



International Max Planck Research School

Dynamical Processes in Atoms, Molecules, and Solids

IMPRS Retreat 2014, Hotel Kreischauer Hof, Oct. 8.-10.

Wed, Oct. 8th

12.00	Arrival
12.45-14.00	Lunch
14.15-14.30	Welcome, Introduction

“Rydberg & BEC” (Chair: Christoph Sträter)

14.30-14.50	Wladimir Tschischik <i>Dynamics of bosons in two-leg ladder with magnetic field</i>
14.55-15.15	Daniel Vorberg <i>Generalized Bose-Einstein Condensation into Multiple States in Driven-Dissipative Systems</i>
15.20-15.40	Callum Murray <i>Making photons interact with Rydberg atoms</i>
15.50-16.30	Coffee

“Molecular Systems” (Chair: Jana Hladilkova)

16.30-16.50	Alejandro Santana <i>Molecular Quantum Cellular automata: Interplay of charge, spin and representation of information</i>
16.55-17.15	Daniel Hollas <i>Efficient modelling of quantum nuclear effects in molecular simulations via quantum thermostat</i>

- 17.20-17.40 **Tsegabirhan Wendumu**
Optical Properties of Triangular MoS₂ Platelets
- 18.00 Dinner
- 19.00-19.45 **Post-Dinner-Talk by Pavel Jungwirth**

Thu., Oct. 9th

“Condensed Matter I” (Chair: Elias Diesen)

- 9.00-9.20 **Krishanu Roychowdhury**
Topological phases in bosonic systems on frustrated kagome lattice
- 9.25-9.45 **Fabian Zschocke**
Physical states and finite-size effects in Kitaev's honeycomb model
- 9.50-10.10 **Jorge Rehn**
Orphan Spin Glassiness
- 10.15-10.45 Coffee

“Quantum Dynamics & Open Systems” (Chair: Karsten Leonhardt)

- 10.45-11.05 **Paula Ostmann**
Quantum dynamics in ultracold environments
- 11.10-11.30 **Mehrdad Baghery**
Extracting quantum dynamics without propagating in time
- 11.35-11.55 **Alan Celestino**
Suppression of relaxation caused by excitonic interaction
- 12.30 Lunch
- 14.00 Outside-activity
- 18.00 Dinner
- 19.00 Game evening

Fr., Oct. 10th

“Applied Modeling” (Chair: Ondrej Svoboda)

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| 9.00-9.20 | Josef Melcr
<i>Modelling of voltage sensitive fluorescent probes for signals in neurons</i> |
| 9.25-9.45 | Stepan Timr
<i>Glowing Membranes: Classical Molecular Dynamics and Electronic Transitions of Fluorescent Dyes in Lipid Bilayers</i> |
| 9.50-10.10 | Leonardo Medrano
<i>Heat transport in two-dimensional materials</i> |
| 10.15-10.45 | Coffee |

“Condensed Matter II” (Chair: Abraham Camacho)

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| 10.45-11.05 | Sthitadhi Roy
<i>Tunnel magnetoresistance of 3D Topological Insulator surfaces</i> |
| 11.10-11.30 | Johannes Motruk
<i>Interacting topological phases on the honeycomb lattice</i> |
| 11.35-11.55 | Emmanouil Xypakis
<i>Quantum transport in 3D topological insulators</i> |
| 12.00-12.20 | Christoph Sträter
<i>Topological Insulators in Optical Lattices</i> |
| 12.30 | Lunch, Departure |