

# Workshop on Medical Physics & Biomedical Engineering

## 6-10/11/2017

### IFMP CORFU WORKSHOP 2017 with Ionian University Corfu, Greece



CORFU Week	Monday 6 November 2017	Tuesday 7 November 2017	Wednesday 8 November 2017	Thursday 9 November 2017	Friday 10 November 2017	CORFU Week
	HYBRID	HYBRID (cont'd)	Radiation Protection (RP)	Technical Innovation	Innovation (cont'd)	
08:30	Registration :	PET/CT, PET/MR in RTP Thomas BEYER Vienna Medical University Vienna, Austria	Computational Methods in Alzheimer's Disease Antagoni Avramouki, Ionian University, Corfu, Gr	Radiation Protection and Pregnancy in Medicine Jim Malone, Dublin, Ireland	Particle therapy critical issues and challenges Patrick Le D�, IPN- Lyon & IEEE	08:30
09:30	Opening Session (Rector welcome...)					09:30
09:30	Weekly Programme Introduction by chairmen: P. Vlamos, Ionian University Y. Lemoigne, IFMP & CERN	QC PET/CT and PET/MR Ivo Rausch Vienna Medical University Vienna, Austria	Ethics for Radiation Protection in Medicine Jim Malone, Dublin, IRL	Trends & Research in Neuro- cognitive enhancement Antonina Plerou Ionian University, Corfu, Gr	Innovation in TOF & improved sensitivity Paul Lecoq, CERN, Geneva, CH	09:30
10:30	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break	10:30
11:00	From HEP to PET/CT Prof. David Townsend Singapore University Singapore, SG	Specific Hybrid Devices PEM-Sonic, EndotoPET... Paul Lecoq IEEE & CERN, Geneva, CH	Radiation Protection in a Treatment Centre Sonja Petkowska ACIBADEM, Skopje, MK	Hadrontherapy Principles Palma Altieri Bari University, Italy	Innovation in Biengineering Patrick Le D�, IEEE	11:00
L.1						L.1
12:00	PET Basics Ivo Rausch Vienna Medical University Vienna, Austria	PET-based Therapy Response Assessment Thomas BEYER VNU, Vienna, Austria	Scenario Analysis in Radiation Protection of Patients Jim Malone, Dublin, IRL	Fluka Simulation for Medical Physics Albano Topi, INFN, Pisa, Italy	Radiation Phobia: take news & alternative facts David Townsend, SG	12:00
L.4						L.4
13:00	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Concluding Session Farewell...	13:00
13:15						13:15
14:45	Lunch Break	Lunch Break	Lunch Break	Lunch Break	End Workshop	14:45
15:30	15:15 Students' Forum Aleksandar Krolski	Stud' Forum - Ergy Bufasi	Shielding of Diagnostic Imaging Facilities Jim Malone Dublin, Ireland	14:15 departure to Achilleion Palace and Museum (The former Palace of Austrian Empress Sissi) Then a short stop in Kanoni (Poster image)	After workshop: Optional Quiz For junior participants to check their new skills	15:30
L.5						L.5
16:30	16:00 Specific Imaging Devices Paul Lecoq CERN, Geneva, CH	Dose issues in Nucl. Med. & Hybrid Imaging Ivo Rausch VNU, Vienna, Austria	Optimization of RP in Medicine V.Gershan / S. Petkowska Skopje, Macedonia	Lecturers: Co-Chair: P. Vlamos, IPN D. Townsend, NUS SG, P. Altieri, Bari Uni, It, A. Avramouli, IU, Gr T. Beyer, VNU, At V. Gershan, SSCM, Mk, M. Goniadi, IU, Gr P. Lecoq, IEEE, P. Le D�, IEEE, J. Malone, TC, Dublin, IRL, A. Plerou IU, Gr S. Petkowska, ACIBADEM, Mk I. Rausch, VNU, At A. Topi, INFN-Pisa, It A. Vrahatis, Patras Uni, Gr		16:30
L.6						L.6
17:30	17:00 International Safety Standards, Units, limits... Yves Lemoigne IFMP-Fr & TERA, CERN-Ch	Round Table: Hybrid & Personalized Medicine Chair: P. Lecoq, T. Beyer, D. Townsend, P. Le D�...	Light $\mu$ -scopy, Scanning $\mu$ - scopy in diagnostic procedure Maria Goniadi Ionian University, Corfu, Gr	Stud' Forum: Nadya Todorova Velocity TM: How to Transform Imaging data to knowledge Claudio Caldera VARIAN Medical Systems		17:30
L.7						L.7
18:30	18:00 Free	Reaction-Diffusion models in Computational Neurodegeneration Prof. Vlamos, Ionian Uni.	Subpathway-based computa- tional approaches to Network Med. Aris Vrahatis, Patras University, Gr	20:00 BANQUET		18:30
19:30	19:30 Welcome Cocktail					
Social		19:30 Special Public Lecture: Schrodinger Risk, Mystery, Arts... Prof. Jim Malone, Trinity College, Dublin, Ireland				
22:...						

