5th Workshop on Nonlinear Dynamics and Chaos

Courant Institute of Mathematical Sciences
New York University, 251 Mercer St., NY, NY 10012

October 25-26, 2002

Sponsored by the Office of Naval Research, and the Courant Institute of Mathematical Sciences, New York University. Organized by L.-S. Young and G.M. Zaslavsky

TITLES OF TALKS AND SPEAKERS

FRIDAY, OCTOBER 25 – Warren Weaver Hall 102

• 8:30 – 8:50 A.M.  Coffee and Bagels (WWH Lobby)
• 8:50 – 9:00  Opening
• 9:00 – 9:40  “Nonlinear Dynamics of Mixing in Fluids”
  J. Gollub (Haverford)
• 9:45 – 10:25  “Constructing Complexity”
  L. Kadanoff (U. Chicago)
• 10:30 – 11:00  Coffee Break
• 11:00 – 11:40  “Eigenstates on Hyperbolic Surfaces”
  P. Sarnak (CIMS)
• 11:45 A.M. – 12:25 P.M.  “Quasi-1D Schrödinger Operator: Localization and Delocalization”
  S. Molchanov (U. North Carolina)
• 12:30 – 3:00  Lunch Break
• 3:00 – 3:40  “Quantum Dynamics with Single Atoms and Photons”
  J. Kimble (CalTech)
• 3:45 – 4:25  “From the Ocean to Jupiter to the Truncated Burgers-Hopf Equation:
  Novel Applications and New Mathematical Issues for Equilibrium
  Statistical Mechanics”
  A. Majda (CIMS)
• 4:30 – 5:00  Coffee Break
• 5:00 – 5:40  “A Mechanism for Producing Chaos”
  L.S. Young (CIMS)
• 5:45 – 6:25  “Wave-Vortex Interactions in Simplified Models of Atmospheric
  and Oceanic Jet Streams”
  V. Zeitlin (ENS)
• 6:30 P.M.  Reception (13th floor, Warren Weaver Hall)
SATURDAY, OCTOBER 26 – Warren Weaver Hall 102

- 8:30 – 9:00 A.M.  Coffee and Bagels (WWH Lobby)
- 9:00 – 9:40  “Optical Billiards and Atom Traps”  
                 N. Davidson (Weizmann Institute)
- 9:45 – 10:25  “Transport and Spectra in Rotating Fluids”  
                 P. Constantin (U. Chicago)
- 10:30 – 11:00  Coffee Break
- 11:00 – 11:40  “Nonergodic Hamiltonian Dynamics: Examples and Problems”  
                 G.M. Zaslavsky (Physics and CIMS)
                          M. Brown (U. Miami)
- 12:30 – 3:00  Lunch Break
- 3:00 – 3:40  “Return to the Differentiation of Sinai-Ruelle-Bowen States””  
                 D. Ruelle (IHES)
- 3:45 – 4:25  “Arnold Diffusion”  
                 J. Mather (Princeton University)
- 4:30 – 5:00  Coffee Break
- 5:00 – 5:40  “Flux Creep and Magnetic Avalanches: A Role for Cellular Automata?”  
                 K. Wiesenfeld (Georgia Tech)
- 5:45 – 6:25  “Relative Entropy as a Predictability Functional in Dynamical Systems: Theoretical and Practical Issues”  
                 R. Kleeman (CIMS)
- 6:30 P.M.  Reception (13th Floor, WWH)