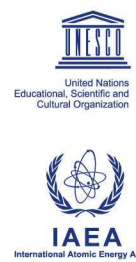




The Abdus Salam

**International Centre
for Theoretical Physics**

www.ictp.it



Advanced School and Workshop on Matrix Geometries and Applications

1 - 12 July 2013

Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing an **Advanced School and Workshop on Matrix Geometries and Applications**, which will be held at ICTP, Trieste, Italy, from **1 to 12 July 2013**.

Linear algebra is a fundamental topic in mathematics. It is used in almost all branches of mathematics and is among the most important mathematical disciplines for applications to science and technology.

Solutions of several problems in matrix theory involve ideas from differential, algebraic, affine, and projective geometry. The results have been used in diverse applications in image processing, statistics, machine learning, elasticity, mathematical foundations of quantum mechanics, quantum information etc.

This School and Workshop will be devoted to the exposition and discussion of some of these ideas.

MAIN TOPICS

- Riemannian geometry of the space of positive definite matrices
- Geometric means
- Numerical aspects of geometric means
- Techniques from algebraic geometry in matrix analysis
- Geometry and Spectral variation
- Adjacency preserving maps

The first week (1 - 5 July) will consist of a school. Short instructional courses will be given by leading researchers in the area. Three or four one-hour morning talks will be followed by problem and tutorial sessions in the afternoon.

The second week (8 - 12 July) will consist of an advanced workshop where speakers will present current research.

PARTICIPATION

Mathematicians from all countries which are members of the United Nations, UNESCO or IAEA may attend the School and Workshop. 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. 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?2470>. Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

Activity Secretariat:

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INVITED SPEAKERS

Jorge Antezana

(AIM, Buenos Aires)

ILAS speaker

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(University of Ljubljana)

Ke Ye

(University of Chicago)

DEADLINE

for requesting participation

28 February 2013