



The Abdus Salam

**International Centre
for Theoretical Physics**

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IAEA
International Atomic Energy Agency

Conference on Entanglement and Non-Equilibrium Physics of Pure and Disordered Systems

25 - 27 July 2016

Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy, is organizing a **Conference on Entanglement and Non-Equilibrium Physics of Pure and Disordered Systems**, to be held in Trieste from **25 - 27 July 2016**.

Entanglement is a key feature of quantum mechanics that, since its introduction, has been posing fundamental questions about our understanding of nature. In the last decade it became clear that entanglement also gives a finer understanding of quantum statistical systems both in and out of equilibrium for pure and disordered systems. These studies have allowed the developing of new numerical algorithms to tackle quantum systems, also showing that the growing of entanglement is the main limitation to simulate the non equilibrium dynamics of quantum systems on a classical computer. Maybe surprisingly, the slowest growth of entanglement in a non-equilibrium disordered system permits an easier numerical simulations that sheds some lights also on phenomena like many-body localisation. The main goal of this conference is to bring together experts working in different areas of quantum physics (statistical physics, quantum information, quantum field theory, many-body localization, tensor networks, etc.) with common interest in entanglement and non-equilibrium physics.

SPEAKERS

D. Abanin (Geneva) *	A. Gambassi(SISSA)
F. Alcaraz (São Carlos) *	V. Hubeny (Durham) *
J. Bardardson (Dresden)	A. Lauchli (Innsbruck)
D. Bernard (ENS Paris)	S. N. Majumdar (Paris-Sud)
M.J. Bhaseen (King's College London)	A. Mitra (New York)
J.-S. Caux (Amsterdam)	J. Moore (Berkeley)
I. Cirac (Garching)	D. Perez Garcia (Madrid)
L.F. Cugliandolo (Paris)	M. Rigol (Penn State)
B. Doyon (King's College London)	H. Saleur (CEA- Saclay)
E. Ercolessi(Bologna)	A. Silva (SISSA)
J. Eisert (Berlin)	T. Takayanagi (Kyoto)
P. Fendley (Oxford)	E. Tonni (SISSA)

* To be confirmed

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

Another satellite conference of STATPHYS26 will take place in parallel at the ICTP (**Conference on Long-Range Interacting Many-Body Systems: From Atomic to Astrophysical Scales**, 25 - 29 July 2016, see <http://indico.ictp.it/event/7612/>). Motivated candidates can apply in both ICTP events.

HOW TO APPLY FOR PARTICIPATION in the Conference on Entanglement and Non-Equilibrium Physics of Pure and Disordered Systems: The online application form can be accessed at the website:

<http://indico.ictp.it/event/7604/>

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.

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DEADLINES

for requesting participation:

- **10 MARCH 2016** - if financial support and/or visa are needed
- **10 MAY 2016** - otherwise

STATPHYS 26
JULY 18-22, 2016 *Lyon*

