

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

- 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)
Patter 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 *Physarum polycephalum*
- 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

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:**

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>