

## Out-of-Equilibrium Physics

ENS Lyon

Amphithéâtre Schrödinger

### Wednesday June 19th

- 9h00 Registration
- 10h20 Opening Ceremony
- 10h30 **R. Livi** (Florence, Italy) *Anomalous effects in relaxation and transport processes.*
- 11h00 **S. Ruffo** (Florence, Italy) *Long-range interactions: hints for thoughtful experiments.*
- 11h30 **S. Fauve** (Paris, France) *Large scale dynamics over a turbulent background.*
- 12h00 **L. Bellon** (Lyon, France) *Noise hopefully.*
- 12h45 Lunch
- 14h00 Visit of the laboratory
- 15h30 **J.-L. Barrat** (Grenoble, France) *Jamming, correlations and viscosity divergence in a model athermal suspension.*
- 16h00 **I. Procaccia** (Rehovot, Israël) *The physics of plasticity in amorphous solids.*
- 16h30 Coffee Break
- 17h00 **F. Ritort** (Barcelona, Spain) *Nonequilibrium fluctuations in small systems: from physics to biology.*
- 17h30 **F. Chilla** (Lyon, France) *Lagrangian measurements in turbulent thermal convection.*
- 17h50 **J. Rajchenbach** (Nice, France) *New types of large amplitude waves.*
- 18h30 Welcome Drink

### Thursday June 20th

- 9h00 **Y. Pomeau** (Tucson, Arizona, USA) *Tension and breaking in solids.*
- 9h30 **A. Garcimartín** (Pamplona, Spain) *Clogging: from grains to active matter.*
- 10h00 **L. Vanel** (Lyon, France) *Unstable crack dynamics and crack paths.*
- 10h30 Coffee Break
- 11h00 **P. Coullet** (Nice, France) *Localized and Phyllotaxis Patterns.*
- 11h30 **D. Lacoste** (Paris, France) *Dissipation in simple non-equilibrium model systems.*
- 11h50 **A. Naert** (Lyon, France) *Energy exchange with a granular gas.*
- 12h10 **F. Ladieu** (Saclay, France) *Nonlinear responses in supercooled liquids close to the glass transition.*
- 12h45 Lunch
- 14h00 **Y. Couder** (Paris, France) *A classical wave-particle association submitted to a central force.*
- 14h30 **P. Holdsworth** (Lyon, France) *Onsager's Wien effect: the out of equilibrium physics of a weak electrolyte.*
- 15h00 **F. Daviaud** (Saclay, France) *Chaos in turbulence?*
- 15h20 **F. Bouchet** (Lyon, France) *Instantons and non-equilibrium statistical mechanics of bistable turbulent flows.*
- 15h40 **M. Bandi** (Okinawa, Japan) *Shock-driven jamming and periodic fracture at particulate interface.*
- 16h00 Coffee Break
- 16h30 **P. Manneville** (Palaiseau, France) *On the transition to turbulence via spatiotemporal intermittency.*
- 17h00 **L. Bocquet** (Lyon, France) *Fluid transport at the nanoscales and blue energy harvesting.*
- 17h30 **T. Arecchi** (Firenze, Italy) *Quantum synchronization and fast memory retrieval.*
- 20h00 Banquet

### Friday June 21st

- 9h00 **E. Cohen** (New-York, USA) *On the nature of the transition between equilibrium and non-equilibrium systems.*
- 9h30 **U. Seifert** (Stuttgart, Germany) *Stochastic thermodynamics of information processing.*
- 10h00 **K. Gawedzki** (Lyon, France) *Landauer principle and optimal mass transport.*
- 10h30 Coffee Break
- 11h00 **A. Politi** (Florence, Italy) *Transport phenomena in systems with two conservation laws.*
- 11h30 **A. Imparato** (Aarhus, Denmark) *Efficiency of molecular machines at maximum power.*
- 11h50 **B. Fernandez** (Marseille, France) *Spontaneous Symmetry Breaking in Expanding Coupled Map Lattices.*
- 12h10 **S. Santucci** (Lyon, France) *Intermittency of fluid imbibition in disordered media.*
- 12h45 Lunch
- 14h00 **S. Joubaud** (Lyon, France) *Parametric subharmonic instability and mixing in stratified fluid.*
- 14h30 **E. Charlaix** (Grenoble, France) *High pressure cavitation of confined water.*
- 15h00 **J. Kurchan** (Paris, France) *Stochastic perturbation of integrable systems.*
- 15h30 **J.-F. Pinton** (Lyon, France) *Lagrangian particle dynamics.*
- 16h00 End of the conference

### List of Posters

- A. Berut** (Lyon, France) Generalised Jarzynski Equality applied to Landauer Erasure Procedure.
- J.-F. Boudet** (Bordeaux, France) *Unstable blast shocks in dilute granular flows.*
- J. Deseigne** (Lyon, France) *Experimental evidence of a generalized fluctuation-dissipation relation in a liquid crystal near a critical point.*
- A. Fedorenko** (Lyon, France) *Effect of disorder on 2D topological merging transition from a Dirac semi-metal to a normal insulator.*
- T. Gibaud** (Lyon, France) *A new twist in self assembly.*
- R. Gomez-Solano** (Stuttgart, Germany) *Stochastic thermodynamics of colloidal monolayers driven across periodic substrates.*
- J. Laurent** (Lyon, France) *Mesure de force capillaire par sonde AFM fibrée.*
- M. Leocmach** (Lyon, France) *Effect of a real world size distribution on the heterogeneous crystallisation of hard sphere colloids.*
- D. Lopes Cardozo** (Lyon, France) *Monte-Carlo computation of the critical Casimir force in 3D Ising model.*
- P. Marcq** (Paris, France) *Stochastic wound closure dynamics.*
- S. Miralles** (Lyon, France) *Hydrodynamic bistability explores two dynamo branches.*
- M. Ribezzi** (Barcelona, Spain) *Fluctuation theorems and entropy production in a dual trap optical tweezers setup.*
- J. Scheibert** (Lyon, France) *Understanding fast macroscale fracture from microcrack post-mortem patterns.*
- A. Yedjour** (Oran, Algérie) *Long-range correlation for weak disorder.*