IAEA
International Atomic Energy Agency
Atoms for Peace and Development

International Symposium on Trends in Radiopharmaceuticals (ISTR-2023)

IAEA Headquarters
Vienna, Austria

17–21 April 2023

Organized by the
International Atomic Energy Agency (IAEA)

Announcement and Call for Papers

A. Background

Advances in nuclear medicine have opened possibilities to generate unprecedented solutions to clinical problems by providing better diagnosis and more efficient therapies. Emerging new radiopharmaceuticals and efficient production of relevant radioisotopes have been always tightly linked to these developments.

Impressive technologies including high-energy and high-current accelerators are now becoming available for radioisotope production in addition to the existing ones. This has allowed broader access to several promising radionuclides, including gallium-68, copper-64 and zirconium-89. Development of high-power electron linacs resulted in the production of therapeutic radionuclides such as scandium-47, actinium-225, and copper-67. Alternative methods, using both electron and proton accelerators, are being developed for large scale production of molybdenum-99/technetium-99m, which remains the most widely used diagnostic radionuclide.

Beta emitters, such as iodine-131, lutetium-177, samarium-153, yttrium-90 and some others, are already established radionuclides for therapy. Clinical success of radiolabelled peptides and enzyme inhibitors for cancer treatment has resulted in increasing worldwide demand of lutetium-177 over the last decade. Targeted alpha therapy is another pertinent field for radioisotope producers, researchers, and nuclear medicine physicians. Some years ago, the first α-emitting radiopharmaceutical, radium-223 dichloride solution (pharmaceutical grade), was approved by the US Food and Drug Administration for cancer treatment. Many other α-emitting radionuclides, such as actinium-225, astatine-211, bismuth-212, bismuth-213, lead-212, thorium-227, and terbium-149, are being explored for radiopharmaceutical developments. Current demand for actinium-225 significantly exceeds its availability and numerous research groups worldwide are working on efficient production of these much sought after α-emitters.

The field of radiopharmaceuticals has witnessed continuous evolution, starting from simple ionic radioiodine to coordination complexes of technetium-99m radiopharmaceuticals. Today, a variety of PET radioligands as well as theranostic and therapeutic agents are evaluated for their potential clinical applications. Several milestones can be cited in the trajectory of this growth, which include novel radiochemistry methods developed for radiolabelling of variety of ligands with different radionuclides, automated process developments, availability of nonclinical evaluation techniques, thanks to the immense contributions of scientists from diverse disciplines. The concept of theranostic radioisotopes, that combines the diagnosis and therapy properties of one radioisotope or a pair of radioisotopes with chemical similarity, is an attractive paradigm for future developments in medical applications of radionuclides. Suitable biomolecules for therapy, which can bind specific cellular targets, when labelled with theranostic radionuclides, provide radionuclide therapy opportunities with clinical significance for diagnosis, dosimetry, and post therapy planning, making personalized medicine a reality.

B. Purpose and Objectives

The International Symposium on Trends in Radiopharmaceuticals, ISTR-2023, will provide scientists and other professionals working in the production of radioisotopes and radiopharmaceuticals with an international forum to discuss the most recent developments and challenges in the field. Topics covered during the event, including the development, production and uses of diagnostic, therapeutic and theranostic radioisotopes and radiopharmaceuticals, as well as regulatory and licensing issues. Education, certification and training methodologies will also be addressed. We expect participants from academia, industry, healthcare institutions, regulatory bodies and other organizations.

The ISTR-2023 will provide a great opportunity for chemists, biologists, pharmacists, physicists, medical researchers, and other experts in the international community to meet and discuss their most recent work. This meeting will help maintain existing and establish new collaborations to address common problems and expand the worldwide developments and use of radiopharmaceuticals.

C. Themes and Topics

The Symposium programme will consist of an opening session, plenary sessions, and technical sessions (both oral and poster), as well as interactive content sessions, exhibitions, side events, and a closing session. The opening session will include welcoming addresses by representatives of the IAEA, and other relevant organizations. The plenary sessions will continue with a combination of invited keynote presentations and submitted contributions addressing the main themes and topics of the Symposium. Each topical session will include presentations and/or panel discussions delivered by participants

selected based on their submitted synopses. The Symposium will also feature poster sessions and sufficient time will be provided for discussion and interaction with the participants. The final plenary session will be dedicated to conclusions and recommendations on ways forward.

The scope of the symposium is meant to cover, but is not limited to, the following topical areas:

- Production of diagnostic (Positron Emission Tomography; PET and Single Photon Emission Computed Tomography; SPECT), therapeutic and theranostic medical radioisotopes
- Production of radionuclide generators
- Production of diagnostic, therapeutic and theranostic radiopharmaceuticals
- Production and quality control of alpha emitter radiopharmaceuticals
- Research and development related to the production of medical radioisotopes and radiopharmaceuticals
- Quality control and quality assurance of medical radioisotopes and radiopharmaceuticals
- Preclinical evaluation of radiopharmaceuticals including data needed for approvals, case studies including animal/human compliance and statistics
- Dosimetry for new radiopharmaceuticals (both imaging and therapeutic agents)
- Good Manufacturing Practices (GMP) and other guidelines for production of medical radioisotopes and radiopharmaceuticals
- Design of radiopharmacy (industrial, hospital and centralized) facilities
- Regulatory aspects related to radiopharmaceuticals
- Accelerators for radioisotope production (choice, design etc.)
- Radiopharmacy Chapter in pharmacopoeias
- Women in radiopharmaceutical sciences, trends, challenges, and future
- Education, including e-learning, certification and training methodologies for professionals involved in radiopharmaceutical sciences
- Introduction to the latest innovations in the radioisotopes and radiopharmaceutical industry

D. Structure

The opening session will include statements delivered by the Symposium President and the IAEA and presentations from invited speakers and experts. Depending on the number of synopses received, poster sessions will also be organized. The closing session will include a summary of the main conclusions of the symposium, delivered by the Symposium President, and closing remarks from the IAEA. Side events on interesting topics will also be included in the programme.

