



International Max Planck Research School

## **Dynamical Processes in Atoms, Molecules, and Solids**

**IMPRS Retreat 2013, Parkhotel Margaretenhof, Sept. 25-27**

### **Wed., Sept. 25<sup>th</sup>**

12.00	Arrival
12.40-13.40	Lunch
13.40-13.55	WELCOME & Introduction of the participants

### **Chair: Mehrdad Baghery**

14.00-14.20	<b>Christoph Sträter</b> <i>Bloch Band Engineering in Optical Lattices</i>
14.25-14.45	<b>Pierfrancesco Di Cintio</b> <i>Coulomb explosion of heterogeneous clusters</i>
14.50-15.10	<b>Krishanu Roychowdhury</b> <i>Strongly correlated electrons on Kagome lattice: Interplay between charge and spin degrees of freedom</i>
15.15-15.35	<b>Ondrej Svoboda</b> <i>Solvation enhanced absorption of nitrate anion</i>
15.40-16.10	Coffee

### **Chair: Michael Fischer**

16.10-16.30	<b>Elias Diesen</b> <i>Low energy photoelectrons in high intensity laser fields</i>
16.35-16.55	<b>Alejandro Santana</b> <i>Molecular Quantum Cellular Automata (m-QCA): an insight into unconventional computing</i>

17.00-17.25	<b>Jorge Rehn</b> <i>Orphan Spins on the Checkerboard Lattice</i>
17.30-17.55	<b>Josef Melcr</b> <i>Development of two photon polarization microscopy into a protein structure tool</i>
18.00	Dinner
19.00	Social Program*

\*Apart from usual mindgames, the hotel's 'Kegelbahn' can be used for a bowling tournament; Those who are exhausted after the scientific load of the day can also use the wellness-center of the hotel (the usage of the saunas is included)

### Thu., Sept. 26<sup>th</sup>

#### **Chair: Christoph Sträter**

9.00-9.20	<b>Karsten Leonhardt</b> <i>Exciton splitting through conical intersections</i>
9.25-9.45	<b>Darshan Joshi</b> <i>1/d expansion for coupled dimer magnets: Paramagnetic phase</i>
9.50-10.10	<b>Manisha Pathak</b> <i>Nitridogermanates with Alkaline Earth Metals – Synthesis and characterization</i>
10.15-10.35	<b>Daniel Vorberg</b> <i>Generalized Bose-Einstein condensation into multiple states in driven-dissipative systems</i>
10.40-11.10	Coffee

#### **Chair: Ondrej Svoboda**

11.10-11.30	<b>Mehrdad Baghery</b> <i>Ionization of small clusters in strong laser pulses</i>
11.35-11.55	<b>Farzaneh Zamani</b> <i>Quantum Criticality in the Two-Channel pseudogap Anderson model</i>

12.00-12.20	<b>Stepan Timr</b> <i>Accurate determination of the orientation of a fluorescent dye in a model membrane: Interplay between molecular simulations and polarization microscopy</i>
12.30-13.30	Lunch
13.30	Hiking tour to 'Pfaffenstein'
18.15	Dinner

**Chair: Alejandro Santana**

19.15-19.35	<b>Abraham Camacho</b> <i>Revealing ultrafast dynamics with electron spectra</i>
19.40-20.00	<b>Thomas Lehmann</b> <i>Conductance properties of graphene nanoribbons</i>
20.00	Social get-together

**Fri., Sept. 27<sup>th</sup>**

**Chair: Krishanu Roychowdhury**

9.00-9.20	<b>Max Buchholz</b> <i>Spin effects and Pauli principle in semiclassical electron dynamics</i>
9.25-9.45	<b>Alan Celestino</b> <i>Nano-scale rotor driven by single-electron tunneling</i>
9.50-10.10	<b>Sthitadhi Roy</b> <i>Rosen-Zener quenching of 1D hard-core boson chain</i>
10.15-10.35	<b>Belinda Kapidani</b> <i>Out of equilibrium cooperative phenomena in Rydberg gases</i>
10.40-11.00	Coffee

**Chair: Karsten Leonhardt**

- 11.00-11.20      **Lukas Sistik**  
*Floating Occupation Molecular Orbital – Complete Active Space  
Configuration Interaction Method:  
Fast and Reliable Alternative to CASSCF*
- 11.25-11.45      **Michael Fischer**  
*Non-adiabatic quantum molecular dynamics with trajectory  
surface hopping*
- 11.50-12.10      **Tsegabirhan Wendumu**  
*Optical excitation of MoS<sub>2</sub> nanoparticles*
- 12.15              Lunch

**Departure: Bus towards Koenigstein leaves at 13.21 –  
We leave from the hotel to the bus stop at 13.00!**

**To Prague: Bus towards Bad Schandau leaves at 13.06  
from the stop 'Gohrisch Schandauer Str.' (arrives 13.13 in Bad Schandau)  
direct train to Prague from Bad Schandau leaves at 13.38**