Master of Advanced Studies in Medical Physics - Blockcourses : Physics in radiodiagnostic and nuclear medicine

lundi, 9. janvier 2017

9:30 - 9:45	Course opening - Introduction
9:45 - 10:45	Dosimetry - dosimetry, quantities and unities - ambient dosimetry - effective dose
11:00 - 12:30	Radiation protection basis - biological effects of radiation - basic principles of radiation protection - dose limits system
13:30 - 15:00	Physical basis of radiography (L) - X-ray production - interaction with the patient - image detectors
15:30 - 17:00	Image quality in radiography (L) - definitions of image quality - model observers - measurement methods

mardi, 10. janvier 2017

8:30 - 10:00	Physics of fluoroscopy and mammography (L) -the challenges of radiation protection -differences with standard radiography
10:30 - 12:00	Computer tomography (L) -technology : state of the art - dose indicator in CT - impact of acquisition parameters on patient dose
13:00 - 15:30	Production and labeling of radiopharmaceuticals (L) - radionuclides for nuclear medicine - radiopharmaceuticals - labeling methods

15:45 - 16:30 Quality control of the radiopharmaceuticals (L)
- stability of the compounds
- nuclide and radionuclide purity
- quality control methods

mercredi, 11. janvier 2017

8:30 - 10:00 Patient dose and radiation protection in diagnostic radiology (L)
- calculation of patient dose
- radiation protection of the patient
- radiation protection of the personal

10:30 - 12:00 Patient dose and radiation protection in nuclear medicine (L)
- compartmental models and calculation of patient dose
- radiation protection of the patient
- radiation protection of the personal

13:30 - 17:00 Practicals (see detailled program below)
TP-1 at HESAV-Bugnon 19 and TP-2, TP-3, TP-4 at IRA

jeudi, 12. janvier 2017

8:30 - 12:00 Practicals (see detailled program below)
TP-1 at HESAV-Bugnon 19 and TP-2, TP-3, TP-4 at IRA

13:30 - 17:00 Practicals (see detailled program below)
TP-1 at HESAV-Bugnon 19 and TP-2, TP-3, TP-4 at IRA

vendredi, 13. janvier 2017

8:30 - 12:00 Practicals (see detailled program below)
TP-1 at HESAV-Bugnon 19 and TP-2, TP-3, TP-4 at IRA

13:30 - 14:30 Seminar - free questions session
- questions related to the items covered during the week

14:45 - 15:45 Final test

15:45 - 16:00 Final discussion - Course closure

Practicals (see detailled program below) du mercredi 11.1, 13:30 au vendredi 13.1, 12:00

	G1	G2	G3	G4
mercredi 13:30-17:00	TP-1 DRa	TP-2 ABa	TP-3 AVi	TP-4 CPi/MStr
jeudi 8:30-12:00	TP-2 ABa	TP-3 AVi	TP-4 MLe/MStr	TP-1 DRa
jeudi 13:30-17:00	TP-3 AVi	TP-4 CPi/MStr	TP-1 DRa	TP-2 ABa
vendredi 8:30-12:00	TP-4 MLe/MStr	TP-1 DRa	TP-2 ABa	TP-3 AVi

TP-1 Physics of the radiography - link between patient dose and image quality
TP-2 Image quality in CT (ROC approach) - Clinical protocol optimization
TP-3 Image quality in CT (traditional metrics) - CT unit characterization
TP-4 QA of radiopharmaceuticals - measurements with a dose calibrator