



COURSE 2

Patient dosimetry and occupational radiation exposure assessment arising from Lu-177, Ga-68, I-131 and Y-90 procedures

Organiser: Servizo Galego de Saude, Spain

Dates: 19.09.2022 - 21.09.2022 (pre-course)

28.09.2022–30.09.2022 (course)



Course description:

General information

The aim of this course is to provide an overall description of several Nuclear Medicine procedures and their related dosimetry and shielding considerations. In particular, the course will be focused on four specific isotopes: Lu-177, I-131, Ga-68 and Y-90. The course will be divided into an online pre-course, with relevant lectures and online seminars, and a three-day onsite course. The target group are students and young researchers with various backgrounds who want to get a general knowledge on radiation protection and dosimetry in Nuclear Medicine. These can be physician students, physicist, biologist, engineers, etc. A maximum of 20 participants will be accepted.

Course evaluation

A pre- and post-training course multiple-choice test should be carried out to measure the impact of the course on the knowledge, skills and competences of the trainees. A participation diploma with 1 ECTS credit points will be given to participants who participate for both the online pre-course and the onsite course. The courses are primarily directed towards PhD students and early career researchers participating in SINFONIA and should be based on the “active learning” concept. SINFONIA partners are the prioritised course participants, but if places are available, researchers from outside of SINFONIA can also participate. A course can be organised once, or several times, based on the demand.

Financial information

The courses are offered for **free**, but participants must cover their own costs associated with travel and lodging.

Logistics

The course will take place at the Meixoeiro Hospital (Estrada do Meixoeiro, s/n, 36214 Vigo, Pontevedra, Galicia, Spain). The hospital has several available classrooms and all the equipment needed for the practical lessons. Near the hospital, there are several guesthouses and cheap hotels for accommodation.





Application

Please submit your application by email to [Antonio Lopez Medina](mailto:antonio.lopez.medina@sergas.es) at antonio.lopez.medina@sergas.es.

Please include the following documents:

1. Letter of application
2. Curriculum Vitae (CV)

The **deadline for applications is Friday 15th July 2022**. Confirmation of participation will be sent by Friday 22nd July 2022.

The number of participants is limited to 20.

Programme:

Online pre-course

Monday, 19 September

- Fundamentals of Theranostics with Lu-177/Ga-68 in Nuclear Medicine (1h)
- Fundamentals of I-131 treatments in Nuclear Medicine (1h)
- Fundamentals of Y-90 treatments in Nuclear Medicine (1h)
- Seminar of fundamentals of treatments and procedures in nuclear medicine (1h)

Tuesday, 20 September

- Computational models for nuclear medicine dosimetry calculations (1h)
- Dose calculation in patients treated with Y90 (1h)
- Overview of treatment planning system in nuclear medicine (1h).

Wednesday, 21 September

- Radiological protection basis (1h)
- Operational radiological protection applied to nuclear medicine (1h)
- Operational radiological protection applied to interventional radiology (1h)

On-site course

Wednesday, 28 September, morning

- Y-90 for hepatic radioembolization treatments(1h)
- Lu-177/Ga68 metabolism and basis of theranostics in neuroendocrine tumors (NET). (1h)
- I-131 for treatment of thyroids malignancies and alterations. (1h)

Wednesday, 28 September, afternoon (2 lab hours in 4 groups, on-site)

- Practical 1. Dose rate monitoring and shielding considerations in Lu-177 treatments. Optimisation with real time monitoring. (1h)
- Practical 2. Dose rate monitoring and shielding considerations in Ga-68 procedures. Optimisation with real time monitoring. (1h)





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Thursday, 29 September, morning

- Dose calculation of Lu-177 treatment. (1h)
- Practical approaches for reduction of staff doses in Lu-177 treatments. (1h)
- Dose calculation of Ga-68 procedures. (1h)
- Practical approaches for reduction of staff doses in Ga-68 procedures. (1h)

Thursday, 29 September, afternoon (2 lab hours in 4 groups, on-site)

- Practical 3. Dose rate monitoring and shielding considerations in I-131 procedures. (1h)
- Practical 4. Dose rate monitoring in Y-90 radioembolization and interventional radiology (1h)

Friday, 30 September, morning

- Dose calculation of I-131 treatment (1h)
- Practical approaches for reduction of staff doses in I-131 treatments (1h)
- Dose calculation of Y-90 radioembolization treatments (1h)
- Practical approaches for reduction of staff doses in Y-90 radioembolization treatments (1h)

Closing seminar (1h, tutorship, on-site)

Online post-course

Seminar and questionnaire (1h, on-line, tutorship)

