IAEA

Atoms for Peace and Development

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International Atomic Energy Agency
Agence internationale de l'énergie atomique
Международное агентство по атомной энергии
Organismo Internacional de Energía Atómica

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In reply please refer to: EVT1904822
Dial directly to extension: (+43 1) 2600-22771

The Secretariat of the International Atomic Energy Agency (IAEA) presents its compliments to the IAEA's Member States and has the honour to draw their attention to the **Training Workshop on Optimization of Performance and Processes in Neutron Activation Analysis** (hereinafter referred to as "event") to be held in Řež, Czech Republic, from **30 November to 4 December 2020**.

The purpose of the event is to critically analyse methods for optimizing performance in neutron activation analysis (NAA), focusing on the improvement of throughput, turnaround time, quality assurance and quality control, as well as on opportunities for the development and application of innovative processes in NAA.

The attached Information Sheet provides further details of the event.

The event will be held in English.

Member States are invited to designate one or more participants to represent the Government at this event. Member States are strongly encouraged to identify suitable women participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event. The application for financial support should be made at the time of designating the participants using the attached Grant Application Form (Form C).

It should be noted that compensation is not payable by the IAEA for any damage to or loss of personal property. The IAEA also does not provide health insurance coverage for participants in IAEA events. Arrangements for private insurance coverage on an individual basis should therefore be made. The IAEA will, however, provide insurance coverage for accidents and illnesses that clearly result from any work performed for the IAEA.

Designations should be submitted to the IAEA through the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) not later than **31 July 2020** using the attached Participation Form (Form A). Completed and authorized Participation Forms should be sent either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Copies should be sent by email to the Scientific Secretary of the event, Mr Nuno Pessoa Barradas, Division of Physical and Chemical Sciences, Department of Nuclear Sciences and Applications (Email: N.Pessoa-Barradas@iaea.org), and to the Administrative Secretary, Ms Rozanne Bojdo (Email: R.Bojdo@iaea.org). The Scientific Secretary of the event will liaise with the participants directly concerning further arrangements, including travel details, as appropriate, once official designations have been received.

Should Governments wish, in addition, to appoint one or more observers to assist and advise the designated participants, they are kindly requested to inform the IAEA of the names and contact details of any such observers by the above date. In accordance with the established rules, Governments are expected to bear the cost of attendance of any observers they may send to IAEA events. Compensation is not payable by the IAEA for any damage to or loss of observers' personal property or for illness, injury or death occurring while travelling to or in connection with their attendance at IAEA events.

The Secretariat of the International Atomic Energy Agency avails itself of this opportunity to renew to the IAEA's Member States the assurances of its highest consideration.

2020-05-05

Enclosures: Information Sheet

Participation Form (Form A)

Form for Submission of a Paper (Form B)

Grant Application Form (Form C)

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Training Workshop on Optimization of Performance and Processes in Neutron Activation Analysis

Hosted by the
Government of the Czech Republic

through the
Nuclear Physics Institute of the Czech Academy of Sciences

Řež, Czech Republic

30 November–4 December 2020

Ref. No.: EVT1904822

Information Sheet

Introduction

Neutron activation analysis (NAA) is the most common technique in research reactors worldwide. It is available in 50 countries, in about half of the operating research reactors, according to the IAEA Research Reactor Database (nucleus.iaea.org/RRDB).

The IAEA promotes for many years the enhancement of the quality of NAA analytical services by providing training in quality assurance and quality control and, via its analytical quality control services, by the development and provision of reference materials, organizing interlaboratory comparison exercises, and facilitating participation in such exercises. From 2010 onwards, the participants analysed and identified sources of errors in follow-up feedback workshops, where methodologies for their elimination through improved quality assurance and quality control were presented. It was observed that this strategy led to rapid and sustained improvement of the analytical performance of many NAA laboratories.

It was also observed that the analysis protocol is not only decisive for the number of elements to be measured or, e.g., their detection limits, but also for the throughput time of the analysis. The latter may be less relevant for participation in interlaboratory exercises, but may be crucial for e.g. service analysis. Protocols are often 'standard' and e.g. rarely optimized at throughput time which is an often-quoted major weakness of NAA in comparison to competitive techniques for element quantification. Similarly, complex calculus and calibrations are sometimes applied-with consequences for the effort and time to perform the analysis, whereas simple straightforward approaches would provide much quicker (and at less costs) the satisfaction answer.

Objectives

The purpose of the event is to critically analyse methods for optimizing performance in Neutron Activation Analysis (NAA), focusing on improvement of throughput and of turnaround time, quality assurance and quality control, and opportunities for development and application of innovative processes in NAA.

The event will also critically analyse the interplay of requests for analysis – including for instance which elements are required, detection limits, accuracy, turnaround time, analytical capacity – in view of customer requirements and analytical capabilities (strengths and weaknesses) of NAA.

The event will also discuss the most common risks and potential sources of errors encountered during the analysis process together with the quality assurance and quality control measures a laboratory could or should take in each of the different phases form sample handling and test portion preparation, calibration, irradiation procedure, decay, measurement, feasibility of analysis and selection of analytical protocol, and laboratory management. Different practical examples of these measures will be shown.

Target Audience

The event is intended for NAA research reactor laboratories, including practitioners of NAA involved in experimental work, in service analysis, process and performance optimization or QA/QC of NAA laboratories, as well as managers of NAA laboratories.

