

## **Program of the 51st Statistical Mechanics Meeting**

**Department of Mathematics, Rutgers University,**

**May 10 and 11, 1984**

The last semiannual Statistical Mechanics Meeting was held on May 10th and 11th. The next meeting is tentatively scheduled for December 13th and 14th, 1984.

As usual these titles are informal and, in many cases, there is only one speaker listed although the work may have been done with collaborators. Also, the addresses are incomplete. Anyone who is interested in communicating with a speaker and who requires a more complete address may obtain it by writing to:

Dr. Joel L. Lebowitz  
Department of Mathematics, Hill Center  
Rutgers University  
New Brunswick, New Jersey 08903

Ergodic Properties of an Infinite One-Dimensional Mechanical System

*C. Boldrighini*, Rutgers University, E. Presutti, University of Rome,  
and A. DeMasi, Rutgers University

On the Construction of Projectors for the Reduced Dynamics of Open  
Systems

Cerin Obcemea, University of Florida

Irreversible Random and Cooperative Processes on Lattices

*J. W. Evans*, D. K. Hoffman, and R. S. Nord, Iowa State University

Self-Diffusion in a One Dimensional Lattice Gas Subject to an External  
Field

*Pablo Ferrari* and Anna DeMasi, Rutgers University

Convergence to Brownian Motion of Symmetric Random Walks in Ran-  
dom Environments

A. DeMasi, Rutgers University

Classical Ground States

Charles Radin, University of Texas

Generalized Pirogov–Sinai Theory of First Order Phase Transitions

J. Bricmont, University of Louvain

A Theory of Dense Liquids

Steven Brawer, A. T. & T. Bell Laboratories

Dynamic Scaling for Aggregation of Clusters

*Tamas Vicsek* and Fereydoon Family, Emory University

Random Field Ising Model: Computer Simulation of Domain Growth

*E. Gawlinski*, K. Kaski, M. Grant, and J. D. Gunton, Temple University

Dense Nonspherical Fluids

David MacGowan, Rutgers University

Random-Field Ising Model: Domain Growth Theory

*Martin Grant* and J. D. Gunton, Temple University

Fredericks Transition in a Fluctuating Magnetic Field

*M. San Miguel* and F. Sagués, University of Barcelona

Escape from Strange Repellers

Leo P. Kadanoff and *Chao Tang*, University of Chicago

Breakdown of Analyticity, Singular Measure, and Information Dimension in Dynamics

Subir K. Sarkar, University of Chicago

Quasienergy Spectrum of Quantum Dynamical Systems

*Hilda A. Cerdeira*, Rutgers University and UNICAMP, Brazil, B. A. Huberman, Xerox Corporation, and E. Z. da Silva, Universidad de Campinas, Brazil

The Origin of the Bohm Aharonov Effect with Half Flux Quanta

*John P. Carini*, K. A. Muttalib, Sidney R. Nagel, and Dana Browne, University of Chicago

Bounds on the Density of States in Disordered Systems

Robert Maier, University of Texas at Austin

Tail of Classical Spectrum in Strongly Disordered Media

Yonathan Shapir, Brookhaven National Laboratories

Nature of the Order Parameter for SAW's

P. D. Gujrati, University of Akron

The Smart SAW: A Strictly-Self-Avoiding Kinetic Walk Model

*Abel Weinrib* and S. A. Trugman, Cornell University

Phase Diagram of FCC Ising Antiferromagnet:

(a) Low Temperature Expansions, Daniel Styer, Rutgers University

(b) Monte Carlo Simulation, Mohan Phani, Indian Institute of Science

Critical Ising Correlations and the Discrete Toda Equation

*Helen Au-Yang* and Jacques H. H. Perk, State University of New York at Stony Brook

## Conformal Invariance and Finite Size Scaling

John Cardy, University of California at Santa Barbara

Dimer Problem and Imaginary Field  $(1/2)(inkT)$  Model as Two Decoupled Zero Field Ising Models

