

International Symposium on Trends in Radiopharmaceuticals (ISTR-2023)

17–21 April 2023

PROGRAMME

(Last updated April 17 th, 2023)

Organized by the
International Atomic Energy Agency (IAEA)

IAEA Headquarters Vienna, Austria

Programme Committee:

Meera Venkatesh, IND
Joao A. Osso Junior, BRA
Cornelia Hoehr, CAN
Suzanne Lapi, USA
Adriano Duatti, ITA
Aruna Korde, IAEA
Valeriia Starovoitova, IAEA

IAEA Secretariat:

Scientific Secretaries: Melissa Denecke, NAPC
Amirreza Jalilian, NAPC
Event Organizer: Julie Zellinger, MTCD
Exhibition Coordination: Erik Paniagua-Miranda, MTCD
Administrative Support: Wanting Zhang, Wenbin Yang, Olha Bilous, NAPC

Location of the Event:

International Atomic Energy Agency
Vienna International Centre (VIC)
Building M, M-Plenary

Wagramer Strasse 5
A-1400 Vienna, Austria
Tel.: (+43 1) 2600 21330

Working Language: English

Resolutions: No resolutions may be submitted for consideration on any subject; no votes will be taken.

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Participate in voting during sessions



Raise questions to speakers during session



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TIMETABLE**Monday, 17 April 2023**

Time	Session Title / Break	Venue
08:00–16:00	Registration and Badging	VIC Gate 1
09:30–10:30	Opening Session	M Plenary
10:30–11:00	<i>Coffee/Tea Break</i>	
11:00–12:30	Plenary Session 1: Production of Mo-99	M-Plenary
12:30–14:00	<i>Lunch Break</i>	
14:00–15:30	Plenary Session 2: Production of Medical Radioisotopes: Generators	M-Plenary
15:30–16:00	<i>Coffee/Tea Break</i>	
16:00–17:30	Plenary Session 3: Production of PET Radioisotopes	M Plenary
18:00–20:00	<i>Welcome Reception</i>	M Building, Ground Floor

Tuesday, 18 April 2023

Time	Session Title / Break	Venue
09:00–10:30	Plenary Session 4: Production of PET Radiopharmaceuticals I	M Plenary
10:30–11:00	<i>Coffee/Tea Break</i>	
11:00–12:30	Plenary Session 5: Production of Therapeutic Medical Radioisotopes	M Plenary
12:30–14:00	<i>Lunch Break</i>	
12:30-13:30	<i>Panel Discussion; Spotlight on Partnerships in Radiopharmaceuticals</i>	Conference Room M2
14:00–15:30	Poster Session I	Outside BRA, Second Floor
15:30–16:00	<i>Coffee/Tea Break</i>	
16:00–17:30	Plenary Session 6: Academia Meets Industry (PRISMAP Experience)	
17:30–18:30	<i>Side Event: The Status and Prospects of Radiopharmaceutical Science, Education and Industry in Russia</i>	Conference Room M2

Wednesday, 19 April 2023

Time	Session Title / Break	Venue
09:00–10:30	Plenary Session 7: Production of Tc-99m Radiopharmaceuticals	M Plenary
10:30–11:00	<i>Coffee/Tea Break</i>	
11:00–12:30	Plenary Session 8: Production of PET Radiopharmaceuticals II	
12:30–14:00	<i>Lunch Break</i>	
14:00–15:30	Plenary Session 9: Production of Radiopharmaceuticals: Therapy	
15:30–16:00	<i>Coffee/Tea Break</i>	
16:00–17:30	Plenary Session 10: Radiopharmaceuticals Development: Factors and Considerations	
18:00–19:00	<i>Side Event: "TRIUMF's Experiences with the Research to Commercial Pipeline"</i>	Conference Room M2

Thursday, 20 April 2023

Time	Session Title / Break	Venue
09:00–10:30	Plenary Session 11: Production of Radioisotopes and Radiopharmaceuticals: Facilities	M Plenary
10:30–11:00	<i>Coffee/Tea Break</i>	
11:00–12:30	Plenary Session 12: Radiopharmaceutical Industry	M Plenary
12:30–14:00	<i>Lunch Break</i>	

Time	Session Title / Break	Venue
14:00–15:30	Poster Session II	Outside BRA, Second Floor
15:30–16:00	<i>Coffee/Tea Break</i>	
16:00–17:30	Plenary Session 13: Production of Emerging Radioisotopes	M Plenary
18:00–19:00	<i>Side event: Mentoring Young Radiopharmaceutical Scientists</i>	Conference Room M2

