

MEIBioeng/MPEC 2017 meeting 2017; 13th September

EUROPEAN FEDERATION OF ORGANIZATIONS FOR MEDICAL PHYSICS (EFOMP) PROJECTS ACTIVITIES

Dr V. Tsapaki

EFOMP Projects Committee Chair 2016-2017

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Registration open

MEI^{BIO}_{ENG} / MPEC²⁰₁₇

Computational Modelling
Clinical Engineering
Biocompatible Materials
Medical Robotics
Physiological Measurement
Image guided therapy
Professional and educational topics
Medical and educational topics
Clinical Imaging
Engineering Design
Magnetic Resonance

Deadline: 1st September

MEIBioeng/MPEC 2017 13th - 14th September 2017
Sandown Park Racecourse, Surrey

OBJECTIVES

- The objective of the talk is to present the EFOMP Project Committee activities.
- To list the various projects that EFOMP was or is involved in.
- To show the vision of EFOMP in terms of projects.



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Regenerative Medicine
Biocompatible Materials

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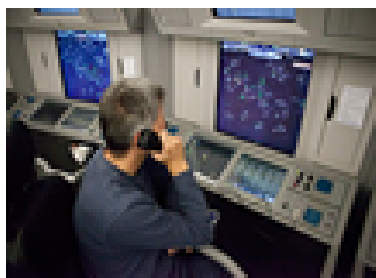
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http://ec.europa.eu

European Commission

Headlines



MH17: EU aviation crisis cell to ensure full coordination

Following the crash of the Malaysian Airlines plane in Ukraine, Vice-President Kallas today activated the EU aviation crisis cell to manage the effects on airspace and to guarantee the safety of flights.

• [A travel essential: the European Health Insurance Card](#)

• [A new start for Europe - Jean-Claude Juncker's Political Guidelines](#)

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Robin the robot helps take care of 94 year old Italian Grandma Lee. At 94, Grandma Lee could not live alone anymore but wanted to stay at home. In our ageing society, many elderly people are in the same situation. Robotics offers a safe and affordable solution.



Latest news and events

"InnovFin - EU Finance for Innovators" - new financial instruments to help innovative firms access finance more easily.

Published on: 16/07/2014

The European Commission and the European Investment Bank Group (EIB) launched a new generation of EU financial instruments and advisory services to help innovative firms access finance more easily. "InnovFin - EU Finance for Innovators" consists of a range of tailored products - from guarantees for intermediaries that lend to SMEs to direct loans to enterprises - helping support the smallest to the largest research and innovation projects in the EU and countries associated to Horizon 2020. [Read more](#)





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EFOMP INVOLVEMENT IN VARIOUS PROJECTS

Involvement of EFOMP in the past:

- EMAN
- MEDRAPET
- MPE project
- DOSEDATAMED
- ACCIRAD
- EUTEMPE-RX
- PiDRL

Finishing, ongoing or starting:

- BSS Transposition Project
- ENETRAP
- ENEN+ Project
- MEDIRAD Project
- EUCLID project

- EUTEMPE network
- EURAMED research platform
- EIBIR

BSS PROJECT



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BSS Transposition European Project

<http://www.eurosafeimaging.org/bss-transposition>

Evaluation of national actions regarding the transposition of Council Directive 2013/59/Euratom's requirements in the medical sector

This project was awarded to a consortium headed by EFOMP.

