

Dreiundzwanzigstes Harzseminar

Strukturbildung in Chemie und Biophysik

Goslar-Hahnenklee (OT Bockswiese), 3. – 5. März 2019

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



Programme

Sunday, 3 March

- | | |
|----------------------|---|
| 15:30 – 15:40 | Opening |
| 15:40 – 16:15 | Michael Wilczek (MPI DS Göttingen)
Turbulence as a statistical physics problem |
| 16:15 – 16:35 | Martin James (MPI DS Göttingen)
Superstructures of dynamic vortex arrays in a model for active fluids |
| 16:35 – 16:55 | Missaoui Amine (Uni Magdeburg)
Annihilation of point defect pairs in smectic free-standing film |
| 16:55 – 17:15 | coffee break |
| 17:15 – 17:35 | Christian Westendorf (MPI DS Göttingen)
Complex patterns of cilia orientation and cilia mediated flow from a tissue wide to a cellular scale |
| 17:35 – 18:10 | Raphael Wittkowski (Uni Münster)
Field theories for the collective dynamics of active Brownian particles |
| 18:10 – 18:30 | break |
| 18:30 – 19:05 | Rüdiger Kürsten (Uni Greifswald)
Kinetic theory of self-propelled particles: memory and correlation effects |
| 19:05 – 19:40 | Henning Reinken (TU Berlin)
Self-organization of microswimmers in arrays of obstacles |
| 19:45 | dinner |

Monday, 4 March

- 09:00 – 09:35 Bernhard von Boehn (Uni Hannover)
Dynamics of V-oxide catalysts from UHV to near ambient pressure
- 09:35 – 10:10 Yannick De Decker (ULB Brussels)
Modeling formation and propagation of VO_x islands under reactive conditions
- 10:10 – 10:30 Matthias Homann (Uni Hannover)
Coagulation-wetting mechanism for chemical waves in the O₂ + H₂ reaction on Rh(111)/Ni
- 10:30 – 10:50 coffee break
- 10:50 – 11:25 Fernando Peruani (Université de Nice)
Intermittent behavior across scales in biology
- 11:25 – 12:00 Robert Großmann (Uni Potsdam)
Navigation strategies for active particles and bacterial chemotaxis
- 12:00 – 12:35 Vasco Worlitzer (PTB Berlin)
Continuum model for active polar fluids with density variations
- 12:40 – 15:30 lunch
- 15:30 – 15:50 Josué Nava Seden (TU Dreden)
A lattice-gas model of zero-range velocity alignment
- 15:50 – 16:10 Arndt Kaps (MPI DS Göttingen)
Observability analysis using delay coordinates
- 16:10 – 16:30 Jonas Isensee (MPI DS Göttingen)
Predicting spatio-temporal time series using dimension reduced local states
- 16:30 – 16:50 Timm Fitschen (MPI DS Göttingen)
Managing Chaotic Research Data with CaosDB
- 16:50 – 17:10 coffee break
- 17:10 – 17:30 Setareh Sharifi Panah (Uni Potsdam)
From single to collective microcargo delivery using *D. discoideum* cells
- 17:30 – 18:05 Adrian Fessel (Uni Bremen)
Topological Dynamics of Transport Networks
- 18:05 – 18:25 Noah Ziethen (MPI DS Göttingen)
Fluid flow control on morphological changes in *Physarum polycephalum*
- 18:30 dinner

Tuesday, 5 March

09:00 – 09:35	Sebastian Berg (MPI DS Göttingen) Behaviour of Phase Singularities during Cardiac Fibrillation
09:35 – 09:55	Markus Bär (PTB Berlin) Mechanisms of low energy antiarrhythmic pacing in cardiac tissue from 2D modelling
09:55 – 10:15	Florian Spreckelsen (MPI DS Göttingen) Synchronization of excitable oscillators by matrix-mediated viscoelastic coupling
10:15 – 10:35	Marcus Hauser (Uni Magdeburg) Partial synchronization in yeast cell colonies
#	
10:35 – 10:55	coffee break
10:55 – 11:15	Nico Schrammer (MPI DS Göttingen) Stimulated frequency modulation in <i>Physarum</i> tube contractions
11:15 – 11:35	Lisa Schick (MPI DS Göttingen) Foraging behavior of <i>Physarum polycephalum</i>
11:35 – 11:55	Jonghyun Lee (Uni Bremen) Scaling foraging behaviour of <i>Physarum polycephalum</i>
11:55 – 12:15	Komal Bhattacharyya (MPI DS Göttingen) Memory Capacity of Flow Network
12:15 – 12:20	closing
12:25	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**:

3 March: Goslar (ZOB) 12.05 h – Bockswiese 12.25 h
Goslar (ZOB) 14.05 h – Bockswiese 14.25 h

5 March: 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>