

Nonequilibrium Dynamics of Micro- and Nanoparticles: Theory & Experiment

815. WE-Heraeus-Seminar

09 – 12 June 2024

at the Physikzentrum Bad Honnef, Germany

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 09 June 2024

17:00 – 21:00 Registration

18:00 *BUFFET SUPPER and informal get-together*

Monday, 10 June 2024

08:00 *BREAKFAST*

08:45 – 09:00 Scientific organizers **Official Opening**

09:00 – 09:45 Hartmut Löwen **Nonequilibrium dynamics of active
colloids and polymers**

09:45 – 10:30 Marjolein Dijkstra **From active Brownian spheres towards
intelligent active polymers**

10:30 – 10:35 **Conference photo** (in the front of the lecture hall)

10:35 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Cynthia Reichhardt **Characterizing phase separation and
critical behavior in active and driven
matter with machine learning and noise
power**

11:45 – 12:30 Matthias Schmidt **Particles, functionals and symmetries**

12:30 *LUNCH*

Program

Monday, 10 June 2024

14:00 – 14:45	Tetsuro Tsuji	Thermal force and hydrodynamic interaction characterized by optical force acting on micro- and nanoparticles
14:45 – 15:30	Pavel Zemánek	Nonequilibrium dynamics of levitated nanoparticles
15:30 – 16:00	<i>COFFEE BREAK</i>	
16:00 – 18:30	Poster Flash Presentation and Poster Session	
18:30	<i>DINNER</i>	

Program

Tuesday, 11 June 2024

08:00 *BREAKFAST*

09:00 – 09:45 Clemens Bechinger **Brownian particles in nonequilibrium baths**

09:45 – 10:30 Roel Dullens **Geometric origin of particle and dislocation dynamics during grain boundary migration**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Alice Thorneywork **Interpreting fluctuations in a colloidal current**

11:45 – 12:30 František Slanina **Hydrodynamic description of dense driven colloidal mixtures in narrow pores**

12:30 *LUNCH*

Program

Tuesday, 11 June 2024

14:00 – 14:45	Anatoly Kolomeisky	Symmetry breaking of forward/backward transition times of single particles is determined by crowding, deviations from equilibrium and method of measurements
14:45 – 15:30	Yilong Han	Premelting-like phenomena in colloidal crystals and glasses
15:30 – 16:00	<i>COFFEE BREAK</i>	
16:00 – 16:45	Yael Roichman	The benefit of many stochastic searchers
16:45 – 17:00	Stefan Jorda	About the Wilhelm and Else-Heraeus-Foundation
17:00 – 18:30	<i>Free</i>	
18:30	<i>HERAEUS DINNER</i> <i>(Cocial event with cold & warm buffet and complimentary drinks)</i>	
	Meeting with C. Kuttner, Senior Editor of Nature Communications	

Program

Wednesday, 12 June 2024

08:00 *BREAKFAST*

09:00 – 09:45 Pietro Tierno **Emergent colloidal currents generated via exchange dynamics in a broken dimer state**

09:45 – 10:30 Sabine Klapp **Self-assembly and self-organization in nonreciprocal anisotropic systems**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Frank Cichos **Feedback controlled active particles and liquids**

11:45 – 12:30 Viktor Holubec **Delayed active matter**

12:30 – 13:00 Scientific organizers **Poster Prize Ceremony and Closing**

13:00 *LUNCH*

End of the seminar and departure

NO DINNER for participants leaving on Thursday; however, a self-service breakfast will be provided on Thursday morning