COURSE 5

Radiation Risk Appraisal in Nuclear Medicine

Organiser: National Centre for Nuclear Research, Maria Sklodowska-Curie National Research Institute of Oncology in Warsaw and Medical University of Warsaw

Venue: Maria Sklodowska-Curie National Research Institute of Oncology in Warsaw, Poland

Dates: 2-5 October 2023

Narodowe Centrum Badań Jądrowych
National Centre for Nuclear Research
ŚWIERK
JRC collaboration partner

Course description:

General information

The aim of the course is to acquaint participants with the state of the art on the radiation protection requirements and regulatory status as well as radiation risk appraisal related to the nuclear medicine procedures. The target group are students and young researchers with various backgrounds who want to get a basic introduction to the radiation protection and related measures. The course contains both lectures and practical laboratory work in one of the leading Nuclear Medicine departments in Poland. The lectures will be at a level understandable for non-physicists and will focus on the nuclear medicine procedures carried out at the hospital environment. It will contain the SINFONIA-relevant aspects of radiation risk appraisal.

The practical part will focus on teaching the classical laboratory techniques and measures used at the hospital performing nuclear medicine procedures from the preparation and handling of radiopharmaceuticals through the radiopharmaceutical administration, patient personal dosimetry and the assessment of the risk for personnel and carers. Participants will learn how the techniques are carried out. Every student will have an opportunity to get acquainted with various software used for personal patient dosimetry.

Financial information

Participation in the course is free of charge. However, an application is required following the procedure described below. Participants are in charge for their travel and accommodation costs. Participants from organisations that are part of the SINFONIA project can charge their travel expenses to the project.

Logistics

The course will take place at the **Maria Sklodowska-Curie National Research Institute of Oncology in Warsaw, W.K. Roentgena 5, 02-781 Warsaw, Poland**. The Institute has no lodging facilities; participants should find their own accommodation in one of the numerous youth hostels or hotels in Warsaw. Information can be provided upon request.

This project has received funding from Euratom's research and innovation programme 2019-2020 under grant agreement No. 945196.

Application

Please submit your application by email to **Renata Mikolajczak** at **renata.mikolajczak@polatom.pl**. Please include the following documents:

1. A letter of application
2. A CV with a description of the scientific career
3. A supporting letter from the supervisor/head of laboratory

The **deadline for applications is 28.06.2023**. Confirmation of participation will be sent by **Friday, July 14, 2023.**

The number of participants is limited to 6 people.

Course contents and laboratory activities:
The course is divided into lectures and laboratory work as described below.
Lectures will take place at the Institute's Education and Conference Center **Room No 4**.
Practical work will take place in the Nuclear Medicine Department **Room No 13**.

Programme:

Monday, 2 October

9:00 - 9:45 SINFONIA – Radiation risk appraisal for detrimental effects from medical exposure during management of patients with lymphoma or brain tumour.

Lecturer Renata Mikolajczak

9:45 – 10:30 Radiological safety - Basic information about radiation and radiation protection (radiological protection of the patients and the staff)

Lecturer Krzysztof Król

10:30 – 10:45 Coffee break

10:45 – 11:30 Quality requirements for medical radioisotopes and radiopharmaceuticals

Lecturer Piotr Garnuszek

11:30 – 12:15 Preclinical evaluation of radiopharmaceuticals.

Lecturer Piotr Garnuszek

12:15 – 13:00 Lunch break

13:00 – 16:15 Practical training on various aspects related to radiological safety, organisation of work in the Nuclear Medicine department

Practical training sessions supervised by Edyta Strzemecka and Pawel Ochman

Tuesday, 3 October

9:00 – 9:45 Dosimetry for diagnostic radioisotopes and dosimetry-guided personalized radionuclide therapy

9:45 – 10:30 Long-term radiation therapy-related risk of second primary malignancies in patients treated with radiopharmaceuticals.

Lecturer – Monika Tulik

This project has received funding from Euratom's research and innovation programme 2019-2020 under grant agreement No. 945196.

10:30 – 10:45 Coffee break

10:45 – 11:30 Practical aspects of radiation protection - radiation exposure of carers and the general public
11:30 – 12:15 Permit to conduct activities related to the use of ionizing radiation, design of nuclear medicine facilities in in the light of radiation protection principles

Lecturers – Agata Sackiewicz/ Wioletta Chalewska

12:15 – 13:00 Lunch break

13:00 – 16:15 Practical training on various aspects related to radiological safety, Patient dosimetry – practical aspects and analysis of patient example, part I

Practical training sessions supervised by Edyta Strzemecka and Pawel Ochman

Wednesday, 4 October

9:00 – 12:15 Practical training on various aspects related to radiological safety, Organization of work in hospital Radiopharmacy

12:15 – 13:00 Lunch break

13:00 – 16:15 Practical training on various aspects related to radiological safety, Patient dosimetry – practical aspects and analysis of patient example, part II

Practical training sessions supervised by Edyta Strzemecka and Pawel Ochman

Thursday, 5 October

9:00 – 9:45 Production of medical radioisotopes and radiopharmaceuticals in hospital radiopharmacy and by industry

Lecturer Renata Mikolajczak

9:45 – 10:30 Medical radiological procedures - new medical radiological procedures, health screening programmes, standard radiological diagnostic and therapeutic procedures, failure mode and effects analysis (FMEA), responsibility and accidental and unintended exposures.

Lecturer Krzysztof Król

10:30 – 10:45 Coffee break

10:45 – 11:30 Current status and future trends in diagnostics and therapy in nuclear medicine

11:30 – 12:15 Dosimetry for personalized radionuclide therapy from clinical perspective

Lecturer - Jolanta Kunikowska

12:15 – 13:00 Summary of the training course and general discussion, common lunch and end of course

This project has received funding from Euratom's research and innovation programme 2019-2020 under grant agreement No. 945196.