

Achtzehntes Harzseminar

Strukturbildung in Chemie und Biophysik

Goslar-Hahnenklee (OT Bockswiese), 16 – 18 February 2014

Organizers: M. Bär, E. Bodenschatz, M. Hauser, R. Imbihl



Programme

Sunday, 16 February

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| 15:30 – 15:40 | Opening |
| 15:40 – 16:15 | T. K. Shajahan (MPI Göttingen) Spiral wave initiation and their interactions in heterogeneous excitable media: Experiments and theory |
| 16:15 – 16:35 | A. Azhand (TU Berlin) Boundary-induced stabilization of expanding scroll rings |
| 16:35 – 17:10 | J. Löber (TU Berlin) Position and shape control of nonlinear waves |
| 17:10 – 17:30 | Coffee break |
| 17:30 – 18:05 | P. Dähmlow (Uni Magdeburg) Discontinuously propagating waves and Turing patterns: Different catalysts in the BZ reaction incorporated into a microemulsion |
| 18:05 – 18:25 | B. Sonnenschein (HU Berlin) Drift-noise relation reveals synchronization with phase lag |
| 18:25 – 18:45 | F. Mori (FHI Berlin) Methods to infer interactions and noise intensities in coupled oscillators using only spike-time data |
| 18:45 – 19:05 | Break |
| 19:05 – 19:40 | M. Deliano (LIN Magdeburg) On the dynamics of brain-machine interfaces |
| 19:40 – 20:00 | D. Pischel (Uni Magdeburg) Characterization of spatio-temporal patterns in the human electroencephalogram |
| 20:15 | Dinner |

Monday, 17 February

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| 09:00 – 09:35 | H. Kitahata (FHI Berlin) Spontaneous motion driven by surface-tension gradients |
| 09:35 – 10:10 | K. Wolff (TU Berlin) Active particles and fluid flow |
| 10:10 – 10:30 | S. Hata (FHI Berlin) Advection of passive particles over flow networks |
| 10:30 – 10:50 | Y. Koyano (FHI Berlin) Bifurcation-analysis of self-driven particles in a 1-D finite region |
| 10:50 – 11:10 | Coffee break |
| 11:10 – 11:30 | M. Schmidt (TU Berlin) Phase-separation by Marangoni flow propels emulsion droplets |
| 11:30 – 12:05 | A. Straube (HU Berlin) Pattern formation in suspensions of magnetically interacting particles |
| 12:05 – 12:25 | R. Großmann (PTB Berlin) Derivation of coarse-grained theories for self-propelled particles with aligning interactions |
| 12:25 – 12:45 | P. Romanczuk (PTB Berlin) Pattern formation of self-propelled particles with alignment and anti-alignment |
| 12:45 – 15:30 | Lunch |
| 15:30 – 16:05 | A. Crespo-Yapur (TU München) Cooperative phenomena and finite size-effects during CO bulk oxidation on coupled Pt microelectrodes |
| 16:05 – 16:25 | M. Hesse (Uni Hannover) Pattern formation and activation of supported oxide catalysts |
| 16:25 – 16:45 | B. von Boehn (Uni Hannover) Long-range attraction between macroscopic vanadium oxide islands |
| 16:45 – 17:05 | M. Wilczek (Uni Münster) Pattern formation in Cahn-Hilliard models for Langmuir-Blodgett transfer |
| 17:05 – 17:25 | Coffee break |
| 17:25 – 18:00 | E. Bernitt (Uni Bremen) Dynamics of dorsal ruffles |
| 18:00 – 18:20 | S. Alonso (FHI Berlin) A poroelastic model for mechanochemical waves in protoplasmic droplets of <i>Physarum polycephalum</i> |
| 18:20 – 18:40 | I. Guido (MPI Göttingen) Electrotaxis of amoeba cells |
| 18:40 – 19:00 | Break |
| 19:00 – 19:20 | C. Oettmeier (Uni Bremen) Keratocyte-like motility on large length scales |
| 19:20 – 19:40 | J. Strübig (Uni Bremen) Lateral lamellipodia waves |
| 19:40 – 20:00 | Marcus Hauser Dynamics of frontal extension of an amoeboid cell |
| 20:15 | Dinner |

Tuesday, 18 February

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| 09:00 – 09:35 | J. Negrete (MPI Göttingen) Dynamics of actin cytoskeleton in chemotactic amoeba |
| 09:35 – 09:55 | K. Prabhakara (MPI Göttingen) Excitability-dependent pattern formation |
| 09:55 – 10:15 | S. C. Müller (Uni Magdeburg) Proposed principles of maximum entropy production |
| 10:15 – 10:35 | Coffee break |
| 10:35 – 11:10 | S. Gurevich (Uni Münster) Delayed feed-back control of breathing localized structures in reaction-diffusion systems |
| 11:10 – 11:30 | A. Kraft (Uni Münster) Application and analysis of time-delayed feedback control in the Swift-Hohenberg equation |
| 11:30 – 11:50 | D. Loutchko (FHI Berlin) Tryptophan synthase – kinetic modeling of a chemical nanomachine |
| 11:50 – 12:10 | A. Sarkar (FHI Berlin) Towards synthetic molecular motors: A study of an elastic-network model |
| 12:10 | Closing |
| 12:30 | Lunch |

How to reach the conference site:

Hotel Niedersachsen, Wiesenstr. 12, Goslar, OT Hahnenklee-Bockswiese,
Tel.: 05325/52860
<http://www.hotelniedersachsen.com>

Arrival by train to Goslar, then take the bus **830 to Bockswiese**:

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| 16 February: | Goslar (ZOB) 12.05 h – Bockswiese 12.25 h Goslar (ZOB) 14.05 h – Bockswiese 14.25 h |
| 18 February: | Bockswiese 13.30 h – Goslar (ZOB) 13.50 h Bockswiese 14.30 h – Goslar (ZOB) 14.50 h |

For the complete timetable, see <http://www.rbb-bus.de> or consult
<http://www.bahn.de>