Friday, 21 April 2023

Time	Session Title / Break	Venue
09:00–09:40	Plenary Session 14: TC Success Stories	M Plenary
09:50–11:00	Plenary Session 15: Regulatory, Education and Pharmacopeia	M Plenary
11:00–11:20	<i>Coffee/Tea Break</i>	
11:20–13:20	Plenary Session 16: Closing Ceremony	M Plenary

----- Monday, 17 April 2023 -----

09:30–10:30 OPENING SESSION

Venue: M Plenary

Time	Presenter	Country/Organization	Title
09:30	Rafael M. Grossi	International Atomic Energy Agency (IAEA)	Opening Remarks – Director General
	Najat Mokhtar	International Atomic Energy Agency (IAEA)	Welcome by the Deputy Director General, Head of the Department of Nuclear Sciences and Applications
09:50	Antero J. Abrunhosa	Universidade de Coimbra, ICNAS, (POR)	A time Journey Through the ICNAS-IAEA Collaboration
10:20	Melissa Denecke	International Atomic Energy Agency (IAEA)	Administrative Remarks, Scientific Secretary and Director, Division of Physical and Chemical Sciences
10:30–11:00	<i>Coffee/Tea Break</i>		

11:00-12:30 S.1 Production of Mo-99

Chairs: Joao Osso Junior (BRA), Valeriia Starovoitova (IAEA)

Venue: M Plenary

Time	Presenter	Country/Organization	Title
11:00	Bernard Ponsard	BEL	Supply of Mo-99 and Tc-99m Generators
11:25	Yelena Chakrova	KAZ	Production of Mo-99/Tc-99m Gel Generators
11:45	Paul Schaffer	CAN	Cyclotron Based Tc-99m Production
12:00	Takahiro Tadokoro	JPN	Production of Medical Radionuclides using an Electron Linear Accelerator (Mo-99 and others)
12:15	Chris Horne	CAN	Neutron Capture-Based Production via Power Reactor and Potential Market Penetration

14:00-15:30 S.2 Production of Medical Radioisotopes: Generators

Chairs: Bernard Ponsard (BEL), Adriano Duatti (ITA)

Venue: M Plenary

Time	Presenter	Country/Organization	Title
14:00	Rene Leyva Montaña	CUB	Routine Production of Tc-99m Generators
14:20	Frank Rösch	GER	Ga-68 Generators: Challenges and Considerations
14:40	Renata Mikolajczak	POL	Production of Re-188 Generators
15:00	Lukas Ondrak	CZE	Ac-225/Bi-213 Generator System Based on a-zirconium Phosphate Ion Exchanger
15:15	Aleksandar Vukadinovic	SRB	Development of an Affordable Automatic System for Production of Small Batches of Technetium-99m Generators
15:30-16:00	<i>Coffee/Tea Break</i>		

16:00-17:30 **S.3 Production of PET Radioisotopes**
Chairperson: **Miguel Avilla-Rodriguez (MEX), Adriano Duatti (ITA)**
Venue: **M Plenary**

Time	Presenter	Country/Organization	Title
16:00	Philip Elsinga	NLD	F-18 Radiopharmaceuticals: Production, Synthesis and latest development
16:20	Cornelia Hoehr	CAN	Targetry for Medical Isotope Production at a Cyclotron
16:40	Jonathan Engle	USA	Radiometals Production in the University of Wisconsin Cyclotron Laboratory
17:00	Jeong Hoon Park	KOR	Zr-89 Production and Applications for Bionanomaterials
17:15	Emiliano Cazzola	ITA	Development and Application of Sintered Targets for Radioisotope Production
17:30	Alexandra Fonseca	POR	Production of Copper Radioisotopes using Liquid Target

18:00-20:00 **Welcome Reception** **Ground Floor, M Building**

Tuesday, 18 April 2023

09:00–10:30 **S.4 Production of PET Radiopharmaceuticals I**
Chairs: **Philip Elsinga (NLD), Antero J. Abrunhosa (POR)**
Venue: **M Plenary**

