



Rare Events in High-Dimensional Systems

February 23 – 27, 2009

ORGANIZING COMMITTEE: **Giovanni Ciccotti** (Universit`a di Roma I “La Sapienza”), **Kristen Fichthorn** (Penn State University), **Ionnis Kevrekidis** (Princeton University), **Christof Schütte** (Free University of Berlin), **Eric Vanden-Eijnden** (Courant Institute), **Arthur Voter** (Los Alamos National Laboratory)

Scientific Overview

The dynamics of condensed materials typically involves a wide range of time scales. Of particular difficulty is describing rare- event dynamics, which occur, for example in conformation changes of macromolecules, nucleation events during first-order phase transitions, chemical reactions in solution and on surfaces, transport in and on solids, and genetic switches displaying bistable behavior. Quantifying the rates and mechanisms of these rare events is a significant theoretical and computational challenge, especially in systems with high dimensionality. The objective of this workshop is to address these issues, involving perspectives from mathematicians, chemists, physicists, and engineers.

Confirmed Speakers

Gerard Barkema (University of Utrecht), **Gerard Ben Arous** (Courant Institute), **Peter Bolhuis** (Universiteit van Amsterdam), **Sara Bonella** (University of Rome “La Sapienza”), **Giovanni Bussi** (ETH Zurich), **Giovanni Ciccotti** (Universita of Rome “La Sapienza”), **David Chandler** (UC Berkeley), **John Chodera** (Stanford University), **Cecilia Clementi** (Rice University), **Weinan E** (Princeton University), **Ron Elber** (University of Texas at Austin), **Kristen Fichthorn** (Penn State University), **Daan Frenkel** (Cambridge University), **Graeme Henkelman** (University of Texas at Austin), **Hannes Jonsson** (University of Iceland), **Yannis Kevrekidis** (Princeton University), **Jorge Kurchan** (Ecole Superieure de Physique et de Chimie Industrielles), **Normand Mousseau** (University of Montreal), **Frank Noe** (Free University of Berlin), **Vijay Pande** (Stanford University), **Baron Peters** (UC Santa Barbara), **Weiqing Ren** (Courant Institute), **Benoit Roux** (University of Chicago), **Tanja Schilling** (University of Mainz), **Christof Schuette** (Free University of Berlin), **Andrew Stuart** (University of Warwick), **Bernhardt Trout** (Massachusetts Institute of Technology), **Mark Tuckerman** (New York University), **Eric Vanden-Eijnden** (Courant Institute), **Maddalena Venturoli** (University of Amsterdam), **Art Voter** (Los Alamos National Laboratory)

Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

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