Helen Au-Yang and *Jacques H. H. Perk*, State University of New York at Stony Brook

## A New Type of Disorder Transition in Adsorbed Layers

M. Kardar and *R. Shankar*, Yale University

## Ising Spin Dynamics on Fractals

Christopher L. Henley, A. T. & T. Bell Laboratories

## Langevin Equations for Statistical Computations

John R. Klauder, A. T. & T. Bell Laboratories

## Progress in Cellular Automata

S. Wolfram, Institute for Advanced Study

## Fractals in Physical Sciences

R. Rammal, University of Pennsylvania

## A Random Walk Among Random Walkers

Piet Kasteleyn, Instituut-Lorentz, Leiden

## Static and Dynamical Problems of the Contact Line

*Y. Pomeau*, Jean Vannimenus, and Alain Pumir, Schlumberger-Doll Research

## Helium in Vycor—A Dilute Interacting Bose Gas

*M. Stephen*, Rutgers University, M. Rasolt, Oak Ridge National Laboratory, M. E. Fisher and P. Weichman, Cornell University

The Ising Model for  $H \neq 0$ 

Barry M. McCoy, State University of New York at Stony Brook

## Limitations on Universality in the Continuous-Spin Ising Model

*J. D. Johnson* and G. A. Baker, Jr., Los Alamos National Laboratory

Advance Towards a Rigorous Study of the  $\beta$ -Function in Q.F.T. and Statistical Mechanics

M. Aizenman, Rutgers University

Discontinuity of the Percolation Density in One Dimensional  $1/|x-y|^2$  Percolation Models

*M. Aizenman*, Rutgers University, and C. M. Newman, University of Arizona

## Diluted Continuous Spin Models Near the Percolation Threshold

*T. C. Lubensky* and A. B. Harris, University of Pennsylvania

## Solitons in Equilibrium and Nonequilibrium Statistical Mechanics

Alan R. Bishop, Los Alamos National Laboratory

## Round Table on "Quantum Chaos".

Participants included Martin Gutzwiller, International Business Machines, Roderick Jensen, Yale University, Michael Tabor, Colum-

- bia University, Richard Prange, University of Maryland and Jean Bellissard, Princeton University
- On an Upper Bound to the Critical Temperature in the 3-Dimensional Ising Model  
J. O. Vigfusson, City College of the CUNY
- Spontaneous Symmetry Breaking and Cubic Anisotropy  
Serge Galam, New York University
- $\varepsilon$ -Expansion for the Dilute Resistor Network  
A. B. Harris, University of Pennsylvania
- Stochastic Difference Equations for a Spin System  
Harold Falk, City College of the CUNY
- 2-Dimensional Plasmas and Free Field Theory  
David Nicolaides, Rutgers University
- Monte Carlo Renormalization Group Studies of 2-Dimensional Melting  
David Nicolaides, Rutgers University
- Fluctuations in the Model Microemulsion  
*Carlos Borzi* and Benjamin Widom, Cornell University
- Free Energy of the Discrete Sine-Gordon Model  
Mehran Kardar, Harvard University
- Soliton-Like Particles in Enzymic Catalysis  
Sungchul Ji, Rutgers University
- Corrections to Scaling and the Baker Border  
*Mustansir Barma* and Michael E. Fisher, Cornell University
- Geometrical Condition of Phase Transitions in Spin Models  
Chin-Kun Hu, Academia Sinica, Taiwan
- Domain Wall Interactions and Spatially Modulated Phases  
*Anthony M. Szpilka* and Michael E. Fisher, Cornell University
- Pseudo-Dimensional-Variation and Tricriticality of Potts Models by Hierarchical Breaking of Translational Symmetry  
*M. Kaufman* and M. Kardar, Massachusetts Institute of Technology
- Fluid and Crystalline Order on a Random Topography  
*Subir Sachdev* and David R. Nelson, Harvard University
- Calculation of Surface Tension for Ising Model by Novel Monte-Carlo Method and Universal Ratios  
*K. K. Mon* and David Jasnow, Carnegie-Mellon University
- Some New Anisotropic Energy-Minimizing Surfaces  
John W. Cahn, National Bureau of Standards and *Jean E. Taylor*, Rutgers University
- Exact Finite Size Calculation for the Anisotropic Dimer  $K$ -Model  
*S. M. Bhattacharjee* and J. F. Nagle, Carnegie-Mellon University

