

## 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.

## KEY DEADLINES

- 30 September 2022** Submission of abstracts and Forms A and B and if applicable Form C via the InTouch+ platform
- 30 November 2022** Notification of acceptance of abstracts;
- No deadline** Registration only (no paper submission, no grant request) using Form A via the InTouch+ platform

## REGISTRATION

No registration fee is charged.

## LANGUAGE

The symposium will be held in English.

## EXHIBITION

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](mailto:ISTR2023@iaea.org) by **30 September 2022**.

## IAEA CONTACT PERSONS

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## SYMPOSIUM WEB PAGE

Please visit the IAEA symposium web page regularly for updated information.



CN-310

## INTERNATIONAL SYMPOSIUM ON TRENDS IN RADIOPHARMACEUTICALS

#ISTR2023

IAEA Headquarters  
Vienna International Centre  
Austria

17 – 21 April 2023



## 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 for Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET) as well as therapeutic agents and have opened new horizons in health. 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 radionuclides such as molybdenum-99, scandium-47, actinium-225, and copper-67. On the other hand, cyclotrons can produce large scale technetium-99m, the most widely used diagnostic radionuclide. Beta emitters, such as iodine-131, lutetium-177, samarium-153, yttrium-90 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  $\alpha$ -emitting radiopharmaceutical, radium-223 dichloride radiopharmaceutical, was approved for cancer treatment. Many other  $\alpha$ -emitting radionuclides, such as actinium-225, with a demand exceeding its availability is the centre of interest for numerous research groups worldwide. Several milestones can be cited in the trajectory of radiopharmaceutical sciences 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.

## 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.

## TOPICS

Main Topics to be covered:

- Production of diagnostic (PET and SPECT), therapeutic and theranostic medical radioisotopes and radiopharmaceuticals
- Production of radionuclide generators
- 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 etc.
- Good Manufacturing Practices (GMP) and other guidelines for production of medical radioisotopes and radiopharmaceuticals
- Design of radiopharmacy facilities (industrial, hospital and centralized) including accelerators and research reactors
- Regulatory aspects related to radiopharmaceuticals
- 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