Program of the 96th Statistical Mechanics Conference
Rutgers University, Hill Center, Room 114
Sunday, Monday and Tuesday, December 17–19, 2006

D. Langreth, Rutgers University, langreth@physics.rutgers.edu
Approximate Density Functional Description of the van der Waals Bond

M. Randeria, Ohio State University, randeria@mps.ohio-state.edu
RVB and High Tc Superconductivity

J. Schmalian, Iowa State University, schmalian@ameslab.gov
Superconductivity and Spin Liquid Formation in Frustrated Spin Systems

H. Kojima, Rutgers University, kojima@physics.rutgers.edu
Magnetic Fountain Pressure and Minority Condensate in Spin-Polarized
    Superfluid He-3

R. D. Kamien, University of Pennsylvania, kamien@physics.upenn.edu
Spherical Phases of Diblocks

M. Aizenman, Princeton University, aizenman@princeton.edu
On Anderson-Yuval-Hamann and Some Other Topics Which Are Too Good
    to be Left to Physicists

A. Its, Indiana University-Purdue University Indianapolis, itsa@math. iupui.edu
Generalized Fisher-Hartwig and Szeg'o-Widom Asymptotics. Some new
    rigorous results and applications

I. Affleck, University of British Columbia, iaffleck@physics.ubc.ca
Is There a Large Kondo Screening Cloud?

W. Brinkman, Princeton University, wfb@princeton.edu
Is Solid HE4 a supersolid?

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A. Punnoose, punnoose@sci.ccny.cuny.edu
Flow Diagram and Quantum Critical Behavior of the Metal-Insulator Transition
    in 2D

G. Kotliar, Rutgers University, kotliar@physics.rutgers.edu
Dynamical RVB and d-Wave Superconductivity

S.-W. Cheong, sangc@physics.rutgers.edu
New Magnetic Twists for Ferroelectricity

M. Franz, University of British Columbia, franz@physics.ubc.ca
Vortex-Boson Duality in 3+1 Dimensions: Cuprates Meet String Theory

D. Thouless, University of Washington, thouless@phys.washington.edu
Mechanical and Statistical Properties of Quantized Vortices

D. Fisher, Harvard University, fisher@physics.harvard.edu
Can Evolution Be Understood Quantitatively?

P. W. Anderson, Princeton University, pwa@princeton.edu
New Insights into Vortex Liquids

HUMAN RIGHTS AND SOCIAL RESPONSIBILITIES OF SCIENTISTS

J. Harrington, Rutgers University
"A Scientist at the US Department of State on How Science and Policy
    Interact"
J. Lebowitz, Rutgers University
"The Sad Saga of a Refugee Scientist in the US"
J. Katriel and Y. Avron, Technion, Israel
"Scientists, Human Rights and the Israeli-Palestinian Conflict"

L. Schulman, Clarkson University, schulman@clarkson.edu
Phase Transitions, Clusters, and Geometry from Spectral Analysis

S. Nagel, University of Chicago, s-nagel@uchicago.edu
    Singularities and Topological Transitions in Fluids

ROUND TABLE: "IS THERE A STATISTICAL MECHANICS OF STATIC SAND PILES?"

Introduction C. Radin, University of Texas, radin@math.utexas.edu
A Phase Transition in Sand
Panelists:

J. Brujic, Columbia University, jb2379@columbia.edu
A. Liu, University of Pennsylvania, ajliu@physics.upenn.edu
S. Nagel, University of Chicago, s-nagel@uchicago.edu

S. Torquato, Princeton University, torquato@princeton.edu
M. E. Fisher, University of Maryland, Chair

B. Shklovskii, University of Minnesota, shklovsk@physics.umn.edu
Ion Transport in Ion Channels and Nanopores

A. B. Kolomeisky, Rice University, tolya@rice.edu
Channel-Facilitated Molecular Transport Across Membranes: Attraction,
Repulsion and Asymmetry

V. Dobrosavljevic, Florida State University, vlad@magnet.fsu.edu
2D-MIT as Self-Doping of a Wigner-Mott Insulator

D. Huse, Princeton University, huse@princeton.edu
Heat Baths, Ergodicity, Many-Body Localization

V. Oganesyan, Yale University, vadim.oganesyan@yale.edu
Spectral Signatures of Localization in a Quantum Many-Body System

A. Kitaev, California Institute of Technology, kitaev@cs.caltech.edu
Anyonic Interferometers

Round Table on: "The Metal Insulator Transition"
Participants will include:

P. W. Anderson, V. Dobrosavljevic, M. Gershenson, A. Punnoose, M. Sarachik,
CCNY, P. Coleman, Rutgers University - Chair

G. Gallavotti, University of Rome/Rutgers, giovanni.gallavotti@roma1.infn.it
Phase Space Contraction and Entropy in Fluid Flows

