# Program of the WORKSHOP ON Quantum Matter in Cologne, 10th – 12th Oktober 2007

## Wednesday, 10th Oktober

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Conference desk opens</td>
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</table>
| 9:30-10:30    | **P. Gegenwart**  
University of Goettingen, Germany  
Overview: Quantum criticality in heavy-fermion systems |
| Coffee 30 min.|                                                                      |
| 11:00-11:40   | **M. Garst**  
University of Cologne, Germany  
Thermal expansion near field-driven quantum phase transitions |
| 11:40-12:30   | **C. Pfleiderer**  
Technical University of Munich, Germany  
Quantum Order of Chiral Magnets |
| Lunch & Coffee 2h. |                                              |
| 14:30-15:20   | **J. Schmalian**  
Iowa State University & Ames National Laboratory, USA  
Superconductivity and bond order in a doped Mott insulator |
| Coffee 20 min.|                                                                      |
| 15:40-16:20   | **M. Vojta**  
University of Cologne, Germany  
Dimensional reduction and quantum criticality in frustrated antiferromagnets |
| 16:20-17:00   | **A. V. Sologubenko**  
University of Cologne, Germany  
Magnetothermal transport in spin chain materials |
| **Poster session – with food** |                                                   |

## Thursday, 11th Oktober

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| 9:30-10:30    | **M. Sawicki**  
Polish Academy of Science, Warszawa, Poland  
Overview: Diluted ferromagnetic semiconductors |
| Coffee 30 min.|                                                                      |
| 11:00-11:50   | **L. W. Molenkamp**  
University of Wuerzburg, Germany  
Spin Hall effects in HgTe Quantum Well Structures |
| 11:50-12:30   | **M. W. Haverkort**  
University of Cologne, Germany  
Magnetic properties and spin-state transitions in the Cobaltates: The importance of intra-atomic orbital-orbital, spin-spin and spin-orbital correlations |
| Lunch & Coffee 2h. |                                              |
| 14:30-15:20   | **C. Renner**  
University of Geneva, Switzerland  
Polarons and charge confinement in manganites |
| 15:20-16:00   | **T. Lottermoser**  
Bonn University, Germany  
Multiferroics: Modern magnetoelectric materials |
| Coffee 20 min.|                                                                      |
| 16:20-17:00   | **M. Braden**  
University of Cologne, Germany  
Magnetic Excitations in Multiferroic TbMnO₃ |
| 17:00-17:50   | **J. Saunders**  
Royal Holloway London, Great Britain  
Quantum phase transitions in two dimensional helium |
| **Dinner**    |                                                                      |

## Friday, 12th Oktober

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| 9:30-10:20    | **K. Kanoda**  
University of Tokyo and CREST-JST, Japan  
Correlated electrons on triangular lattice near Mott transition -- from spin liquid to superconductivity -- |
| Coffee 30 min.|                                                                      |
| 10:50-11:40   | **O. Tchernyshyov**  
Johns Hopkins University, USA  
Lattice distortion and magnetic helix in the antiferromagnetic spinel CdCr₂O₄ |
| 11:40-12:20   | **J. Hemberger**  
University of Cologne, Germany  
Frustration of coupled microscopic degrees of freedom in spinel compounds |
| **End of Workshop** |                                                   |