard Keimer

10:50 - 11:25 **Antony Carrington** de Haas-van Alphen Effect studies of the Fermi surface of Iron Pnictides
11:25 - 12:00 **Philipp Werner** Dynamical screening in iron pnictides
12:00-12:35 **Werner Hanke** From density-functional theory to the functional renormalization group: superconductivity in the iron pnictides

12:35 Lunch

Non-equilibrium

Chairperson:

14:00 - 14:35 **Frithjof Anders** Quantum Transport through Nanodevice: a scattering states approach
14:35 - 15:10 **Jong Han** Spectral Evolution of Quasi-particle States near Mott-Insulator
15:10 - 15:45 **Michael Potthoff** Transition Devices With Nonequilibrium Chemical Potentials
15:45-16:15 Coffee @ Posters

Novel systems

Chairperson: Shoucheng Zhang

16:15 - 16:50 **Fakher Assaad** Instabilities of Dirac fermions: topological insulators and spin liquid
16:50 - 17:25 **Sasha Lichtenstein** Strongly correlated impurities on Graphene
17:25 - 18:00 **Peter Horsch** Spin exchange dominated by charge excitations of Wigner lattice in a newly synthesized chain cuprate: $\text{Na}_5\text{Cu}_3\text{O}_6$

18:30-20:00 Dinner

Chairperson: Olle Gunnarsson

20:00- **Oliver Mildenberger** Analysis of severe accidents in nuclear power plants

Tuesday, Sept. 13

8:00 Breakfast

Cuprates. I

Chairperson: Ole Andersen

9:00 - 9:35 **Bernhard Keimer**
9:35 - 10:10 **Mike Norman**

Structural and electronic properties of nickelate superlattices
Fermi Surface Reconstruction and the Origin of High
Temperature Superconductivity

10:10-10:40 Coffee @ Posters

Cuprates. II

Chairperson: Mike Norman

10:40- 11:15 **Daniel Dessau**

11:15 - 11:50 **Dmitry Reznik**
11:50 - 12:25 **Giorgio Sangiovanni**

The Nature of Fermi Arcs, Pseudogaps, and Electron Scattering Rates
in Cuprate Superconductors determined from the new ARPES Tunneling
To be announced
Single- versus multi-site Dynamical Mean Field Theory of the
electron-phonon interaction in cuprates

12:30 Lunch

Methods and Materials

Chairperson: Peter Horsch

14:00 - 14:35 **Ross McKenzie**

14:35 - 15:10 **Emanuel Gull**
15:10 - 15:45 **Bengt Lundqvist**

15:45-16:15 Coffee @ Posters

Angle-dependent magnetoresistance as a probe of Fermi surface
properties of strongly correlated metals
Large Cluster Dynamical Mean Field Simulations for Hubbard models
Novel Sparse Materials

Models

Chairperson: Jaime Merino

16:15 - 16:50 **Ferdi Aryasetiawan**
16:50 - 17:25 **Kazuhiko Kuroki**

17:25 - 18:00 **Erik Koch**
18:00 - 18:35 **Maurits Haverkort**

Bridging first-principles and model approaches
Material specific Hamiltonian approach to the superconductivity in iron
pnictides and cuprates
Building realistic models of correlated materials
Density functional theory Wannier orbitals as an efficient basis
for multiplet ligand field theory

18:35 Dinner

Wednesday, Sept. 14

8:00 Breakfast

Organics. I

Chairperson: Ross McKenzie

9:00 - 9:35 **Kazushi Kanoda**

9:35 - 10:10 **Thomas Maier**

Mott transition, frustrated magnetism and superconductivity
in triangular-lattice organics
Superconductivity in cuprate, organic and iron-based materials:
A dynamic cluster quantum Monte Carlo perspective

10:10-10:40 Coffee @ Posters

Organics. II

Chairperson: Kazushi Kanoda

10:40 - 11:15 **Martin Dressel**

11:15 - 11:50 **Jaime Merino**
11:50 - 12:25 **Kosmas Prassides**

Quantum Criticality in Organic Conductors: Fermi-Liquid vs.
Non-Fermi-Liquid Behavior
Mott transition and pseudogap phase in layered organic superconductors
Fullerene superconductivity 20 years on

12:30 Lunch

Departure