

**105th Statistical Mechanics Conference
Rutgers University, Busch Campus, Hill Center, room 114
Sunday – Tuesday, May 8-10, 2011**

CONFERENCE PROGRAM

Sunday, May 8, 2011

8:00 – 9:00 REGISTRATION AND BREAKFAST

9:00 – 9:25 John Weeks, University of Maryland
Impurity-induced step dynamics in vapor and solution growth

9:25 – 9:50 Rupert Frank, Princeton University
How much energy does it cost to make a hole in the Fermi Sea?

9:50 – 10:15 Ken Dill, University of California, San Francisco
Using Maximum Caliber to model single- and few-particle trajectories

10:15 – 10:45 COFFEE

10:45 – 11:10 Chris Jarzynski, University of Maryland, College Park
Modeling Maxwell's demon: work, information, and the second law of thermodynamics

11:10 – 11:35 Christian Maes, Institute for Theoretical Physics-Belgium
Monotone return to steady nonequilibrium

11:35-12:00 Joachim Krug, University of Cologne
Statistical topography of fitness landscapes

12:00 – 12:25 John Imbrie, University of Virginia
Phase-Space Model for Pleistocene Ice Volume

12:25 – 1:55 – LUNCH

1:55 – 2:20 Michael Aizenman, Princeton University
Extended states in a Lifshitz tail regime for Random Operators on Trees

2:20 – 2:45 Patrik Ferrari, Universität Bonn
From interacting particle systems to random matrices

2:45 – 3:10 Leonid Pastur, B.Verkin Institute for Low Temperature Physics and Engineering
Non-Gaussian Laws of Fluctuation for Spectral Statistics of Random Matrices

3:10 – 3:35 Alexander Soshnikov, University of California, Davis
Fluctuations of Matrix Entries of Regular Functions of Wigner Matrices

3:35 – 4:05 COFFEE

4:05 – 4:30 Michael Weinstein, Columbia University
Engineering Long Lived States and the Emergence of Periodic Structure

4:30 – 4:55 Yakov Sinai, Princeton University
Bifurcations in solutions of the 2-dim Navier-Stokes System

4:55 – 5:20 Paul Falkowski, Rutgers University
The evolution of chirality in nature

5:20 – 5:45 Nigel Goldenfeld, University of Illinois at Urbana-Champaign
The statistical mechanics of hallucinations and the evolution of the visual cortex

6:00 – 7:45 COCKTAILS AND CONCERT SPONSORED BY SPRINGER, PUBLISHER OF JOURNAL OF STATISTICAL PHYSICS AND COMMUNICATIONS IN MATHEMATICAL PHYSICS. THE MUSIC WILL BE PLAYED BY KIRI MURAKAMI, VIOLA AND ELIZABETH THOMPSON, CELLO. ALL ARE INVITED.

7:45 – BANQUET. ADVANCED RESERVATIONS ARE REQUIRED. COCKTAILS, CONCERT AND BANQUET WILL ALL TAKE PLACE ON THE 7TH FLOOR OF HILL CENTER. SEE MAP FOR DIRECTIONS: <http://maps.rutgers.edu/maps>

Monday, May 9, 2011

7:30 – 8:10 REGISTRATION AND BREAKFAST

8:10 – 9:40 Short talks – Session A

9:40 – 10:10 COFFEE

10:10 – 10:35 David Chandler, University of California, Berkeley
The putative supercooled liquid-liquid phase transition is actually the crystal-liquid transition in atomistic models of water

10:35 – 11:00 Austin Angell, Arizona State University
Supercooled Water as the Rosetta stone for the "strong" vs "fragile" glassformer problem

11:00 – 11:25 Harry Kojima, Rutgers University
Dynamics and Hysteresis in the Phenomena of Supersolid Helium-4

11:25 – 11:50 John Reppy, Cornell University
Is Supersolid Superfluid?

11:50 – 12:30 HR session with J.L. Lebowitz and others

12:30 – 1:50 LUNCH

1:50 – 2:15 Federico Bonetto, Georgia Tech
Electrical conduction in a thermostated system

2:15 – 2:40 David Ceperley, University of Illinois Urbana-Champaign
Ferromagnetism amongst cold atoms

2:40 – 3:05 Piers Coleman, Rutgers University
Strange metals, quantum criticality and the incredible story of YbAlB₆

3:05 – 3:30 Weinen E, Princeton University
Metastability and transition path theory

3:30 – 4:00 COFFEE

4:00 – 4:25 Simona Cocco, Institute for Advanced Study
Inference of interactions from correlations with the Ising model

4:25 – 4:50 Jin Wang, University of New York at Stony Brook
Landscape and Flux Framework for Non-Equilibrium Dynamical Systems and Networks

4:50 – 5:15 Joseph Indekeu, Universit at Leuven

Wetting transitions of infinite order in a mean-field density-functional theory

5:15 – 5:40 Roberto Fernandez, Utrecht University
Convergence of cluster expansions: recent approaches and applications

5:40 - 6:05 Peter Sarnak, Princeton University
Zeros and nodal lines of modular forms

6:05 – 8:00 Cocktails and dinner

8:00 – Peter Sarnak, Randomness in number theory (Informal presentation and discussion)

Tuesday, May 10, 2011

7:40 – 8:10 REGISTRATION AND BREAKFAST

8:10 – 9:30 Short talks – Session B

9:30 – 10:00 COFFEE

10:00 – 10:25 Rafael de la Llave, University of Texas at Austin
Quasiperiodic solutions in lattice dynamical systems

10:25 – 10:50 Wei-min Wang, Universite Paris-Sud 11
Supercritical NLS and spectral gap

10:50 – 11:15 Michael Shelley, Courant Institute of Mathematical Sciences
Cytoplasmic pulling and pronuclear migration

11:15 – 11:40 Tim Halpin-Healy, Barnard College, Columbia University
25 Years of KPZ...

11:40 – 12:05 Mustansir Barma, Tata Institute of Fundamental Research, Mumbai
Transport in a Multispecies Model with Interconversion

12:05 – 12:30 Erik Luijten, Northwestern University
Self-assembly of anisotropic particles

12:30 – 1:45 LUNCH

1:45 – 2:10 Cedric Bernardin, Ecole Normale Superieure
Dynamical phase transition for a coagulation-fragmentation process

2:10 – 2:35 Luc Rey-Bellet, University of Massachusetts
Game theory and statistical mechanics

2:35 – 3:00 Carlangelo Liverani, Università degli Studi di Roma "Tor Vergata"
Fourier law and the weak coupling limit

3:00 – 3:25 Roderich Tumulka, Rutgers University
The general reason for approach to thermal equilibrium of macroscopic quantum systems

3:25 – 3:50 Tobias Kuna, Reading University
Absence of phase transition for a special class of potentials

3:50 – Short talks – Session C

