



the
abdus salam
international centre for theoretical physics

WINTER COLLEGE ON OPTICS AND PHOTONICS IN NANOSCIENCE AND NANOTECHNOLOGY

February 7 - 18, 2005

The Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration with the International Commission for Optics (ICO), the Optical Society of America (OSA), the International Society for Optical Engineering (SPIE), and the International Society on Optics Within Life Sciences (OWLS), will organize a Winter College on Optics and Photonics in Nanoscience and Technology, which will be held at ICTP, Trieste, Italy, from February 7 to 18, 2005.

DIRECTORS:

V. Degiorgio (Dip. di Elettronica, Università di Pavia, Italy)
R. De La Rue (Dept. of Electronics, University of Glasgow, U.K.)
K. Rustagi (Centre for Advanced Technology, Indore, India)

LOCAL ORGANIZER:

G. Denardo (ICTP)

I. PURPOSE AND NATURE

The College will expose the participants to physics of new phenomena that occur in light-matter interactions at the sub-500 nm scale. Applications to interdisciplinary fields such as biophotonics will be treated. The College is organized in collaboration with ICS-UNIDO for the part relevant to optical methods for the fabrication and characterization of nanostructures. The programme consists of lectures by international experts, group discussions and laboratory demonstrations. The aim is to provide the background needed to follow the most advanced literature.

MAIN TOPICS

- *Near-field optical microscopy*
- *Near-field and field-enhanced nonlinear optics*
- *Optical properties of dielectric and metallic nanoparticles*
- *Spectroscopy at single-molecule level: surface-enhanced Raman scattering*
- *Semiconductor and polymer nanostructures: emitters, modulators, detectors*
- *Integrated optics: waveguides, photonic crystals, metamaterials*
- *Biophotonics at the nanoscale*
- *Nanotechnology: methods and applications*

The LAMP (Laser, Atomic and Molecular Physics) programme will include group discussions and internal seminars by participants.. Those who intend to deliver a seminar are expected to come to the ICTP prepared with all the material needed for their talk.

The College will be followed by a topical event:

ICS Training Course on Experimental Methods in Nanophotonics, February 21 - 25, 2005.

(Information on receiving application forms for this event, to be found on **page 3** of this Bulletin).

The ICO - ICTP Prize (nominations are solicited) will be awarded during the ICTP Winter College (see info. on **Page 4**).

II. PARTICIPATION

Scientists and students from all countries that are members of the UN, UNESCO or IAEA can attend the College. As it will be conducted in English, participants should have an adequate 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 participants from developing countries, who will be selected by the Organizers. Such financial support is available only for those who attend the entire activity. As scarcity of funds allows travel to be granted only 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 to attend the College.

Deadline for the RECEIPT of request for participation form:

October 15, 2004

Candidates should complete and sign the attached "Request for Participation" form (also obtainable from the ICTP WWW Server: <http://agenda.ictp.trieste.it/smr.php?1643>), which should be completed, signed and sent to:

**the Abdus Salam International Centre for Theoretical Physics
Winter College on Optics and Photonics (c/o Ms. Valerie Shaw)
Strada Costiera 11
I-34014 Trieste, Italy**

Any attachments to the request for participation, relevant to additional information for selection purposes, should not exceed 6 pages.

The decision of the Organizing Committee will be communicated to all candidates as soon as possible.

If you wish to attend,

**ICS Training Course on
Experimental Methods in Nanophotonics
February 21 - 25, 2005**

please request the relevant application form directly from:

**International Centre for Science and High Technology (ICS) - UNIDO
AREA Science Park
Padriciano, 99
34012 Trieste (Italy)**

Tel: +39-040-9228125

Fax: +39-040-9228122

E-mail: varnier@ics.trieste.it

ICO/ICTP Award 2005: call for nominations

ICO, the International Commission for Optics, has established three awards: the 'ICO Prize', the ICO Galileo Galilei Award and the ICTP/ICO Award. The latter was established jointly with ICTP and the International Commission for Theoretical Physics. The deadline for the ICTP/ICO Award is November 1, 2004.

The ICTP/ICO Award is reserved for young researchers from developing countries (as defined by the United Nations), who conduct their research in a developing country. The award will be given to scientists who are less than 40 years old (on December 31 of the year for which the award is given), who are active in research in Optics and have contributed to the promotion of research activities in Optics in their own or another developing country. While the ICO Web page <http://www.ico-optics.org/> has complete information, the instructions below should be sufficient to prepare a nomination.

The **Award** consists of the following:

- 1) the ICO gives a cash amount of US\$ 1000 and a certificate;
- 2) the ICTP invites the winner to attend a College at the ICTP, Trieste, when the next appropriate opportunity arises, and to give a seminar on his/her work. ICTP will pay for travel and living expenses.

The award will be delivered to the winner in Trieste in the presence of representatives of ICO and ICTP. This award is given every year. The winner is selected on the basis of nominations received by the Award Committee in response to a 'Call for Nominations' published by both the ICO and the ICTP. The nominations must be documented by a complete Curriculum Vita, including a list of publications and selected reprints (no more than three), as well as a complete employment history and a description of the nominee's achievements for the promotion of research activity in *developing countries*.

The winners of the previous awards are:

- 2000: Arbab Ali Khan (Pakistan)
- 2001: Arashmid Nahal (Iran) and Fernando Perez Quitian (Argentina)
- 2002: Alphan Sennaroglu (Turkey)
- 2003: Robert Szipöcs (Hungary)
- 2004: Imrana Ashraf Zahid (Pakistan) and Revati Nitin Kulkarni (India)

The Award Committee is composed of Prof. A.A. Friesem of Weizmann Institute, Israel, Chair, Prof. G. Denardo of ICTP, Trieste, Italy, Prof. A. Consortini of University of Florence, Italy and Dr. M. Danailov of Synchrotron Trieste, Italy.

Return your nomination form, together with supporting information, no later than **November 1, 2004**, to the Award Committee Chair, Professor Asher A. Friesem, the Weizmann Institute of Science, P.O. Box 26, Rehovot 76100, Israel, <mailto:friesem@wicc.weizmann.ac.il>, with a copy to Professor G. Denardo, the Abdus Salam International Centre for Theoretical Physics, Strada Costiera, 11, I-34100 Trieste, Italy, <mailto:denardo@ictp.trieste.it>