

## Zweiundzwanzigstes Harzseminar

# Strukturbildung in Chemie und Biophysik

Goslar-Hahnenklee (OT Bockswiese), 25 – 27 Februar 2018

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



## Programme

### Sunday, 25 February

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|---------------|---|
| 15:30 – 15:40 | Opening   |
| 15:40 – 16:15 | Hans-Günther Döbereiner (Uni Bremen)<br>Of mice and molds   |
| 16:15 – 16:50 | Wolfgang Marwan (Uni Magdeburg)<br>The developmental decision in <i>Physarum polycephalum</i> taken during a walk through the Waddington quasipotential landscape |
| 16:50 – 17:15 | coffee break  |
| 17:15 – 17:35 | Christian Westendorf (MPI DS Göttingen)<br>Oscillatory patterns in different plasmodial slime molds   |
| 17:35 – 18:10 | Jakob Löber (MPI-PKS Dresden)<br>Two-fluid model for crawling cell motility   |
| 18:10 – 18:25 | break   |
| 18:25 – 19:00 | Dirk Kulawiak (TU Berlin)<br>Poroelastic two-phase for moving droplets of <i>Physarum polycephalum</i> with free boundaries                                       |
| 19:00 – 19:20 | Stefan C. Müller<br>Acoustic spiral: Analysis of a Bach prelude   |
| 19:30         | dinner  |

## Monday, 26 February

- 09:00 – 09:35 Pavel Buran (PTB Berlin)  
Mechanism of underdrive low-energy antifibrillation pacing
- 09:35 – 10:10 Alexander Schlemmer (MPI DS Göttingen)  
Complexity fluctuations during ventricular fibrillation
- 10:10 – 10:30 Jan Christoph (MPI DS Göttingen)  
Spatiotemporal dynamics of mechanical phase singularities during
- 10:30 – 10:50 coffee break
- 10:50 – 11:10 Sebastian Berg (MPI DS Göttingen)  
Emergent dynamics in a heterogeneous excitable medium
- 11:10 – 11:45 Felix Bäuerle (MPI DS Göttingen)  
Mass transport facilitated by peristaltic pumping in *Physarum polycephalum*
- 11:45 – 12:05 Tanja Huxoll (Uni Bremen)  
Binary decisions of *Physarum polycephalum*
- 12:10 – 15:30 lunch
- 15:30 – 15:50 Sven Flemming (Uni Potsdam)  
How actin waves drive cells in a keratocyte-like manner
- 15:50 – 16:10 Zarah Alirezai (Uni Potsdam)  
Cell tracking and visualization of flagellar dynamics of a chemotactic soil bacterium
- 16:10 – 16:30 João Ramos (MPI DS Göttingen)  
Dynamic patterns of the plant growth regulator auxin
- 16:30 – 16:55 coffee break
- 16:55 – 17:30 Henning Reinken (TU Berlin)  
Influence of orienting external fields on the dynamics of mesoscale turbulence in microswimmer suspensions
- 17:30 – 17:50 Florian von Rüling (Uni Magdeburg)  
Diffusive dynamics of complex particles in active suspensions of microswimmers
- 17:50 – 18:10 Sebastian Heidenreich (PTB Berlin)  
Continuum modelling of microswimmer suspensions
- 18:30 dinner

## Tuesday, 27 March

09:00 – 09:35	Uwe Thiele (Uni Münster) Dynamics of biofilms
09:35 – 09:55	Merthe Schwachenwalde (Uni Bremen) Dynamics of circular dorsal ruffles: Theory and methods
09:55 – 10:15	Julia Lange (Uni Bremen) Dynamics of circular dorsal ruffles: Velocity and recovery times as a function of cellular state
10:15 – 10:35	Timmy Ly (Uni Münster) Effects of time-periodic forcing in a Cahn-Hilliard model for Langmuir-Blodgett transfer
10:35 – 10:55	coffee break
10:55 – 11:15	Thomas Niedermayer (PTB Berlin) Control of chimera states in arrays of cilia
11:15 – 11:50	Jan Tatz (TU Berlin) Synchronization patterns in large arrays of photosensitive chemical oscillators
11:50 – 12:00	closing
12:10	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**:

25 February: Goslar (ZOB) 12.05 h – Bockswiese 12.25 h  
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27 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>