

ESMPE European School for Medical Physics Experts
Innovation in technology in Nuclear Medicine

Jointly organised by ESMPE, ESMIT and COCIR

23rd-25th January 2020, Prague, Czech Republic

The EFOMP, EANM (The European Association of Nuclear Medicine) and COCIR (The European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry) in collaboration with the Czech Association of Medical Physicists and the Department of Dosimetry and Application of Ionizing Radiation of Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague would like to invite you to the next ESMPE on **23rd-25th January 2020**.

The school will be aimed at advanced tasks connected to molecular imaging related to methods and detector technology. The school will cover the main physics aspects of multimodal PET and SPECT imaging systems, patient dosimetry and optimization.

This edition is jointly organized by EFOMP, ESMIT and COCIR. Lecturers identified by COCIR will give insides on the new trends for novel PET and SPECT equipment.

This two-and-half day event will be accredited by EBAMP (European Board of Accreditation for Medical Physics) and is intended for practicing clinical Medical Physicists who are involved in the Nuclear Medicine Imaging field. As in last year's school, there will be an optional examination at the end for those seeking a higher level of certification beyond attendance.

Content

- Methods and detector technology for improved imaging
- New technology related to imaging positron and single photon emitters
- Image optimization, dose reduction and future perspectives
- Progress in SPECT, SPECT-CT and SPECT-MR
- Progress in PET, PET-CT and PET-MR
- Nuclear Medicine and Machine Learning
- Quantification methods

Final exam

The final exam is voluntary. Participants can gain additional credits when they successfully pass the test.

Organisers

Adriaan Lammertsma, Stefaan Vandenberghe (Scientific Chairs)

Alberto Torresin (Chair of the School)

Jaroslav Ptáček, Tereza Kráčmerova (CAMP)



EFOMP



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CZECH ASSOCIATION OF MEDICAL PHYSICISTS



Time-table

Thursday 23rd January 2020

	Session	Title	Description	Lecturer
8:00-9:00	Registration			
9:00-9:30	Introduction	Setting the scene	Presentation of the ESMPE and introduction to the course	Torresin, Lammertsma, Vandenberghe
9:30-10:30	Single photon imaging	Novel shapes and production processes for collimation	Methods and detector technology to improve imaging of single photon emitters	Roel van Holen
10:30-11:30		Dedicated and CZT based SPECT systems		Brian Hutton
11:30-12:00	Coffee break			
12:00-13:00	Single photon imaging	Molecular imaging outside conventional nuclear medicine	Methods and detector technology to improve imaging of non-standard single photon emitters, used in theranostic applications	Stephan Walrand
13:00-14:30	Lunch break			
14.30-15.00	General Electric	Single photon imaging New technology , image optimization , dose reduction and future perspectives	Acquisition and reconstruction protocols optimized by the vendor. QA tests carried out by vendor. Feedback processes. How to configure the relevant parameters. Future perspectives	TBD from COCIR
15.00-15.30	Mediso			TBD
15.30-16.00	Philips			TBD from COCIR

Thursday 23rd January 2020

	Session	Title	Description	Lecturer
16:00-16:30	Coffee break			
16:30-17:30	Siemens	Single photon imaging	Acquisition and reconstruction protocols optimized by the vendor. QA tests carried out by vendor. Feedback processes. How to configure the relevant parameters. Future perspectives	TBD from COCIR
17.30-18.00	Spectrum Dynamics	New technology , image optimization , dose reduction and future perspectives		TBD
20:00-23:00	Social dinner - participants + lecturers			

Friday 24th January 2020

	Session	Title	Description	Lecturer
09:00-10:00	PET imaging	PET/MR	Progress in PET/MR detector performance, system design and analysis methods	Mark Lubberink
10:00-10:30	Coffee break			
10:30-11:00	PET imaging	Digital PET	Progress in PET, PET-CT and PET-MR based on SiPMs	Ronald Boellaard
11:00-11:30		PET systems	Progress in PET system design combined with machine learning	Stefaan Vandenberghe
11:30-12:30		On-line blood sampling and kinetic analysis	Detailed description of methods for advanced quantification of dynamic PET studies	Michel Koole

Friday 24th January 2020

	Session	Title	Description	Lecturer
12:30-14:00	Lunch time			
14:00-14:45	GE	PET imaging	Acquisition and reconstruction protocols optimized by the vendor. QA tests carried out by vendor. Feedback processes. How to configure the relevant parameters. Future perspectives	TBD from COCIR
14:45-15:30	Mediso	New technology , image optimization , dose reduction and future perspectives		TBD
15:30-16:00	Coffee break			
16:00-16.45	Philips	PET imaging	Acquisition and reconstruction protocols optimized by the vendor. QA tests carried out by vendor. Feedback processes. How to configure the relevant parameters. Future perspectives	TBD from COCIR
16:45-17:30	Siemens	New technology , image optimization , dose reduction and future perspectives		TBD from COCIR
17:30-18:15	United Imaging			TBD

Saturday 25nd January 2020

	Session	Title	Description	Lecturer
09:00-10:00	The future of SPECT	Standard imaging	Summarize the progress in the field of SPECT for imaging low energy photons	Roel VanHolen
10:00-11:00		Theranostic imaging	Summarize the progress in the field of SPECT for imaging higher energy photons	Stephan Walrand
11:00-11:30	Coffee break			
11:30-12:15	Total body PET	New possibilities for clinical (research) applications	Advantages of TB PET for clinical (research) studies	Adriaan Lammertsma
12:15-13:00		New innovative designs	Progress in the development of medium cost TB PET	Stefaan Vandenberghe
13:00-13:45		Progress in and challenges for postprocessing	What do we need to fully utilise total body PET?	Ronald Boellaard
13:45-14:30	Final examination			

Further Information

Course language	English
Level	MPE
Registration fee* (2 main meals, 5 coffee breaks, 1 social dinner)	300 € 350 € (from 1 December 2019)
Reduced registration fee* <ul style="list-style-type: none"> • subsidized by EFOMP • first-come, first-served policy • deadline for application (20.12.2019) 	150 € - for the first 15 attendees (max. 2 from one country) coming from the following European countries: Albania, Belarus, Bosnia & Herzegovina, Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Kosovo, Latvia, Lithuania, North Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey, Ukraine.
Maximum number of participants	80
Duration	23nd - 25nd January 2020
Study load	17.5 hours of lectures and demonstrations
Venue	Department of Dosimetry and Application of Ionizing Radiation, Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague, Břehová 7, 115 19 Prague 1, CZECH REPUBLIC
GPS coordinates	50°5'27.737"N, 14°24'58.713"E
Accommodation	Individual
Information, programme at:	www.efomp.org
Registration	Electronic registration via EFOMP website
Registration period	1 st September 2019 – 15 th January 2020

* payment must be done in 14 days following the pre-registration, otherwise pre-registration will be cancelled and neither free place nor subsidized or ordinary fee can be granted for repeated registration

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