

## **Program of the 89th Statistical Mechanics Meeting Celebrating the 80th Birthday of E. G. D. Cohen**

**Rutgers University, May 18–20, 2003**

Please note that in many cases there is only one speaker listed, although the work may have been done with collaborators.

Information about past and future meetings, as well as positions wanted and available can be obtained at <http://www.math.rutgers.edu/events/statmech.html>.

The next Statistical Mechanics Meeting will take place December 14–16, 2003, at Rutgers University.

Joel L. Lebowitz

### **REVIEW TALKS**

Down with Langevin

N. G. van Kampen, Utrecht University, [N.G.vanKampen@phys.uu.nl](mailto:N.G.vanKampen@phys.uu.nl)

Generalizing the Boltzmann Equation—the Contributions of Eddie Cohen

J. R. Dorfman, University of Maryland, [jrd@ipst.umd.edu](mailto:jrd@ipst.umd.edu)

Logarithmic Terms in the Density Expansion of the Transport Coefficients:  
A System Where They Can be Computed and Observed

T. R. Kirkpatrick, University of Maryland, [theodore\\_r\\_kirkpatrick@umail.umd.edu](mailto:theodore_r_kirkpatrick@umail.umd.edu)

The Molasses Tails Revisited

M. H. Ernst, University of Utrecht, [m.h.ernst@phys.uu.nl](mailto:m.h.ernst@phys.uu.nl)

Small Lyapunov Exponents and Collective Modes in Hard Sphere Systems

H. van Beijeren, Utrecht University, [H.vanBeijeren@phys.uu.nl](mailto:H.vanBeijeren@phys.uu.nl)

The Ant and the Marathon: Temporal Diffusion

J.-P. Boon, Universite Libre de Bruxelles, [jpboon@ulb.ac.be](mailto:jpboon@ulb.ac.be)

Equilibration and Percolation in Unsaturated Natural Porous Media. Analogue to an Ideal Glass Transition?

A. G. Hunt, NSF, ahunt@nsf.gov

Pattern Selection: Determined by Symmetry and Modifiable by Distant Effects

M. Feigenbaum, Rockefeller University, feigenb@rockvax.rockefeller.edu

Is There a Selection of Hele-Shaw Fingers in a Zero-Surface-Tension Finite-Fluid Model?

S. Tanveer, Ohio State University, tanveer@math.ohio-state.edu

Instability Onset in Fluid Flows

B. Alder, Lawrence Livermore National Laboratory, alder1@llnl.gov

Thermal Nonequilibrium Fluctuations in Fluid Layers below the Convective Rayleigh-Benard Instability

J. V. Sengers, University of Maryland, sengers@ipst.umd.edu

Spontaneous Energy Focusing Phenomena vs. Local Equilibrium in Statistical Mechanics

S. Putterman, UCLA, puherman@ritva.physics.ucla.edu

More on the Lattice Lorentz Gas and Percolation Cluster Hulls

R. Ziff, University of Michigan, rziff@umich.edu

The Dynamics of Schelling-Type Segregation Models

H. Weiss, Penn State University, weiss@math.psu.edu

Kinematics, Equilibrium and Shape

L. Bunimovich, Georgia Tech, bunimovh@math.gatech.edu

Dynamical Aspects of the Problem of Adiabatic Piston

Y. Sinai, Princeton University, sinai@math.princeton.edu

Shear-Induced Ordering, Hard Spheres, and Dynamics of a 3D Granular Fluid

J. Gollub, Haverford College, jgollub@haverford.edu

Reflections on the Beguiling but Wayward Spherical Model

M. E. Fisher, University of Maryland

## **SESSION ON HUMAN RIGHTS AND SOCIAL RESPONSIBILITIES OF SCIENTISTS**

Moral Dilemmas of Medical Humanitarian and Human Rights Witnessing Action: A Sociological Case Study of Medecins Sans Frontieres

Renee C. Fox, Annenberg Professor Emerita of the Social Sciences of the University of Pennsylvania