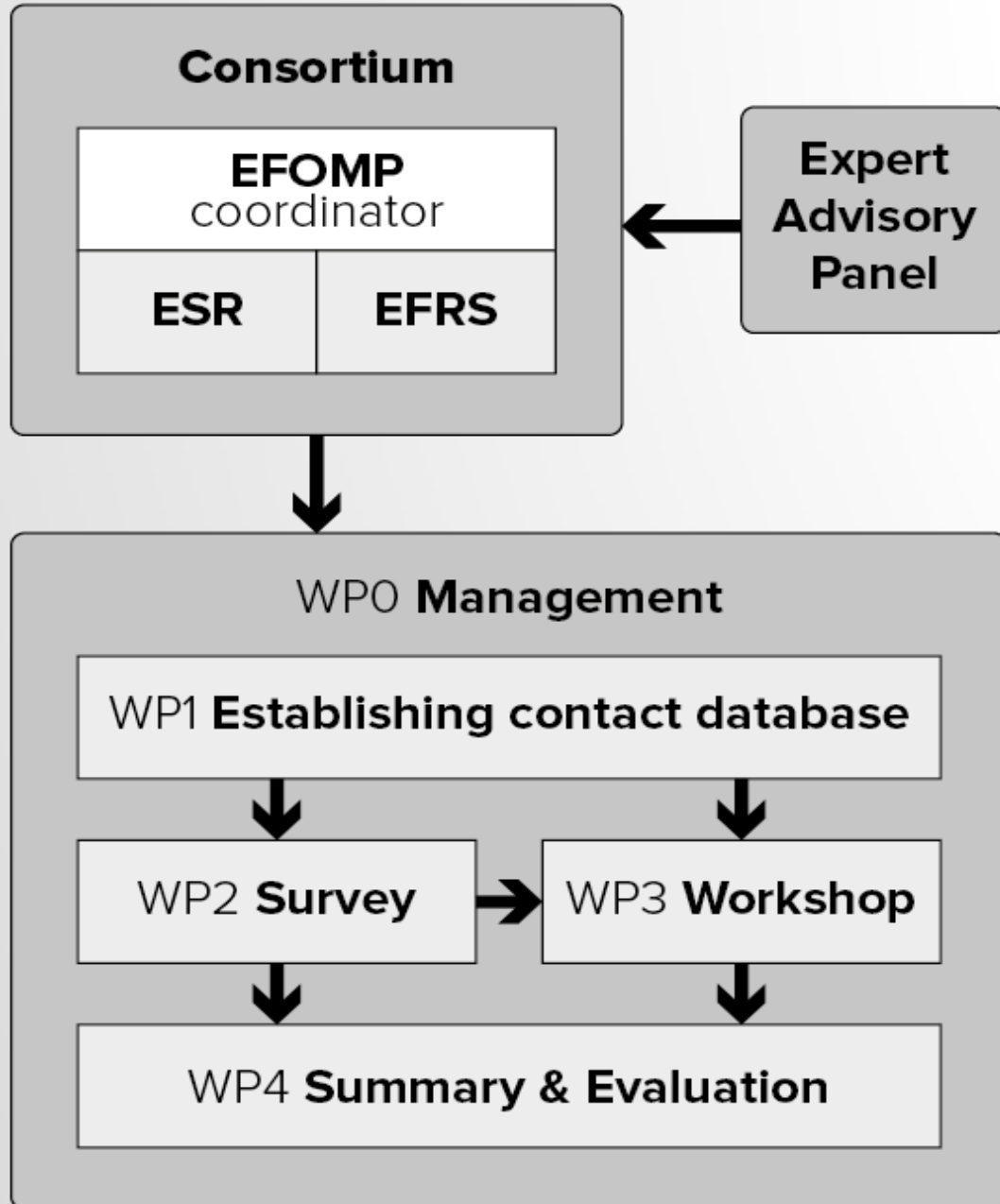
Other participating organisations are:

European Society of Radiology (ESR)

European Federation of Radiographer Societies (EFRS).

This project has received funding from the European Commission under Service Contract No° ENER/16/NUCL/SI2.730592

ORGANIZATION OF BSS TRANSPOSITION PROJECT



Workshop Objective

to present and discuss, based on the results of the survey, Member States' strategies and plans with the attendance of the relevant organisations from all European Union Member States, Candidate States, and EFTA States

EUTEMPE-RX PROJECT/NETWORK



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CHALLENGES AND GAPS FOR BECOMING AN MPE

- There was no educational platform generally available in the EC member States.
- There was no specific European initiative in this area.
- There are financial restrictions at a national level to develop MPEs.
- There is lack of specialized academic staff.
- There are financial restrictions for physicists due to their reduced budget.
- Medical physicists with young children have restrictions in becoming MPE due to time, work and financial restrictions.

