

Probing out-of-equilibrium soft matter

University of Fribourg, Department of Physics, Switzerland

Friday, 22. October 2021

8:45 – 9:00 **Welcome**

9:00 – 10:20 **Session 1: Glasses and jammed soft matter**

Chair: Joseph Brader, University of Fribourg, Switzerland

9:00 – 9:20 Eric Weeks, Emory University, United States

Rheology finds distinct glass and jamming transitions in emulsions

9:20 – 9:40 Luca Cipelletti, University of Montpellier, France

To be (linear) or not to be (linear)? Mucus dynamics under strain

9:40 – 10:00 George Petekidis, University of Crete, Greece

High frequency rheology interrogating cage formation and dynamics in hard sphere glasses

10:00 – 10:20 Giuseppe Foffi, University Paris-Sud, France

Strong and fragile glasses undergoing cyclical deformation: yielding, annealing and structural evolution

10:20 – 10:50 **Coffee break**

10:50 – 12:10 **Session 2: From self-assembly to rheology – Part I**

Chair: Thomas Gibaud, University of Lyon, France

10:50 – 11:10 Jennifer McManus, University of Bristol, United Kingdom

Protein phase behavior; Moving beyond globular proteins

11:10 – 11:30 Jan Vermant, ETH Zurich, Switzerland

Exploiting (normally boring) viscoplasticity to direct assembly using flow

11:30 – 11:50 Laurence Ramos, University of Montpellier, France

Rheology of model gluten gels

11:50 – 12:10 Peter Fischer, ETH Zurich, Switzerland

Slime for defense – Biophysical design principles in a marine environment

12:10 – 13:40 **Lunch**

13:40 – 14:50 **Session 3: Interfaces and surfaces**

Chair: Joaquim Clara-Rahola, KHN Capital Consulting

13:40 – 14:00 Alberto Fernández-Nieves, Universitat de Barcelona, Spain

Physics of fire ants

14:00 – 14:20 Anniina Salonen, Université Paris-Sud, France

Viscoelastic coarsening in quasi 2D foam

14:20 – 14:40 Lucio Isa, ETH Zurich, Switzerland

Marangoni Microswimmers

14:40 – 14:50 Christophe Penot, directeur MRT SA, Michelin, Switzerland

14:50 – 16:00 **Coffee break and cake**

16:00 **Excursion and dinner**

Saturday, 23. October 2021

9:00 – 10:20 **Session 4: Non-equilibrium statistical physics of complex fluids**

Chair: Thibaut Divoux, ENS Lyon, France

9:00 – 9:20 Luis Rojas-Ochoa, Instituto Politécnico Nacional, México

Influence of volume transition on the effective interactions among charged microgels

9:20 – 9:40 Ramón Castañeda-Priego, University of Guanajuato, México

From colloidal aggregation to glassy dynamics

9:40 – 10:00 François Lavergne, University of Fribourg, Switzerland

Delayed elastic and ageing creep response of foams

10:00 – 10:20 Paolo de los Rios, EPF Lausanne, Switzerland

The intrinsic non-equilibrium nature of thermophoresis

10:20 – 10:50 **Coffee break**

10:50 – 11:50 **Session 5: From self-assembly to rheology – Part II**

Chair: Marcela Alexander, Arla Foods, Denmark

10:50 – 11:10 Jim Harden, University of Ottawa, Canada

Rheo-XPCS studies of soft glassy colloidal suspensions

11:10 – 11:30 Giuliano Zanchetta, University of Milan, Italy

Yield stress in a flash: nonlinearity and yielding in soft materials

11:30 – 11:50 Marco Caggioni, P&G, United States

Three component model for the rheology of soft glassy materials

11:50 – 13:30 **Lunch**

13:30 – 14:50 **Session 6: Spatio-temporal probing of soft matter**

Chair: Joachim Kohlbrecher, Paul Scherrer Institute, Switzerland

13:30 – 13:50 Various friends

Video messages

13:50 – 14:10 David Weitz, Harvard University, United States

Dynamic speckle holography and colloidal gels, revisited

14:10 – 14:30 Suliana Manley, EPF Lausanne, Switzerland

Biophysical insights and mysteries into mitochondrial dynamics

14:30 – 14:50 Fabio Giavazzi, University of Milan, Italy

Probing the dynamics of soft matter through turbid media

14:50 – 15:30 **Coffee break**

15:30 – 16:30 **Session 7: Designing soft materials**

Chair: Hans Wyss, Eindhoven University of Technology, Netherlands

15:30 – 15:50 David Pine, New York University, United States

Thermally-driven structural transitions with DNA-coated colloids

15:50 – 16:10 Ilja Voets, Eindhoven University of Technology, Netherlands

Polymers at cool interfaces. Ice growth inhibition by natural and engineered ice-binders.

16:10 – 16:30 Eric Dufresne, ETH Zurich, Switzerland

Living Droplets Get to Work

16:30 – 18:30 **Wine and snacks**