IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Training Workshop on Advances in Boron Neutron Capture Therapy

Hosted by the

Government of Japan

through the

Neutron Therapy Research Center (Okayama University) and Osaka Medical and Pharmaceutical University

Japan

18 – 21 November 2025

Ref. No.: EVT2404501

Information Sheet

Introduction

The IAEA supports Member States in deployment and utilization of advanced nuclear science and technology and promotes enhancement of the quality of products and analytical services.

Boron Neutron Capture Therapy (BNCT) was first suggested in the mid-1930s. In brief, the therapy is performed by accumulating non-radioactive drug loaded with ^{10}B in tumour cells and subsequently irradiating the volume with neutrons. As the path length of the alpha and recoiling Li nucleus arising from a neutron capture reaction of a ^{10}B is on the same scale as mammalian cells and have very high linear energy transfers it is possible to cause selective lethal effect in tumours. In the past BNCT has been applied mainly at research reactors providing neutron beams with fluxes intense enough to ensure effective treatment. Thanks to developments in low-energy compact accelerator-based neutron sources (also known

as CANS), BNCT facilities can now be built in clinical environments. The new technology brought about a worldwide revival of interest that is leading to many new centres being built. There is a rapidly growing interest from the medical community in using it as innovative modality in oncology. Through biological targeting, BNCT offers an approach to overcoming radiation resistance in some types of cancer, as well as a potential cure for locally recurrent solid tumours after maximal conventional therapies. Clinical experience collected in several hundred patients has generated a multitude of activities for hospital based BNCT centres. To name a few: in Japan, there are already three facilities treating patients; one project in Helsinki Hospital, Finland and two projects in China have entered the clinical study phase. Scientific societies have been founded on an international and national level. Many laboratories around the world are currently contributing to the advancements in this innovative, multidisciplinary field.

The international BNCT community has long used the IAEA TECDOC 1223 "Current Status of Neutron Capture Therapy" as a standard reference. A new report "Advances in Boron Neutron Capture Therapy" has been developed in a series of meetings, organized by IAEA, and published in 2023. The publication offers a comprehensive review of the current state of the science and supporting technology in BNCT, including accelerator-based neutron sources, beam design, physical dosimetry, facility design and operation, pharmaceuticals, radiobiology, dose calculation, treatment planning, and clinical trials, etc. It is supported by twenty annexes presenting specific examples that are valuable source of information for Member States that have never operated such facility before.

This event is already the second in the series of the IAEA training workshop on Advances in Boron Neutron Capture Therapy with the 1st held in Okayama and Osaka (Japan) in 2023. More information on the previous event can be found at IAEA Collaborating centre -BNCT Training Workshop.

Objectives

The purpose of the event is to share the latest information on advances in accelerator-based boron neutron capture therapy (BNCT), including considerations for the establishment of in-hospital BNCT facilities.

The meeting will include presentations by experts and others, in sessions devoted to specific topics, with subsequent discussions and breakout sessions. Some limited time will be also allocated for the workshop participants to present their research work.

In addition to the lectures delivered by the experts, the workshop will include hands-on training at BNCT Medical Center.

Topics

The workshop programme will be designed to cover a range of topics including but not limited to:

- Neutron production for BNCT
- Optimization of beam shaping assembly
- Research and development of boron drugs for BNCT

- Dosimetry
- Treatment Planning
- Clinical Trials

Target Audience

The event is aimed at scientists and engineers performing research in the field of BNCT, hospital representatives interested in establishing such a facility; specialists in the process of planning or executing such a project; medical and other scientists performing experimental research and patient treatments for and with BNCT; companies designing and marketing BNCT relevant accelerators and beam delivery systems; national standards laboratories in charge of neutron metrology; and regulators.

Member States are invited to designate one or more participants for this meeting. Member States are strongly encouraged to identify suitable women participants.

Working Language(s)

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

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 or invited organization, participants are requested to submit their application via the InTouch+ platform (https://intouchplus.iaea.org) to the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA by **27 June 2025**, following the registration procedure in InTouch+:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):
   - Persons with an existing NUCLEUS account can sign in to the platform with their username and password;
   - Persons without an existing NUCLEUS account can register here.

2. Once signed in, prospective participants can use the InTouch+ platform to:
   - Complete or update their personal details under 'Complete Profile' and upload the relevant supporting documents;
   - Search for the relevant event under the 'My Eligible Events' tab;
   - Select the Member State or invited organization they want to represent from the drop-down menu entitled 'Designating Authority' (if an invited organization is not listed, please contact InTouchPlus.Contact-Point@iaea.org);

- If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);
- Based on the data input, the InTouch+ platform will automatically generate the Participation Form (Form A) and/or the Grant Application Form (Form C);
- Submit their application.

Once submitted through the InTouch+ platform, the application, together with the auto-generated form(s), will be transmitted automatically to the required authority for approval. If approved, the application, together with the applicable form(s), will automatically be sent to the IAEA through the online platform.

NOTE: The application for financial support should be made, together with the submission of the application, by **27 June 2025**.

For additional information on how to apply for an event, please refer to the InTouch+ Help page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.
Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

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, together with the submission of the application, by **27 June 2025**.

Visas

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

Important Deadlines

27 June 2025: Deadline for submitting Form A (Participation)

27 June 2025: Deadline for submitting Form C (Grant Application), together with Form A (Participation)

18 July 2025: Notification to the authors of the acceptance of their proposed presentations

18 July 2025: Notification to the participants of their acceptance for participation, including grant attributions

18 November 2025: Start of the meeting

IAEA Contacts

Scientific Secretary:

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IAEA
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Form A
EVT2404501

Participation Form

Training Workshop on Advances in Boron Neutron Capture Therapy

Okayama and Osaka, Japan

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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, Ms Valentina Semkova, Division of Physical and Chemical Sciences, Department of Nuclear Sciences and Applications (Email: V.Semkova@iaea.org) and to the Administrative Secretary, Ms Rozanne Bojdo, (Email: R.Bojdo@iaea.org).

Deadline for receipt by IAEA through official channels: 27 June 2025

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:		

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

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Form C
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Grant Application Form

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Deadline for receipt by IAEA through official channels: 27 June 2025

Family name(s): (same as in passport)	First name(s): (same as in passport)	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 attended 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**

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