It is very unlikely that a single European academic centre, or even a network of local academic centres, can deliver all required topics at EQF level 8.

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Become an expert in Diagnostic and Interventional Radiology Physics today! Boost your career now!

MPE01: Leadership in Medical Physics: Development of the profession and the challenges for the MPE (D&IR)

Third edition will be available in 2018!

[Apply Now >](#)

6-10 February 2017,
Prague, Czech Republic



- Course content driven by the 'European Guidelines on the Medical Physics Expert'
- Dedicated EQF level 8 specialist courses delivered by area experts within a European network of centers of excellence

On our agenda

MPE07: Optimisation of X-ray imaging using standard and innovative techniques

High time to register!

MPE04: Innovation & Advanced X-ray physics for imaging devices in Diagnostic and Interventional Radiology
Postponed to June 2018!

MPE06: The development of advanced QA protocols for testing radiological devices

MPE02: Radiation biology for medical physicists in radiology

MEDIRAD PROJECT



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AIMS

- MEDIRAD aims to enhance the scientific bases and clinical practice of radiation protection (RP) in the medical field and thereby addresses the need to better understand and evaluate the health effects of low-dose ionising radiation exposure from diagnostic and therapeutic imaging and from off-target effects in radiotherapy (RT).
- It is a €10 m project; the first large-scale medical research and innovation project
- EFOMP participates in MEDIRAD project Work Package 6
- Kick off meeting Barcelona, June 2017



OBJECTIVES

1. Improve organ dose estimation and registration to inform clinical practice, optimise doses, set recommendations and provide adequate dosimetry for clinical-epidemiological studies of effects resulting from exposures to ionising radiation for medical purposes.
2. Evaluate and understand the effects of medical exposures, focusing on the two major endpoints of public health relevance: cardiovascular effects of low to moderate doses of radiation from RT in breast cancer treatment including understanding of mechanisms; and long-term effects on cancer risk of low doses from CT in children.
3. Develop science-based consensus policy recommendations for the effective protection of patients, workers and the general public.

WP6:

Bringing together medical and nuclear scientific communities to improve patient and worker radiological protection across Europe).

- WP6's objectives are to formulate policy recommendations for the effective protection of patients and medical workers and the general public;
- to organize a web-based consultation of a wide range of stakeholders;
- and to disseminate the MEDIRAD results to broader communities interested in RP.

ENEN PROJECT



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OBJECTIVES

- **Attract** new talents to careers in nuclear.
- **Develop** the attracted talents beyond academic curricula.
- Increase the **retention** of attracted talents in nuclear careers.
- **Involve** the nuclear stakeholders within EU and beyond.
- **Sustain** the revived interest for nuclear careers.

The ENEN+ focuses on the learners and careers in:

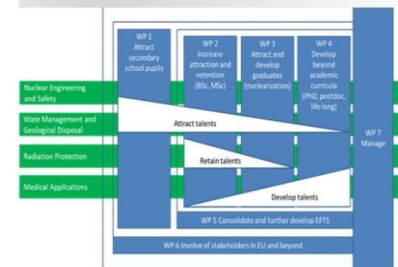
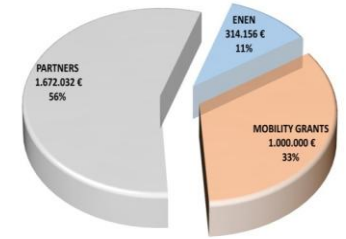
- Nuclear reactor engineering and safety,
- Waste management and geological disposal,
- Radiation protection and
- Medical applications.




