

# Program

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## Monday, 26 July

- 08:00 - 13:00      Registration at tent (next to guest house 4)
- 12:30 - 13:30      Lunch break
- 13:45                **Jan M Rost (director of MPIPKS) & scientific coordinators**  
Opening
- Many-body Physics**
- Chair: Alexander Eisfeld
- 14:00 - 14:25      **Carlos Benavides Riveros** (MPIPKS)  
Towards a universal description of bosonic systems
- 14:35 - 15:00      **Eric Brunner** (Albert-Ludwigs-University Freiburg)  
Many-body coherence and entanglement from randomized correlation measurements
- 15:10 - 15:35      **Lukas Pausch** (Albert-Ludwigs-University Freiburg)  
Chaos in the Bose-Hubbard Model versus Gaussian Random Matrices and Random Two-Body Hamiltonians
- 15:45 - 16:15      Coffee break

## **Rydberg Systems**

Chair: Matthias Wollenhaupt

16:15 - 16:40

**Matthew Eiles** (MPIPKS)

Anderson localization of a Rydberg electron

16:50 - 17:15

**Panagiotis Giannakeas** (MPIPKS)

Electron's adventures in Rydbergland: From trilobites to jabberwockies

17:25 - 17:50

**Patrick Froß** (Max Planck Institute for Nuclear Physics Heidelberg)

The role of singly-excited Rydberg states in multiphoton dissociative ionization of H<sub>2</sub>

18:00 - 18:25

**Alexander Eisfeld** (MPIPKS)

Near-field spectroscopy of molecular aggregates

18:30 - 19:30

Dinner at MPIPKS

19:30 - 21:00

Informal discussions

**Tuesday, 27 July**

**XUV-interaction**

Chair: Alejandro Saenz

09:00 - 09:25      **Christian Ott** (Max Planck Institute for Nuclear Physics Heidelberg)  
The nonlinear optical response of atoms to intense XUV light

09:35 - 10:00      **Maria Novella Piancastelli**  
(Sorbonne University, LCPMR)  
Dynamics of multi-photon core ionization of water molecules

10:10 - 10:35      **Florian Trost** (Max Planck Institute for Nuclear Physics Heidelberg)  
Coincident ions from XUV-induced disintegration of CH<sub>2</sub>I<sub>2</sub>

10:45 - 11:15      Coffee break

Chair: Frank Großmann

11:15 - 11:40      **Thomas Pfeifer** (Max Planck Institute for Nuclear Physics Heidelberg)  
Converting molecular rotation to electronic excitation in hydrogen, or is this violating fundamental symmetries?

11:50 - 12:15      **Michael Straub** (Max Planck Institute for Nuclear Physics Heidelberg)  
A shot to shot XUV photon spectrometer for the FLASH2 Reaction Microscope

12:30 - 13:30      Lunch break

## Program

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- 13:30 - 14:00      Informal discussions
- Interaction with light**
- Chair: Maria Novella Piancastelli
- 14:00 - 14:25      **Stasis Chuchurka** (DESY-CFEL)  
Probabilistic stochastic methodology for  
superfluorescence
- 14:35 - 15:00      **Johannes Fiedler** (Albert-Ludwigs-University Freiburg)  
Quantum Optics in the presence of absorbing  
media
- 15:10 - 15:35      **Alejandro Saenz** (Humboldt-Universität zu Berlin)  
Calibration of very intense light sources using scal-  
ing relations
- 15:45 - 16:15      Coffee break
- Chair: Thomas Pfeifer
- 16:15 - 16:40      **Matthias Wollenhaupt** (Universität Oldenburg)  
Multicolor electron vortices
- 16:50 - 17:15      **Farshad Shobeiry** (Max Planck Institute for  
Nuclear Physics Heidelberg)  
Sub-femtosecond optical control of entangled states
- 17:25 - 17:50      **Jan M Rost** (MPIPKS)  
Photoionization of delocalized electrons
- 18:00 - 19:00      Dinner at MPIPKS
- 19:00 - 20:00      Informal discussions

