The Abdus Salam International Centre for Theoretical Physics

Italy - Hungary Special Session on *"Theoretical Physics of Complex Systems"*

during MECO 38
38th Conference of the Middle European Cooperation in Statistical Physics
(25 - 27 March 2013)

TUESDAY MARCH 26th, 2013
The Abdus Salam International Centre for Theoretical Physics (ICTP)
Trieste, Italy

The event is organized in collaboration with the Italian Embassy in Budapest, Hungary

Brief description: Italy and Hungary are world leaders in the field of complex systems. Particularly relevant are the contributions of Italian and Hungarian scientists to the statistical physics of complex networks and disordered systems. The event will bring together two among the most prominent scientists in the field of theoretical physics of complex systems. Saverio Pascazio (Bari) and Tamás Vicsek (Budapest) will give public lectures on the past, present and future of this rapidly evolving discipline. The event will take place in the context of the 38th Conference of the Middle European Cooperation in Statistical Physics (MECO), which will be attended by over 100 scientists primarily from central and eastern european countries.

Programme:

Tuesday, March 26th 2013
held in the Kastler Lecture Hall, Adriatico Guest House
The Abdus Salam International Centre for Theoretical Physics

Opening:

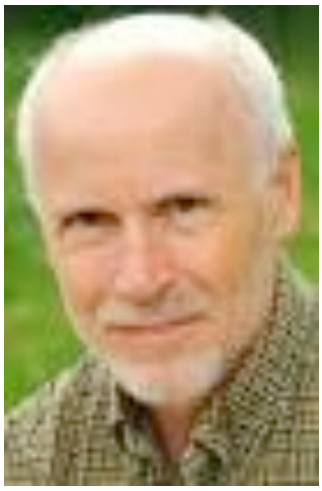
14:00 - 14:15 **Introduction / Authorities**

Public Lectures:

14:15 - 15:00 **Tamás Vicsek** (Budapest, Hungary)
"Network Dynamics in Collective Motion"

15:00 - 15:45 **Saverio Pascazio** (Bari, Italy)
"Statistical Properties of Entanglement in Large Quantum Systems"

Biodata of the Lecturers:



Tamás Vicsek is Professor of Physics at the Biological Physics Department of Eötvös University and head of the Statistical and Biological Physics research group of the Hungarian Academy of Sciences. Over the past 30 years he has been involved in doing computational and experimental research on fractals, pattern formation, granular materials, collective motion (bacterial colonies, flocks, crowds) and the and structure and evolution of complex networks. He received his PhD degree in physics at Kossuth University and has had visiting positions (research and teaching) at various research institutes and universities, including Emory University, Yale University and the University of Notre Dame. Tamas Vicsek is a fellow of the APS and member of Academiae Europaea and the Hungarian Acad. Sci. and a holder of several prestigious prizes.

Saverio Pascazio is Professor of Theoretical Physics at the University of Bari. The main focus of his scientific activity is on quantum information, irreversibility and statistical fluctuations, decoherence and its control, quantum simulations, entanglement, complexity and the temporal behavior of quantum and classical systems. He is the author of about 180 research papers and 2 books and the Coordinator of Research Projects of the European Union, the Italian Ministry for Foreign Affairs and Istituto Nazionale Fisica Nucleare (INFN). He is Panelist and Referee of the European Union, Panelist of the Natural Sciences and Engineering Research Council (NSERC) of Canada and General Chair of the Optical Society of America (OSA) for activities and conferences on Quantum Information and Communication.