

The Abdus Salam International Centre for Theoretical Physics

Autumn College on Non-Equilibrium Quantum Systems

2 - 13 May 2011

Buenos Aires, Argentina

This College will review the state of the art in the experiment and theory of quantum non-equilibrium phenomena mainly focused on low dimensional systems. Pedagogical lecture courses consist on 8 series of 2 - 4 lectures on general topics will encompass:

- Many-body localization
- Topological quantum computations
- Quantum noise: Theory and experiment
- Non-equilibrium physics in nano-structures

LECTURERS:

Aleiner, I.L. - Columbia University, New York
Büttiker, M. - Université de Genève
Chamon, C. - Boston University
Glazman, L.I. - Yale University, New Haven
Kamenev, A. - University of Minnesota, Minneapolis
Markus, C. - Harvard University, Cambridge
Salomon, C. - Ecole Normale Supérieure, Paris

SPEAKERS:

Altshuler, B.L. - Columbia University, New York Birge, N.O. - Michigan State University, East Lansing *) Cirac, I.J. - MPI of Quantum Optics, München *) Cugliandolo, L.F. - Université Pierre et Marie Curie, Paris Gefen, Y. - The Weizmann Institute of Science, Rehovot Kiselev, M.N. - International Centre for Theoretical Physics, Trieste Marquardt, F. - Friedrich-Alexander-Universität Erlangen-Nürnberg Molenkamp, L.W. - Universität Würzburg Mussardo, G. - International School for Advanced Studies, Trieste Pastawski, H.M. - Universidad Nacional de Cordoba Refael, G. - California Institute of Technology, Pasadena Shekhter, R. - University of Gothenburg Shlyapnikov, G. - Université XI, Paris Stern, A. - The Weizmann Institute of Science, Rehovot von Delft, J. - Ludwig-Maximilians-Universität München von Oppen, F. - Freie Universität Berlin **Yacoby**, **A.** - Harvard University, Cambridge *)

*) to be confirmed

Participation

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the College. The activity is aimed to young researchers from developing countries working or planning to study physical phenomena out of equilibrium and its applications in quantum systems. Priority will be given to advanced undergraduates, graduate students, postdoctoral researchers, faculty and research scientists from Latin American countries.

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.



- 1D fermions beyond the Luttinger liquid theory
- Ultra-cold atomic gases out of equilibrium
- Methods of non-equilibrium many-body theory
- Non-equilibrium spintronics



DIRECTORS:

Boris L. ALTSHULER (Columbia University, New York)

Leticia F. CUGLIANDOLO (Université Pierre et Marie Curie, Paris)

Mikhail N. KISELEV (International Centre for Theoretical Physics, Trieste)

Giuseppe MUSSARDO (International School for Advanced Studies, Trieste)

> **Felix VON OPPEN** (Freie Universität Berlin)

LOCAL ORGANISERS:

Liliana ARRACHEA (Universidad de Buenos Aires)

Gustavo S. LOZANO (Universidad de Buenos Aires)

HOW TO APPLY FOR PARTICIPATION

The application form can be accessed at the activity website

http://agenda.ictp.it/smr.php?2280

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

You may address general requests for information to the College secretary:

Ms. M. Poropat (smr. 2280) the Abdus Salam International Centre for Theoretical Physics Strada Costiera 11 - 34151 Trieste, Italy Telephone: +39-040-2240540 - Telefax: +39-040-2240354 E-mail: <u>smr2280@ictp.it</u> ICTP Home Page: <u>http://www.ictp.it</u>

DEADLINE

for requesting participation: 10 January 2011 (if requesting funds)

15 February 2011 (if requesting neither funds nor visa assistance)