ADVANCED SCHOOL AND CONFERENCE ON REPRESENTATION THEORY AND RELATED TOPICS

9 - 27 January 2006

ICTP, Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing an **Advanced School and Conference on Representation Theory and Related Topics**, to be held from 9 to 27 January 2006, in Trieste, Italy. It will be directed by José A. de la Peña (UNAM, Mexico), Helmut Lenzing (Paderborn, Germany), Bernhard Keller (Paris, France) and Andrzej Skowronski (Torun, Poland).

The Representation Theory of Algebras has had an extraordinary development in the last years finding and increasing number of mathematical connections with other fields of mathematics and physics. The proposed School presents some basic topics and open the possibility for students and researchers interested in learning the new developments to approach the field.

The aim of the School and the Conference is to introduce Graduate Students in Mathematics, Physics and Young Researchers to some fundamental aspects in the fields. The main topics will include:
Quiver and their Representations - Structure of Algebras and their Module Categories - Finite, tame and wild Representation Types - Tilting Theory - Derived and Triangulated Categories - Module Varieties and Associated Geometric Invariants - Deformation Theory of Algebraic Structures - Hochschild, simplicial and cyclic Cohomologies of Algebras - Quasi- Hereditary Algeras and Cellular Algebras - Hall Algebras and the Relation with Lie Theory.

The following courses will be given during the two first weeks of the **School**, from 9 to 20 January 2006:

Quiver algebras and their representations (M. Barot)
Auslander-Reiten theory (J. Schröer)
Gabriel-Roiter measure (H. Krause)
Integral quadratic forms and representation types (J.A. de la Peña)
Deformation of algebras and modules (C. Geiss)
Cellular algebras (C. Xi)
Derived and triangulated categories (B. Keller)
Tilting theory and cluster algebras (I. Reiten)
Hereditary categories (H. Lenzing)
Periodicity in representation theory of algebras (A. Skowronski)
Hall algebras (O. Schiffman)

The list of speakers of the third-week **Conference**, from 23 to 27 January 2006, includes:

L. Angeleri-Hügel (Insubria), **F. Coelho** (Sao Paulo), **F. Chapoton** (Lyon), **K. Erdmann** (Oxford), **L. Hille** (Hamburg), **T. Holm** (Leeds), **O.Iyama** (Hyogo), **S. Kasjan** (Torun), **O. Kerner** (Düsseldorf), **S. König** (Leicester), **B. Leclerc** (Caen), **V. Mazorchuk** (Uppsala), **H. Meltzer** (Szczecin), **M. I. Platzeck** (Bahaia Blanca), **C. Ringel** (Bielefeld), **M. Saorin** (Murcia), **D. Zacharia** (Syracuse), **G. Zwara** (Torun).

Mathematicians from all countries that are members of the United Nations, UNESCO or IAEA may attend the activity. Although the main purpose of ICTP is to help researchers from developing nations through a programme of training activities within a framework of international cooperation, students and scientists from developed countries are also welcome to attend. As the activity will be conducted in English, participants must have a good working knowledge of that language.

As a rule, travel and subsistence expenses of the participants are borne by the home institutions. However, limited funds are available for some applicants who are nationals of, and working in, developing countries, and who are not more than 45 years of age, to be selected by the Organizers. Such financial support is available only to those attending the entire activity. As scarcity of funds allows travel to be granted on in a few exceptional cases, every effort should be made by candidates to secure support for their fare (or at least half-fare) from their home country. There is no registration fee.

The closing date for receipt of requests for participation is 31 August 2005

Candidates should complete, sign and return the **Application form** obtainable through the ICTP WWW Server from the activity's WEB Page, which will be constantly updated:

http://www.ictp.it/pages/events/calendar.html

The Application form should be sent by mail to:

The Abdus Salam International Centre for Theoretical Physics

Advanced School and Conference on Representation Theory and Related Topics

(smr1735 c/o Ms. Mabilo Koutou)

Strada Costiera 11

I-34014 Trieste, Italy

If sending an Application by e-mail: smr1735@ictp.it

(please save and send file attachments in pdf format)

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ICTP Home Page: http://www.ictp.it

Trieste, May 2005

ORGANIZERS

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DEADLINE

for receipt of applications:

31 August 2005