

Zwanzigstes Harzseminar

Strukturbildung in Chemie und Biophysik

Goslar-Hahnenklee (OT Bockswiese), 21 – 23 Februar 2016

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



Programme

Sunday, 21 February

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| 15:30 – 15:40 | Opening |
| 15:40 – 16:15 | Alexey Eremin (Uni Magdeburg)
Experimental studies of the mobility of iso- and anisometric inclusions in a 2D fluid |
| 16:15 – 16:35 | Sebastian Engelnkemper (Uni Münster)
Sliding Drops - Stationary states and large scale dynamics |
| 16:35 – 16:55 | Ralf Stannarius (Uni Magdeburg)
OASIS - Microgravity experiments with smectic films on the ISS |
| 16:55 – 17:15 | coffee break |
| 17:15 – 17:50 | Jonghyun Lee (Uni Bremen)
Foraging pattern of <i>Physarum polycephalum</i> during starvation |
| 17:50 – 18:10 | Christian Westendorf (MPI Göttingen)
Comparative analyses of plasmodial networks of different slime molds |
| 18:10 – 18:25 | break |
| 18:25 – 18:45 | Adrian Fessel (Uni Bremen)
From interactions to topology: A population dynamics approach to network formation |
| 18.45 – 19.05 | Felix Bäuerle (MPI Göttingen)
Signal propagation and summation in <i>Physarum polycephalum</i> |
| 19:05 – 19:25 | Marcus Hauser (Uni Magdeburg)
Laminar mixing of protoplasm in the network of <i>Physarum polycephalum</i> |
| 19:40 | dinner |

Monday, 22 February

- 09:00 – 09:45 **Featured lecture:**
Ronald Imbihl (Uni Hannover)
Nonlinear dynamics: from single crystals to real catalysis
- 09:45 – 10:05 Tim Smolinsky (Uni Hannover)
Bifurcation diagram and mechanism of wave patterns in catalytic water formation on Rh(111)/Ni
- 10:05 – 10:25 Mathias Homann (Hannover)
Stationary concentration patterns and chemical waves in catalytic water formation on Rh(110)/Ni
- 10:25 – 10:45 **coffee break**
- 10:45 – 11:05 Bernhard von Boehn (Uni Hannover)
Anisotropic growth and wave patterns in catalytic methanol oxidation over Rh(110)/VO_x
- 11:05 – 11:40 Franz-Erich Wolter (Uni Hannover)
Welfenlab – Research overview and Differential geometric methods for examining the dynamics of slow-fast vector fields
- 11:40 – 12:00 Sina Reichelt (WIAS, Berlin)
On periodic homogenization
- 12:10 – 15:30 **lunch**
- 15:30 – 16:05 Lutz Schimansky-Geier (HU Berlin)
Structures in networks with different "take" and "give up"
- 16:05 – 16:25 Justus A. Kromer (HU Berlin)
Emergence of coherent oscillations in star networks of stochastic excitable elements
- 16:25 – 16:45 Jakob Löber (TU Berlin)
Modeling crawling cell motility
- 16:45 – 17:05 **coffee break**
- 17:05 – 17:40 Robert Großmann (PTB Berlin)
Band formation in active particle systems - A pattern formation perspective
- 17:40 – 18:15 Sebastian Heidenreich (PTB Berlin)
Fluid dynamics of dense microswimmer suspensions
- 18:15 – 18:35 **break**
- 18:35 – 19:10 Robert Niedl (Uni Potsdam)
Accelerating nonlinear reactions in a microflow due to imperfect mixing and differential diffusion
- 19:10 – 19:45 Kirsten Harth (Uni Magdeburg)
Granular gases in microgravity
- 19:50 **dinner**

Tuesday, 23 March

09:00 – 09:35	Dirk Kulawiak (TU Berlin) Modelling collisions of cells exhibiting contact inhibition of locomotion
09:35 – 09:55	Lukas Ophaus (Uni Münster) Migrating sheep, travelling crystals - two examples of models for active matter
09:55 – 10:15	Yong Wang (MPI Göttingen) Blood flow patterns and cardiac pump function in human heart
10:15 – 10:35	André Weber (Uni Magdeburg / LIN Magdeburg) Fluorescence lifetime imaging of NAD(P)H dynamics in yeast
10:35 – 10:55	coffee break
10:55 – 11:30	Stefan Weiss (MPI Göttingen) Synchronization of Weakly Coupled BZ-spirals
11:30 – 11:50	Pavel Buran (PTB Berlin) Wave termination in heterogeneous cardiac tissue
11:50 – 12:10	Thomas Niedermayer (PTB Berlin) Defibrillation: Mechanism & optimal protocol
12:10 – 12:20	closing
12:30	lunch

How to reach the conference site:

Hotel Niedersachsen, Wiesenstr. 12, Goslar, OT Hahnenklee-Bockswiese, Tel.: 05325/52860
<http://www.hotel-niedersachsen-harz.de>

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

21 February: Goslar (ZOB) 12.05 h – Bockswiese 12.25 h
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23 February: Bockswiese 13:00 h – Goslar (ZOB) 13:20 h
Bockswiese 13.30 h – Goslar (ZOB) 13.50 h
Bockswiese 14.30 h – Goslar (ZOB) 14.50 h

For the complete timetable, consult <http://www.bahn.de>