

“Frontiers in statistical physics and complex systems”

Nettuno Hotel, Catania (Italy), 2-5 June 2012

Program

Saturday, June 2, 2012

16:30 Opening session

Ruggero Vaglio (Director, SPIN Institute, CNR)

16:50 Eugene Stanley (Boston University)

Nanoscale Dynamics of Phase Flipping in Water near its Hypothesized Liquid-Liquid Critical Point

17:10 Sergey Buldyrev (Yeshiva University, New York)

Widom line in a Liquid-Liquid phase transition

17:30 Marcia Barbosa (UFRGS, Porto Alegre)

Diffusion anomaly in confined water

17:50 Francesco Mallamace (University of Messina)

T=315K- a magic temperature for water

18:10 coffee break

18:40 Giancarlo Franzese (University of Barcelona)

Cooperative rearranging regions in water at biological and inorganic interfaces

19:00 Francesco Guerra (University of Rome “La Sapienza”)

Spontaneous replica symmetry breaking in spin glasses and neural networks

19:20 Leticia Cugliandolo (LPTHE, Paris Jussieu)

Frustrated magnetism: the spin-ice samples

Sunday, June 3, 2012

Benedictine Library

9:00 Giorgio Parisi (University of Rome “La Sapienza”)

Dynamical heterogeneities in glasses

9:20 Hernan Makse (City College of New York)

Statistical mechanics of random packings: From Kepler and Bernal to Edwards and Coniglio

9:40 Luca Peliti (University of Naples “Federico II”)

Life dissipation and Landauer's principle

10:00 Angelo Vulpiani (University of Rome “La Sapienza”)

On anomalous diffusion and the out of equilibrium response function in one-dimensional models

10:20 Santo Fortunato (Aalto University, Espoo)

Universality of citation distributions: towards an objective measure of scientific impact

10:40 Marco Saitta (Pierre and Marie Curie University, Paris)

Ab initio molecular dynamics study of dissociation of water under an electric field

11:00 coffee break

11:30 Luciano Pietronero (University of Rome “La Sapienza”)

A new metric for the economic complexity of countries and products

11:50 Rosario Mantegna (University of Palermo)

Statistically validated networks in social and economic systems

12:10 Attilio Stella (University of Padua)

Scaling approach to market dynamics: from aftercrashes to trading strategies

12:30 Janos Kertesz (Budapest University of Technology and Economics)

Human behavior from info-communication data

12:50 Andrea Rapisarda (University of Catania)

The beneficial role of random strategies in Sociophysics models

Trip to Siracusa and visit to the Frisone Foundation

Social dinner

Monday, June 4, 2012

[Aula Magna - Department of Physics and Astronomy, University of Catania](#)

9:00 Opening session

9:10 Silvio Franz (LPTMS, University of Paris Sud)

From Glassy Liquids to Field Theory and Back

9:30 Dino Leporini (University of Pisa)
Elasticity and relaxation in glass-forming systems

9:50 Emanuela Del Gado (ETH, Zürich)
Heterogeneous glasses and sustainable cement

10:10 George Hentschel (Emory University, Atlanta)
Plasticity in Magnetoelastic Amorphous Solids

10:30 Federico Corberi (University of Salerno)
Coarsening: surfing on the edge

10:50 Mauro Sellitto (Second University of Naples)
Fluctuation relation in driven systems with glassy dynamics

11:10 coffee break

11:40 Bernard Sapoval (Ecole Polytechnique, Paris)
Faster Diffusion from Irregular Surfaces

12:00 Alberto Robledo (UNAM, Mexico City)
A complex network perspective of chaos

12:20 Marco Zannetti (University of Salerno)
Growth Law and Superuniversality in Disordered Ferromagnets

12:40 Jorge Kurchan (ESPCI, Paris)
Statistical mechanics and the sign problem

Lunch

14:00-15:00 Poster session

15:00 Shlomo Havlin (Bar-Ilan University, Ramat Gan)
Percolation of network of networks

15:20 Hans Herrmann (ETH, Zürich)
Watershed Percolation

15:40 José Soares Andrade (Federal University of Ceará, Fortaleza)
Fracturing highly disordered materials

16:00 Nuno Araújo (ETH, Zürich)
Explosive Percolation

16:20 Tommaso Aste (University of Kent)
Hierarchical information clustering by means of topologically embedded graphs

16:40 coffee break

17:10 Fereydoon Family (Emory University, Atlanta)
Statistical Physics of Age Related Macular Degeneration

17:30 Anita Metha (SNBNC, Kolkata)
Competing synapses with two timescales: a basis for learning and forgetting

17:50 Plamen Ivanov (Boston University and Harvard Medical School)
Physiologic Complexity and Network Physiology

18:10 Andrea Gamba (Polytechnic University of Turin)
Geometry, topology, and out-of-equilibrium dynamics in epithelial morphogenesis

18:30 Denis Grebenkov (Ecole Polytechnique, Paris)
Surveying Anomalous Diffusion in Living Cells

18:50 Ruggero Cortini (Imperial College, London)
The homologous pairing enigma and the hidden abilities of the DNA double helix

Tuesday, June 5, 2012

9:00 Francesco Sciortino (University of Rome “La Sapienza”)
Phase diagrams of patchy colloids

9:20 Kenneth Dawson (University College Dublin)
TBA

9:40 Maria Antonietta Ricci (University of Roma Tre)
Isotopic effect on the ageing dynamics of a charged colloidal system

10:00 Francois Leyvraz (UNAM, Cuernavaca)
Scaling theory of gelling systems: recent results

10:20 Jeferson Arenzon (UFRGS, Porto Alegre)
Domain growth morphology in two-dimensional coarsening

10:40 coffee break

11:10 William Klein (Boston University)
A New Paradigm for Gutenberg-Richter Scaling

11:30 Alberto Petri (CNR ISC, Rome)

Stochastic approach to chaotic stick slip in sheared granular media

11:50 Marco Tarzia (LPTMC, Paris Jussieu)

Chaos and ergodicity in disordered quantum systems

12:10 Closing session