B. Rozovsky, Brown University, rozovsky@dam.brown.edu
On Passive Scalar Equation for Kraichnan Type Velocity Fields

V. Rom-Kedar, Weizmann Institute, vered.rom-kedar@weizmann.ac.il
White Blood Cells and G-CSF Dynamics in the Blood

M. B. Hastings, Los Alamos National Laboratory, hastings@lanl.gov
Entropy and Entanglement in Quantum Ground States

Y. Avron, Technion, avron@physics.technion.ac.il
Entangled Photons From a Quantum Dot

S. Sheffield, NYU/IAS, sheff@math.nyu.edu
Random Geometry, SLE, and the Gaussian Free Field.

C. Toninelli, LPMA, Univ. Paris VI-VII, ctoninel@ccr.jussieu.fr
Jamming Percolation and Glass Transition in Lattice Models

L. Rey-Bellet, University of Massachusetts, lr7q@math.umass.edu
Large Deviations in Dynamical Systems with Some Hyperbolicity

D. Brydges, University of British Columbia, db5d@math.ubc.ca
Self-Avoiding Loop Correlations and Loop Erasure

N. Clisby, University of Melbourne, N.Clisby@ms.unimelb.edu.au
Self-Avoiding Walk Enumeration via the Lace Expansion

SHORT TALKS

[*]For author presenting the talk

[*]T. Kuna and G. Manzi, Universitaet Bielefeld, tkuna@math.uni-bielefeld.de
Tunneling Time for Ising Spin Systems with Granular Dynamics

[*]Y. Nakamura and N. Hatano, the University of Tokyo, yuichi@iis.u-tokyo.ac.jp
A Non-Hermitian Analysis of Strongly Correlated Quantum Systems

S.B. Karmakar, math235@yahoo.com
A Heuristic Method for the Determination of a Hamiltonian Circuit in a Graph

[*]A. Angel, B. Schmittman and R. K. P. Zia, Virginia Tech, aangel@vt.edu
Zero-range Process with Long-Range Interactions at a T-Junction

[*]J. J. Dong, B. Schmittman, R. K. P. Zia, Virginia Tech, jjdong@vt.edu
Local Inhomogenities in TASEP of Extended Objects

[*]S. Mukherjee and B. Schmittman, Virginia Tech, smukhe04@vt.edu
Universal Properties of Population Dynamics with Fluctuating Resources

[*]M. Pleimling and M. Henkel, Virginia Tech, Michel.Pleimling@vt.edu
Aging in Disordered Magnets and Local Scale-Invariance

[*]Y. Shokef and D. Levine, University of Pennsylvania, yair@sas.upenn.edu
Minimal Modeling of Driven Dissipative Systems

G. Lee-Dadswell, Cape Breton University,
    Geoffrey_lee-Dadswell@capebretonu.ca
Heat and Momentum Transport in 1-D: The Bulk Prandtl Number

R. Fisch, Princeton University, ron@princeton.edu
Subextensive Singularity in the 2D $\pm J$ Ising Spin Glass

[*]M. Hinczewski and N. Berker, F. Gursey Research Center, Istanbul,
    mgh@gursey .gov.tr

Inverted Berezinskii-Kosterlitz-Thouless Singularity and High-temperature
    Algebraic Order in an Ising Model on a Scale-Free Hierarchical-Lattice
    Small-World Network
[*]E. Cortes, R. Rodriguez and J. Fujoika, Universidad Autonoma Metropolitana,
    Mexico, emilco@gmail.com

Noise Assisted Synchronization in an Ensemble of Bistable Systems

[*]O. White and H. Sopolinsky, MIT, white.olivia@gmail.com
Trading Space for Time: A Model of a Mechanism for Short-Term Memory

D. Vavylonis, Lehigh University, vavylonis@lehigh.edu
Actin Polymerization and Treadmilling at Steady State

[*]J. Joo, S. Plimpton, S. Martin, L. Swiler and J.-L. Faulon, Sandia National
    Laboratories, jjoo@sandia.gov
Minimal Model of NF-¥ê B Signaling Module

R. Swendsen, Carnegie Mellon University, swendesen@cmu.edu
Boltzmann's Definition of Entropy

[*]C. Song, P. Wang and H. Makse, City College of New York,
    chaoming_song@msn.com
Phase Diagram of Jammed Granular Matter with Friction

[*]P. Wang, C. Song and H. Makse, City College of New York,
    anyon_wang@yahoo.com
Coordination Number in Frictional Granular Packing

[*]R. K. P. Zia and B. Schmittman, Virgina Tech, rkpzia@vt.edu
Towards a Classification Scheme for Non-Equilibrium Steady States

[*]R. Wortis, Trent University, rwortis@trentu.ca
The Geometrically-Averaged Density of States as a Measure of Localization

[*]N. Xu, M. Wyart, A. Liu and S. Nagel, University of Pennsylvania,
    ningxu@sas.upenn.edu
Excess Vibrational Modes in Model Glasses

[*]R. Ziff, A. Comtet and S. Majumdar, University of Michigan, rziff@umich.edu
Flux to a trap in three dimensions for particles undergoing a generalized
    Pearson flight

[*]E. Ben-Naim and C. M. Bender, Los Alamos National Lab
How to Choose a Champion?"