# Report of Contributions

Contribution ID: 1

Type: **not specified**

## **Opening session : Welcome by the Rector or his representative (Prof. Vlamos)**

*Monday 6 November 2017 09:00 (45 minutes)*

This is the Opening Official Ceremony by the Rector of the Ionian University.

Two parts:

\* Welcome by the two Co-Chairmen of the Workshop on behalf of the Organizing Committee:

- Professor Panayiotis VLAMOS (Ionian University, Corfu, Greece)
- Doctor Yves LEMOIGNE (IFMP, Ambilly, France)

- Opening Official Ceremony by the Rector of the Ionian University.

**Presenter:** Prof. VLAMOS, Panayiotis (Ionian University)

Contribution ID: 2

Type: **not specified**

## **Introduction to the programme of the week**

*Monday 6 November 2017 09:45 (45 minutes)*

**Presenter:** YVES, Lemoigne (IFMP)

Contribution ID: 3

Type: **not specified**

## **Lecture 1 - From HEP to PET/CT (Abstract available: click on the extreme right)**

*Monday 6 November 2017 11:00 (1 hour)*

**Presenter:** Prof. TOWNSEND, David (Singapore National University)

Contribution ID: 4

Type: **not specified**

## Lecture 2 - PET Basics

*Monday 6 November 2017 12:00 (1 hour)*

**Presenter:** RAUSCH, Ivo (Vienna Medical University (MUW))

Contribution ID: 5

Type: **not specified**

**STUDENTS' FORUM - This period allows young colleagues to explain in a short time (15 minutes) a scientific topic they are particularly interested by. Often it is the subject of their diploma they are working on.**

