

Siebzehntes Harzseminar

Strukturbildung in Chemie und Biophysik

Goslar-Hahnenklee (OT Bockswiese), 24 – 26 February 2013

Organizers: Markus Bär, Eberhard Bodenschatz, Marcus Hauser, Ronald Imbihl



Programme

Sunday, 24 February

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| 15:30 – 15:40 | Opening |
| 15:40 – 16:15 | Shigefumi Hata (FHI Berlin):
Oscillatory Turing patterns in network-organized reaction-diffusion systems |
| 16:15 – 16:50 | Benjamin Lindner (HU Berlin):
Mean-field theory for coupled noisy hairbundles |
| 16:50 – 17:10 | coffee break |
| 17:10 – 17:45 | Jakob Löber (TU Berlin):
Analytical approximations for spiral waves |
| 17:45 – 18:05 | Vladimir Zykov (MPI Göttingen):
Between two limits in spiral wave dynamics |
| 18:05 – 18:25 | break |
| 18:25 – 18:45 | Jan Tatz (TU Berlin):
Dynamics of scroll rings in spatial confinement |
| 18:45 – 19:05 | Arash Azhand (TU Berlin):
Evolution of scroll rings in confined geometry under variation of the excitation threshold |
| 19:15 | dinner |

Monday, 25 February

- 09:00 – 09:35 Masotoshi Nishikawa (MPI CBG Dresden):
Oscillatory flow of the actomyosin cortex in *C. elegans* embryo
- 09:35 – 10:10 Werner Baumgarten (Uni Magdeburg):
Genesis and characterization of the vascular network in *Physarum polycephalum*
- 10:10 – 10:30 Sebastian Weise (Uni Magdeburg):
Protoplasmic flow in the tubular veins of *Physarum polycephalum*
- 10:30 – 10:50 coffee break
- 10:50 – 11:25 Adrian Fessel (Uni Bremen):
Physarum polycephalum percolation as a paradigm for topological phase transitions in transportation networks
- 11:25 – 12:00 Claus Fütterer (Uni Leipzig):
Instability of toroids and differential contraction during tissue regeneration
- 12:00 – 12:20 Markus Radszuweit (PTB Berlin):
Cardiac contraction and mechano-electric feedback promotes discordant alternans and block
- 12:30 – 15:30 lunch
- 15:30 – 16:05 Azam Gholami (MPI Göttingen)
Flow-driven instabilities during aggregation of *Dictyostelium discoideum*: Experiments and modelling
- 16:05 – 16:25 Christian Westendorf (MPI Göttingen)
The actin cytoskeleton of chemotactic amoebae operates close to the onset of oscillations
- 16:25 – 16:45 Matthias Gerhardt (Uni Potsdam):
Complex spatiotemporal wave-patterns observed in giant *Dictyostelium discoideum* cells
- 16:45 – 17:05 coffee break
- 17:05 – 17:25 Beatrice Rodiek (Uni Magdeburg):
Spatio-temporal dynamics of plasmodial migration of the slime mould *Physarum polycephalum*
- 17:25 – 17:45 Christoph Blum (MPI Göttingen):
Correlating signaling cascade with movement in *Dictyostelium discoideum*
- 17:45 – 18:05 Brian Utter (MPI Göttingen):
Electrotaxis in *Dictyostelium*
- 18:05 – 18:40 Sebastian Heidenreich (PTB Berlin):
Minimal continuum theories of structure formation in dense active fluids
- 18:45 dinner

Tuesday, 26 February

09:00 – 09:35	Francesc Sagués (Uni Barcelona): Compensation of chiral forces: A proof of concept in self-assembled soft matter
09:35 – 10:10	Steffen Mertens (HU Berlin): Hydrodynamically enforced entropic trapping of Brownian particles
10:10 – 10:45	Alexey Eremin (Uni Magdeburg): Cyclosis-mediated peroxide transfer and the formation dynamics of alkaline patterns in <i>Chara coralline</i> cells
10:45 – 11:05	coffee break
11:05 – 11:40	Sebastian Kirsch (MPI Magdeburg): Experimental investigation of pattern formation in a polymer electrolyte membrane fuel cell (PEMFC) operated with H ₂ CO
11:40 – 12:00	Holger Flechsig (FHI Berlin): Conformational dynamics of membrane transporter proteins
12:00 – 12:20	David Schüler (PTB Berlin): Simulation and weakly nonlinear analysis of pattern formation in multiscale systems
12:20 – 12:35	closing
12:40	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**:

24 February:	Goslar (ZOB) 12.05 h – Bockswiese 12.25 h Goslar (ZOB) 14.05 h – Bockswiese 14.25 h
26 February:	Bockswiese 13.35 h – Goslar (ZOB) 13.55 h Bockswiese 14.35 h – Goslar (ZOB) 14.55 h

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