C. Henley, Cornell University, clh@ccmr.cornell.edu
Nontrivial Maps of Hardcore-Excluded Fermion Chains and Ladders to
Noninteracting Fermions: The Intervening-Particle Expansion

[*]N. Berker and C. Guven, Koc University, Istanbul, nberker@ku.edu.tr
Uniaxially Frustrated $d = 3$ Spin Glasses

B. Harris, University of Pennsylvania, harris@physics.upenn.edu
Ferroelectric Magnets

S. Ji, Rutgers University, sji@rci.rutgers.edu
'Info-Statistical Mechanics' of Cell Metabolism

[*]Y. Wu, B. Schmittman and R. K. P. Zia, Virginia Tech, wuyong@vt.edu
Ideal Polymer Network on a Two-Dimensional Lattice

[*]D. Adams, B. Schmittman and R. Zia, Virginia Tech, daadams@vt.edu
Power Spectra of the Total Occupation in TASEP's

[*]B. Atkinson, Trent University, billatkinson@trentu.ca
Spectral Properties of Inhomogeneous d-Wave Superconductors with
    Coexisting Order

P. Ditlevsen, Niels Bohr Institute, Univ. Copenhagen, pditlev@gfy.ku.dk
On Cascades and Statistical Equilibrium in a Shell Model of Turbulence

[*]U. Edgal and D. Huber, North Carolina A&T State University,
    ufedgal@ncat.edu
Multi-Scale Quantum Mixed Material Systems: Microstructure and Equilibrium
    Properties

[*]T. Taniguchi and E. G. D. Cohen, Rockefeller University,
    ttaniguchi@rockefeller. edu
Onsager-Machlup Theory for Nonequilibrium Steady States and Fluctuation
    Theorems

J. Katriel, jkatriel@tx.technion.ac.il
Non-universality of commonly used correlation-energy density-functionals

T. Chou, UCLA, tomchou@ucla.edu
Peeling and Sliding in Nucleosome Repositioning

A. Rashin, Rutgers University, avi.rashin@gmail.com
Statistical Mechanics of Hydophobicity-Driven Folding in Lattice Proteins

[*]P. Verrocchio, A. Cavagna and T. S. Grigera, University of Trento, Italy,
    paolo. verrocchio@unitn.it
Mosaic Multi-State Scenario vs. One-State Description of Supercooled Liquids

[*]B. Yucesoy and N. Berker, Istanbul Technical University, yucesoyb@gmail.edu
Spin-Glass Hysterisis in $d=3$

[*]N. Aral and N. Berker, Koc University, nese_aral@yahoo.com
Correlations in Frustrated Systems with Chaotic Rescaling Bahavior

[*]Y. Sood, T. Antal and S. Redner, University of Calgary,
    vishal. chandra.sood@gmail.com
Evolutionary Dynamics on Graphs

*P. Benetatos and A. Zippelius, University of Goettingen, benetat@theorie.physik.uni-goettingen.de
Random Networks of Wormlike Chains

*J. Simmons, P. Kleban and R. Ziff, University of Maine, kleban@maine.edu
Exact Factorization of Probabilities in Critical 2-D Percolation

*L. Xu, Imperial College London, lihu.xu@imperial.ac.uk, B. Zegarlinksi, Imperial College London and R. Olkiewicz, Wroclaw University, Wroclaw, Poland
Nonlinear Problem in Infinite Interacting Particle Systems

*P. Lugiewicz and B. Zegarlinski, Imperial College, London, p.lugiewicz@ imperial.ac.uk
Long Time Behaviour of Hormander Diffusions in Infinite Dimensions

*A. Toom and A. Dias Ramos, UFPE, Brazil, toom@de.ufpe.br
Non-schrinking 1-D Non-Ergodicity

N. Enaki, Institute of Applied Physics of Academy of Sciences of Moldova Republic, enakinicola@yahoo.com
Second Order Phase Transitions in Two-Quanta Interaction with Thermostat

*J. Wawrzycki, Inst. Nuc. Phys. PAS, Krakow, Jaroslaw.Wawrzycki@ifi.edu.pl
Points of Noncommutative Phase Space and Quantum Measurement

*J. Thorarinson and M. Gleiser, Dartmouth College, thorvaldur@dartmouth.edu
Gauged Oscillons and the Path to Equipartition in the Abelian Higgs Model

*W. De Roeck, C. Maes and J. Derezinski, K.U. Leuven/Harvard, wojciech. deroeck@fys.kuleuveb.be
Quantum Fluctuations: From Hamiltonian Dynamics to Unravelings of Master Equations

M. Stenlund, Rutgers University, mstenlun@math.rutgers.edu
Asymptotic Expansion of Homoclinic Splitting Matrix

Joel L. Lebowitz[1]