

International Conference
"WORK, DISSIPATION, AND FLUCTUATIONS IN NONEQUILIBRIUM PHYSICS"

Université Libre de Bruxelles
Blvd du Triomphe, Campus Plaine, NO building, 5th level, Solvay auditorium
22-25 March 2006

Programme

Wednesday, March 22th 2006

- 8h30- 9h30 *Registration*
9h30- 9h50 *Welcome and opening address*
9h50-10h30 C. Jarzynski Microscopic reversibility, macroscopic irreversibility, and nonequilibrium work theorems
10h30-11h10 F. Ritort The nonequilibrium thermodynamics of small systems
11h10-11h40 *Coffee break*
11h40-12h20 D. J. Evans The fluctuation and nonequilibrium free energy theorems – Theory & experiment
12h20-12h40 C. Van den Broeck Fluctuation and dissipation: Three case studies

12h40-14h30 *Lunch*

14h30-15h10 K. Kinoshita Chemo-mechanical energy transduction in a rotary molecular motor F_1 -ATPase
15h10-15h40 G. Hummer Thermodynamics and kinetics from nonequilibrium single-molecule pulling experiments
15h40-16h10 R. Coalson Calculating ion permeation through biological channel proteins
16h10-16h40 *Coffee break*
16h40-17h10 R. Kawai From Brownian motor to Brownian refrigerator
17h10-17h40 K. Sekimoto Autonomous free energy transducers under thermal fluctuations

Thursday, March 23th 2006

- 9h30-10h10 E. G. D. Cohen Fluctuation relations in nonequilibrium driven Langevin systems
10h10-10h50 S. Ciliberto Experimental results on the fluctuations in out-of-equilibrium systems
10h50-11h10 *Group photo*
11h10-11h30 *Coffee break*
11h30-12h10 B. Derrida Some exact results on the current and density fluctuations in one dimensional non-equilibrium systems
12h10-12h40 C. Maes Nonequilibrium ensembles

12h40-14h30 *Lunch*

14h30-15h00 S. Mukamel Fluctuation theorems in quantum systems
15h00-15h30 S. Tasaki On quantum fluctuation theorem
15h30-15h50 D. Alonso Atoms in non-Markovian environments
15h50-16h10 W. De Roeck Rigorous effective expressions for microscopic fluctuations
16h10-16h40 *Coffee break*
16h40-17h00 T. Monnai Decay to the nonequilibrium steady state of thermal diffusion process in a tilted periodic potential
17h00-17h20 T. Gilbert Fluctuation theorem applied to the Nosé-Hoover thermostated Lorentz gas
17h20-17h40 A. Gomez Marin Heat fluctuations in Brownian transducers

Friday, March 24th 2006

9h30-10h00 U. Seifert Entropy production along a stochastic trajectory
10h00-10h30 C. Appert-Rolland Systems with Markov dynamics: Thermodynamic formalism and dynamic entropies
10h30-10h50 P. Gaspard Entropy production and time asymmetry in dynamical randomness
10h50-11h10 *Coffee break*
11h10-11h40 F. van Wijland Power injected in a heated granular gas
11h40-12h10 R. van Zon Short-time fluctuations of displacements and work
12h10-12h50 G. Gallavotti TBA

12h50-14h30 *Lunch*

14h30-15h00 G. Crooks Beyond Boltzmann-Gibbs statistics: Maximum entropy hyperensembles out-of-equilibrium
15h00-15h30 J. Kurchan Mapping reaction paths in phase space
15h30-16h00 C. Dellago The Jarzynski identity as a computational tool
16h00-16h30 L. Peliti Evaluating large-deviation functions
16h30-17h00 *Coffee break*

17h00-19h30 *Poster session*

20h00 *Banquet*

Saturday, March 25th 2006

9h30-10h10 H. van Beijeren TBA
10h10-10h40 G. Morriss Lyapunov exponents and vectors
10h40-11h10 *Coffee break*
11h10-11h40 H. A. Posch On thermostats and negative specific heat
11h40-12h00 A. Fingerle Relativistic fluctuation theorems
12h00-12h30 R. MacKay Ergodic pumping: a mechanism to drive biomolecular conformation changes
12h30-12h50 *Closing remarks*

12h50-14h30 *Lunch*