

SCHOOL ON SYNCHROTRON RADIATION AND APPLICATIONS

In memory of J.C. Fuggle & L. Fonda

19 April - 21 May 2004

Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), and the Sincrotrone "Elettra" Trieste will jointly organise the "**School on Synchrotron Radiation and Applications**", to be held in Trieste **from 19 April to 21 May 2004**.

The use of Synchrotron Radiation (SR) for research in science and technology has **grown enormously** in the past two decades, so that more than 5,000 scientists, in Europe alone, now make regular use of SR in their work. World-wide capacity for research with SR has grown from almost zero in 1970 to the order of 2 million beamline hours per year. In the developing countries, at least seven full-scale storage rings for SR are in operation or expected to be commissioned within a few years. In addition, research with SR is truly international, with many scientists making use of facilities in other countries to complement work in their home laboratories.

The aim of the School is to cover all aspects of SR, from machine physics, insertion devices and beamline design, to actual applications of SR. Emphasis will also be placed on practical training in accelerator technology, instrumentation, and the application of common experimental techniques. Recent developments exploit the tunability, the polarization and the partial coherence of X-rays delivered by the undulators implemented in the machines of the third generation. Industrial and environmental applications will also be discussed during this activity. Visits to the Trieste synchrotron radiation laboratory, Elettra, and practical sessions will be organised during the School.

The School will consist of a 5-day working week with 3 morning lectures per day. The afternoons will be dedicated to practical training on the Elettra beamlines, and to exercises and data handling sessions on personal computers. The lectures will include: Accelerator Physics and SR Sources, Beamline and Monochromator Design, Application of SR to Physics, Chemistry, Materials Science, Surface Science & Engineering, Geophysics, Biophysics and Environment. Topics will be scheduled as follows:

•Machine Physics• - •Beamline Instrumentation• - •Diffraction-based techniques• - •Absorption Spectroscopies• - •Photoemission• - •Microscopy and Imaging•

Students and young scientists from all countries that are members of the UN, UNESCO or IAEA can attend the School. The main purpose of the Centre is to help researchers from developing countries through a programme of training activities within a framework of international co-operation. However, scientists from developed countries are also strongly encouraged to apply. This course is specially meant for strongly motivated graduate students and young post-doctoral scientists. Logistics limit the number of participants to 75-80.

*Limited funds are available for some applicants from developing countries, to be selected by the organizers. Every effort should be made by candidates to secure support for their fares (or at least half-fare) from their home country. Such financial support is available only to those attending the entire activity. **There is no registration fee for attending the School.***

The Application form is obtainable from the ICTP WWW server: <http://agenda.ictp.trieste.it/agenda/current/fullAgenda.php?email=0&ida=a0343> (which will be periodically updated) or from the Secretariat. It should be completed and returned before **15 January 2004**, to:

School on Synchrotron Radiation
(c/o Elizabeth Brancaccio)
the Abdus Salam International Centre for Theoretical Physics
Strada Costiera 11
34014 Trieste, Italy

If sending an application by e-mail: smr1561@ictp.trieste.it

(please save and send file attachments in RTF format)

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DEADLINE

for requesting participation

15 January 2004

