

Programme

HIGH
Tc

22. Workshop

on

Novel materials and superconductivity

PLANNERALM

February 10 -17, 2007

Sponsored by

TU Wien

Location:	Planneralm , Ennstal (Steiermark) A-8953 Donnersbach
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Date:	Arrival: Saturday, February 10, 2007
	Departure: Saturday, February 17, 2007

Chairman: **Prof. Karlheinz Schwarz**

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Programme committee:

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G.Hilscher P.Knoll F.Kubel

W.Lang W.Steiner P.Weinberger

K.Schwarz

World Wide Web:

www.wien2k.at/theochem/planneralm/

Plenary Lectures

Sunday, Feb.11 2007 (Chair: K. Schwarz)

9:00	K. Schwarz (TU Wien): <i>Opening, 22nd workshop</i>
9:10	Rudi Hackl (WMI-Garching, Germany): <i>Spin, charge and lattice excitations and superconductivity in copper oxygen compounds</i>
10:20	Coffee Break
10:40	Bertram Batlogg (ETH Zürich, Switzerland): <i>Weak coupling SDW and strong Fermi surface gapping in Na_{0.8}CoO₂</i>

Monday, Feb.12 2007 (Chair: B.Batlogg)

9:00	E.H.U. Gross (FU Berlin, Germany): <i>How to predict the critical temperature of superconductors; A density functional approach</i>
10:00	Coffee Break
10:30	Helge Rosner (MPI CPfS Dresden, Germany): <i>Cu(II) materials - from crystal chemistry to magnetic models</i>

Tuesday, Feb.13 2007 (Chair: Silke Bühler-Paschen)

9:00	Enrico Arrigoni (TU Graz, Austria): <i>Fascinating effects of electron correlation: From high-temperature superconductivity to Hall-metallic ferromagnetism</i>
10:00	Coffee Break
10:30	Karl Unterrainer (TU Wien): <i>Spin-correlations and electron-dynamics in quantum dots</i>

Wednesday, Feb.14 2007 (Chair: Claudia Ambrosch-Draxl)

9:00 Roland **Wiesendanger** (Univ.Hamburg, Germany):
*Spin-resolved scanning probe microscopy with atomic resolution:
Principles and applications to novel materials*

10:00 **Coffee Break**

10:30 Gerhard **Dehm** (Montan Univ.Leoben, Austria):
Mechanical properties of metals in the micro- and submicrodomain Xavier

Thursday, Feb.15 2007 (Chair: G. Hilscher)

9:00 Thomas **Greber** (Univ. Zürich, Switzerland):
*Monolayers of boron nitride on transition metals with and without misfit
dislocations: from flat layers to nanomesh*

10:00 **Coffee Break**

10:30 Georg **Amthauer** (Univ.Salzburg, Austria):
Magnetic properties of Cu_5FeS_4 (bornite): a Mössbauer study

Friday, Feb.16 2007 (Chair: W. Steiner)

9:00 Alexander **Gerber** (Tel Aviv Univ., Israel):
Towards Hall effect spintronics

10:00 **Coffee Break**

10:30 **Rocquefelte** (Nantes, France):
DFT investigations of the temperature dependence of the optical properties of CuO

Evening sessions

Sunday, Feb.11 2007 (Chair: R.Hackl)

19:00	Leonardo Tassini , W.Prestel, R.Hackl, A.Erb, M.Lambacher (WMI, Garching, Germany): <i>Ordering versus superconductivity in high-Tc superconductors</i>
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Monday, Feb.12 2007 (Chair: P.Weinberger)

19:00	Torben Birk , J.Bendix (Univ.Copenhagen, Denmark): <i>Coordination polymers and metal-organic frameworks</i>
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Tuesday, Feb.13 2007 (Chair: P. Knoll)

19:00	Markus Aichhorn , E.Arrigoni, M.Potthoff, W.Hanke (Univ.Würzburg, Germany): <i>Symmetry broken ground state of high-Tc superconductors: A quantum cluster approach</i>
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Wednesday, Feb.14 2007 (Chair: P.Blaha)

