IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Training Course on Advanced Mass-Balance Modelling Using Radon

IAEA Headquarters
Vienna, Austria

8 - 12 June 2026

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Information Sheet

Introduction

The course is open to 10 participants. In the selection of nominated participants priority will be given to technical and scientific staff involved in planning and implementing hydro(geo)logical research and/or projects related to water resources assessment and management involving the use of radon as the main hydrological tracer.

Objectives

The purpose of this training course is to provide a) a comprehensive grounding in the principles, assumptions, and data requirements of ^{222}Rn mass-balance modelling for quantifying groundwater–surface water interactions, and b) hands-on experience in designing field campaigns, processing datasets, configuring models, and interpreting outputs for hydrological applications. Through a structured progression from conceptual foundations to practical implementation, the course equips participants with the technical and analytical skills needed to apply radon-based methods in diverse environmental and water resource settings. The course integrates lectures, demonstrations, and practical exercises, guiding participants through each step of the modelling workflow: conceptualization of ^{222}Rn mass balance, survey design and sampling strategies, hydrological and geometric data preparation, model configuration, and interpretation of groundwater inflow estimates and associated uncertainties. Emphasis is placed on understanding the sensitivity of model outputs to key parameters such as groundwater end-members, degassing rates, hydrological inputs, and reach discretization, as well as on recognizing common pitfalls and sources of error. Delivered in an in-person format, the course prioritizes interactive engagement and practical work with real datasets. Participants will learn to build input sheets, run and adjust models, evaluate alternative scenarios, generate summary tables and plots, and apply standardized approaches for documenting metadata, assumptions, parameter choices, and uncertainty ranges. By the end of the course, participants will have developed the capacity to design and execute radon surveys, process and model ^{222}Rn data, critically interpret model outputs, and prepare

clear and reproducible documentation. Strengthening skills in radon-based modelling supports more informed water resources assessment, enhances transparency and comparability within technical cooperation projects, and contributes to improved water management and decision-making at national and regional scales.

Target Audience

Participants should have a university degree with a technical/scientific profile that attests to their experience with the use of hydrological, hydrogeological or hydrochemical techniques, and/or their involvement in water resources assessment and/or management. They should preferably have a good understanding of water-related/hydrogeological issues. As the course will be conducted in English, participants should have sufficient proficiency to follow lectures and express themselves in this language without difficulty. In the case of countries in which English is not an official or customary language, nominations must be accompanied by a separate certificate attesting to the candidate's proficiency in English. This certificate must be issued by a language school or cultural institution, or by the embassy of a country in which English is spoken.

Working Language(s)

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 **24 April 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 **24 April 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 the IAEA InTouch+ platform.

In addition to the registration already submitted through the InTouch+ platform, participants have to submit the abstract, together with the Form for Submission of a Paper (Form B), to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA not later than .

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

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 **24 April 2026**.

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: https://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.

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.