



The Abdus Salam  
International Centre  
for Theoretical Physics

[www.ictp.it](http://www.ictp.it)



IAEA  
International Atomic Energy Agency

# Joint ICTP-IAEA Workshop on Nuclear Data for Analytical Applications

21-25 October 2013  
Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration with the International Atomic Energy Agency (IAEA) is organizing a workshop on **Nuclear Data for Analytical Applications**, which will be held at ICTP, Trieste, Italy, **from 21 to 25 October 2013**.

The workshop will continue the series of “Nuclear Data for Science and Technology” workshops initiated in 1999, and held at regular intervals since then. Since the late 20<sup>th</sup> century many new non-energy applications of nuclear techniques have been developed, accompanied by a growing need for new and improved nuclear data. New applications include: nuclear medicine, astrophysics, transmutation, materials analysis, thin layer activation techniques, accelerator-driven technologies, and measurements of nuclear quantities for basic science, all of which frequently require the use and understanding of charged-particle data.

Ion Beam Analysis (IBA) is a powerful analytical technique that makes substantial use of nuclear data for a wide range of applications in materials science, art, archaeology, geology, surface and interface engineering as well as environmental studies. IBA exploits the interactions of rapid charged particles (from ~0.1 to a few MeV) with matter to determine the composition and structure of the surface regions of solids. Considerable effort has been devoted by the IAEA to improve the nuclear data required for this technique, resulting in the creation of the IBANDL database. The efficient application of these IBA techniques requires appropriately trained and dedicated physicists.

## Topics to be covered:

- nuclear data and on-line retrieval systems
- fundamentals of energetic particle interaction with matter, atoms and nuclei
- overview of IBA techniques (RBS, ERDA, EBS, NRA, PIGE)
- nuclear data for IBA – IBANDL data library
- nuclear data for Particle Induced Gamma ray Emission (PIGE)
- applications of IBA and PIGE in particular

## PARTICIPATION

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the School. 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

The application form can be accessed at the activity website:

<http://agenda.ictp.it/smr.php?2495>

Once in the website, comprehensive instructions will guide you step-by-step on how to fill out and submit the application form. The closing date for receipt of requests of participation is:

**25 May 2013**

Secretariat:

e-mail: [smr2495@ictp.it](mailto:smr2495@ictp.it); phone: +39-040-2240-9932; fax: +39-040-2240-7932

School web page: <http://agenda.ictp.it/smr.php?2495> ICTP Home Page: [www.ictp.it](http://www.ictp.it)

**IN COLLABORATION WITH**



**IAEA**

International Atomic Energy Agency

## **DIRECTORS**

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**P. DIMITRIOU**  
(IAEA, Austria)

## **LOCAL ORGANISOR**

**C. TUNIZ**  
(ICTP, Italy)

## **DEADLINE**

**for requesting participation**

**25 MAY 2013**