

Advanced Workshop on Nonequilibrium Systems in Physics, Geosciences and Life Sciences



14 - 25 May 2018
Trieste, Italy

Further information:
<http://indico.ictp.it/event/8309/>
smr3203@ictp.it

Description:

Most phenomena occur out of equilibrium, but our understanding of nonequilibrium systems is poor as compared to equilibrium statistical mechanics. Also, information technologies have provided a wealth of quantitative data on complex systems whose fundamental laws are yet unknown to us. These issues are at the frontier of contemporary science in many domains.

Topics:

Questions the workshop will focus on include:

- How does a complex system respond to perturbations?
- How to construct models across a hierarchical ladder of complexity and with multiple scales in space and in time?
- How to test theories and models against limited and noisy data?
- How to describe and predict large fluctuations and extreme events?
- How do patterns emerge in the self-organization of complex systems?
- How to study fluctuations in reversible and irreversible systems?

The workshop aims to approach these problems taking advantage of results, tools, and ideas coming from a diverse range of disciplines, with the goal of advancing our knowledge and fostering cross fertilization.

Directors:

F. Bouchet, ENS-Lyon
G. Gallavotti, Rome La Sapienza
A. Gambassi, SISSA
V. Lucarini, University Reading/University Hamburg
S. Ruffo, SISSA

Local Organizer:

M. Marsili, ICTP

Speakers include:

M. Baiesi, Italy
L. Biferale, Italy
G. Biroli, France
A. Celani, Italy
S. Ciliberto, France
S. Cocco, France
L. Cugliandolo, France
L. De Cruz, Belgium
E. Domany, Israel
E. Frey, Germany
K. Gawedsky, France
A. Gritsun, Russian Federation
R. Harries, U.K.
A. Jelic, Italy
F. Kucharski, Italy
T. Kuna, U.K.
J. Kurchan, France
A. Laio, Italy
B. Machta, U.S.A.
C. Maes, Belgium
C. Mejia-Monasterio, Spain
I. Nemenmann, U.S.A.
A. Politi, U.K.
D. Ruelle, France
S. Sarkar, U.S.A.
D. Schwab, U.S.A.
U. Seifert, Germany
T. Sharpee, U.S.A.
S. Suweis, Italy
M. Transtrum, U.S.A.
E. Vanden-Eijnde, U.S.A.
S. Vannitsem, Belgium
A. Vulpiani, Italy
J. Yorke, U.S.A.

How to apply:

Online application:
<http://indico.ictp.it/event/8309/>

Female students and scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Deadlines:

Deadline for requesting financial support:
15 February 2018

Deadline for applications:
31 March 2018