The Situation in Cuba—A Report on a Recent Visit

E. Chudnovsky, Lehman College, chudnov@alpha.lehman.cuny.edu

“Momentary” State Analysis of Multiphoton Processes

R. Fox, Georgia Tech, ron.fox@physics.gatech.edu

What Is Quantum about Quantum Noise

Y. Gefen, Weizmann Institute, fngefen@weizmann.weizmann.ac.il

Anomalous Transport in Low-Dimension

R. Livi, University of Florence, livi@fi.infn.it

The Fluctuation Theorem—Theory and Experiment

D. Evans, Australian National University, evans@rsc.anu.edu.au

Equivalence of Nonequilibrium Ensembles? One Example

L. Rondoni, Politecnico di Torino, rondoni@polito.it

Simple Maps and Complex Phenomena

R. Rechtman, UNAM, Mexico, rrs@teotleco.cie.unam.mx

Quasi-Stationary States in Systems of Globally Coupled Rotators

S. Ruffo, University of Florence, ruffo@avanzi.de.unifi.it

Scaling in Rotating Fluid Turbulence

H. Swinney, University of Texas, swinney@chaos.ph.utexas.edu

Phase Separation in Helium-Containing Mixtures, 1906 and Beyond

A. Levelt Sengers, NIST, anneke@tiber.nist.gov

ROUND TABLE on: The Boltzmann Equation and Its Descendants: Past, Present, and Future

Participants included Eddie Cohen, Joel L. Lebowitz, and many many others

A Topological Approach to Phase Transitions

M. Pettini, National Institute of Astrophysics, and National Institute for the Physics of Matter, Florence, Italy, pettini@arcetri.astro.it

The Interface Localization Transition in a Double Wedge Geometry: A New Type of Critical Behavior

K. Binder, University of Mainz, kurt.binder@uni-mainz.de

Adsorption at Lines of Three-Phase Contact

B. Widom, Cornell University, widom@wisteria.chem.cornell.edu

Evolution of Radiation towards Thermal Equilibrium: A Soluble Model Illustrating the Foundations of Statistical Mechanics

M. Nauenberg, University of California, Santa Cruz, michael@mike.ucsc.edu

On the Pinning of Optionable Stocks, a Langevin Equation Approach

M. Lipkin, Amer. Stk. Exchange, mike.katama@worldnet.att.net

Fractal Asymptotics

C. Dettmann, University of Bristol, UK, carl.dettmann@bristol.ac.uk

Some Properties of the SRB Measure for Coupled Arnold Cat Maps on a Lattice

F. Bonetto, Georgia Tech, federico.bonetto@roma1.infn.it

Work and Heat Fluctuations of a Brownian Particle in a Moving Harmonic Potential

R. van Zon, Rockefeller University, [vanzonr@rockefeller.edu](mailto:vanzonr@rockefeller.edu)

The Gallavotti–Cohen Fluctuation Theorem in Open Systems

L. Rey-Bellet, University of Massachusetts, [lr7q@math.umass.edu](mailto:lr7q@math.umass.edu)

Large-System Phase-Space Dimensionality Loss in Stationary Heat Flows

H. Posch, University of Vienna, [posch@ls.exp.univie.ac.at](mailto:posch@ls.exp.univie.ac.at)

## SHORT COMMUNICATIONS

Spatial Field Correlations in Quasi 1-Dimensional Systems

\*G. Cwilich, Yeshiva University, [cwilich@ymail.yu.edu](mailto:cwilich@ymail.yu.edu), and J. J.

Saenz, École Centrale, Paris and Universidad Autónoma de Madrid

Thermodynamic Potentials for Strong Coupling Mean Field Theory

R. Hilfer, University of Stuttgart, [hilfer@ica1.uni-stuttgart.de](mailto:hilfer@ica1.uni-stuttgart.de)

Universal Finite-Size Scaling Functions with Exact Non-Universal Metric Factors

M.-C. Wu, Academia Sinica, Taiwan, [mcwu@phys.sinica.edu.tw](mailto:mcwu@phys.sinica.edu.tw)

Mobility Transition in Vertically Vibrated Granular Materials

Y. Jung and J. Lee, Korea Institute of Science and Technology

Information, [yjung@kisti.re.kr](mailto:yjung@kisti.re.kr)

A Queuing Transition in One-Dimensional Driven Flow Due to an Obstruction

\*M. Ha, and M. den Nijs, University of Washington, Seattle, [msha@u.washington.edu](mailto:msha@u.washington.edu)

Extended Temperature of Dense Granular Matter

L. Kondic, New Jersey Institute of Technology, [kondic@m.njit.edu](mailto:kondic@m.njit.edu)

Using a Granular Flow Theory to Understand the Rheology of Sheared Suspensions with Moderate Fluid Inertia and High Particle Inertia

