

PRISMAP TRAINING COURSE ON:

**RADIOPHARMACEUTICAL SCIENCE - FROM
RADIOCHEMISTRY TO PRECLINICAL STUDIES**

(11th-15th September 2023)

Local Organizing Committee

António Paulo, C²TN/IST-ID

Lurdes Gano, C²TN/IST-ID

Venue

IST/CTN campus

Bobadela LRS, Portugal

Programme

Monday, 11th September

09:30-10:15

Welcome/Introduction

António Paulo, Instituto Superior Técnico, Universidade de Lisboa

Radiopharmaceutical Chemistry/Halogens and Radiometals

10:15-11:15

Radioiodination and Radioastatination

Cristina Oliveira, Instituto Superior Técnico, Universidade de Lisboa

11:15-11:30

Break

11:30-13:00

Chelators and (Radio)metals/ Speciation and Thermodynamic Studies

Paula Campello, Instituto Superior Técnico, Universidade de Lisboa

13:00-14:00

Lunch

Radiopharmaceutical Chemistry/Peptides and Proteins

14:00-14.45

Selection of Antibodies and their Fragments for Radiolabelling

Frederico Aires da Silva, FMV, Universidade de Lisboa

14:45-15:45

Radiometallated Peptides and Proteins

João Correia, Instituto Superior Técnico, Universidade de Lisboa

15.45-16:00

Break

16:00-16:45

Chemical Biology Approaches for Cancer Imaging and Therapy

Bruno Oliveira, IMM, Universidade de Lisboa

16:45-17:30

Click Chemistry and Pretargeting Strategies

Alice D'Onofrio, Inselspital, Universitätsspital Bern

Tuesday, 12th September

Design and Analytical Control of Radiopharmaceuticals

09:00-09.45

Data Driven and Computational Tools in Radiopharmaceutical Research

Rita Paiva Melo, Instituto Superior Técnico, Universidade de Lisboa

9:45-10:45

Analytical Control and Purification of Radiopharmaceuticals

Célia Fernandes, Instituto Superior Técnico, Universidade de Lisboa

10:45-11:00

Break

Preclinical Evaluation of Radiopharmaceuticals

11:00-12:00	Bringing Radiopharmaceuticals into Preclinical Evaluation- evaluation strategies and models <i>Filipa Mendes, Instituto Superior Técnico, Universidade de Lisboa</i>
12:00-13:00	<i>In vitro</i> Evaluation- Cell-Based Assays <i>Paula Raposinho, Instituto Superior Técnico, Universidade de Lisboa</i>
13:00-14:30	Lunch
14:30-15:30	<i>In vivo</i> Evaluation - Animal Models, Biodistribution and Metabolism Studies <i>Lurdes Gano, Instituto Superior Técnico, Universidade de Lisboa</i>
15:30-16:30	Preclinical Dosimetry <i>Michel Koole, Katholieke Universiteit Leuven</i>

Wednesday, 13th September

Practical Sections (see description at the end of the programme)

09:30-12:30	Group 1/ Session 1; Group 2/Session 2; Group 3/Session3; Group 4/Session 4 <i>(including 15-30 min break)</i>
12:30-14:00	Lunch
14:00-17:00	Group 1/ Session 4; Group 2/Session 3; Group 3/Session2; Group 4/Session 1 <i>(including 15-30 min break)</i>

Thursday, 14th September

Practical sessions (see description at the end of the programme)

09:30-12:30	Group 1/ Session 3; Group 2/Session 4; Group 3/Session 1; Group 4/Session 2 <i>(including 15-30 min break)</i>
12:00-13:00	Lunch
14:30-17:00	Group 1/ Session2; Group 2/Session 1; Group 3/Session 4; Group 4/Session 3 <i>(including 15-30 min break)</i>

Friday, 15th September

Visit to Nuclear Medicine – Radiopharmacology service of Champalimaud Foundation

Radiopharmaceutical Theranostics Approach to Oncology

09:30-09:45

Ângelo Silva, Fundação Champalimaud

Voxel Based Personalized Dosimetry in Theranostics

09:45-10:00

Paulo Ferreira, Fundação Champalimaud

Discussion

10:00-10:15

Visit to the Facilities (in small groups)

10:30-12:00

Paulo Ferreira (to be confirmed), Fundação Champalimaud

Practical sessions

The practical sessions will cover the several steps needed to obtain the radioconjugate ¹¹¹In-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

Session 2: Radiosynthesis, purification and characterization of ¹¹¹In-DOTA-PSMA617

Session 3: Cellular studies: uptake, internalization, blockade, radiobiological assays

Session 4: Animal studies: biodistribution and metabolism