



The Abdus Salam
**International Centre
for Theoretical Physics**

www.ictp.it



The Abdus Salam ICTP and SISSA, in collaboration with the partner institutions of the Master in the Physics of Complex Systems (<http://www.polito.it/pcs>) will organize the

Spring College on the Physics of Complex Systems

10 April - 5 May 2017

Miramare, Trieste, Italy

Many complex systems in physics, biology, engineering and economics are characterized by a large number of interacting degrees of freedom giving rise to a non-trivial collective behavior. The theoretical and computational tools for a quantitative analysis of complex systems are often rooted in modern (statistical, quantum) physics. The *Spring College on the Physics of Complex Systems* aims to give students the opportunity to get in touch with a selection of topics at the forefront of research during an intensive 4-week program. It consists of 5 courses of 9 lectures each, followed by final written tests.

Courses and Lecturers:

- Pasquale Calabrese (SISSA, Trieste)
Entanglement and complexity in many-body quantum systems
- Federico Ricci Tersenghi (University of Rome La Sapienza)
Thermodynamics and out of equilibrium dynamics in disordered systems
- Matthew Scott (U. of Waterloo)
Quantitative Bacterial Physiology
- Pierpaolo Vivo (King's College, London)
Random Matrices: Theory and Practice
- Aleksandra Walczak and Thierry Mora (ENS Paris)
Optimization, inference and learning in biological systems

The Spring College is part of the Master program in the Physics of Complex Systems, but it is open to a limited participation of well-qualified students at the Master and PhD level. Applicants from all countries that are members of the United Nations, UNESCO or IAEA may attend. Participants should have an adequate working knowledge of English. Candidates are required to solicit recommendation letters to be sent by their supervisors in support of their application. As a rule, travel and subsistence expenses of the participants should be borne by their home institutions. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants, who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only to those attending the entire activity and taking the final test. Attendance of lectures and completion of the final written tests is mandatory for those granted ICTP funding. There is no registration fee.

HOW TO APPLY FOR PARTICIPATION

The online **Application form** can be accessed at the activity website:
<http://indico.ictp.it/event/7958/> Comprehensive instructions will guide you step by step to fill out and submit the application form.



Organizing Committee

- S. Franz** (LPTMS Orsay)
- A. Gambassi** (SISSA)
- M. Marsili** (ICTP)
- A. Scardicchio** (ICTP)
- A. Pelizzola** (Politecnico di Torino)

Local organizer

M. Marsili (ICTP)

DEADLINE

for applications:

15 January 2017

ACTIVITY SECRETARIAT

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<http://indico.ictp.it/event/7958>

ICTP Home Page:

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