

Workshop on  
“Transport Properties in Soft Matter Systems”

April 2 - 5, 2024

organized by

Laura Alvarez (U Bordeaux), Olekandr Chepizhko (U of Vienna), Vittoria Sposini (U of Vienna)

• **Tuesday, April 2nd, 2024**

12:00 – 14:00 **Registration**

14:00 – 14:15 **Workshop Presentation**

14:15 – 15:00 **Thomas Salez (CNRS)**

*Brownian motion at interfaces*

15:00 – 15:30 **Sophie Marbach (CNRS, Paris)**

*The Countoscope: Measuring Dynamics by Counting Particles in Boxes*

15:30 – 16:00 **Ralf Metzler (U of Potsdam)**

*Heterogeneity, long-range dependence, and ageing in stochastic motion*

16:00 – 18:00 **Welcome drinks / snacks**

*Common Room*

• **Wednesday, April 3rd, 2024**

09:00 – 09:30 **Agnes Wylomanska (UST Wroclaw)**

*How to distinguish fractional Brownian motion with random and constant Hurst exponent – quadratic form statistics-based approach*

09:30 – 10:00 **Gianni Pagnini (BCAM, Bilbao)**

*First-passage time densities for non-Markovian uncoupled continuous-time random walks and the universality of the Sparre Andersen theorem*

10:00 – 10:30 **Roberto Cerbino (U of Vienna)**

*Reciprocal space analysis unveils Brownian yet non-Gaussian diffusion in hard-sphere glasses*

10:30 – 11:00 **Coffee Break**

11:00 – 11:30 **Sarah Loos (U Cambridge)**

*Emergence of collective currents and irreversible fluctuations in nonreciprocal binary mixtures*

11:30 – 12:00 **Diego Krapf (CSU, Fort Collins)**

*MEASURING AND MODELING HETEROGENEOUS DIFFUSION IN LIVING CELLS*

12:00 – 12:30 **Giovanni Volpe (U Gothenburg)**

*The 2nd Anomalous Diffusion Challenge*

12:30 – 14:30 **Lunch Break**

14:30 – 15:00 **Daniela Kraft (Leiden U)**

*Active particles with anisotropic shape and flexibility*

15:00 – 15:30 **Andela Saric (ISTA, Klosterneuburg)**

*Non-equilibrium processes that split and merge cells across evolution*

15:30 – 15:45 **Short Coffee Break**

15:45 – 16:15 **Christina Kurzthaler (PKS-MPG)**

*Characterizing the swimming gait of bacteria*

16:15 – 16:45 **Sujit Datta (Princeton U)**

*Sticking together: How bacterial collectives (re)shape themselves  
- online*

17:00 – 19:00 **Poster Session**

*Blackboard Hallway*

- **Thursday, April 4th, 2024**

09:00 – 09:30 **Chantal Valeriani (Complutense University of Madrid)**

*Discovering dynamic laws from observations: the case of self-propelled, interacting colloids*

09:30 – 10:00 **Jae-Hyung Jeon (Postech, Pohang)**

*Active trapped-and-hopping diffusion in polymer complexes*

10:00 – 10:30 **Lucio Isa (ETH Zurich)**

*Designing Active Particles: From Optical Control to Shape Adaptation*

10:30 – 11:00 **Coffee Break**

11:00 – 11:30 **Nina Kravets (LOMA, CNRS)**

*Topological structuring of thermotropic liquid crystals using structured magnetic field*

11:30 – 12:00 **Holger Stark (TU Berlin)**

*Controlling and designing active flow*

12:00 – 12:30 **Alfredo Sciortino (CEA, ESPCI)**

*Microtubules as Maxwell's demons: transport-based phase-separation of a binary motor mixture and microtubules.*

12:30 – 14:30 **Lunch Break**

14:30 – 15:00 **Laura Scalfi (FUB)**

*Generalized Langevin Equations to analyze MD simulations*

15:00 – 15:30 **Andreas Zöttl (U of Vienna)**

*Active transport of squirmers in explicitly modeled polymeric and filamentous solutions*

15:30 – 15:45 **Short Coffee Break**

15:45 – 16:15 **Hamid Kellay (LOMA, CNRS)**

*Activity induced rigidity of liquid droplets.*

16:15 – 16:45 **Hartmut Löwen (Universität Düsseldorf)**

*Transport and dynamics of active polymers and microgels*

17:00 – 18:00 **Round Table**

*Common Room*

18:30 – 22:00 **Social Dinner**

- **Friday, April 5th, 2024**

09:00 – 09:30 **Stefania Melillo (ICS, CNR)**

*Are field data really crucial for the study of collective behavior?*

09:30 – 10:00 **Nicolas Bain (UCB Lyon)**

*Dynamic response and hydrodynamics of polarized crowds*

10:00 – 10:30 **Demian Levis (U Barcelona)**

*Driven and self-driven transport in model active systems*

10:30 – 11:00 **Coffe Break**

11:00 – 11:30 **Liesbeth Janssen (TU Eindhoven)**

*Glassy dynamics of active matter*

11:30 – 12:00 **Fernando Peruani (U of Cergy-Pontoise)**

*Transport properties in intermittent active matter*

12:00 – 12:30 **Concluding remarks**

**All talks take place at ESI Boltzmann Lecture Hall!**