Time	Presenter	Country/Organization	Title
09:00	Munir Ghesani	USA, President of SNMMI	Paradigm Shift in the Clinical Use of Diagnostic and Therapeutic Radiopharmaceuticals over the Past Three Decades
09:25	Peter Scott	USA	Explorers in Radiochemistry Space: Adventures in C-11-radiochemistry, Automation and Artificial Intelligence
09:40	Miguel Avilla-Rodriguez	MEX	Copper-64 Radiopharmaceuticals Production and Applications in Mexico
10:00	Tamer Sakr	EGY	Preparation and Biological Evaluation of Ga-68-WSSF-DOTA-Bombesine Nanoparticles
10:10	Katerina Kolevska	MAK	Design of Feasibility Study for the Establishment of Zr-89 Production – Tailored Approach to Introduce New Radiopharmaceuticals in a Developing Country
10:20	Shuichi Shiratori	THA	Rationale Radiosynthesis of 68Ga-tri-γ-glutamic Acid Polypeptide
10:30–11:00		<i>Coffee/Tea Break</i>	

11:00-12:20 **S.5 Production of Therapeutic Medical Radioisotopes**
Chairs: **Michael R. Zalutsky (USA), Meera Venkatesh (IND)**

Venue: M Plenary

Time	Presenter	Country/Organization	Title
11:00	Tladi Moloto	SAF	I-131 Supply Chain and Crises
11:15	Andrea Armstrong	CAN	Production of n.c.a. Lu-177 at McMaster University
11:30	Cathy Cutler	USA	Production of Alpha Emitter Radioisotopes at DOE
11:45	Kohshin Washiyama	JPN	Production and use of Alpha-emitting At-211 for Targeted Radionuclide Therapy in Japan
12:00	Jean-François Gestin	FRA	Challenging Development of Astatine-211 through the European COST NOAR program
12:10	Jie Gao	CPR	The Third Generation of Radioembolization Microspheres: Y-90 Carbon Microspheres

12:30-13:30 Panel Discussion: Spotlight on Partnerships in Radiopharmaceuticals**Chairs: Najat Mokhtar (DDG-IAEA), Melissa Denecke (IAEA)****Venue: Conference Room M2****14:00-15:30 Poster Session I****Venue: BRA, M02 Exhibition Area**

15:30–16:00

*Coffee/Tea Break***16:00-17:30 S.6 Academia Meets Industry (PRISMAP experience)****Chairs: Thomas Elias Cocolios (BEL), Aruna Korde (IAEA)****Venue: M Plenary**

Time	Presenter	Country/Organization	Title
16:00	Maija Radzina	LVA	PRISMAP Questionnaire
16:15	Ulli Koester	FRA	Emerging Therapeutic Radioisotopes
16:30	Michiel van de Voorde	BEL	Sm-153 with High Molar Activity for Targeted Radionuclide Therapy
16:45	Cristiana Gameiro-Paris	BEL	Challenges and Opportunities in the Production of RPs: Industry Perspective
17:00	George Loudos	GRE	Preclinical Imaging of Challenging Isotopes Including Alpha Emitters for Oncological Applications
17:15	discussions		

17:30-18:30 Side Event “The Status and Prospects of Radiopharmaceutical Science, Education and Industry in Russia”**Chairs: Irina Svyato (RUS), Valeriia Starovoitova (IAEA)****Venue: Conference Room M2**

----- Wednesday, 19 April 2023 -----

09:00–10:30**S.7 Production of Tc-99m Radiopharmaceuticals****Chairs:****Renata Mikolajczak (POL), Joao Osso Junior (BRA)****Venue:****M Plenary**

Time	Presenter	Country/Organization	Title
09:00	Mattia Riondato	ITA	Rediscovering the Role of Tc-99m in the Current Status of Nuclear Medicine Practice
09:20	Jin Du	CPR	Production of Tc-99m Radiopharmaceuticals and Kits in China
09:40	Blanca Ocampo-Garcia	MEX	Production of Tc-99m Radiopharmaceuticals and Kits in Mexico
10:00	Adamantia Apostolopoulou	GRE	How Does the Concentration of Tc-99m Radiolabeled Gold Nanoparticles Affect their In Vivo Biodistribution
10:10	Abdelmjid Aiboud	MOC	Preliminary Evaluation of Tc-99m Labeled Cefepime using Tricine as Co-ligand as a Potential Radiopharmaceutical for Localization of Infectious Sites
10:20	Dana Niculae	ROM	EANM Radiopharmaceutical Sciences Committee Activities
10:30–11:00	<i>Coffee/Tea Break</i>		

11:00-12:30**S.8 Production of PET Radiopharmaceuticals II****Chairs:****Valery Radchenko (CAN), Meera Venkatesh (IND)****Venue:****M Plenary**

