



Átomos para la paz y el desarrollo

الوكالة الدولية للطاقة الذرية
国际原子能机构
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: **EVT2004104**
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La Secretaría del Organismo Internacional de Energía Atómica (OIEA) saluda a los Estados Miembros del OIEA y tiene el honor de señalar a su atención la celebración de la **Reunión Técnica sobre Metodologías de Cálculo Neutrónico y Termohidráulico para Reactores de Investigación, incluido el Tratamiento de Incertidumbres**, (en adelante denominada el “evento”) que tendrá lugar en la Sede del OIEA en Viena (Austria) del **16 al 20 de agosto de 2021**.

La finalidad del evento es intercambiar conocimientos, buenas prácticas, resultados y enseñanzas extraídas de estudios recientes de modelización de reactores nucleares, difundir la información obtenida del proyecto coordinado de investigación (PCI) titulado “Evaluaciones comparativas de instrumentos informáticos sobre la base de los datos experimentales relativos al quemado del combustible y la activación de materiales para el uso, la explotación y el análisis de la seguridad de los reactores de investigación”, y recibir aportaciones y retroinformación de los Estados Miembros sobre el nuevo PCI propuesto titulado “Desarrollo de metodologías de cálculo neutrónico y termohidráulico para reactores de investigación, incluido el análisis y el tratamiento de incertidumbres”.

El evento se celebrará en inglés.

Se invita a los Estados Miembros a designar a una o más personas para que participen en este evento en representación de su Gobierno y se los alienta encarecidamente a que seleccionen con ese fin a mujeres calificadas.

Por lo general, el OIEA no está en condiciones de sufragar los gastos de viaje ni de otra índole de los participantes en el evento. No obstante, dispone de fondos limitados para ayudar a cubrir los gastos de asistencia de determinados participantes. Esa ayuda puede ofrecerse normalmente, previa solicitud expresa, a un participante por país siempre que, en opinión del OIEA, la persona para la que se solicite pueda hacer una contribución importante al evento. La solicitud de apoyo financiero debe presentarse en el momento de la designación de los participantes mediante el formulario de solicitud de subvención adjunto (Formulario C).

Cabe señalar que el OIEA no paga ninguna indemnización por daños o pérdida de efectos personales. Tampoco proporciona seguro médico a los participantes en eventos del OIEA. Por lo tanto, se recomienda que estas personas adopten las medidas necesarias para contratar por su cuenta un seguro privado. No obstante, el OIEA cubrirá mediante un seguro los accidentes y las enfermedades claramente relacionados con los servicios prestados al OIEA.

Las designaciones deben presentarse al OIEA por conducto de la autoridad nacional competente (el Ministerio de Relaciones Exteriores, la Misión Permanente ante el OIEA o la Autoridad Nacional de Energía Atómica), a más tardar el **11 de junio de 2021**, por medio del formulario de participación adjunto (Formulario A). Los formularios de participación debidamente cumplimentados y autorizados deben enviarse por correo electrónico a la dirección Official.Mail@iaea.org o por fax al número: +43 1 26007 (no se precisan copias impresas). Asimismo, deben enviarse copias por correo electrónico a los Secretarios Científicos del evento, Sra. Sandra Geupel, División del Ciclo del Combustible Nuclear y de Tecnología de los Desechos, Departamento de Energía Nuclear (correo electrónico: S.Geupel@iaea.org), Sr. Kaichao Sun, División de Seguridad de las Instalaciones Nucleares, Departamento de Seguridad Nuclear Tecnológica y Física (correo electrónico: K.Sun@iaea.org), Sr. Nuno Pessoa-Barradas, División de Ciencias Físicas y Químicas, Departamento de Ciencias y Aplicaciones Nucleares (correo electrónico: N.Pessoa-Barradas@iaea.org), y a la Secretaria Administrativa, Sra. Reena Thottakkara (correo electrónico: R.Thottakkara@iaea.org). Una vez recibidas las designaciones oficiales, los Secretarios Científicos del evento contactarán directamente a los participantes en relación con otras cuestiones de organización, como los detalles del viaje, según proceda.

