

Program

Tuesday, 21 August 2012

15:00 – 17:00 Arrival and Registration

from 16:00 *COFFEE and CAKE*

17:00 – 17:15 Axel Pelster (Kaiserslautern - Germany)
Opening and Welcome

Ernst Dreisigacker (Hanau - Germany)
About the Wilhelm and Else Heraeus Foundation

Session 1 HYBRID SYSTEMS

17:15 – 18:00 József Fortágh (Tübingen - Germany)
Interfacing cold atoms and solids

18:00 – 18:45 Herwig Ott (Kaiserslautern - Germany)
Dissipation in ultracold quantum gases

from 19:00 *WELCOME DINNER*

*Followed by a social evening on invitation of the
Wilhelm and Else Heraeus Foundation
in the Physikzentrum*

Wednesday, 22 August 2012

08:00 *BREAKFAST*

Session 2 DISORDER

09:00 – 09:45 Giovanni Modugno (Firenze - Italy)
Experiments with disordered, interacting Bose gases

09:45 – 10:30 Laurent Sanchez-Palencia (Paris - France)
Localization and superfluidity of interacting Bose gases in the presence of disorder

10:30 – 11:00 *COFFEE BREAK*

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Wednesday, 22 August 2012

Session 3 OPTICAL LATTICES

- 11:00 – 11:45 Manfred Mark (Innsbruck - Austria)
Ultracold atoms with tunable interactions in optical lattice confinement
- 11:45 – 12:30 Luis Santos (Hannover - Germany)
Novel scenarios for cold atoms in optical lattices
- 12:30 **Conference photo** (in front of the Physikzentrum)
- 12:40 *LUNCH*
- 14:00 – 14:45 Klaus Sengstock (Hamburg - Germany)
Magnetism without magnetism
- 14:45 – 15:30 Randall Hulet (Houston - USA)
Atomic fermions in optical lattices
- 15:30 – 16:00 *COFFEE BREAK*
- 16:00 – 19:00 **Plenary Poster Flash Presentations**
- 19:00 *DINNER*
- 20:00 – 22:00 **Poster Session I**

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Thursday, 23 August 2012

08:00 *BREAKFAST*

Session 4 LOWER DIMENSIONS

09:00 – 09:45 Jean Dalibard (Paris - France)
Exploring flatland with cold atoms

09:45 – 10:30 Kristian Helmerson (Clayton - Australia)
Onsager vortices in 2D Bose-Einstein condensates

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Martin Weitz (Bonn - Germany)
Bose-Einstein condensation of light

Session 5 RYDBERG GASES

11:45 – 12:30 Tilman Pfau (Stuttgart - Germany)
Coherent control of dense Rydberg gases

12:30 *LUNCH*

Session 6 CONTRIBUTED TALKS

14:00 – 14:30 Uwe Fischer (Seoul - South Korea)
Out-of-equilibrium microscopes for quantum many-body states

14:30 – 15:00 Sebastian Eggert (Kaiserslautern - Germany)
Chiral edge states in hard-core Bose Hubbard model on a Kagome lattice

15:00 – 15:30 Etienne Maréchal (Paris - France)
Magnetization dynamics of a dipolar BEC in a 3D optical lattice

15:30 – 16:00 *COFFEE BREAK*

16:00 – 22:00 *EXCURSION and DINNER*

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Friday, 24 August 2012

08:00 *BREAKFAST*

Session 7 SPIN-ORBIT COUPLING

09:00 – 09:45 Ross Williams (Gaithersburg - USA)
Synthetic gauge fields for ultracold atoms

09:45 – 10:30 Sandro Stringari (Trento - Italy)
Spin-orbit coupled Bose-Einstein condensates

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Wei Zhang (Beijing - China)
Exotic pairing states in two-dimensional polarized Fermi gases with spin-orbit coupling

11:45 – 12:30 Kangjun Seo (Atlanta - USA)
Ultracold Fermi gases with spin-orbit coupling and crossed Zeeman fields

12:30 *LUNCH*

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Friday, 24 August 2012

Session 8 CONTRIBUTED TALKS

- 14:00 – 14:30 Günter Wunner (Stuttgart - Germany)
Bose-Einstein condensates in PT-symmetric double wells
- 14:30 – 15:00 Peter Schlagheck (Liège - Belgium)
Weak localization with interacting Bose-Einstein condensates
- 15:00 – 15:30 Alexey Filinov (Kiel - Germany)
Collective and single-particle excitations in 2D dipolar Bose gases
- 15:30 – 16:00 *COFFEE BREAK*
- 16:00 – 16:30 Romain Bachelard (São Carlos - Brazil)
Collective recoil halos in BECs
- 16:30 – 17:00 Shannon Whitlock (Heidelberg - Germany)
Non-classical statistics of Rydberg-interacting dark-state polaritons
- 17:00 – 17:30 Luke Alexander Miller (Cambridge - UK)
Interacting fermions in optical lattices
- 17:30 – 19:00 **Poster Session II**
- 19:00 *DINNER*

Session 9 EVENING TALK

- 20:00 – 21:00 David Thouless (Seattle - USA)
Microkelvin tools and Kelvin physics

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Saturday, 25 August 2012

08:00 *BREAKFAST*

Session 10 SIMULATIONS

09:00 – 09:45 Walter Hofstetter (Frankfurt - Germany)
Multi-flavor quantum simulations of ultracold bosons

Session 11 NONEQUILIBRIUM

09:45 – 10:30 Vyacheslav Yukalov (Dubna - Russia)
Formation of granular structures of trapped atoms

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Gerhard Birkl (Darmstadt - Germany)
Interferometry and coherent dynamics of BECs in an optical storage ring

11:45 – 12:30 Martin Holthaus (Oldenburg - Germany)
“Dressed matter waves”: Concepts and perspectives

12:30 Carlos Sa de Melo (Atlanta - USA)
Concluding Remarks and Poster Awards

12:40 *LUNCH and GOODBYE COFFEE*

End of the seminar and departure