

XXIV Harzseminar

Strukturbildung in Chemie und Biophysik

Goslar-Hahnenklee (OT Bockswiese), 23. – 25. Februar 2020

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

Supported by Berlin Center for the Study of Complex Chemical Systems - BCSCCS e. V.

Programme

Sunday, 23 February

15:30 – 15:40	Opening
15:40 – 16:15	Niklas Manz (College of Wooster) Waves on the tongue
16:15 – 16:35	Christian Westendorf (MPI DS Göttingen) Synchronization of cardiomyocytes in 2D and 3D cell culture
16:35 – 16:55	Markus Bär (PTB Berlin) Mechanism for low energy defibrillation
16:55 – 17:15	coffee break
17:15 – 17:35	Simon Wassing (MPI DS Göttingen) Simulations of current densities in cardiac defibrillation and the influence of electrode positioning
17:35 – 17:55	Justine Wolter (MPI DS Göttingen) Computational study determining the dominant frequency of spiral waves in cardiac tissue
17:55 – 18:15	Roland Stenger (MPI DS Göttingen) Locating excitation sites and spiral waves from multichannel-ECG signals
18:15 – 18:35	break
18:30 – 19:05	Rüdiger Kürsten (Uni Greifswald) Correlation analysis in the study of nonequilibrium phase transition with applications to self-propelled particles
19:05 – 19:25	Lutz Schimansky-Geier (HU Berlin) Demixing of two species with diffusivities dependent on densities: Simulations and analysis
19:25 – 20:00	Isabella Guido (MPI DS Göttingen) Instabilities of active biopolymer-motor protein systems
20:00	dinner

Monday, 24 February

09:00 – 09:35	Arik Yochelis (Ben Gurion University of the Negev) Novel Arnol'd tongue shapes in spatially extended parametrically forced oscillations and their relevance to hearing
09:35 – 09:55	Albert von Kenne (PTB Berlin) Fluid transport by metachronal waves in ciliary chains
09:55 – 10:30	Harald Engel (TU Berlin) Collective dynamics in networks of strongly coupled relaxation oscillators
10:30 – 10:50	coffee break
10:50 – 11:25	Oleh Omelchenko (Uni Potsdam) Local order parameters and their application for reconstruction of phase models
11:25 – 12:00	Benjamin Friedrich (TU Dresden) Fertilization in the sea: sperm chemotaxis in physiological shear flows
12:00 – 12:35	Robert Großmann (Uni Potsdam) Chemotaxis strategies of bacteria with multiple run modes
12:40 – 15:30	lunch
15:30 – 15:50	Sebastian Heidenreich (PTB Berlin) Continuum model for bacterial suspensions with density variations
15:50 – 16:10	Merthe Schwachenwald (Uni Bremen) Experimental characterization and theoretic modeling of circular dorsal ruffles
16:10 – 16:45	Frank Endres (TU Clausthal-Zellerfeld) The interface electrode/electrolyte in ionic liquids and its influence on the deposition of materials
16:45 – 17:05	Ralf Stannarius (Uni Magdeburg) Marangoni flow in thin fluid free-standing films
17:05 – 17:25	Simon Hartmann (Uni Münster) Gradient dynamics model for drops spreading on polymer brushes
17:25 – 17:45	coffee break
17:45 – 18:05	Kirsten Harth (Uni Magdeburg) Dynamic wrinkling of thin fluid films
18:05 – 18:40	Uwe Thiele (Uni Münster) Thin film models of active droplets
18:40 – 19:00	Tobias Frohoff-Hülsmann (Uni Münster) Time periodic behavior in coupled Cahn-Hilliard type dynamics of two conserved order parameter fields
19:00 – 19:20	Patricia Pfeiffer (Uni Magdeburg) Structures in merging soap bubbles and why surfactant matters
19:30	dinner

Tuesday, 25 February

09:00 – 09:35	Julian Rode (TU Dresden) Body axis formation in planarian
09:35 – 09:55	Adrian Fessel (Uni Bremen) Relation between long- and short-time wave dynamics in <i>Physarum polycephalum</i>
09:55 – 10:30	Björn Kscheschinski (MPI DS Göttingen) Calcium as a key regulator in <i>Physarum polycephalum</i>
10:30 – 10:50	Siyu Chen (MPI DS Göttingen) The effect of blue light on <i>Physarum polycephalum</i> cytoplasm flow for different topologies
10:50 – 11:10	coffee break
11:10 – 11:30	Sven Flemming (Uni Potsdam) How cortical waves drive fission of motile cells
11:30 – 12:05	Marcel Hörning (Uni Stuttgart) Spatiotemporal fluctuation analysis of lipid dynamics on the entire Dictyostelium plasma membrane
12:05 – 12:25	Ted Moldenhawer (Uni Potsdam) A new approach to spatiotemporal cell contour tracking.
12:25 – 13:00	Benjamin Winkler (PTB Berlin) 3D phase field model for cell motility
13:00 – 13:05	closing
13:10	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:

23 February:	Goslar (ZOB) 12.05 h – Bockswiese 12.25 h Goslar (ZOB) 14.05 h – Bockswiese 14.25 h
25 February:	Bockswiese 13.30 h – Goslar (ZOB) 13.50 h Bockswiese 14.30 h – Goslar (ZOB) 14.50 h Bockswiese 15.30 h – Goslar (ZOB) 15.50 h

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