COURSE ON:

INNOVATIVE RADIONUCLIDES AND RADIOPHARMACEUTICALS

(24th-28th June 2024)

Local Organizing Committee

António Paulo, DECN/IST

Lurdes Gano, DECN/IST

Venue

IST/CTN campus
Bobadela LRS, Portugal

Programme

Monday, 24th June

09:30-10:15	**Welcome/Introduction** *António Paulo, Instituto Superior Técnico, Universidade de Lisboa*
Medical Radionuclides	
10:15-11:30	**Production and Physical Characteristics of Medical Radionuclides/PRISMAP Overview** *Thomas Elias Cocolios, KU Leuven, Institute for Nuclear and Radiation Physics*
Radiopharmaceutical Chemistry/Halogens and Radiometals	
11:30-12:30	**Radioiodination and Radioastatination** *Cristina Oliveira, Instituto Superior Técnico, Universidade de Lisboa*
12:30-14:00	***Lunch***
14:00-14:45	**Speciation and Thermodynamic Studies** *Sofia Gama, Instituto Superior Técnico, Universidade de Lisboa*
14:45-15:30	**Chelators and (Radio)metals** *Paula Campello, Instituto Superior Técnico, Universidade de Lisboa*
15:30-16:00	***Coffee Break***
Radiopharmaceutical Chemistry/Peptides and Proteins	
16:00-17:00	**Radiometallated Peptides and Proteins** *João Correia, Instituto Superior Técnico, Universidade de Lisboa*

Tuesday, 25th June

Radiopharmaceutical Chemistry/Peptides and Proteins	
09:00-10:00	**Chemical Biology Approaches for Cancer Imaging and Therapy** *Bruno Oliveira, Instituto Superior Técnico, Universidade de Lisboa*
Design and Analytical Control of Radiopharmaceuticals	
10:00-10.45	**Data Driven and Computational Tools in Radiopharmaceutical Research** *Rita Paiva Melo, Instituto Superior Técnico, Universidade de Lisboa*
10:45-11:00	***Break***
11:00-12:00	**Analytical Control and Purification of Radiopharmaceuticals** *Célia Fernandes, Instituto Superior Técnico, Universidade de Lisboa*
12:00-13:30	***Lunch***
Preclinical Evaluation of Radiopharmaceuticals	
13:30-14:15	**Bringing Radiopharmaceuticals into Preclinical Evaluation- evaluation strategies and models** *Filipa Mendes, Instituto Superior Técnico, Universidade de Lisboa*
14:15-15:00	***In vitro* Evaluation- Cell-Based Assays** *Paula Raposinho, Instituto Superior Técnico, Universidade de Lisboa*
15:00-15:45	***In vivo* Evaluation - Animal Models, Biodistribution and Metabolism Studies** *Lurdes Gano, Instituto Superior Técnico, Universidade de Lisboa*
15:45-16:15	***Coffee Break***
Applications of Radiopharmaceuticals	
16.15-17:15	**Theranostics in Nuclear Medicine: A Clinical View** *Ana Isabel Santos, Hospital Garcia de Orta, Almada*

Wednesday, 26th June

09:00-19:30	***Visit to ICNAS facilites (Coimbra)***

Thursday, 27th June

Practical Sections (see description at the end of the programme)	
09:30-12:30	***Group 1/ Session 1; Group 2/Session 2; Group 3/Session 3*** *(including 15-30 min break)*
12:30-14:00	***Lunch***
14:00-17:00	***Group 1/ Session 2; Group 2/Session 3; Group 3/Session 2*** *(including 15-30 min break)*
19:30	**Group Dinner**

Friday, 28th June

Practical sessions (see description at the end of the programme)	
09:30-12:30	***Group 1/ Session 3; Group 2/Session 1; Group 3/Session 1*** *(including 15-30 min break)*
12:30-14:00	***Lunch***
14:30-15:00	**Final Discussion and Wrap-Up**

Practical sessions

The practical sessions will cover the several steps needed to obtain the radioconjugate ^{111}In-DOTA-PSMA617, as well as relevant preclinical assays that are used to assess the biological performance of this PSMA-targeted radioconjugate, which is useful for prostate cancer detection.

Session 1: Synthesis and characterization of precursors and cold congeners (Joana Santos and Catarina Silva, IST).

Session 2: Radiosynthesis, purification and characterization of ^{111}In-DOTA-PSMA617 (Célia Fernandes and Elisa Palma, IST).

Session 3: Cellular studies: uptake, internalization, blockade, radiobiological assays (Catarina Pinto, Filipa Mendes, Lurdes Gano and Paula Raposinho, IST).