Topics

The event will include presentations by IAEA staff and other experts on the subject matter, with subsequent practical exercises and discussions. Some limited time will be allocated for the workshop participants to present their scientific background and function in the institutes and laboratories, in particular reporting on their existing experience, lessons learned, challenges and future developments in the subject matter. The event will address the following topics:

- Evaluation of NAAs strengths and weaknesses in view of the status of other techniques for element quantification.
- Prediction of optimal analysis protocols.
- Measurement of short half-life radionuclides and measurements at high count rates;
- Risk analysis and common sources of error
- QAQC in NAA
- Validation or verification of the NAA method
- Common sources of measurement uncertainty
- Establishing metrological traceability in NAA (e.g. use of CRMs and proficiency testing)
- Opportunities and limitations of different detectors for NAA
- New approaches in radiochemical NAA for fast separation of radioisotopes from irradiated targets;
- Automation in NAA and data processing

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 **Friday, 31 July 2020**. 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 the above deadline.

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

Please note that the IAEA is in a transition phase to manage the entire registration process for all regular programme events electronically through the new InTouch+ (https://intouchplus.iaea.org) facility, which is the improved and expanded successor to the InTouch platform that has been used in recent years for the IAEA's technical cooperation events. Through InTouch+, prospective participants will be able to apply for events and submit all required documents online. National authorities will be able to use InTouch+ to review and approve these applications. Interested parties that would like to use this new facility should write to: InTouchPlus.Contact-Point@iaea.org.

Papers and Presentations

The IAEA encourages participants to give presentations on the work of their respective institutions that falls under the topics listed above.

Participants who wish to give presentations are requested to submit an abstract of their work. The abstract will be reviewed as part of the selection process for presentations. The abstract should be in A4 page format, should extend to no more than **1** page (including figures and tables) and should not exceed **500** words. It should be sent electronically to Mr Nuno Pessoa Barradas, the Scientific Secretary of the event (see contact details below), not later than **Friday, 31 July 2020**. Authors will be notified of the acceptance of their proposed presentations by **Monday, 31 August**.

In addition, participants have to submit the abstract together with the **Participation Form (Form A)** and the attached **Form for Submission of a Paper (Form B)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or their organization for onward transmission to the IAEA not later than **Friday, 31 July 2020**.

Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event.

The application for financial support should be made using the **Grant Application Form (Form C)** which has to bear an official stamp, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **Friday, 31 July 2020**.

Visas

Participants who require a visa to enter the Czech Republic should submit the necessary application as soon as possible to the nearest diplomatic or consular representative of the Czech Republic.

Key Deadlines and Dates

Friday, 31 July 2020	Submission of the Participation Form (Form A), the Form for Submission of a Paper (Form B) and the Grant Application Form (Form C) (if applicable) through the official channels
Monday, 31 August 2020	Notification of the acceptance of proposed presentations Official notification of assigned grants through an invitation letter to be sent via email
Monday, 30 November 2020	Event begins

IAEA Contacts

Scientific Secretary:

Mr Nuno Pessoa Barradas
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Tel.: +43 1 2600 22771
Fax: +43 1 26007
Email: N.Pessoa-Barradas@iaea.org

Administrative Secretary:

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International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA

Tel.: +43 1 2600 21754
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Email: R.Bojdo@iaea.org

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

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Form A
EVT1904822

Participation Form

Training Workshop on Optimization of Performance and Processes in Neutron Activation Analysis

Řež, Czech Republic

30 November–4 December 2020

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 N.Pessoa-Barradas@iaea.org and to the Administrative Secretary R.Bojdo@iaea.org.

Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

Deadline for receipt by IAEA through official channels: 31 July 2020

Family name: (e.g. Smith)	First name(s): (e.g. John)	Mr/Ms
Institution:		
Full address:		
Tel. (Fax):		
Email: (please write clearly)		
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:		

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Form B
EVT1904822

Form for Submission of a Paper

Training Workshop on Optimization of Performance and Processes in Neutron Activation Analysis

Řež, Czech Republic

30 November–4 December 2020

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Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

Deadline for receipt by IAEA through official channels: 31 July 2020

Title of the paper:		
If applicable: Abstract ID in IAEA-INDICO:		
Family name(s) and first name(s) of all author(s): e.g. Smith, John	Scientific establishment(s) in which the work has been carried out	City/Country
1.		
2.		
3.		
Family name and first name(s) of author presenting the paper: e.g. Smith, John	Mr/Ms:	
Mailing address:		
Tel. (Fax):		
Email:		

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Furthermore, I herewith declare:

that the material submitted to the IAEA is original, except for such excerpts from copyrighted works as may be included with the permission of the copyright holders thereof, has been written by the stated authors, has not been published before, and is not under consideration for publication by another entity;

that any permissions and rights to publish required for third-party content, including but not limited to figures and tables, have been obtained, that all published material is correctly referenced; and

that the material submitted to the IAEA does not contain any libellous or other unlawful statements and does not contain any materials that violate any personal or proprietary rights of any person or entity.

Date: **Signature of main author:**

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Form C
EVT1904822

Grant Application Form

Training Workshop on Optimization of Performance and Processes in Neutron Activation Analysis

Řež, Czech Republic

30 November–4 December 2020

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Deadline for receipt by IAEA through official channels: 31 July 2020

Family name: (e.g. Smith)	First name(s): (e.g. John)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yyyy/mm/dd):	Nationality:	

1. Education (post-secondary):

Name and place of institution	Field of study	Diploma or Degree	Years attended from	to

2. Recent employment record (starting with your present post):

Name and place of employer/ organization	Title of your position	Type of work	Years worked from	to

3. Description of work performed over the last three years:

4. Institute's/Member State's programme in field of event:

Date: _____ **Signature of applicant:** _____

Date: _____ **Name, signature and stamp of Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority**

_____