ENEN
EUROPEAN NUCLEAR EDUCATION NETWORK


enen+

Attract, Retain and Develop New Nuclear Talents Beyond Academic Curricula
Expected launch : October 1, 2017. First mobility call : February 1, 2018

Objectives of the Project	Motivation
<ul style="list-style-type: none"> • Attract new talents to careers in nuclear. • Develop the attracted talents beyond academic curricula. • Increase the retention of attracted talents in nuclear careers. • Involve the nuclear stakeholders within EU and beyond. • Sustain the revived interest for nuclear careers. 	<p>Remarkable results obtained since the launch of the EURATOM EFTS initiatives in early 2000s</p> <p>It is recognized that the enrolment of students to nuclear disciplines has not yet reached the desired level.</p> <p>ENEN+ proposes activities to substantially contribute to the revival of the interest of young generations in the careers in nuclear sector.</p>
Workpackages: Overview	The ENEN+ focuses on the learners and careers in:
 <p>The diagram shows a funnel-like structure with five workpackages (WP 1-5) and a final WP 6. WP 1 (Attract secondary school pupils) feeds into WP 2 (Increase attraction and retention (BSc, MSc)), which feeds into WP 3 (Attract and develop graduates (nuclearizations)), which feeds into WP 4 (Develop beyond academic curricula (PhD, postdoc, life long)), which feeds into WP 5 (Consolidate and further develop EFTS). WP 6 (Involve of stakeholders in EU and beyond) is a vertical bar on the right. The funnel is supported by a base labeled 'WP 6 Involve of stakeholders in EU and beyond'. The funnel is also supported by a vertical bar on the left labeled 'WP 6 Involve of stakeholders in EU and beyond'. The funnel is also supported by a vertical bar on the right labeled 'WP 6 Involve of stakeholders in EU and beyond'. The funnel is also supported by a vertical bar on the right labeled 'WP 6 Involve of stakeholders in EU and beyond'.</p>	<ul style="list-style-type: none"> • Nuclear reactor engineering and safety, • Waste management and geological disposal, • Radiation protection and • Medical applications.
Budget:	Expected Key Contributions
<p>Total costs: 3.2 M€ EC Contribution: 2.9 M€</p> 	<ul style="list-style-type: none"> • Attractive e-materials on nuclear profession • EU wide competition of high school pupils • Support for learners in all career phases: <ul style="list-style-type: none"> • career guidance • Support for mobility (funding & access) • Voluntary accreditation function (ECTS, ECVET) • Sustainable mobility fund • Improved communication with industry and decisionmakers • EU wide nuclear ETKM strategy
Partners	
<p>ENEN (EU, F) Uni Lorraine (F) AALTO (SF) SCK•CEN (B) UNED (ES) CVR (CZ) JSI (SI) UPM (ES) CIRTEN (I) Uni Ljubljana (SI)</p>	<p>Tecnatom (ES) Politech Bucarest (RO) JRC (EC) EM Nantes (F) CEA/INSTN (F) FORATOM (EU, B) ENS (EU, B) Westinghouse (UK) EFOMP (EU, B) EDF (F) NUGENIA (EU/B)</p>



www.enen-assoc.org
 European Nuclear Education Network
 INSTN, Centre CEA de Saclay, Bat. 395
 91191 Gif-sur-Yvette Cedex, France
 Telephone: +33 169 08 97 57
 Email: sec.enen@cea.fr



This project has received funding from the EURATOM research and training Work Programme 2016 - 177

PARTNERS

ENEN (EU, F)

Uni Lorraine (F)

AALTO (SF)

SCK•CEN (B)

UNED (ES)

CVR (CZ)

JSI (SI)

UPM (ES)

CIRTEN (I)

Uni Ljubljana (SI)

Tecnatom (ES)

Politech Bucarest (RO)

JRC (EC)

EM Nantes (F)

CEA/INSTN (F)

FORATOM (EU, B)

ENS (EU, B)

Westinghouse (UK)

EFOMP (EU, B)

EDF (F)

NUGENIA (EU/B)