**Wednesday, 28 July**

**Coulomb Interactions**

Chair: Jan M Rost

- 09:00 - 09:25     **Deepthy Maria Mootheril Thomas** (Max Planck  
Institute for Nuclear Physics Heidelberg)  
Electron Impact ionization of lithium
- 09:30 - 18:00     social program 'Hiking tour in Saxon Switzerland'  
(for details please see separate sheet in your wel-  
come folder)
- 18:00 - 19:00     Discussions in small groups
- 19:00 - 20:00     Barbecue at MPIPKS
- 20:00 - 21:00     Informal discussions

## Thursday, 29 July

### Strong fields

Chair: Ulf Saalmann

09:00 - 09:25

**Gergana D. Borisova** (Max Planck Institute for Nuclear Physics Heidelberg)  
The role of initial-state electron correlation for strong-field ionization

09:35 - 10:00

**Soumi Dutta** (MPIPKS)  
Attoclock Induced Electron Dynamics

10:10 - 10:35

**Patrick Rupprecht** (Max Planck Institute for Nuclear Physics Heidelberg)  
Effective exchange-interaction control in molecules with ultrashort laser pulses

10:45 - 11:15

Coffee break

Chair: Christian Ott

11:15 - 11:40

**Jonathan Dubois** (MPIPKS)  
Making nonadiabatic photoionization adiabatic

11:50 - 12:15

**Ulf Saalmann** (MPIPKS)  
What is the Coulomb-laser-coupling time?  
(Is there any?)

12:30 - 13:30

Lunch break

13:30 - 14:00

Informal discussions

### Time-dependent dynamics

Chair: Panagiotis Giannakeas

- 14:00 - 14:25      **Maximilien Barbier** (MPIPKS)  
Dynamics of wave packets through a time-dependent absorbing barrier
- 14:35 - 15:00      **Mohammad Reza Eidi** (MPIPKS)  
A fast and highly accurate optimizer for s-type Gaussian basis sets
- 15:10 - 15:35      **Lipeng Chen** (MPIPKS)  
Wavepacket dynamics at conical intersection and its spectroscopic manifestation
- 15:45 - 16:15      Coffee break
- Open Systems**
- Chair: Matthew Eiles
- 16:15 - 16:40      **Sebastian Gemsheim** (MPIPKS)  
Prerequisites for time emergence in quantum and classical mechanics
- 16:50 - 17:15      **Vladislav Sukharnikov** (DESY-CFEL)  
Generalized second quantization of open quantum systems
- 17:25 - 17:50      **Jonathan Brugger** (Albert-Ludwigs-University Freiburg)  
Dynamical signatures of long-range interactions in 1D
- 19:00 - 21:00      Atomic Summer Camp dinner & discussions at **Fährgarten Johannstadt**,  
Käthe-Kollwitz-Ufer 23b, 01307 Dresden  
(for details please see separate sheet in your welcome folder)

**Friday, 30 July**

**Condensed matter & theory**

Chair: Andreas Buchleitner

- 09:00 - 09:25      **Omar Jesus Franca Santiago** (Universität Kassel)  
Cherenkov and transition radiation near  
topological insulators
- 09:35 - 10:00      **Hamed Koochaki Kelardeh** (MPIPKS)  
Strong-field dynamics of 2D graphenelike  
materials
- 10:10 - 10:35      **Christopher Wächtler** (MPIPKS)  
Self-oscillation, synchronization and topology –  
the electron shuttle revisited
- 10:45 - 11:15      Coffee break
- 11:15 - 11:40      **Frank Großmann**  
(Technische Universität Dresden)  
Coherent-state based solutions of the time-dependent  
Schroedinger equation
- 11:50 - 12:15      **Christoph Dittel** (Albert-Ludwigs-University Freiburg)  
Wave-particle duality of many-body quantum states
- 12:15 - 12:30      Closing
- 12:30 - 13:30      Lunch break
- 13:30                Informal discussions & departure