School on
Commutative Algebra and Interactions with Algebraic Geometry and Combinatorics

24 May – 11 June 2004
Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing a **School on Commutative Algebra and Interactions with Algebraic Geometry and Combinatorics** from 24 May to 11 June 2004. It will be directed by A. Simis (Universidade Federal de Pernambuco, Recife, Brazil), N.V. Trung (Academy of Sciences of Vietnam, Hanoi, Vietnam) and G. Valla (Università di Genova, Italy).

Commutative Algebra has several sources - among them, number theory, invariant theory and algebraic geometry. The field has experienced a striking evolution over the last twenty years, developing connections with combinatorics, group theory, topology, computer algebra, optimization, and statistics.

Commutative Algebra is taught, and actively pursued as a research field, in several developing countries - in particular, in Argentina, Brazil, China, India, Iran, Mexico and Vietnam.

The aim of the School is to introduce young mathematicians from developing countries to some fundamental techniques and recent developments in this field. The school will be divided into two parts.

During the first two weeks (24 May - 4 June) there will be instructional courses on the following topics:

Groebner basis theory - Finite free resolutions - Local cohomology - Combinatorial methods in Commutative Algebra - Blow-up rings and algebras - Singularity theory - Tight closure and characteristic p methods.

The third week (7 to 11 June) will be devoted to an international Conference. Besides invited lectures by experts, there will be opportunities for mathematicians from developing countries to present their work. Candidates wishing to give a short presentation at the Conference should write to both Professor Ngo Viet Trung (nvtrung@thevinh.ncst.ac.vn) and Professor G. Valla (valla@dima.unige.it) including a short vitae, the abstract and - whenever available - the text (in TeX) of the presentation.

PARTICIPATION

Mathematicians from all countries that are members of the United Nations, UNESCO or IAEA may attend the activity. As it will be conducted in English, participants must have a good working knowledge of that language. Although the main purpose of the ICTP is to help researchers from developing nations through a programme of training activities within a framework of international cooperation, 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 from and working in a developing country, and who are not more than 45 years old. There is no registration fee.

The **Application Form** is obtainable from the ICTP WWW server:

http://agenda.ictp.trieste.it/smr.php?1563

(which will be constantly updated) or from the activity Secretariat. It should be completed and returned before **10 January 2004** to:

**School on Commutative Algebra and Interactions
with Algebraic Geometry and Combinatorics
(c/o Ms. A. Bergamo, smr1563)
The Abdus Salam International Centre for Theoretical Physics
Strada Costiera 11, 34014 Trieste, Italy**

or

smr1563@ictp.trieste.it *(please save and send file attachments in RTF format)*

SCIENTIFIC COMMITTEE

C. Huneke, *Kansas, USA*
A. Simis, *Pernambuco, Brazil*
N.V. Trung, *Hanoi, Vietnam*
G. Valla, *Genoa, Italy*
J. Verma, *Mumbai, India*

LOCAL ORGANIZER

Ramadas T. Ramakrishnan

LECTURERS will include

L. Badescu, *Genoa, Italy*
D. Benson, *Athens, USA*
W. Bruns, *Osnabrück, Germany*
G.M. Greuel, *Kaiserslautern, Germany*
J. Herzog, *Essen, Germany*
E. Miller, *Minneapolis, USA*
L. Robbiano, *Genoa, Italy*
P. Schenzel, *Halle, Germany*
A. Singh, *Atlanta, USA*

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DEADLINE

10 January 2004