# Program

## Sunday, April 10

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|---|---|
| 18:30 - 19:30 | Registration |
| 19:00 - 21:00 | Welcome reception in the institute's main building |

# Program[1]

## Monday, April 11

09:15 - 09:30 Opening
Roderich Moessner, Managing Director of the MPIPKS &
Scientific Coordinators

09:30 - 10:00 **Lutz Schimansky-Geier** (Humboldt-Universität zu Berlin)
*Fluctuations in models of self-propelled particles*

10:00 - 10:30 **Christian Van den Broeck** (Hasselt University, Diepenbeek)
*The efficiency of small machines*

10:30 - 11:00 Coffee break

11:00 - 11:30 **Sigmund Kohler** (Instituto de Ciencia Materiales de Madrid)
*Graphene ratchets*

11:30 - 12:00 **Jesús Casado-Pascual** (Universidad de Sevilla)
*Effect of high-frequency magnetic field on the resonant behavior displayed by a spin-1/2 particle under the influence of a rotating magnetic field*

12:00 - 12:30 **Thomas Wellens** (Albert-Ludwigs-Universität Freiburg)
*Efficient and coherent excitation transfer across disordered molecular networks*

12:30 - 14:30 Lunch break

[1] Abstracts available at http://www.pks.mpg.de/~nines11/

# Program[1]

14:30 - 15:00 **Roland Netz** (Technische Universität München, Garching)
*DNA dynamics and the measurement problem in protein force spectroscopy*

15:00 - 15:30 **José L. Mateos** (Universidad Nacional Autónoma de México)
*Experimental control of transport in a deterministic optical ratchet*

15:30 - 16:00 **Heiner Linke** (Lund University)
An approach to an artificial protein motor

16:00 - 16:30 Group photo (to be published on the workshop's web page) & Coffee break

16:30 - 17:30 NINES11 Colloquium (Chairperson: Roderich Moessner, MPIPKS)
**Peter Jung** (Ohio University)
*How nerves get into shape*

18:00 - 20:00 Dinner

20:00 - 22:00 Poster Session I - focus on all the posters with **odd** poster numbers

[1] Abstracts available at http://www.pks.mpg.de/~nines11/

# Program[1]

## Tuesday, April 12

09:00 - 09:30 **Hans Frauenfelder** (Los Alamos National Laboratory)
*Noise is essential for proteins*

09:30 - 10:00 **Thomas Franosch** (Friedrich-Alexander-Universität Erlangen-Nürnberg)
*Persistent memory for a Brownian walker in a random array of obstacles*

10:00 - 10:30 **Sophia Yaliraki** (Imperial College London)
*Multiscale dynamics of biomolecular networks*

10:30 - 11:00 Coffee break

11:00 - 11:30 **Wolfgang Schleich** (Universität Ulm)
*Focusing without a lens*

11:30 - 12:00 **Milena Grifoni** (Universität Regensburg)
*Quantum spin-orbit ratchets*

12:00 - 12:30 **Frank Großmann** (Technische Universität Dresden)
*Semiclassics plus noise: A trajectory approach to dissipation in quantum mechanics*

12:30 - 14:30 Lunch break

[1] Abstracts available at http://www.pks.mpg.de/~nines11/

# Program[1]

14:30 - 15:00 **Gloria Platero** (Instituto de Ciencia Materiales de Madrid)
*Topology and phase: Two ways to control the coherent dynamics of electrons*

15:00 - 15:30 **Baowen Li** (National University of Singapore)
*Creating heat current from zero thermal bias*

15:30 - 16:00 **Eli Pollak** (Weizmann Institute of Science)
*Stochastic theory of atom surface scattering*

16:00 - 16:30 Coffee break

16:30 - 17:00 **Thomas Dittrich** (Universidad Nacional de Colombia)
*Directed transport in a ratchet with internal and chemical freedoms*

17:00 - 17:30 **Miguel Rubí** (Universitat de Barcelona)
*Thermodynamics and stochastic dynamics of transport in confined media*

17:30 - 18:00 **Sergey Bezrukov** (National Institutes of Health, Bethesda)
*Entropic potentials in one-dimensional transport description*

18:00 - 18:30 **Stefan Linz** (Westfälische Wilhelms-Universität Münster)
*Modeling global and local avalanching of granular matter*

20:00 Conference dinner in the Piano-Salon,
2nd floor of the Coselpalais, An der Frauenkirche 12

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# Program[1]

## Wednesday, April 13

09:00 - 09:30 **Jörg Kotthaus** (Ludwig-Maximilians-Universität München)
*Self-oscillation in nanoelectro- and nanooptomechanical systems*

09:30 - 10:00 **Cristiane de Morais Smith** (University of Utrecht)
*Artificial staggered magnetic field for ultracold atoms in optical lattices*

10:00 - 10:30 **Klaus Richter** (Universität Regensburg)
*Quantum universality and its breakdown in ergodic mesoscopic systems*

10:30 - 11:00 Coffee break

11:00 - 11:30 **Giuliano Benenti** (Università degli Studi dell'Insubria, Como)
*Increasing thermoelectric efficiency: Dynamical models unveil microscopic mechanisms*

11:30 - 12:00 **Abraham Nitzan** (Tel Aviv University)
*Unidirectional hopping transport of interacting particles on a finite chain*

12:00 - 12:30 **Keiji Saito** (University of Tokyo)
*Additivity principle in high-dimensional harmonic lattices*

12:30 - 15:00 Lunch break

15:00 - 15:30 **Volkhard May** (Humboldt-Universität zu Berlin)
*Quantum transport in nano hybrid systems*

15:30 - 16:00 **Michael Thorwart** (Universität Hamburg)
*Competition between relaxation and external driving in the dissipative Landau-Zener problem*

16:00 - 16:30 Coffee break

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# Program[1]

16:30 - 17:00 **Jerzy Łuczka** (University of Silesia, Katowice)
*Interaction-induced negative mobility in a system of two overdamped Brownian particles*

17:00 - 17:30 **Manuel Morillo-Buzón** (Universidad de Sevilla)
*Noise effects on collective variables of finite arrays driven by time-periodic forces*

17:30 - 18:00 **Igor Goychuk** (Universität Augsburg)
*Viscoelasticity, dispersive kinetics and anomalous diffusion*

18:00 - 20:00 Dinner

20:00 - 22:00 Poster Session II - focus on all the posters with **even** poster numbers

[1] Abstracts available at http://www.pks.mpg.de/~nines11/

# Program[1]

## Thursday, April 14th

09:00 - 09:30 **Udo Seifert** (Universität Stuttgart)
*Stochastic thermodynamics*

09:30 - 10:00 **Werner Ebeling** (Humboldt-Universität zu Berlin)
*Shot-noise models and efficiency of ATP-driven nano-scale machines operating under far-from-equilibrium conditions*

10:00 - 10:30 **Frank Jülicher** (Max-Planck-Institut für Physik komplexer Systeme Dresden)
*The stochastic dance of helical swimmers*

10:30 - 11:00 Coffee break

11:00 - 11:30 **Sergej Flach** (Max-Planck-Institut für Physik komplexer Systeme Dresden)
*The weak password problem: Chaos, criticality and encrypted p-CAPTCHAs*

11:30 - 12:00 **Igor Sokolov** (Humboldt-Universität zu Berlin)
*Particles in confining potentials under Levy noise: Old and new results*

12:00 - 12:30 Closing remarks

12:30 - 14:00 Lunch

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