



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



# Spring College on the Physics of Complex Systems

## Description:

ICTP and SISSA, in collaboration with the partner institutions of the International Master Course in Physics of Complex Systems (PCS), and with the financial support of Politecnico di Torino and Université Franco Italienne, are organizing the Spring College on the Physics of Complex Systems from 16 February to 13 March 2026.

## MORE DETAILS:

Many complex systems in physics, biology, engineering and economics are characterised by a large number of interacting degrees of freedom, giving rise to a non-trivial collective behaviour. The theoretical and computational tools for a quantitative analysis of complex systems are often rooted in modern theoretical physics. The Spring College on the Physics of Complex Systems aims to expose students to a selection of topics at the forefront of research during an intensive, 4-week programme.

The Spring College is part of the PCS Master programme and it is open to qualified Master and PhD students, and to young researchers.

## LECTURERS AND COURSES:

**Bruno Loureiro**  
ENS & CNRS Paris, France  
**Mauro Pastore**  
ICTP, Italy

“A statistical physics perspective on the theory of machine learning”

**Francesca Mastrogiuseppe**  
SISSA, Italy

“Recurrent neural networks in neuroscience”

**Sergio Ciliberto**  
ENS Lyon, France

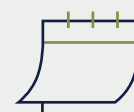
“Stochastic Thermodynamics: from theory to experiments”

**Francesco Zamponi**  
Sapienza, Roma, Italy

“From Statistical Physics to Data-Driven modelling in Biology”

## RULES FOR PARTICIPATION:

The spring college will be composed of 4 courses each of 9 lectures and a final exam for each course. Candidates are required to solicit recommendation letters to be sent by their supervisors in support of their application. Participants with financial support from the ICTP and Master PCS students are required to attend at least 80% of the courses and to take the final exam for each course. Certificates of attendance will be awarded only to participants who have attended at least 80% of the courses.



**16 February - 13 March 2026**



**Trieste, Italy**



**Deadline:  
20 November 2025**

## DIRECTORS:

J. GRILLI, ICTP, Italy  
M. MARSILI, ICTP, Italy  
A. ROSA, SISSA, Italy

## LOCAL ORGANISER:

M. MARSILI, ICTP, Italy

## FURTHER INFORMATION:

E-mail: [smr4207@ictp.it](mailto:smr4207@ictp.it)

Web: <http://indico.ictp.it/event/11133/>

Female 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.



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**JSTAT**  
Journal of Statistical Mechanics:  
Theory and Experiment