En caso de que los Gobiernos desearan, además, nombrar uno o más observadores para que prestasen asistencia y asesoramiento a los participantes designados, se les ruega que comuniquen al OIEA el nombre y las señas de esos observadores a más tardar en la fecha antes indicada. De conformidad con las normas establecidas, corresponde a los Gobiernos sufragar los gastos de asistencia de los observadores que envíen a los eventos del OIEA. Este no paga ninguna indemnización por daños o pérdida de efectos personales de los observadores, ni por enfermedad, lesión o fallecimiento durante los viajes o en relación con su asistencia a los eventos del OIEA.

La Secretaría del Organismo Internacional de Energía Atómica aprovecha esta oportunidad para reiterar a los Estados Miembros del OIEA el testimonio de su distinguida consideración.



23 de abril de 2021

Documentación adjunta (en inglés únicamente):

Reseña informativa

Formulario de participación (Formulario A)

Formulario de presentación de memorias (Formulario B)

Formulario de solicitud de subvención (Formulario C)



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

Technical Meeting on Neutronic and Thermal-Hydraulic Computational Methodologies for Research Reactors including Treatment of Uncertainties

Hybrid Event

**IAEA Headquarters
Vienna, Austria**

16–20 August 2021

Ref. No.: EVT2004104

Information Sheet

Introduction

The design, operation and utilization of research reactors require ever improving calculational methodologies for analysis of reactor physics. This is the case particularly in the light of evolving regulations, increased utilization requirements, refurbishment and modernization projects, and new designs. These trends lead to the need for higher fidelity, multi-physics approaches in performing research reactor modelling, with requirements which move ever closer to the established state-of-the-art analysis techniques historically used only in power reactor modelling.

The use of best-estimate modelling approaches, combined with the propagation of associated uncertainties, is a particular area in which much enhancement in research reactor analysis is possible. Appropriate modelling and simulation, including quantification of uncertainties, can ensure enlargement of the range of usefulness of a research reactor facility without compromising safety. In this respect, two major emerging areas in research reactor modelling are considered for development. These are, firstly, the use of fully coupled neutronic and thermal-hydraulic analysis schemes beyond historical simplified feedback models, and secondly, the propagation of relevant uncertainties and calculation of sensitivities, as applied to such best estimate analysis. Some activities that could aid and support these developments include:

- Validation and verification of tools for modelling coupled physical phenomena for research reactor steady state and transient scenarios using a reference case;
- Determination of input parameters for uncertainty quantification (e.g. cross-section data, thermo-physical properties, heat-transfer correlations, fabrication tolerances, measurements);
- Formulation of best estimate plus uncertainty (BEPU) methods for research reactor analysis;
- Establishment of a database of experimental and computational cases to be used for the verification and validation of high-fidelity modelling.

In response to this need, the IAEA is planning a new Coordinated Research Project (CRP) on “Development of Coupled Neutronic and Thermal-Hydraulic Computational Methodologies for Research Reactors including Analysis and Treatment of Uncertainties”. This will follow on the results of the recently completed CRP T12029 “Benchmarks of Computational Tools against Experimental Data on Fuel Burnup and Material Activation for Utilization, Operation and Safety Analysis of Research Reactors”, which was conducted during 2015–2020. The objective of the new CRP is to evaluate, establish and stimulate the development of state-of-the-art modelling methods for research reactor analysis, charting a path for their use among Member States worldwide.

Considering the above background, the IAEA is organizing this Technical Meeting during the period 16-20 August 2021.

Objectives

The purpose of the event is to share knowledge, good practices, results and lessons learned from recently performed research reactor modelling studies, to disseminate information gained from the completed CRP “Benchmarks of Computational Tools against Experimental Data on Fuel Burnup and Material Activation for Utilization, Operation and Safety Analysis of Research Reactors”, and to receive input and feedback from Member States on the proposed new CRP “Development of Coupled Neutronic and Thermal-Hydraulic Computational Methodologies for Research Reactors including Analysis and Treatment of Uncertainties”.

Target Audience

This event is intended for individuals from IAEA Member States that operate research reactors or are planning or establishing a new research reactor. Participants should primarily be representatives from research reactor operating, designing, regulating or technical support organizations who have current activity in the development or use of multi-physics calculational methodologies for analysis of research reactor physics.

