Workshop on

Nuclear Data for Science and Technology: Materials Analysis

19 - 30 May 2003
Miramare - Trieste, Italy

The International Atomic Energy Agency (IAEA, Vienna - Austria), in co-operation with the Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste - Italy), is organizing a **"Workshop on Nuclear Data for Science and Technology: Materials Analysis"**, to be held at the ICTP from 19 to 30 May 2003. The Workshop will be directed by Dr. I. Vickridge (CNRS and Université de Paris 6 & 7, France) and Dr. M. Herman (IAEA, Vienna).

This Workshop is the third in a series entitled "Nuclear Data for Science and Technology". The previous two workshops covered medical applications (1999) and accelerator-driven waste incineration (2001). They represent a unique forum from which scientists and engineers can obtain extensive and up-to-date information on nuclear data in modern applications of nuclear techniques.

An overview will be given of the evaluation methodology and nuclear data libraries of relevance to materials analysis techniques. These techniques include prompt charged-particle analysis such as Rutherford Backscattering Spectrometry, Nuclear Reaction Analysis, Particle-Induced X-ray Spectrometry and Nuclear Reaction Analysis, and neutron-based techniques such as Neutron-Induced Nuclear Reactions, Prompt Gamma Activation Analysis and Neutron Activation Analysis. Practical applications of these methods require reliable data for many quantities, including neutron cross sections, decay schemes, prompt gamma energies and spectra, cold neutron spectra characteristics, low-energy nuclear reaction cross sections, charged-particle stopping powers, ionization cross sections, fluorescence yields and mass attenuation coefficients. The Workshop includes review lectures on material analysis techniques, lectures on nuclear models and particle-matter interactions, and presentation of available nuclear data libraries. Lectures will be complemented by hands-on exercises with nuclear model codes, Ion Beam Analysis simulation codes and retrieval of nuclear data from on-line or distributed databases.

Scientists and students from member countries of the UN, UNESCO or IAEA can attend this Workshop. Participants should hold a university degree in nuclear physics, nuclear chemistry, or related subjects, and have several years of professional experience related to the application of nuclear methods for materials analysis. As this activity will be conducted in English, participants should have an adequate working knowledge of this language.

As a rule, travel and subsistence expenses of the participants should be borne by the home institutions. Every effort should be made by candidates to secure support for their fares from their home country. However, limited funds are available for some scientists from developing countries, to be selected by the organizers. Such financial support is available only for those who attend the entire activity. There is no registration fee.

Information about the Workshop can be found on the Web server of the ICTP http://www.ictp.trieste.it/, while background information on the IAEA Nuclear Data Section is available from http://www-nds.iaea.org/

The **Application Form** is obtainable from the ICTP WWW server: **http://agenda.ictp.trieste.it/smr.1503** (which will be constantly up-dated) or from the activity Secretariat. It should be completed and returned before **15 December 2002** to:

Workshop on Nuclear Data for Science and Technology: Materials Analysis
(Attn. smr 1503)
the Abdus Salam International Centre for Theoretical Physics
Strada Costiera 11, 34014 Trieste, Italy

or

smr1503@ictp.trieste.it (please save and send file attachments in RTF format)

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ICTP Home Page: http://www.ictp.trieste.it/