

**ESMPE European School for Medical Physics Experts**

## **Nuclear Medicine Dosimetry, Practical approach**

**Jointly organised by ESMPE and ESMIT**

**24<sup>th</sup>-26<sup>th</sup> January 2019, Prague, Czech Republic**

The EFOMP and EANM (The European Association of Nuclear Medicine) 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 in **Nuclear Medicine 2019**.

The school is aimed at advanced tasks connected with radiopharmaceutical dosimetry in a context of therapeutic nuclear medicine. The school will cover mostly practical computing aspects, on freely available software (Slicer 3D).

This two-and-half day event has been accredited by EBAMP (European Board of Accreditation for Medical Physics) as CPD event for Medical Physicists at EQF Level 8 and awarded 38 CPD credit points. The school is intended for practising clinical Medical Physicists who are involved in Nuclear Medicine dosimetry. As is the case in most ESMPE schools, there will be an optional examination at the end for those seeking a higher level of certification beyond attendance.

### **Content**

**Refresher on the basics of Radiopharmaceutical Dosimetry** – Radiopharmaceuticals and clinical applications - TRT and SIRT – relevance of dosimetry

**Introduction to Slicer** – Basic features – Plugins – Input / Output – basic image/data processing

**SIRT Dosimetry** – Data input – DICOM files management – Image segmentation – Absorbed dose calculation – Result output

**TRT Dosimetry**- Data input – DICOM files management – image fusion - Image segmentation – Absorbed dose calculation– Result output

**Dosimetry Optimization** – Implementing robustness in nuclear medicine dosimetry – Scripting – Electronic notebooks.

### **Final exam**

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

### **Organizers**

**Jaroslav Ptáček, Tereza Kráčmerova** (Czech Republic)

**Manuel Bardiès** (Scientific Chair), **Alberto Torresin** (Chair of the School)



**EFOMP**



**ČSFM**  
CZECH ASSOCIATION OF MEDICAL PHYSICISTS



## Faculty

<b>Carlo Chiesa</b>	Istituto Tumori, Milan, Italy
<b>Ludovic Ferrer</b>	ICO, St Herblain, France
<b>Glenn Flux</b>	Joint Department of Medical Physics, RMH, Sutton, UK
<b>Alex Gil Vergara</b>	CRCT, Toulouse, France.

## Time-table

Thursday 24 <sup>th</sup> January 2019				
	Session	Title	Description	Lecturer
8:00-9:00	Registration			
9:00-10:00	Setting the Scene	Nuclear Medicine Dosimetry	Diagnostic vs. Therapeutic Nuclear Medicine – Nomenclature (TRT, MRT, SIRT, RIT, et.) - Aims of dosimetry – Main steps of patient-specific dosimetry.	Chiesa
10:00-10:30	Coffee break			
10:30-11:30	First steps with Slicer	Introduction to Slicer	Input/output Dicom Visualization & RTstruct	Ferrer/ Gil Vergara
11:30-12:30		Slicer modules that can be used for Nuclear Medicine Dosimetry	Dicom (RT) Segmentation	Ferrer/ Gil Vergara
12:30-14:00	Lunch break			
14:00 -16:00	SIRT (1)	SIRT Example	Presentation of a clinical case Definition of the dosimetry workflow Data Input & Visualisation	Chiesa/ Ferrer/ Gil Vergara
16:00-16:30	Coffee break			
16:30 -18:00	SIRT (2)	SIRT Example (continued)	Advanced processing Segmentation CT-CT co-registration Result output	Chiesa/ Ferrer/ Gil Vergara
20:00-23:00	Social dinner - participants + lecturers			

## Time-table

Friday 25 <sup>th</sup> January 2019				
	Session	Title	Description	Lecturer
9:00-10:00	Advanced Slicer	Advanced Slicer (1)	Advanced Visualisation Dicom (RT)	Gil Vergara / Ferrer
10:00-10:30	Coffee break			
10:30-12:30	Even more advanced Slicer	Advanced Slicer (2)	Segmentation and image registration Time activity curve Absorbed dose calculation	Gil Vergara / Ferrer
12:30-14:00	Lunch time			
14:00-16:00	PRRT (1)	PRRT Example	Presentation of a clinical case Definition of the dosimetry workflow Data Input Visualisation	Flux/ Ferrer/ Gil Vergara
16:00-16:30	Coffee break			
16:30-18:00	PRRT (3)	PRRT Example (continued)	TAC Fitting Absorbed dose calculation Post processing and presentation of results	Flux/ Ferrer/ Gil Vergara
Saturday 26 <sup>th</sup> January 2019				
	Session	Title	Description	Lecturer
9.00-11:00	Optimization (1)	Tools for improving dosimetry reproducibility	Presentation of tools that allow increasing traceability of dosimetric calculations (Electronic notebooks)	Ferrer
11:00-11:30	Coffee break			
11.30-13:00	Optimization (2)		Round Table	Ferrer
13:30-15:00	Final examination			



## Further Information

Course language	English
Level	MPE
Registration fee* (2 main meals, 5 coffee breaks, 1 social dinner)	300 € 350 € (from 09.12.2018)
Reduced registration fee* <ul style="list-style-type: none"> <li>• subsidized by EFOMP</li> <li>• first-come, first-served policy</li> <li>• deadline for application (23.12.2018)</li> </ul>	150 € - for the first 10 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, FYR of Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey, Ukraine.
Maximum number of participants	40
Duration	24 <sup>th</sup> January 2019 – 26 <sup>th</sup> January 2019
Study load	16 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, program, etc. Practical information at:	<a href="http://www.efomp.org">www.efomp.org</a> <a href="#">Information</a>
Registration	Electronic registration via EFOMP <a href="#">website</a>
Registration period	1st September 2018 – 23 <sup>rd</sup> December 2018

\* 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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