Time	Presenter	Country/Organization	Title
11:00	Jason Lewis	USA	Status, Trends and Applications of Cu-64/67 Radiopharmaceuticals in Theranostics
11:20	Suzanne Lapi	USA	Elementally <Matched Radiopharmaceuticals for Imaging and Therapy
11:40	Serge Lyashchenko	USA	Preparation of Zr-89 Radiopharmaceuticals
11:55	Eduardo Savio Quevedo	URU	Production and Applications of F-18 Radiopharmaceuticals Based on AIF2+ Chemistry at CUDIM
12:10	Luna Barua	IND	Production of Ga-68 and Radiopharmaceuticals using a Cyclotron
12:20	Subhani Okarvi	SAU	F-18 FDG Radiopharmaceutical Production
12:30–14:00	<i>Coffee/Tea Break</i>		

14:00-15:30**S.9 Production of Radiopharmaceuticals: Therapy****Chairs:****Cathy Cutler (USA), Aruna Korde (IAEA)****Venue:****M Plenary**

Time	Presenter	Country/Organization	Title
14:00	Tapas Das	IND	Production of Lu-177 and Lu-177 Based Radiopharmaceuticals
14:15	Frank Bruchertseifer	GFR	Production and Quality Control of Ac-225 Radiopharmaceuticals
14:30	Nicola Lepareur	FRA	Development of Re-188 Radiopharmaceuticals

Time	Presenter	Country/Organization	Title
14:45	Cristina Müller	SWI	Opportunities and Challenges of Using Terbium-161 for Targeted Radionuclide Therapy
15:00	Kattesh Katti	USA	Recent Advances in the Design and Development of Nanoradiopharmaceuticals for Molecular Imaging and Therapy
15:15	Janke Kleynhans	SAF	Critical Evaluation of Quality Control Procedures of Ac-225 Radiopharmaceuticals
15:30–16:00		<i>Coffee/Tea Break</i>	

16:00-17:30 S.10 Radiopharmaceuticals Development: Factors and Considerations

Chairs: Jason Lewis (USA), Aruna Korde (IAEA)

Venue: M Plenary

Time	Presenter	Country/Organization	Title
16:00	Peter Scott	USA	In Silico Methods for Radiopharmaceuticals Development
16:15	Suzanne Lapi	USA	Novel Radioisotopes in Preclinical Imaging
16:30	Oliver Langer	AUS	Use of Small Animal PET Imaging to Assess Drug Disposition
16:45	Clemens Decristoforo	AUS	Nonclinical Considerations from a Regulatory Perspective
17:00	Discussions		

18:00-19:00 Side Event: "TRIUMF's Experiences with the Research to Commercial Pipeline"

Chairs: Valery Radchenko (CAN), Melissa Denecke (IAEA)

Venue: Conference Room M2

 ----- **Thursday, 20 April 2023** -----

09:00–10:30 S.11 Production of Radioisotopes and Radiopharmaceuticals: Facilities

Chairs: David Schlyer (USA), Seyed Mohammad Haji Saeid (USA)

Venue: M Plenary

Time	Presenter	Country/Organization	Title
09:00	Maria Victoria Gonzalez	ARG	Radioisotopes from Argentina to the World: Overview of INVAP's Participation in past and Current Radiochemical Projects
09:15	Dana Niculae	ROM	Medical Radioisotopes Production Using a Solid Target Automated System and a Variable Energy Cyclotron
09:30	Terry Campkin	CAN	CANDU Role in Strengthening the Radioisotope Supply Chain
09:45	Rien Ritawidya	INS	The Development and Production of Tc-99m Radiopharmaceutical Kits in Indonesia
10:00	Irfan U Khan	PAK	Setting up a Theranostic Facility: INMOL Experience
10:15	Naoual Bentaleb	MOC	Moroccan Experience in Radiopharmaceutical Production
10:30–11:00		<i>Coffee/Tea Break</i>	

11:00-12:30 S.12 Radiopharmaceutical Industry**Chairs: Melissa Denecke (IAEA), Celina Horak (IAEA)****Venue: M Plenary**

