



The Abdus Salam
International Centre for Theoretical Physics


United Nations
Educational, Scientific
and Cultural Organization


International Atomic
Energy Agency

Common Concepts in Statistical Physics and Computer Science

2-6 July 2007

ICTP, Miramare – Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste, Italy) is organizing a conference on “*Common Concepts in Statistical Physics and Computer Science*” to be held at the ICTP in Trieste from 2 to 6 July 2007.

In recent years, a growing interaction has been shown between the fields of Statistical Physics of glassy & disordered systems and Computer Science. Problems that have arisen in Computer Science (such as Optimization, Satisfiability Problems, Error Correcting Codes, Communication problems, etc.) that could not be solved with rigorous mathematical tools have been analyzed successfully with statistical physics techniques. Moreover rigorous results from Computer Science have helped in putting some conjectures from statistical physics on firmer ground. Finally, the intense interchange of ideas among these two disciplines is producing developments in interesting common problems, such as phase transition on random structures and out of equilibrium dynamics (with or without detailed balance).

The conference will be a satellite of the 23rd STATPHYS (the largest international conference on statistical physics) and its main scope would be to bring to the attention of the international statistical physics community the needs of a worthwhile collaboration with the most recent results from both disciplines.

Participation to the conference will be open to scientists from all countries, which are members of the United Nations, UNESCO or IAEA. This conference will be conducted in English; therefore participants should have an adequate working knowledge of this language.

Although the main purpose of ICTP is to help research workers from developing countries, through a programme of training within a framework of international cooperation, scientists from developed countries are also welcome to attend.

As a rule, travel and subsistence expenses of the participants should be borne by their 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. There is no registration fee.

Application forms for the conference can be found on the Web server of ICTP at:
http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a06205

The closing date for receipt of applications for participation is **21 March 2007**.

Those wishing to participate should fully complete and sign the “Request for Participation” form, available from the ICTP WWW server, and send it by mail or fax to:

“*Common Concepts in Statistical Physics and Computer Science*”
(c/o Elizabeth Brancaccio)
the Abdus Salam International Centre for Theoretical Physics
Strada Costiera 11
34014 Trieste, Italy

If sending an application by e-mail: smr1850@ictp.it
(Please save and send file attachments in PDF or RTF format)

Telephone: +39-040-2240284 Telefax: +39-040-224163
E-mail: smr1850@ictp.it
ICTP Home Page: <http://www.ictp.it/>

DIRECTORS

S. Franz
(ICTP, Italy)

M. Marsili
(ICTP, Italy)

A. Montanari
(Stanford U.S.A. & ENS, France)

G. Parisi
(Univ. La Sapienza, Italy)

F. Ricci-Tersenghi
(Univ. La Sapienza, Italy)

R. Zecchina
(ICTP, Trieste)

SPEAKERS

D. Achlioptas (U.S.A.)

D. Aldous (U.S.A.)

C. Borgs, (U.S.A.)

J. Chayes, (U.S.A.)

D. Gamarnik (U.S.A.)

F. Guerra (Italy)

J. Martin (UK) *

M. Mezard (France)

E. Mossel (U.S.A.) *

B. Prabhakar (U.S.A.)

D. Randall (U.S.A.) *

G. Semerjian (France)

D. Shah (U.S.A.)

R. Urbanke (Switzerland)

M. Wainwright (U.S.A.)

W. Wastlund (Sweden)

* To be confirmed

Application Deadline

21 March 2007