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国际原子能机构

International Atomic Energy Agency

Agence internationale de l'énergie atomique

Международное агентство по атомной энергии

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In reply please refer to: EVT1904273

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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 **Technical Meeting on Advances in Neutron Detectors for Neutron Scattering and Imaging Applications** (hereinafter referred to as "event") to be held virtually via Cisco Webex from **30 August to 3 September 2021**.

The purpose of the event is to review the developments in neutron detectors for neutron scattering and neutron imaging applications. The intent is to provide a platform for international cooperation and networking of future developments in these fields.

The attached Information Sheet provides further details of the event.

The event will be held in English.

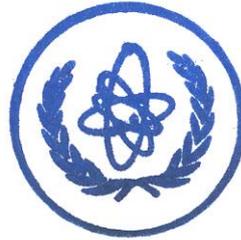
Member States are invited to designate one or more participants to represent the Government at this event. Member States are strongly encouraged to identify suitable women participants.

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 **7 June 2021** using the attached Participation Form (Form A). Completed and authorized Participation Forms should be sent either by email to: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) or by fax to: +43 1 26007 (no hard copies needed). Copies should be sent by email to the Scientific Secretaries of the event, Mr Ian Swainson (Email: [I.Swainson@iaea.org](mailto:I.Swainson@iaea.org)) and Mr Nuno Pessoa Barradas (Email: [N.Pessoa-Barradas@iaea.org](mailto:N.Pessoa-Barradas@iaea.org)), both of the Division of Physical and Chemical Sciences, Department of Nuclear Sciences and Applications, and to the Administrative Secretary, Ms Rozanne Bojdo (Email: [R.Bojdo@iaea.org](mailto:R.Bojdo@iaea.org)). The Scientific Secretaries of the event will liaise with the participants directly concerning further arrangements, as appropriate, once the 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.

The IAEA takes no responsibility for, and the provider of the virtual meeting services has represented and warranted that the Services shall not contain, and that no end user shall receive from the software used to hold the virtual meeting, any virus, worm, trap door, back door, timer, clock, counter or other limiting routine, instruction or design, or other malicious, illicit or similar unrequested code, including surveillance software or routines which may, or is designed to, permit access by any person, or on its own, to erase, or otherwise harm or modify any data or any system, server, facility or other infrastructure of any end user (collectively, a "Disabling Code").

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.



2021-04-08

Enclosures: Information Sheet

Participation Form (Form A)

Form for Submission of a Paper (Form B)



# **Technical Meeting on Advances in Neutron Detectors for Neutron Scattering and Imaging Applications**

**Virtual Event**

**30 August–3 September 2021**

**Ref. No.: EVT1904273**

## **Information Sheet**

### **Introduction**

Neutron scattering and imaging instrumentation is undergoing a transition. As the number of individual neutron sources falls, several new sources are currently under construction, and instruments are being upgraded at existing sources. This great renewal of neutron instrumentation requires ever higher performance from neutron detectors. These demands include better spatial and time resolution; larger solid angle coverage; better signal: noise; and being compatible with higher fluxes to enable faster experiments on smaller samples. The demands on resolution and detector coverage are highly dependent on technique and source as are the corresponding increases in the volume and rate of data that must be handled.

Opposing pressures to the performance requirements include limitations on what is considered an acceptable cost to a project, and that for projects in many Member States, applications in which helium-3 may formerly have been considered, it is either not as available in the quantities required, or its cost may be prohibitive.

A variety of new materials and detector designs are being developed to reflect these new conditions.

## **Objectives**

The purpose of the meeting is to review the developments in neutron detectors for neutron scattering and neutron imaging applications. The intent is to provide a platform for international cooperation and networking of future developments in these fields.

## **Target Audience**

The target audience includes scientists and engineers with an active involvement or direct interest in the development of neutron detection systems for neutron scattering and imaging instruments.

## **Working Language(s)**

English.

## **Expected Outputs**

An IAEA report as a record of the proceedings of the meeting.

## **Structure**

The virtual meeting will be organized around the topics listed below. The agenda will be structured to have discussion time sufficient to facilitate reaching conclusions. In preparation for the meeting, it is expected that speakers will target their presentations to address the meeting's aims.

The individual sessions and their times will be determined once the final list of attendees and their geographic location is known. The virtual meeting will be conducted via WebEx, and will be supported by a SharePoint site via the IAEA's Nucleus system. Contributed papers will be asked to be uploaded to the site two weeks prior to the virtual meeting. Further details on presentation formats will be distributed closer to the time of the meeting.

## Topics

- Neutron sources and facilities
- Advances in Helium-3 based detectors
- Advances in Scintillator based detectors for scattering
- Advances in Boron-10 based gaseous detectors
- Advances in other detector types
- Neutron Beam Monitoring
- Detector Electronics, Data acquisition and Data Processing
- Background measurements and Signal:Background optimisation
- Simulation techniques and algorithms
- Advances in scintillator screen technology for imaging
- Advances in micro-channel plate detector technology for imaging
- Fast-neutron detection technologies for imaging
- Advances in camera-based neutron imaging systems (e.g. cameras, optics)

## 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 **7 June 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 the above deadline.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative 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](mailto: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). It should be sent electronically to Ian Swainson, and Nuno Pessoa Barradas the Scientific Secretaries of the event (see contact details below), not later than **7 June 2021**. Authors will be notified of the acceptance of their proposed presentations by **28 June 2021**.

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 **7 June 2021**.

## Expenditures and Grants

No registration fee is charged to participants.

## Additional Information

The Programme Advisory Committee consists of Aaron Craft (Idaho National Lab, USA), Ralf Engels (Forschungszentrum Jülich GmbH, Germany), Richard Hall-Wilton (ESS, Sweden), Steven Mellard (IAEA), and Karl Zeitelhack (Heinz Maier-Leibnitz Zentrum, Germany).

## IAEA Contacts

### Scientific Secretaries:

#### Mr Ian Swainson

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### Administrative Secretary:

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



# Participation Form

## Technical Meeting on Advances in Neutron Detectors for Neutron Scattering and Imaging Applications

### Virtual Event

**30 August–3 September 2021**

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](mailto: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 Secretaries [I.Swainson@iaea.org](mailto:I.Swainson@iaea.org) and [N.Pessoa-Barradas@iaea.org](mailto:N.Pessoa-Barradas@iaea.org), and to the Administrative Secretary [R.Bojdo@iaea.org](mailto: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: 7 June 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 <input type="checkbox"/> No <input type="checkbox"/> Would you prefer to present your paper as a poster?    Yes <input type="checkbox"/> No <input type="checkbox"/> Title:		





# Form for Submission of a Paper

## Technical Meeting on Advances in Neutron Detectors for Neutron Scattering and Imaging Applications

### Virtual Event

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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: 7 June 2021**

Title of the paper:		
If applicable: Abstract ID in IAEA-INDICO:		
Family name(s) and first name(s) of all author(s) (same as in passport(s):	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 (same as in passport):	Mr/Ms:	
Mailing address:		
Tel. (Fax):		
Email:		

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**Date:**

**Signature of main author:**