

From Soft Matter to Biophysics 2025

French-German WE-Heraeus-Seminar

16 – 21 February 2025

at the École de Physique des Houches,
France

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 16 February 2025

from 15 :00 Registration

Monday, 17 February 2025

07:45	<i>BREAKFAST</i>	
08:30 – 08:45	Organizers	Opening Remarks
08:45 – 09:00	Stefan Jorda	About the Wilhelm and Else Heraeus Foundation
09:00 – 09:40	Friedrich Simmel	DNA origami super-assemblies
09:40 – 10:20	Isabelle Eisenmann	Drops, branches, pearls and waves in phototactic micro-algae
10:20 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:40	Franziska Lautenschläger	The Cytoskeleton of Circulating Tumor Cells
11:40 – 12:20	Heiko Rieger	Centrosome positioning in cell migration and immune response
12:30 – 14:00	<i>LUNCH</i>	
14:00 – 17:20	Time for discussion – free afternoon	
17:20 – 18:00	Paul Robin	The coordinative role of cellular packing and osmosis in robustness of intestinal morphogenesis
18:00 – 19:00	Flash Talks (posters)	
19:00 – 20:30	<i>WELCOME DRINKS and DINNER</i>	

Program

Tuesday, 18 February 2025

07:45	<i>BREAKFAST</i>	
09:00 – 09:40	Massimo Vergassola	Cytoplasmic Mechanics during the Fly Embryonic Development
09:40 – 10:20	Sebastian Fürthauer	Synchronization driven flows in bulk and on surfaces
10:20 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:40	Sarah Köster	High strains in biology: from single filaments to networks and cells
11:40 – 12:20	Madan Rao	Activating Epithelia
12:30 – 14:00	<i>LUNCH</i>	
14:00 – 17:20	Time for discussion – free afternoon	
17:20 – 19:30	Poster Session	
19:30 – 20:30	<i>DINNER and free evening</i>	

Program

Wednesday, 19 February 2025

07:45	<i>BREAKFAST</i>	
09:00 – 09:40	Gasper Tkacik	Crosstalk constraints on gene regulatory networks
09:40 – 10:20	Iliya Stoev	Microrheology of sequence-programmable and mechanically tunable DNA hydrogels
10:20 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:40	Chase Broedersz	Learning the dynamics of collective cell migration
11:40 – 12:20	Christina Kurzthaler	Bacteria in motion: from run-and-tumble dynamics to surface interactions
12:30 – 14:00	<i>LUNCH</i>	
14:00 – 17:20	Time for discussion – free afternoon	
17:20 – 18:00	Gaurau Gardi	Perturbing Dynamics of Active Emulsions and Their Collectives
18:00 – 18:40	Denis Bartolo	Collective chiral oscillations in dense crowds
18:40 – 19:20	Laura Heinen	Synthetic Syntrophy between Metabolically Active Vesicles
19:30 – 20:30	<i>DINNER and free evening</i>	

Program

Thursday, 20 February 2025

07:45	<i>BREAKFAST</i>	
09:00 – 09:40	Peter Sollich	Intermittency, avalanches and aging in extremely persistent active matter
09:40 – 10:20	Kim Lara Kreienkamp	Symmetry breaking in active non-reciprocal systems
10:20 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:40	Andrea Liu	Life with individually adjustable interactions
11:40 – 12:20	Carl Goodrich	The hidden architecture of self-assembly
12:30 – 14:00	<i>LUNCH</i>	
14:00 – 17:20	Time for discussion – free afternoon	
17:20 – 18:00	Paul Baconnier	Writing and erasing multiple mechanical memories
18:00 – 18:40	Julien Tailleur	Self-organization of motile active matter through mediated, random, and non-reciprocal interactions
18:40 – 19:20	Andreas Ehrmann	Controlled energy exchange in self-assembled nanomachines
19:30 – 20:30	<i>DINNER and free evening</i>	

Program

Friday, 21 February 2025

07:45	<i>BREAKFAST</i>	
09:00 – 09:40	Virgile Viasnoff	How do cells attach to one another?
09:40 – 10:20	Yutin Irene Li	Emergent dynamics of active elastic microbeams
10:20 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:40	Julien Heuvingh	Wool-like Elasticity of Actin Filament Networks in Reconstituted Systems and Animal Cells
11:40 – 12:20	Amelie Banc	Soft matter approaches of a unique food protein network: gluten
12:30 – 14:00	<i>LUNCH</i>	
End of the seminar and departure		