Working Language

The working language of the meeting will be English. No interpretation will be provided.

Expected Outputs

The expected outputs of the Technical Meeting are:

- Results of recently performed research reactor modelling studies;
- Draft work plan for the proposed new CRP;
- Meeting report capturing all feedback, conclusions and recommendations.

Topics

The following topics will be addressed and discussed during the event:

- Validation and verification of tools for modelling coupled physical phenomena for research reactor steady state and transient scenarios;
- Determination of input parameters for uncertainty quantification (e.g. cross-section data, thermo-physical properties, heat-transfer correlations, fabrication tolerances, measurements);
- Formulation of best estimate plus uncertainty (BEPU) methods for research reactor analysis;
- Databases of experimental and computational cases to be used for the verification and validation of high-fidelity modelling;
- Related topics of interest to the research reactor community.

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 **11 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 and financial matters.

The countries eligible for TC (Technical Cooperation) assistance which participate in TC projects may submit the request for TC support through their respective National Liaison Officers (NLOs). In this case, TC specific forms to attend the workshop need to be employed. Detailed information and forms are accessible in the following web page:

<https://www.iaea.org/services/technical-cooperation-programme/how-to-participate>

Department of Technical Cooperation is using InTouch+. Participants can apply 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 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 **two pages** (including figures and tables). It should be sent electronically to Ms Sandra Geupel, Mr Nuno Pessoa Barradas and Mr Kaichao Sun, the three Scientific Secretaries of the event (see contact details below), not later than **11 June 2021**. Authors will be notified of the acceptance of their proposed presentations by **9 July 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 **11 June 2021**.

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 be stamped, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **11 June 2021**.

Venue

The event will be held at the Vienna International Centre (VIC), where the IAEA's Headquarters are located. Participants must make their own travel and accommodation arrangements.

General information on the VIC and other practical details, such as a list of hotels offering a reduced rate for IAEA participants, are listed on the following IAEA web page:

www.iaea.org/events.

Participants are advised to arrive at Checkpoint 1/Gate 1 of the VIC one hour before the start of the event on the first day in order to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least four weeks before they travel to Austria. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.

IAEA Contacts

Scientific Secretaries:

Ms Sandra Geupel

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Administrative Secretary:

Ms Reena Thottakkara

Division of Nuclear Fuel Cycle and Waste Technology (NEFW)

Department of Nuclear Energy

International Atomic Energy Agency

Vienna International Centre

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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

Hybrid Event - Technical Meeting on Neutronic and Thermal-Hydraulic Computational Methodologies for Research Reactors Including Treatment of Uncertainties

IAEA Headquarters Vienna, Austria [Virtual participation via Cisco Webex]

16–20 August 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 or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretaries S.Geupel@iaea.org, K.Sun@iaea.org, N.Pessoa-Barradas@iaea.org and to the Administrative Secretary R.Thottakara@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: 11 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"/>				
Title:				
I plan to attend virtually: Yes <input type="checkbox"/> No <input type="checkbox"/>				

Form for Submission of a Paper

Hybrid Event - Technical Meeting on Neutronic and Thermal-Hydraulic Calculational Methodologies for Research Reactors Including Treatment of Uncertainties

IAEA Headquarters, Vienna, Austria [Virtual participation via Cisco Webex]

16–20 August 2021

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Deadline for receipt by IAEA through official channels: 11 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(s) and first name(s) of author presenting the paper (same as in passport):	Mr/Ms:	
Mailing address:		
Tel. (Fax):		

Email:

I plan to attend virtually:

Yes No

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Please note: If granting the licence mentioned above, please supply any copyright acknowledgement text required.

Furthermore, I herewith declare:

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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:

Grant Application Form

Hybrid Event - Technical Meeting on Neutronic and Thermal-Hydraulic Calculational Methodologies for Research Reactors Including Treatment of Uncertainties

IAEA Headquarters, Vienna, Austria [Virtual participation via Cisco Webex]

16–20 August 2021

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Deadline for receipt by IAEA through official channels: 11 June 2021

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yy/mm/dd):	Nationality:	
I plan to attend virtually:	Yes <input type="checkbox"/> No <input type="checkbox"/>	

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: _____

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