Time	Presenter	Country/Organization	Title
11:00	Ira Goldman	USA	Coordinated International Efforts for Reliable Supply of Medical Radioisotopes (Lantheus)
11:10	Roy Brown	NLD	Supply of Radioisotopes (Curium)
11:20	Ronald Schram	USA	Beating Cancer with Isotopes - Supply and Demand (PALLAS)
11:30	Michael Haschke	GFR	Sustainable Raw Material Supply Chains for Radiopharmaceutical Cancer Treatment by Extraction of Ra-226 from Phosphogypsum (EurGeol)
11:40	Rebecca Lo Bue	BEL	Enhancing Access to Radiotheranostics for Cancer Care, Worldwide (Oncidium Foundation)
11:50	Thomas Kostelnik	CAN	Targeted Alpha Therapy: Perspectives from Fusion Pharmaceuticals
12:00	Krishnan Suthanthiran	CAN	The Future of Theranostics' (Best Theratronics Ltd)
12:10	Neil Quigley	GFR	Considerations for the Developing Demand of Clinically used Radionuclides (ITM)
12:20	Olga Valzdorf	RUS	Registered Radiopharmaceuticals, Trends in Clinical Trials, the Role of Rosatom State Corporation
12:30–14:00		Lunch Break	

**14:00-15:30
Exhibition Area****Poster Session II****Venue:****BRA, M02**15:30–16:00 *Coffee/Tea Break***16:00-17:30 S.13 Production of Emerging Radioisotopes****Chairs: Cornelia Hoehr (CAN), Suzanne Lapi (USA)****Venue: M Plenary**

Time	Presenter	Country/Organization	Title
16:00	Nick van der Meulen	SWI	The Production of Radionuclides Towards Theragnostics Application
16:15	Jan Rijn Zeevaart	SAF	Production of Emerging Radioisotopes at NECSA
16:30	Valery Radchenko	CAN	Novel Medical Isotopes at TRIUMF
16:45	Thierry G.M. Stora	SWI	The European Medical Radionuclides Programme: Opportunities to Foster Research with Radiopharmaceuticals in Europe and Beyond
17:00	Katharina Domnanich	USA	Isotope Harvesting at NSCL and FRIB for Nuclear Medicine and Scientific Applications
17:10	Shan Peters	USA	NNSA Support for Proliferation-Resistant Medical Isotope Production
17:20	Jan Andersson	CAN	Cyclotron Production of Radiometals in Edmonton

18:00-19:00 “Mentoring Young Radiopharmaceutical Scientists”**Chairs: Melissa Denecke (IAEA), Aruna Korde (IAEA)****Venue: Press Room**

----- Friday, 21 April 2023 -----

09:00–09:40

S.14 TC Success Stories

Chairs:

Joao Osso Junior (BRA), Amal Elrefaei (IAEA)

Venue:

M Plenary

Time	Presenter	Country/Organization	Title
09:00	Shaukat Abdulrazak	A/DDG-TC	Opening
09:10	Yohannes Lagebo and Mouldi Saidi	ETH, TUN	IAEA Supports Capacity Building and Networking of Radiopharmacists in Africa
09:20	Rene Leyva Montana	CUB	Success Story; RLA6074
09:30	Marko Krošelj	SVN	IAEA Technical Cooperation Programme – The Story of Slovenia
09:40	Behrouz Alirezapour	IRA	Medical Radioisotopes and Radiopharmaceuticals Production in Iran; A Success story"

09:50-11:00

S.15 Regulatory, Education and Pharmacopeia

Chairs:

Clemens Decristoforo (AUS), Oscar Pozzi (ARG)

Venue:

M Plenary

Time	Presenter	Country/Organization	Title
09:50	Serge Lyashchenko	USA	Providing Access to Radiopharmaceuticals: Regulatory Perspective of Radiopharmaceutical Preparation in the United States of America.
10:05	Clemens Decristoforo	AUS	Providing Access to Radiopharmaceuticals: the Importance of In-house Production and European Regulatory Initiatives
10:20	Luther Gwaza	WHO	Radiopharmaceuticals in International Pharmacopeia
10:35	Ana Rey	URU	Training the Future Generation of Trainers in Radiopharmacy as a Strategy to Strengthen the Human Resources in Latin America
10:50	Emilija Janevik-Ivanovska	MAK	Design, Development and Delivery of E-learning Modules for Radiopharmacy
11:00-11:20		<i>Coffee/Tea Break</i>	

11:20-13:20

Closing Session

Chairs:

Melissa Denecke (IAEA), Celina Horak (IAEA), Amirreza Jalilian (IAEA)

Venue:

M-Plenary

Time	Moderators	Country/Organization	Title
11:20	Shaukat Abdulrazak	A/DDG-TC	
11:30	Meera Venkatesh and Aruna Korde		Women in Radiopharmacy
12:30	Melissa Denecke, Celina Horak, Ms Valeriia Starovoitova		Young Investigators Award
12:45	Suzanne Lapi Meera Venkatesh Cornelia Hoehr Joao Osso Junior		Review of the Event
13:30	Closing		Closing

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