Contribution ID: 6

Type: **not specified**

## **Lecture 3 : Specific Imagin Devices**

*Monday 6 November 2017 15:59 (1 hour)*

**Presenter:** LECOQ, Paul (Cern, geneva, Ch)

Contribution ID: 7

Type: **not specified**

## **Lecture 4 : Understanding Radiation Units.**

*Monday 6 November 2017 17:00 (1 hour)*

**Presenter:** LEMOIGNE, Yves (IFMP)



Contribution ID: 8

Type: **not specified**

## **Lecture 5 : PET/CT, PET/MR in Radiotherapy**

*Tuesday 7 November 2017 09:30 (1 hour)*

**Presenter:** BEYER, Thomas (Vienna Medical University (MUW), Austria)

Contribution ID: 9

Type: **not specified**

## **Lecture 6: Quality Control for PET/CT and PET/MR**

*Tuesday 7 November 2017 08:30 (1 hour)*

**Presenter:** RAUSCH, Ivo (Vienna Medical University (MUW), Austria)

Contribution ID: **10**

Type: **not specified**

## **Lecture 7: Specific Hybrid Devices. PET-Sonic, EnDoTofPET...**

*Tuesday 7 November 2017 12:00 (1 hour)*

**Presenter:** LECOQ, Paul (CERN Geneva, Ch)

Contribution ID: 11

Type: **not specified**

## **PET-Based Therapy. Response Assessment**

*Tuesday 7 November 2017 11:00 (1 hour)*

**Presenter:** BEYER, Thomas (Vienna Medical University (MUW), Austria)

Contribution ID: 12

Type: **not specified**

## **Lecture 9: Dose Issues in Nuclear Medicine and Hybrid Imaging**

*Tuesday 7 November 2017 15:30 (1 hour)*

**Presenter:** RAUSCH, Ivo (Vienna Medical University (MUW), Austria)

Contribution ID: 13

Type: **not specified**

## **ROUND TABLE: Hybrid and Personalized Medicine**

*Tuesday 7 November 2017 16:30 (1 hour)*

**Presenters:** TOWNSEND, David; PATRICK, Le DÜ; LECOQ, Paul; BEYER, Thomas; OTHERS, and

Contribution ID: 14

Type: **not specified**

# Reaction-Diffusion Models in Computational Neurogeneration

*Tuesday 7 November 2017 17:30 (1 hour)*

**Presenter:** Prof. VLAMOS, Panayiotis

Contribution ID: 15

Type: **not specified**

## Computational Methods in Alzheimer's Disease

*Wednesday 8 November 2017 08:30 (1 hour)*

**Presenter:** AVRAMOULI, Antagoni (Ionian University)



Contribution ID: 16

Type: **not specified**

## **Ethics for Radiation Protection in Medicine**

*Wednesday 8 November 2017 09:30 (1 hour)*

**Presenter:** Prof. MALONE, Jim (Tinity College, Dublin, Ireland)

Contribution ID: 17

Type: **not specified**

## **Radiation Protection in a Treatment Centre**

*Wednesday 8 November 2017 12:00 (1 hour)*

**Presenter:** PETKOVSKA, Sonja (ACIBADEM Sistina, Skopje, Mk)

Contribution ID: **18**

Type: **not specified**

## **Scenario Analysis in Radiation Protection of Patients**

*Wednesday 8 November 2017 11:00 (1 hour)*

**Presenter:** MALONE, Jim (Trinity college Dublin)

Contribution ID: 19

Type: **not specified**

## **Light Microscopy, Scanning Microscopy in Diagnostic Procedure**

*Wednesday 8 November 2017 16:15 (50 minutes)*

**Presenter:** GONIDI, Maria (Ionian University)

Contribution ID: 20

Type: **not specified**

## **Subpathway-based Computational Approaches to Network for Medicine**

*Wednesday 8 November 2017 17:10 (50 minutes)*

**Presenter:** VRAHATIS, Aris (University of Patras, Greece)

Contribution ID: 21

Type: **not specified**

## Shielding of Diagnostic Imaging Facilities

**Presenter:** Prof. MALONE, Jim (Trinity College, Dublin, Ireland)

Contribution ID: 22

Type: **not specified**

## **Optimisation of Radiation Protection in Medicine**

**Presenter:** GERSHAN, Vesna (Skopje University, Skopje, Mk)

Contribution ID: 23

Type: **not specified**

## **Radiation Protection and Pregnancy in Medicine**

**Presenter:** Prof. MALONE, Jim (Trinity College, Dublin, Ireland)



Contribution ID: 24

Type: **not specified**

## **Trends and Research in Neurocognitive Enhancement**

*Thursday 9 November 2017 12:00 (55 minutes)*

**Presenter:** PLEROU, Antonia (Ionian University)

Contribution ID: 25

Type: **not specified**

