



The Abdus Salam  
**International Centre  
for Theoretical Physics**  
www.ictp.it



**25 - 29 July 2016**

Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy is organizing a **Conference on Long-Range Interacting Many-Body Systems: from Atomic to Astrophysical Scales**, to be held in Trieste, Italy from **25 - 29 July 2016**. The Conference is a satellite of **STATPHYS26** (Lyon, France, taking place from 18 - 22 July 2016).

Long-range interactions, decaying like an inverse power law in the distance, are ubiquitous in nature. In the past decade we witnessed a surge of interest in the field, be it in the statistical physics community where the peculiar dynamic and thermodynamic properties of such systems have been studied, or even more recently in atomic and quantum many-body physics, where long-range interactions have become accessible in ion trap experiments, ultracold atomic or molecular gases, in cavity quantum electrodynamics, and others. While noteworthy progress has been made in many directions, the research in the subfields has been mostly unconnected. The conference will feature introductory review talks of the relevant subfields as well as research talks on the most recent developments, in order to provide an overview of the common characteristics, methods, and challenges in the study of long-range systems.

**Main topics:**

- Statistical physics of long-range interacting systems;
- Kinetic theory and Landau damping;
- Self-gravitating systems in astrophysics;
- Long-range interactions in cold atomic gases;
- Ion trap-based long-range spin systems;
- Rydberg atoms and dipolar atomic gases.

**GRANTS**

A limited number of grants are available to support the travel and living expenses of selected participants, with priority given to participants working in a developing country and who are at the early stages of their career.

During this event, a Conference on Entanglement and Non-Equilibrium Physics of Pure and Disordered Systems will also take place at ICTP from 25 - 27 July 2016: <http://indico.ictp.it/event/7604>.

This Conference is a satellite of the international Conference STATPHYS26, taking place in Lyon, France, from 18 - 22 July 2016: <http://statphys26.sciencesconf.org>. Applicants requesting ICTP financial support (for nationals of, and working in, a developing country) and who are planning to attend STATPHYS26 are requested to specify this clearly on the application form.

**HOW TO APPLY FOR PARTICIPATION:**

The application form can be accessed at the activity website: <http://indico.ictp.it/event/7612>

**DEADLINES for requesting participation:**

**10 MARCH 2016** (if financial support and/or visa are needed)

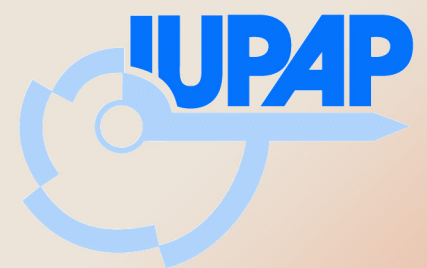
**10 MAY 2016** (otherwise)

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**LOCAL ORGANIZER:**

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**LECTURERS & SPEAKERS  
INCLUDE:**

- R. BACHELARD** (Sao Carlos, Brazil)
- J. BARRÉ** (Nice, France)
- S.T. BRAMWELL** (London, U.K.)
- L. CASETTI** (Firenze, Italy)
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- H. TOUCHETTE** (Stellenbosch, Sth. Africa)
- J. TOUMA** (Beirut, Lebanon)

**STATPHYS 26**  
JULY 18-22, 2016 Lyon

