

### Joint Symposium 8

Radiopharmaceutical Sciences + Oncology & Theranostics Committee / International Atomic Energy Agency ([IAEA](http://www.iaea.org))

Tuesday, June 28, 2022 / 14:00-15:30 / Channel 4

### Session Title

**Therapeutic Radionuclides - What We Have and What We Need**

### Chairperson

**Dana Niculae** (Bucharest, Romania)

### Programme

- 14:00 - 14:25 **Aruna Korde** (Vienna, Austria): Challenges in the Availability of Emerging Therapeutic Radionuclides and Their Use for Radiopharmaceutical Developments
- 14:25 - 14:45 **Samantha Terry** (London, United Kingdom): Is There a Role for Auger Emitters?
- 14:45 - 15:05 **François Guérard** (Nantes, France): Challenges in Alpha-Emitter Radiochemistry - Labelling with At-211
- 15:05 - 15:27 **John Buscombe** (Cambridge, United Kingdom): Working in a High-Quality Radionuclide Clinical and Research Environment - A Nuclear Physician's View
- 15:27 - 15:30 Session Summary by Chairperson

### Educational Objectives

1. Update attendees on current state of play and future directions of therapeutic radioisotope research
2. Inform attendees of current and anticipated challenges to the availability of therapeutic radioisotopes
3. Provide attendees with an overview of current and future clinical applications of therapeutic radioisotope research

### Summary

Molecular radiotherapy involves the delivery of a therapeutic radionuclide to a biological target such as a receptor or transporter using a suitable targeting agent (peptide, antibody etc). Although well-established, this approach has rapidly expanded in interest over the last two decades; driven in part by the increased availability and diversity of therapeutic radionuclides. This session will cover challenges in the supply of relevant radionuclides and potential solutions, together with an overview of current radiochemistry research in this area. The use of two strategies that have received less attention in the scientific literature, Auger electrons as a radiotherapy strategy and the use of the alpha-emitter astatine-211, will be covered in detail. The session will conclude with a clinical perspective on molecular radiotherapy, covering current challenges and future directions.

### Key Words

Therapeutic radioisotopes, auger, alpha-emitter, beta-emitter