

Strolling on Chaos, Turbulence and Statistical Mechanics

Roma, September 22-24, 2014

Angelo Vulpiani's 60th birthday

E. Aurell
G. Battimelli
M. Berry
L. Biferale
G. Boffetta
S. Chibbaro
A. Crisanti
P. Grassberger
M. Jensen
G. Jona Lasinio
R. Livi
C. Lopez
G. Parisi
A. Petri
L. Pietronero
A. Politi
L. Rondoni
S. Ruffo
D. Villamaina

Organizing committee

F. Cecconi
M. Cencini
M. Falcioni
U. Marini Bettolo Marconi
A. Puglisi
D. Vergni

Scientific secretariat: M. Marchetti



SAPIENZA
UNIVERSITÀ DI ROMA

Dipartimento di fisica

CNR



istituto
dei sistemi
complessi

<http://tnt.phys.uniroma1.it/~av60/>

Strolling on Chaos, Turbulence and Statistical Mechanics

MONDAY 22

08.30 - 09.30	<i>Registration</i>
09.30 - 09.45	<i>Welcome</i>
09.45 - 10.30	P. Grassberger
10.30 - 11.00	<i>Coffee Break</i>
11.00 - 11.45	L. Pietronero
11.45 - 12.30	M. Jensen
12.30 - 14.00	<i>Lunch</i>
14.00 - 14.45	G. Jona Lasinio
14.45 - 15.30	E. Aurell
15.30 - 16.00	<i>Coffee break</i>
16.00 - 16.45	D. Villamaina
16.45 - 17.30	L. Rondoni

TUESDAY 23

09:00 - 09.45	M. Berry
09.45 - 10.30	S. Chibbaro
10.30 - 11.00	<i>Coffee Break</i>
11.00 - 11.45	S. Ruffo
11.45 - 12.30	A. Politi
12.30 - 14.00	<i>Lunch</i>
14.00 - 14.45	L. Biferale
14.45 - 15.30	G. Boffetta
15.30 - 16.00	<i>Coffee break</i>
16.00 - 16.45	C. Lopez
16.45 - 17.30	G. Battimelli

WEDNESDAY 24

09:00 - 09.45	R. Livi
09.45 - 10.30	A. Petri
10.30 - 11.00	<i>Coffee Break</i>
11.00 - 11.45	A. Crisanti
11.45 - 12.30	G. Parisi
12.30 - 12.45	<i>Closure</i>

Strolling on Chaos, Turbulence and Statistical Mechanics

Monday, September 22

- 09.30 *Welcome*
- 09.45 **P. Grassberger**
*Discontinuous percolation transitions: How cooperation
can lead to disasters*
- 10.30 Coffee break
- 11.00 **L. Pietronero**
*New Metrics for Economic Complexity: Measuring the
Intangible Growth Potential of Countries*
- 11.45 **M. Jensen**
*Coupled Oscillators and Arnold Tongues in Cell Dynam-
ics*
- 12.30 Lunch
- 14.00 **G. Jona Lasinio**
On thermodynamic transformations
- 14.45 **E. Aurell**
Entropy production mesoscopically and macroscopically
- 15.30 Coffee break
- 16.00 **D. Villamaina**
*Fluctuations and generalized response theory in statisti-
cal physics*
- 16.45 **L. Rondoni**
*Morally, it works: on current applications of ergodic no-
tions in statistical physics*

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Tuesday, September 23

- 09.00 **M. Berry**
The singularities of light: intensity, phase, polarization
- 09.45 **S. Chibbaro**
Some considerations on Determinism, Chaos and Reductionism
- 10.30 Coffee break
- 11.00 **S. Ruffo**
Kuramoto model of synchronization: equilibrium and non equilibrium aspects
- 11.45 **A. Politi**
Chaotic properties of oscillator networks
- 12.30 Lunch
- 14.00 **L. Biferale**
On the direct and inverse energy transfer in 2-dimensional and 3-dimensional turbulent flows
- 14.45 **G. Boffetta**
Lagrangian Turbulence: 20 years after
- 15.30 Coffee break
- 16.00 **C. Lopez**
Finite-Size Lyapunov Exponents: applications to transport in the oceans
- 16.45 **G. Battimelli**
A random talk in history

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Wednesday, September 24

- 09.00 **R. Livi**
Spectral methods for the analysis of DNA promoters
- 09.45 **A. Petri**
A Brownian ratchet driven by the Coulomb friction
- 10.30 Coffee break
- 11.00 **A. Crisanti**
*Aging Fluctuation Relation and Fluctuation Dissipation
Theorem: a possible relation*
- 11.45 **G. Parisi**
*Exact theory of dense amorphous hard spheres in high
dimension*
- 12.30 *Closure*