19:00	Micro Poster Presentation: <i>Each poster can be briefly presented in 3 minutes (3 overheads maximum) PowerPoint presentations need to be arranged beforehand (please contact the organizer).</i>
20:00	POSTER SESSION

Thursday, Feb.15 2007 (Chair: F.Kubel)

19:00	Oliver Diwald , S.Stankic, M.Müller, A.Riss, T.Berger, J.Bernaerdi, E.Knözinger (TU Wien): <i>Surface properties of oxide nanocrystals</i>
19:40	Günther Rupprechter (TU Wien, Austria): <i>Surface chemistry and catalysis</i>

Friday, Feb.16 2007 (social evening)

19:00	Susanne Fleig + Frank Kubel (Wien): <i>Farbbegegnungen im Schnee</i>
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Posters

*Each poster can be briefly presented in 3 minutes (3 overheads maximum).
PowerPoint presentations are possible but should be arranged before with the organizer.*

- Bertram **Batlogg** (ETH Zürich, Switzerland)
Strong Fermi surface gapping and weak coupling SDW
- Jürgen **Fleig** (TU Wien):
Oxygen-oxide interaction: new results and open questions
- H. Michor, D.T.Adroj, M.Koza, A.D.Hillier, M.Telling, Gerfried **Hilscher** (TU Wien):
 μ SR and inelastic neutron studied on $CeNi_9Ge_4$
- Rao Tahir Ali **Khan**, H.Kaldarar, M.Giovannini, E.Bauer, H. Michor (TU Wien):
Field and pressure response in $Y_2Pd_2(In_{1-x}Sn_x)$
- Herwig **Michor**, E.Bauer, L.Fornasari, G.Hilscher, U.Schwarz, H.Rosner, K.Tokuoka, T.Muramatsu, K.Shimizu (TU Wien):
Pressure effects upon the itinerant magnetism in RCo_9Si_4
- Nathalie **Munnikes**, M.Lambacher, A.Erb, R.Hackl (WMI, Garching Germany):
Doping dependence of the superconducting gap in cuprates
- Bernhard **Muschler**, W.Prestel, M.Lambacher, A.Erb, R.Hackl (WMI, Garching Germany):
Momentum dependence of quasiparticle properties in cuprates
- Maurizio **Musso**, H.Dittrich, G.Schmidt, P.Blaha, K.Schwarz, P.Knoll, C.Ambrosch-Draxl (Univ. Salzburg, Austria):
A Raman spectroscopic study of stibnite (Sb_2S_3)
- Silke **Paschen**, J.Custers, M.Kriegisch, M.Müller, A.Prokofiew, A.Strydom (TU Wien):
Quantum criticality in $Ce_3Pd_{20}Si_6$
- Wolfgang **Prestel**, B.Muschler, Y.Ando, Sh.Ono, R.Hackl (WMI, Garching Germany):
Quasiparticle approach to electronic Raman scattering in overdoped cuprates
- Herbert **Richter**, W.Lang, K.Siraj, J.D.Pedarnig, D.Bäuerle, R.Kolarova, (Univ. Wien):
Electrical transport properties of ion-beam modified cuprate superconductors
- Miriam **Schmitt**, J.Malek, S.-L. Drechsler, H.Rosner (MPI CPfS Dresden, Germany):
Electronic and magnetic properties of the quantum spin chain Li_2ZrCuO_4
- Walther **Steiner** (TU Wien):
Mössbauer investigations on skutterudites
- Peter **Weinberger**, N.Hassan, M.Reissner, G.Hilscher, F.Werner, A.Soliman, Boussekssou, W.Linert (TU Wien):
Systematic ligand variations to elucidate the impact of the substituent on the spin transition behaviour of mono- and polynuclear Fe(II) spin crossover compounds

Main SPEAKERS

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