E. Expected Outcomes

The symposium will be an effective platform for interactions among the participants, IAEA and industries in the field, for:

- Knowledge sharing for all participating Member States,

- Networking and initiation of cooperation and future activities in the field of radioisotopes and radiopharmaceuticals production and research,

- Providing an overview of available technology through industry exhibits.

F. Target Audience

The target audience for this Symposium includes (radio)chemists, (radio)pharmacists, biologists, physicists, technologists, medical researchers, policy makers and health regulators, educators and other professionals working in the fields of production and uses of medical radioisotopes and radiopharmaceuticals. The IAEA welcomes and encourages the participation of individuals from developing countries, women, and early career professionals including students.

G. Call for Papers

Contributions on the topics listed in Section C are welcome as oral or poster presentations. All submissions, apart from invited papers, must present original work, which has not been published elsewhere.

G.1. Submission of Abstracts

Abtracts (approximately 150 to 200 words on one printed A4 page, may contain any charts, graphs, figures and references) should give enough information on the content of the proposed paper to enable the Programme Committee to evaluate it. Anyone wishing to present at the symposium must submit an abstract in electronic format using the symposium's file submission system (IAEA-INDICO), which is accessible from the symposium web page (see Section Q). The abstract can be submitted through this system from **1 June 2022** until **30 September 2022**. Specifications for the layout will be available on IAEA-INDICO. The system for electronic submission of abstracts, IAEA-INDICO, is the sole mechanism for submission of contributed abstracts. Authors are encouraged to submit abstracts as early as possible. The IAEA will not accept submissions via email.

In addition, authors must register online using the InTouch+ platform (see Section H). The online registration together with the auto-generated Participation Form (Form A) and Form for Submission of a Paper (Form B) must reach the IAEA no later than **30 September 2022**.

IMPORTANT: The Programme Committee will consider uploaded abstracts only if these two forms have been received by the IAEA through the established official channels (see Section H).

G.2. Acceptance of Abstracts

The Secretariat reserves the right to exclude abstracts that do not comply with its technical or scientific quality standards and that do not apply to one of the topics listed in Section C.

Authors will be informed by **30 November 2022** as to whether their submission has been accepted, either orally or as a poster, for presentation at the symposium. Accepted abstracts will also be reproduced in an unedited electronic compilation of Abstracts which will be made available to all registered participants of the symposium.

G.3 Proceedings

Following the symposium, the IAEA will publish a summary report. The proceedings will be made available to read online.

H. Participation and Registration

All persons wishing to participate in the event must be designated by an IAEA Member State or should be a member of an organization that has been invited to attend.

Registration through the InTouch+ platform:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):

- Persons with an existing NUCLEUS account can **sign in here** 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 'Basic Profile' (if no financial support is requested) or under 'Complete Profile' (if financial support is requested) and upload the relevant supporting documents;
- Search for the relevant event (**EVT**2102333) 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 Conference.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 Participation Form (Form A), Form for Submission of a Paper (Form B) and/or 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 form(s) will automatically be sent to the IAEA through the online platform.

NOTE: Should prospective participants wish to submit a paper or request financial support, the application needs to be submitted by the specified deadlines (see section O).

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.

If it is not possible to submit the application through the InTouch+ platform, prospective participants are requested to contact the IAEA's Conference Services Section via email: Conference.Contact-Point@iaea.org.

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. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

I. 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 symposium. The IAEA has, however, limited funds at its disposal to help cover 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 symposium.

If participants wish to apply for a grant, they should submit applications to the IAEA using the InTouch+ platform through their competent national authority (see Section H). Participants should ensure that applications for grants are:

1. Submitted by **30 September 2022**;
2. Accompanied by Grant Application Form (Form C); and
3. Accompanied by Participation Form (Form A).

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually covers **only part of the cost of attendance**.

J. Distribution of Documents

A preliminary and final programme will be made available on the symposium web page (see Section Q) prior to the start of the symposium. The electronic compilation of abstracts will be accessible free of charge to participants registered for the symposium.

K. Exhibitions

A limited amount of space will be available for commercial vendors' displays/exhibits during the symposium. Interested parties should contact the Scientific Secretariat by email ISTR2023@iaea.org by 30 September 2022.

L. Working Language

The working language of the symposium will be English. All communications must be sent to the IAEA in English.

M. Venue and Accommodation

The symposium will be held at the Vienna International Centre (VIC), where the IAEA's Headquarters are located. 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.

Participants must make their own travel and accommodation arrangements. Hotels offering a reduced rate for participants are listed on https://www.iaea.org/events. Please note that the IAEA is not in a position to assist participants with hotel bookings, nor can the IAEA assume responsibility for paying fees for cancellations, re-bookings and no-shows.

N. Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria as early as three months but not later than 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.

For more information, please see the Austria Visa Information document available on https://www.iaea.org/events.

O. Key Deadlines and Dates

Submission of abstracts through IAEA-INDICO	**30 September 2022**
Submission of Form B (together with Form A) through the InTouch+ platform	**30 September 2022**
Submission of Form C (together with Form A) through the InTouch+ platform	**30 September 2022**
Notification of acceptance of abstracts for oral or poster presentation	**30 November 2022**
Submission of Form A only (no paper submission, no grant request) through the InTouch+ platform	**No deadline**

P. Symposium Secretariat

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries and correspondence on administrative matters to the IAEA's Conference Services Section.

Q. Symposium Web Page

Please visit the IAEA symposium web page regularly for new information regarding this symposium.