A new Exactly Solvable Dimer Model Exhibiting Crossover Between Ising Behavior and  $K$ -Model Behavior

S. M. Bhattacharjee, Carnegie-Mellon University

The Winding Angle of Planar Self-Avoiding Walks

M. E. Fisher, *V. Privman*, and S. Redner, Cornell University

Universal Critical Amplitudes in Finite-Size Scaling

*V. Privman* and M. E. Fisher, Cornell University

The Surface in Ballistic Driven Aggregation

*S. Liang*, C. Tang, and L. Kadanoff, University of Chicago

New Exactly Solvable Models of Smoluchowski's Equations of Coagulation

F. Leyvraz, University of Michigan

Forced Propagation of Sound and Diffusion in Binary Gas Mixtures

*B. Kamgar-Parsi* and E. G. D. Cohen, Rockefeller University

Kinetic Theory for Strong Shocks

Russel E. Caflisch, Courant Institute

Percolation in Dimensions Three to Six by Real Space R. G.

*G. Ord*, M. Robert, and B. Payandeb, Cornell University

Bounds for the Effective Conductivity of a Multicomponent Medium

*Kenneth Golden* and George Papanicolaou, Courant Institute

Diffusion on a One-Dimensional Lattice with Random Side Chains

*Alan K. Harrison* and Mark Nelkin, Cornell University

The Lower Critical Dimension of the Random Field Ising Model: A Monte-Carlo Study with Fractals

*D. Andelman*, H. Orland and L. C. R. Wijewardhana, Massachusetts Institute of Technology

Random Field Effects on the  $q$ -State Potts Model

*D. Blankschtein*, Y. Shapir, and A. Aharony, Massachusetts Institute of Technology

Response of Uniaxially-Compressed Magnets

*Zhong-Ying Chen* and Mehran Kardar, Massachusetts Institute of Technology

Correlation-Induced Reentrant Spin-Glass Behavior

*J. O. Indekeu*, R. Dekeyser, and Ph. de Smedt, Massachusetts Institute of Technology

Excitations in Random Magnetic Systems

*R. Serota*, Brandeis University and E. Chudnovsky, Kharkov

Self-Avoiding Walk in Five or More Dimensions

David Brydges, University of Virginia and *Thomas C. Spencer*, Courant Institute

On the Multicritical Points of Andrews, Baxter, and Forrester's Exactly Solved SOS Models

David A. Huse, A. T. & T. Bell Laboratories

Study of the Quantum Fermi Acceleration Problem

R. Cordery and *Jorge V. José*, Schlumberger-Doll Research

Zeroth-Point Fluctuations in the Kosterlitz-Thouless Phase

L. Jacobs, *J. V. José*, and M. Novotny, Schlumberger-Doll Research

Criticality of Wetting Layers

M. P. Nightingale, University of Rhode Island, and J. O. Indekeu, Massachusetts Institute of Technology

Scaling in Spin Glasses

*Daniel Fisher*, A. T. & T. Bell Laboratories, and Haim Sompolinski, Bar Ilan University

Conformal Invariance, Unitarity, and Two Dimensional Critical Exponents

Daniel Friedan, University of Chicago

Phase Transitions in the Early Universe

Paul Steinhardt, University of Pennsylvania

Some Comments on the Implications Due to the Second Correction to Scaling Term

Mau-Chung Chang, Rutgers University

Anomalous Diffusion in Steady Fluid Flow Through Porous Media

*Joseph A. Aronovitz* and David R. Nelson, Harvard University