



Workshop on Emergence of New States of Matter in Magnetic Systems and Beyond: Frustrated Magnets, Topological Insulators, and Cold Atoms in Optical Lattices

5 - 9 July 2010
Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics is organizing a **Workshop on Emergence of New States of Matter in Magnetic Systems and Beyond: Frustrated Magnets, Topological Insulators, and Cold Atoms in Optical Lattices** from 5 to 9 July 2010.

This workshop is devoted to the investigation of new phases of matter that emerge from strong quantum fluctuations in magnetic systems and cold atomic gases trapped in optical lattices. The aim is to bring together scientists interested in different aspects of strongly correlated systems to stimulate cross-fertilization between different communities. The talks will be devoted to advanced topics covering the main aspects of the fields from models to materials that may show novel quantum phases or quantum phase transitions. In addition, ample time will be reserved for thorough discussion.

TOPICS

- BEC in cold atoms and quantum magnets
- Exotic quantum phases (Spin nematic, spin liquid, etc)
- Kagome geometry (frustrated magnets and cold atoms)
- Spin-ice and fractional excitations
- Topological insulators and quantum information
- Disorder effects in bosonic systems
- Time dependent effects and dynamics

PARTICIPATION:

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the School. As it will be conducted in English, participants should have an adequate working knowledge of that language. Although the main purpose of the Centre is to help research workers from developing countries, through a programme of training activities within a framework of international cooperation, a limited number of students and post-doctoral scientists from developed countries are also welcome to attend.

As a rule, travel and subsistence expenses of the participants should be borne by the home institution. 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 for those who attend the entire activity. There is no registration fee.

HOW TO APPLY FOR PARTICIPATION

The application form can be accessed at the activity website
<http://agenda.ictp.it/smr.php?2154>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

Deadline for requesting participation: **15 March 2010**

ACTIVITY SECRETARIAT: Telephone: +39-040-2240576 Telefax: +39-040-2240585

E-mail: smr2154@ictp.it ICTP Home Page: <http://www.ictp.it/>



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Directors

F. BECCA (CNR & SISSA, Trieste)
M. KISELEV (ICTP, Trieste)
B. KUMAR (JNU, New Delhi)
F. MILA (EPF, Lausanne)

Preliminary List of Speakers

L. Balents (Santa Barbara)
G. Baskaran (Chennai)
S. Bramwell (Oxford)
M. Gingras (Waterloo)
Z. Hiroi (Tokyo)
P. Holdsworth (Lyon)
M. Inguscio (Firenze)
K. Kanoda (Tokyo)*
H. R. Krishnamurthy (Bangalore)
P. Mendels (Paris)
R. Moessner (Dresden)
K. Penc (Budapest)
N. Prokofev (Amherst)
C. Rüegg (London)
U. Schollwöck (Munich)
D. Stamper-Kurn (Berkeley)
N. Trivedi (Columbus)
A. Tsvelik (Brookhaven)
M. Zhitomirsky (Grenoble)

* to be confirmed

DEADLINE

for requesting participation

15 March 2010