



The Abdus Salam  
International Centre for Theoretical Physics



IAEA  
International Atomic Energy Agency

CLAY  
MATHEMATICS  
INSTITUTE



# Summer School and Conference on Hodge Theory and Related Topics

14 June - 2 July 2010

Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing a **Summer School and Conference on Hodge Theory and Related Topics**, to be held from 14 June to 2 July 2010, in Trieste, Italy. It will be directed by Eduardo Cattani (University of Massachusetts, Amherst, USA), Fouad El Zein (IMJ, Paris France and CAMS at AUB, Beirut, Lebanon), P. Griffiths (IAS, Princeton, USA) and D. T. Lê (ICTP, Trieste, Italy). The aim of the School is to introduce young mathematicians from developing countries (and elsewhere) to modern Hodge Theory with emphasis on integrating the geometric and algebraic approaches, highlighting the increasing interest in arithmetic/geometric aspects of Hodge Theory. General lectures will seek to give clear definitions and statements of results. Indications of proofs and some examples will also be given during the working groups and seminars.

The main topics will include:

Introductory courses on varieties and cohomology

Basic courses on Hodge structures

Mixed Hodge structures

Variation and degenerations of Hodge structures

Courses on Algebraic cycles

Arithmetic aspects of Hodge structures

Mumford-Tate groups

Shimura varieties

Arithmetic aspects of algebraic cycles

The **third week**, from 28 June to 2 July will be an international conference on Hodge theory and its applications to Physics and Arithmetics.

In addition to plenary lectures given by leading and famous scholars in these fields, there will also be sessions where participants can present their work.

## PARTICIPATION

Mathematicians from all countries that 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 researchers from developing nations through a programme of training activities within the framework of international cooperation, students and 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?2150>. Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

**The closing date for receipt of requests for participation is 31 January 2010**

## Activity Secretariat

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## DEADLINE

**31 January 2010**