IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Workshop on Techniques and Technologies Used for the Characterization of Radioactively Contaminated Land

Hosted by

Government of the United Kingdom

through the

UK Health Security Agency

UKHSA Training Centre
Harwell Campus, United Kingdom

8 – 12 April 2024

Ref. No.: EVT2304379

Information Sheet

Introduction

Contaminated sites and areas requiring environmental improvement exist across the world. Critical to ensuring their remediation and reuse is the ability to characterize the site before, during and after site works.

Characterization of contaminated land is a multi-disciplinary task which requires a range of expertise and technical backgrounds. Characterization requires systematic planning, the use of in situ technologies and physical sample collection with laboratory analyses, and also data assessment and visualization.

Before starting a characterization project (or a monitoring programme), it is essential to build an understanding of the potential contaminant sources, the receptors that maybe at risk and the migration pathways. This conceptual site model underpins the development of the characterization plan and all other tasks associated with the management of the radioactively contaminated land.

In general characterization is an iterative process based on systematic planning; data maybe collected at different times and through different methods which are then combined to produce the overall status a site. For example, in situ survey techniques provide the opportunity to gain real-time information on the spatial distribution of radioactive contaminants and inform sample collection. Geo-statistics can then be used to integrate and evaluate the data sets to support further characterization, for use in safety assessment, to support waste management decisions and / or to inform remedial design.

This training workshop is part of an ongoing series of activities organised by the International Atomic Energy Agency's (IAEA's) Decommissioning and Environmental Remediation Section to support Member States in the characterization of radioactively contaminated land.

Objectives

The objective of the workshop is to increase the knowledge and skills of early career or new career professionals, scientists, and technicians regarding the key steps in the characterization of radioactively contaminated land.

The workshop will also enable Member States to share good practices and experience related to the techniques and technologies used for the characterization of radioactively contaminated land.

Topics

This workshop is designed to provide overarching knowledge of the key technical aspects regarding the planning and implementing characterization of radioactively contaminated land. This workshop will comprise lectures, tutorial exercises and equipment demonstrations.

The following topics are expected to be included in the programme:

- Creating and using a conceptual site model;
- Systematic planning for environmental characterization including sample plans;
- Use of in situ geophysical and radiological survey techniques;
- Intrusive site investigation techniques including groundwater monitoring;
- Data management and assessment; and
- Data visualisation, spatial analysis and mapping using geostatistical techniques.

Target Audience

This introductory training workshop is intended for individuals involved in radiological characterization and remediation of radioactively contaminated land. The course is particularly applicable to early career practitioners, scientists and technicians carrying out radiological characterization and groundwater monitoring activities and trainees pursuing a career within the field of radioactively contaminated land management.

The course would also be relevant to project managers responsible for the implementation of radiological characterization programmes.

Working Language

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 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 **29 January 2024**, 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 **29 January 2024**.

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

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 **29 January 2024.**

Venue

The event will be held at the UK Health Security Agency training centre, Harwell Campus, Becquerel Avenue, Didcot, OX11 0RQ, United Kingdom and will start at **9.00 a.m. on Monday, 8 April 2024**. A site tour is also planned to the Magnox, Harwell site.

Participants must make their own travel and accommodation arrangements. Once the workshop participants have been selected and formally invited, information will be provided on where to make hotel reservations. It is important that the recommended hotels are used to ensure public transport can be accessed between the hotel and the training centre.

Visas

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

Additional Requirements

Participants should submit with their official designation a personal abstract describing their experience and interest in the topics of the workshop and their respective country's needs.

The personal abstract should include at least the following:

- Job title and description of duties;
- Brief description of the contaminated site(s) they are working on or have recently worked on;
- Specific contaminants and environmental media they are interested in;
- Whether they have participated in other training events on characterization and/or monitoring radioactively contaminated land.

Due to constraints, a maximum of 25 participants will be selected to attend the training workshop. The selection of the participants will be based on the information provided in the personal abstract.

Prior to attending the workshop, participants must complete the IAEA e-learning modules on fundamental of environmental remediation and planning for environmental remediation.

Participants are also expected to be familiar with the following IAEA publications and resources prior to attending the workshop:

- Introduction to in situ techniques for radiological characterization of sites
- Remediation Strategy and Process for Areas Affected by Past Activities or Events, IAEA Safety Standard Series No. GSG-15, IAEA, Vienna (2022). (Note, this Safety Standard replaces Remediation Process for Areas Affected by Past Activities and Accidents, IAEA Safety Standards Series No. WS-G-3.1, 2007).
- Guidelines on Soil and Vegetation Sampling for Radiological Monitoring, Technical Reports Series No. 486, IAEA, Vienna (2019).
- In Situ Analytical Characterization of Contaminated Sites Using Nuclear Spectrometry Techniques: Review of Methodologies and Measurements, IAEA Analytical Quality in Nuclear Applications Series No. 49, IAEA, Vienna (2017).
- Guidelines for Radioelement Mapping using Gamma Ray Spectrometry Data, IAEA-TECDOC-1363, IAEA, Vienna (2003).

To enable full participants within the workshop exercises, participants are requested to bring to the workshop a laptop with the following specification:

Supported operating systems

- PC Intel/AMD;
- Windows 10 64-bit and RedHat 7 Enterprise (or higher) 64-bit.

Minimum system requirements

- Intel 64-bit compatible processor;

- 4 Gb system memory (16 Gb is recommended);
- NVIDIA and AMD/ATI graphic cards with the most recent drivers are recommended for using the 3D Viewer;
- Monitor capable of 1440x900 pixels.

Prior to the workshop participants will be provided with a link to download software that will be used during the workshop to teach data analysis and visualisation techniques.

Organization

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries 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/EVT2304379