\*R. Verberg, [rv43@cornell.edu](mailto:rv43@cornell.edu), and D. L. Koch, Cornell University

Inferring Spatial Patterns from Power Spectra

D. Varn, Santa Fe Institute, [dpvarn@santafe.edu](mailto:dpvarn@santafe.edu)

Using the Fokker Planck Equation to Calculate Collapsing Time of Randomly Driven Particle

S. Kotsev, Temple University, [skotsev@astro.temple.edu](mailto:skotsev@astro.temple.edu)

Critical Exponents of Percolation in Hyperbolic Three-Space

N. Madras, York University, and \*C. Wu, Penn State University, [ccw3@psu.edu](mailto:ccw3@psu.edu)

Hydrodynamic Interactions of Colloidal Particles between Parallel Walls

S. Bhattacharya and \*J. Blawdziewicz, Yale University, [jerzy.blawdziewicz@yale.edu](mailto:jerzy.blawdziewicz@yale.edu)

## Charge Fluctuations and Correlations in Finite Electrolytes

\*Y. C. Kim, yckim@glue.umd.edu, and Michael E. Fisher, University of Maryland

## Transport Coefficients in Some Stochastic Models of the Revised Enskog and Square-Well Kinetic Theories

\*J. Polewczak, California State University, Northridge, jacek.polewczak@csun.edu, and G. Stell, SUNY, Stony Brook

## Critical Point of a Hierarchical Model of Quantum Anharmonic Oscillators

Y. Kozytskyy, Maria Curie-Skłodowska University, Poland, kozitsky@Physik.Uni-Bielefeld.DE

## Quantum Fluctuations and Dissipative Dynamics of a Spin Necklace in a Conduction Electron Bath

N. Shah, Rutgers University, nayanashah@physics.rutgers.edu

## Exact Result for the Filling Transition in the 2-d Ising Model

\*D. B. Abraham, University of Oxford, d.abraham1@physics.ox.ac.uk and A. M. Maciolek, PAN, Warsaw

## Virial Coefficients for D-Dimensional Hard Spheres

N. Clisby, Suny at Stony Brook, nclisby@grad.physics.sunysb.edu

Nucleation Rates in a One Dimensional System with the  $\Phi^6$  Local Potential

\*W. C. Kerr, Wake Forest University, wck@wfu.edu, and A. J. Graham, Appalachian State University

## Adaptive Integration Method for the Calculation of Effective Potentials

\*M. Fasnacht, and R. H. Swendsen, Carnegie Mellon University, mf5k@andrew.cmu.edu

## Glass Transition in Monatomic Fluids

M. Robles and \*M. Lopez de Haro, Centro de Investigacion en Energia, UNAM, Mexico, malopez@servidor.unam.mx

## Three-Particle Contribution to the Effective Viscosity of Colloidal Suspensions

E. Wajnryb, Yale University, eligiusz.wajnryb@yale.edu

## Hopping Times for Confined Particles: Two Discs in a Box

R. Bowles, Courant Institute, NYU, bowles@cims.nyu.edu

## RG Results for the Farey Fraction Spin Chain

\*J. Fiala and P. Kleban, University of Maine, Jan\_Fiala@umit.maine.edu

## Ground-State Properties of Artificial Bosonic Atoms, the Bose Interaction Blockade, and the Single-Atomic Pipette

R. Kalas, University of Virginia, rmk7h@virginia.edu, E. Kolomeisky and C. Sackett, University of Virginia, and J. Straley, University of Kentucky

**Revisiting Conductance in Two-Dimensional Quantum Percolation**

H. Nakanishi and \*E. Cuansing, cuansing@physics.purdue.edu,  
Purdue University

**Diffusive-Ballistic Crossover in Quantum Multi-Baker Maps**

D. Wojcik, Georgia Institute of Technology, danek@cns.physics.gatech.  
edu

**Exact Solution and Universality in the Quenched Edwards–Wilkinson Equation with Anisotropy**

G. Pruessner, Imperial College London, gunnar.pruessner@physics.  
org

**Analytic Continuation of the Generating Function for the Frobenius–Perron Operator, and Its Connection with Lyapunov Exponents**

\*J. P. Dougherty, jpd2@amtp.cam.ac.uk, and R. Raissi-Dehkordi,  
Cambridge University

**Variational Formulas for One-Dimensional Models**

\*T. C. Dorlas and W. M. B. Dukes, Dublin Institute for Advanced  
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