



**SOLVAY WORKSHOP ON
NONEQUILIBRIUM & NONLINEAR PHENOMENA IN STATISTICAL MECHANICS
Programme (11 - 13 July 2016)**

MONDAY 11 JULY

8:30 9:00 Registration

Chair: Pierre Gaspard

9:00 9:15 *Welcome and introductory speech by Grégoire Nicolis*

9:15 9:50 Mehran Kardar
Non-equilibrium fluctuation-induced forces

9:50 10:25 Anna Maciolek
Emergent long-range couplings in arrays of fluid cells

10:25 11:00 Friederike Schmid
Non-equilibrium self-assembly of polymeric nanoparticles in flow

11:00 11:30 **COFFEE BREAK**

11:30 12:05 Herbert Spohn
Universal distributions for growing interfaces in one dimension

12:05 12:40 Annette Zippelius
Dense Granular flow of frictional particles

12:40 14:15 **LUNCH**

Chair: Herbert Spohn

14:15 14:50 Bernard Derrida
Current fluctuations in non-equilibrium diffusive systems

14:50 15:25 Udo Seifert
Universal features of NESS-fluctuations of single molecules and small networks

15:25 16:00 Massimiliano Esposito
Dynamics and thermodynamics of open chemical reaction networks

16:00 16:30 **COFFEE BREAK**

16:30 17:05 Miguel Rubi
Far-from-equilibrium activated processes

17:05 17:40 Itamar Procaccia
Mechanical yield to plastic flow in amorphous materials

TUESDAY 12 JULY

Chair: Jan Danckaert

- 9:15 9:50 Jürgen Kurths
Quantifying stability in complex networks : From linear to basin stability
- 9:50 10:25 Maxi San Miguel
Transitions in networks co-evolution dynamics
- 10:25 11:00 Raul Toral
Macroscopic effects in heterogeneous stochastic systems
- 11:00 11:30 COFFEE BREAK
- 11:30 12:05 Tsvi Tlusty
Proteins as learning amorphous matter: dimension and spectrum of the genotype-to-phenotype maps
- 12:05 12:40 Vijay Balasubramanian
Adaptive Molecular Sensing
- 12:40 12:50 GROUP PHOTO
- 12:50 14:15 LUNCH

Chair: Massimiliano Esposito

- 14:15 14:50 Theo Geisel
Caustics in random media: Universal properties on many scales
- 14:50 15:25 Rosemary Harris
Fluctuations in stochastic systems with memory
- 15:25 16:00 David Lacoste
Thermodynamic constraints on the equilibrium fluctuations of an order parameter
- 16:00 16:30 COFFEE BREAK
- 16:30 17:05 Giovanni Gallavotti
SRB: Interpretation, simulations
- 17:05 17:40 Valerio Lucarini
Response and Fluctuations in Climate Science
- 19:30
Banquet at « La Maison du Cygne »

WEDNESDAY 13 JULY

Chair: Mahendra Verma

- 9:15 9:50 Jean-Pierre Eckmann
Hamiltonian chains with dissipation
- 9:50 10:25 Linda Reichl
Arnold diffusion in a driven optical lattice
- 10:25 11:00 David H. Wolpert
Extending Landauer's bound from bit erasure to arbitrary computation
- 11:00 11:30 COFFEE BREAK
- 11:30 12:05 Antonio Politi
Transport phenomena in one-dimensional systems
- 12:05 12:40 Eric Lutz
Irreversibility and the arrow of time in a quenched quantum system
- 12:40 14:15 LUNCH

Chair: Daniel Alonso

- 14:15 14:50 Peter Reimann
Typical fast thermalization processes in closed many-body systems
- 14:50 15:25 Felipe Barra
Thermodynamics of boundary driven open quantum systems
- 15:25 16:00 Tanja Schilling
Pacman has a new exponent
- 16:00 16:30 COFFEE BREAK
- 16:30 17:05 Lutz Schimansky-Geier
Stochastic models of self-propelled particles
- 17:05 17:25 *Closing*