## **FLUKA Simulation for Medical Physics**

**Presenter:** TOPI, Albana (INFN Pisa, It)

Contribution ID: 26

Type: **not specified**

## Principles of HadronTherapy

**Presenter:** ALTIERI, Palma Rita (INFN Bari, It)

Contribution ID: 27

Type: **not specified**

# **VELOCITY TM: How to Transform Imaging Data to Knowledge**

*Thursday 9 November 2017 17:35 (50 minutes)*

**Presenter:** CALDERA, Claudio (VARIAN Medical Systems)

Contribution ID: 28

Type: **not specified**

## Particle Therapy Critical Issues and Challenges

*Friday 10 November 2017 08:30 (1 hour)*

**Presenter:** LE DÚ, Patrick (IEEE NPSS )

Contribution ID: 29

Type: **not specified**

## **Innovation in TOF and Improved Sensitivity**

*Friday 10 November 2017 09:30 (1 hour)*

**Presenter:** LECOQ, Paul René (CERN Geneva Ch)

Contribution ID: **30**

Type: **not specified**

## **Innovation in BioEngineering**

*Friday 10 November 2017 11:00 (40 minutes)*

**Presenter:** LE DÚ, Patrick (IEEE NPSS)

Contribution ID: 31

Type: **not specified**

## **Radiation Phobia: Fake News and Alternative Facts**

*Friday 10 November 2017 11:40 (50 minutes)*

**Presenter:** DAVID, Townsend (National Singapore University, Singapore,Sg)



Contribution ID: 32

Type: **not specified**

## **Concluding Session & FAREWELL**

*Friday 10 November 2017 12:30 (30 minutes)*

Contribution ID: 33

Type: **not specified**

## **In parallel of the Coffee Break: OPTIONAL QUIZ**

*Friday 10 November 2017 10:40 (20 minutes)*

**Presenter:** Dr LEMOIGNE, Yves

Contribution ID: 34

Type: **not specified**

## **General Culture Session : Departure by Special Bus to visit Achilleion Palace**

**Presenters:** Ms BOBORI, Katerina (Ionian University); Mr LEMOIGNE, Yves (IFMP)

Contribution ID: 35

Type: **not specified**

## **Lecture 4 : Understanding Radiation Units.**

**Presenter:** LEMOIGNE, Yves (IFMP)

Contribution ID: 36

Type: **not specified**

## **Shielding of Diagnostic Imaging Facilities Jim Malone**

Contribution ID: 37

Type: **not specified**

## **Shielding of Diagnostic Imaging Facilities**

*Wednesday 8 November 2017 14:20 (50 minutes)*

**Presenter:** Prof. MALONE, Jim

Contribution ID: **38**

Type: **not specified**

## **Optimisation of Radio Protection in Medicine**

*Wednesday 8 November 2017 15:10 (50 minutes)*

**Presenter:** Dr GERSHAN, Vesna

Contribution ID: 39

Type: **not specified**

## **Radiation Protection and Pregnancy in Medicine**

*Thursday 9 November 2017 08:31 (55 minutes)*

**Presenter:** Prof. MALONE, Jim



Contribution ID: 40

Type: **not specified**

## Principles of HadronTherapy

*Thursday 9 November 2017 09:30 (55 minutes)*

**Presenter:** ALTIERI, Palma

Contribution ID: 41

Type: **not specified**

## **FLUKA Simulation for Medical Physics**

*Thursday 9 November 2017 11:05 (55 minutes)*

**Presenter:** ALBANA, Topi ((It))

Contribution ID: 42

Type: **not specified**

**General Culture Session : Departure by Special Bus  
to visit Achilleion Palace and Famous Kanoni  
Location (see our Poster)**

*Thursday 9 November 2017 14:24 (2h 40m)*

**Presenter:** BOBORI, Katrin ((Gr))

Contribution ID: 43

Type: **not specified**

## **Public Lecture about Schroedinger in Dublin**

*Tuesday 7 November 2017 18:45 (1h 15m)*

**Presenter:** Prof. MALONE, Jim (Trinity College Dublin)

Contribution ID: 44

Type: **not specified**

## **Students' Forum selected presentation**

*Monday 6 November 2017 15:15 (40 minutes)*

**Presenter:** KRIELSKI, Aleksandar (Skopje University, Macedonia)

Contribution ID: 45

Type: **not specified**

## **Students' Forum selected presentation**

*Tuesday 7 November 2017 14:50 (35 minutes)*

**Presenter:** BUFASI, Ergi (UP Tirana)

Contribution ID: 46

Type: **not specified**

## **Students' Forum selected presentation**

*Thursday 9 November 2017 17:10 (25 minutes)*

**Presenter:** TODOROVA, Nadya (Sofia University)