IAEA
International Atomic Energy Agency
*Atoms for Peace and Development*

# Training Workshop on Advances in Ion Beam Techniques and their Applications

**Virtual Event**

**1–5 March 2021**

**Ref. No.: EVT1905178**

# Information Sheet

## Introduction

Accelerator based technologies are associated with a broad range of applications having societal and technological impact and can contribute to the economic development of Member States. The utilization of accelerators enhances innovation in a variety of fields such as health, materials research, cultural heritage, environment, energy and natural resources being typical examples. In this context, accelerator applications are one of the thematic areas, where the IAEA supports its Member States in strengthening their capabilities to adopt and benefit from the usage of accelerators.

In response to the training needs of young scientists from developing Member States in utilization of accelerators, the Physics Section organizes a series of training workshops at the accelerator facilities of the Ruđer Bošković Institute (RBI), Zagreb, Croatia. These include training in Ion Beam Analysis (IBA) techniques biannually. IBA techniques is a group of non-destructive nuclear analytical methods applied with low energy electrostatic accelerators. They provide important, often unique, information on the elemental and isotopic composition, layer structure, electronic and many other properties of materials in solid or liquid form, with high precision. As such, they are extensively used in materials analysis, environmental monitoring, cultural heritage studies and other investigations of problems of key societal impact and industrial interest.

# Objectives

The objective of the forthcoming training workshop is to deepen knowledge and skills in the following scheduled basic IBA techniques:

- Proton-Induced X-ray Emission (PIXE)
- Proton-Induced Gamma-ray Emission (PIGE)
- Rutherford Backscattering Spectroscopy (RBS)
- Elastic Recoil Detection Analysis (ERDA)
- Inelastic Nuclear Reaction Analysis (NRA)
- Single ion techniques: Ion Beam Induced Charge (IBIC) and Scanning Transmission Ion Microscopy (STIM)

# Target Audience

This Training workshop, intended for young scientists working or planning to work for their thesis at accelerator facilities, will widen their specific knowledges and skills in the standard IBA techniques through lectures, hands on-hands work on the specific problems and demonstration experiments.

# Working Language(s)

English

# Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State, participants are requested to send the **Participation Form (Form A)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **25 February 2021**. Participants who are members of an organization invited to attend are requested to send the **Participation Form (Form A)** through their organization to the IAEA by above deadline.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and technical matters.

# IAEA Contacts

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries and correspondence on other matters related to the event to the Administrative Secretary.

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# Participation Form

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To be completed by the participant and sent to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA) either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary S.Charisopoulos@iaea.org and to the Administrative Secretary M.Yaney@iaea.org.

**Deadline for receipt by IAEA through official channels: 25 February 2021**

| Family name(s): (same as in passport) | First name(s): (same as in passport) | Mr/Ms |
|---|---|---|
| Institution: | | |
| Full address: | | |
| Tel. (Fax): | | |
| Email: | | |
| Nationality: | Representing following Member State/non-Member State/entity or invited organization: | |

If/as applicable:

Do you intend to submit a paper? Yes ☐ No ☐

Would you prefer to present your paper as a poster? Yes ☐ No ☐

Title: