



The Abdus Salam International Centre for Theoretical Physics



School and Workshop on **THEORY AND TECHNOLOGY in QUANTUM INFORMATION, COMMUNICATION, COMPUTATION AND CRYPTOGRAPHY** 12 - 23 June 2006, Miramare, Trieste

co-sponsored by:
EUROPEAN COMMISSION
and
EUROTECH S.p.A., Amaro (Udine, Italy)



The Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste, Italy) and the European Commission, under the *Joint European Master Curriculum Development Programme in Quantum Information, Communication, Cryptography and Computation*, hosted by the Universities of Cergy-Pontoise (France), Chania (Greece), Leuven (Belgium), Rennes1 (France) and Trieste (Italy), are organizing a School and Workshop on "Theory and Technology in Quantum Information, Communication, Computation and Cryptography", to be held at the ICTP from 12 - 23 June 2006. The activity is also co-sponsored by Eurotech, S.p.A. (Amaro, Udine, Italy).

THE SCHOOL

The purpose of the School is to provide students in Physics, Mathematics, Computer Science and Engineering with the fundamentals and applications of theory and technologies of quantum information at a master level. The **School** will take place from **12 to 16 June** and will cover the following topics:

- Algebraic Tools
- Quantum Mechanics
- Quantum Statistical Mechanics
- Classical Information Theory
- Quantum Information and Entanglement
- Quantum Algorithms
- Quantum Cryptography
- Physical Implementations

Applicants should provide, together with the application form, a short CV and a letter of presentation by a senior scientist. A maximum number of 30 candidates will be selected; they will be provided with full board and partial reimbursement of travel expenses.

THE WORKSHOP

The School will be followed by a **Workshop, from 19 to 23 June**, where experts in the manifold and interdisciplinary applications of quantum information, ranging from statistical mechanics, atomic physics, quantum optics and condensed matter physics, will present and discuss their latest results.

Scientists and students from all countries that are members of the UN, UNESCO or IAEA can attend the activity. Although the main purpose of the Centre is to help researchers from developing countries through a programme of training activities within the framework of international cooperation, a limited number of students, post-doctoral scientists and researchers from developed countries are also welcome to attend. As the activity will be conducted in English, participants must have an adequate working knowledge of that language.

As a rule, travel and subsistence expenses of the participants are borne by their home institutions. 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 to those attending the entire period. There is no registration fee to attend this activity.

The closing date for the receipt of requests for participation is: 15 February 2006

The **Application Form** is obtainable from the ICTP WWW server: <http://agenda.ictp.it/smr.php?1756> (which will be constantly up-dated) or from the activity Secretariat (smr1756@ictp.it). It should be completed, signed and returned before **15 February 2006 to:**

the Abdus Salam International Centre for Theoretical Physics (**smr.1756**)
School & Workshop in Quantum Information, Communication, Computation and Cryptography
Strada Costiera 11, I-34014 Trieste, Italy

(please send file attachments only in RTF or PDF formats)

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<http://agenda.ictp.it/smr.php?1756>

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DEADLINE:
15 FEBRUARY 2006