



Technical Meeting on Advanced Techniques for Radioactive Waste Characterization

**Hosted by the
Government of Hungary**

**through the
The Extreme Light Infrastructure ERIC (ELI)
and
ISOTOPTECH Zrt.**

Szeged, Hungary

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Information Sheet

Introduction

Effective radioactive waste management relies on accurate waste characterization, comprehensive inventories, and early integration of technical requirements into waste management planning. Incomplete or inconsistent characterization and inventory data - particularly for legacy waste, institutional waste, and decommissioning waste - continue to pose challenges for Member States when planning treatment, storage, and disposal solutions.

Early-stage characterization during facility operation, as well as during decommissioning planning, is increasingly recognized as a key strategy for reducing long-term liabilities, avoiding non-conforming waste, and ensuring compliance with evolving waste acceptance criteria. At the same time, advances in

analytical techniques, non-destructive assay methods, modelling tools, and digital inventory systems offer new opportunities to improve the quality, efficiency, and reliability of waste characterization and inventory development.

This Technical Meeting will provide a forum for the exchange of experience, good practices, and recent developments related to radioactive waste characterization and inventory planning across the waste life cycle.

The meeting will be hosted by the Extreme Light Infrastructure ERIC (ELI) in Szeged Hungary. ELI is a research facility with the world's largest and most advanced collection of high-power lasers. The international user facility dedicated to multi-disciplinary science and research applications ELI provides access to accelerator-based technologies, advanced detector development, and high-precision measurement techniques enabling cutting-edge research in physical, chemical, materials, and medical sciences, as well as breakthrough technological innovations. ELI operates as a single multi-site organisation with complementary facilities specialised in different fields of research with extreme light, the ELI ALPS (Attosecond Light Pulse Source) Facility in Szeged (Hungary) and ELI Beamlines Facility located in Dolní Břežany (Czech Republic).

Hosting the meeting at ELI provides an opportunity to explore synergies between radioactive waste management needs and advanced research capabilities, particularly in areas such as radiation–matter interaction studies, non-destructive measurement and imaging methods, advanced materials analysis, detector and sensor development, and modelling and simulation tools relevant to radiation transport and dose assessment. The meeting will also facilitate discussions on potential collaboration between waste management organizations, laboratories, and research institutes. Subject to logistical arrangements, a technical visit or dedicated session introducing the ELI facilities and relevant research programmes may be included.

Objectives

The purpose of the event is to provide a forum for sharing experiences and expertise in the development and implementation of advanced techniques for radioactive waste characterization. The event will focus on sharing advancements in characterization techniques, methodologies, and technologies; discussing the applicability and challenges of implementing innovative techniques; and identifying areas for improvement.

The meeting will also examine challenges associated with legacy and historical waste, discuss practical approaches for managing complex and heterogeneous decommissioning waste streams, and review recent technical and methodological developments in characterization, modelling, and inventory systems.

In addition, the meeting will explore how research and innovation, including advanced analytical infrastructures such as ELI-ALPS, can contribute to improving characterization capabilities and supporting decision-making in radioactive waste management.

Target Audience

The meeting is intended for representatives of waste management organizations, regulatory authorities and technical support organizations, operators of nuclear and radiological facilities, laboratories involved in radioactive waste characterization, national inventory and decommissioning planners, and research institutes and universities working in nuclear and radiological applications.

The event is expected to gather around 50 participants, including delegates from the invited countries and organizations, as well as members of the LABONET Steering Committee, aiming to foster collaboration, share technical expertise, and promote advancements in radioactive waste characterization and management practices across participating Member States.

Working language(s)

English.

Expected Outputs

The event will provide a forum for the exchange of information and discussion on good practices, recent developments, challenges, and future directions in radioactive waste characterization. It will present state-of-the-art methods and technologies relevant to characterization laboratories and to planners, operators, and regulators involved in radioactive waste management in Member States.

The event aims to highlight innovative characterization methods and technological advancements, provide practical insights to improve laboratory effectiveness, and facilitate technical dialogue on shared challenges and forward-looking solutions. Expected outcomes include the exchange of international experience and best practices, as well as strengthened capacity in Member States with less developed characterization programmes through the transfer of knowledge, expertise, and effective managerial approaches from more advanced programmes.

Structure

The event will feature presentations from participants, who will share their experiences and discuss challenges faced by Member States regarding the topics listed below. Each participant is asked to specify their chosen topic and the title of their presentation in the Participation Form (Form A). Once accepted, participants are required to submit an abstract of their presentation no later than two weeks before the event.

In addition to presentations, the event will host roundtable discussions/breakout sessions aimed at exploring relevant issues and topics of shared interest. These discussions will provide an

open forum for participants to exchange insights, address common challenges, and collaborate on best practices within the field.

During the meeting, a technical tour of the dedicated facilities at ELI-ALPS Research Institute and PURAM Bataapati disposal facility will take place.

Topics

The meeting will facilitate comprehensive exchanges on practices, innovations, and emerging trends in radioactive waste characterization, addressing key areas of interest. Discussions will cover a diverse range of topics, including:

- Characterization challenges associated with legacy and historical conditioned waste, including incomplete data and evolving waste acceptance criteria;
- Application and limitations of non-destructive assay (NDA) techniques for radioactive waste characterization;
- Integration of characterization data into national radioactive waste inventories and digital information management systems;
- Quality assurance, uncertainty management, and data validation in waste characterization programmes;
- Characterization of decommissioning waste, including large-volume, low-activity, and activated materials;
- Advances in detector technologies, measurement systems, and analytical methods relevant to radioactive waste characterization;
- Use of modelling and simulation tools (e.g. radiation transport, dose assessment) to support characterization and inventory development;
- Research and development contributions to innovation in radioactive waste characterization and future technical needs.

By addressing these topics, the meeting aims to provide a broad spectrum of insights and foster collaboration among participants to enhance radioactive waste characterization practices globally.

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 **17 July 2026** 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 a paper is being submitted and complete the relevant information;
 - 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 **17 July 2026**.

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.

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 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 Felicia

Nicoleta Dragolici, the Scientific Secretary of the event (see contact details below), not later than **17 July 2026**. Authors will be notified of the acceptance of their proposed presentations by **31 July 2026**.

Submission of a paper should be confirmed, together with the submission of the main application via the InTouch+ platform, by **17 July 2026**.

The maximum number of attendees at the event will depend on meeting logistics. Consequently, priority will be given to attendees who intend to share either a presentation or a poster.

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 **17 July 2026**.

Venue

The event will be held at the ELI-ALPS Research Institute in Szeged, Hungary. Participants must make their own travel and accommodation arrangements. Further Information and the meeting agenda will be provided prior to the meeting.

Visas

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

IAEA Contacts

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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.

Event Web Page

Please visit the following IAEA web page regularly for new information regarding this event:

www.iaea.org/events/EVT2503802