EC Contribution: 2.9 M€

EFOMP PARTICIPATES IN : WP 2, 3 AND 6

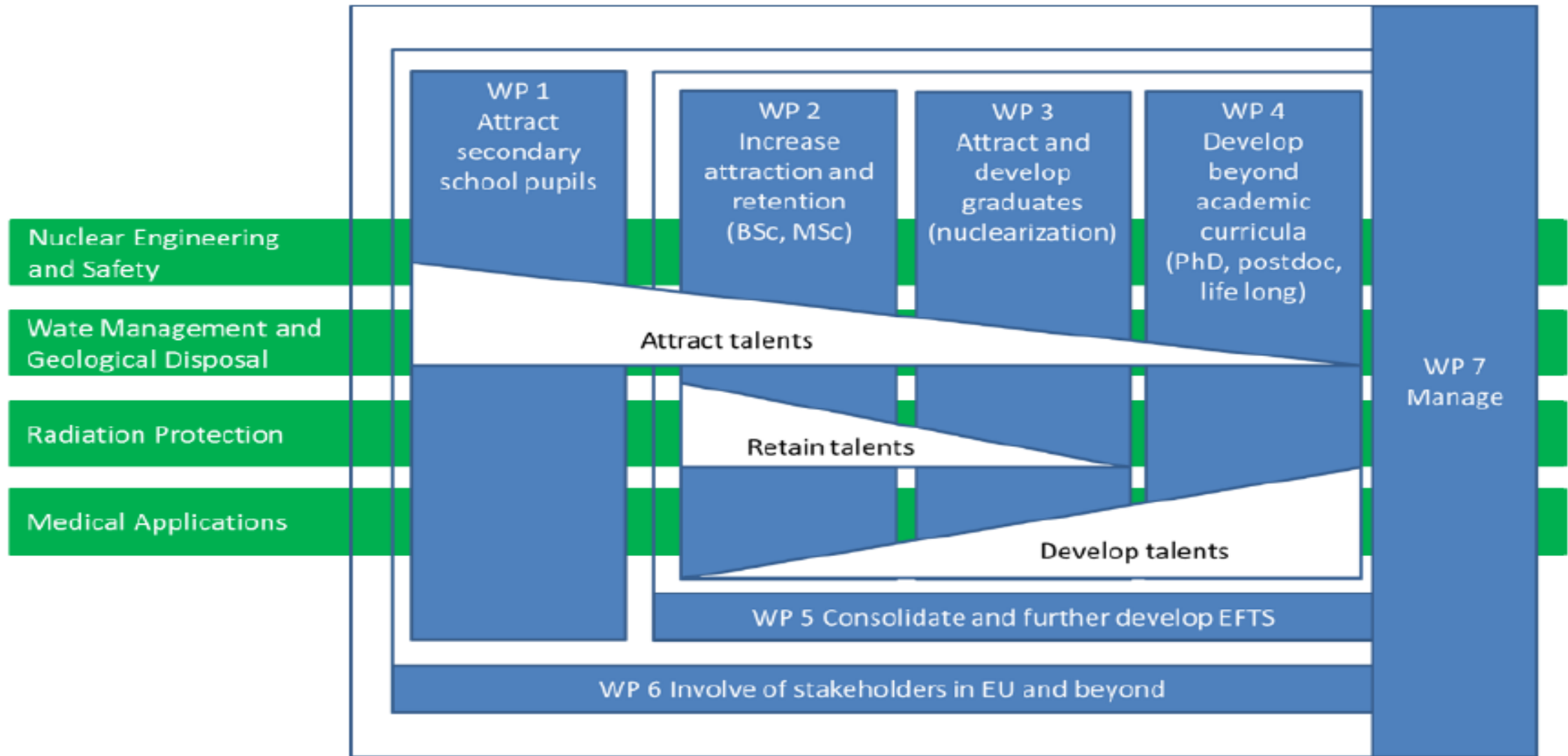


Figure 2 Outline of Project Work Plan.

EUCLID PROJECT



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EUCLID (EUROPEAN CLINICAL DRLS)

Objectives

- the project will provide up-to-date clinical DRLs for the most important, from a radiation protection perspective, x-ray imaging tasks in Europe. In addition, it should stimulate national and local efforts in this area.
 - Leader: European Society of Radiology
 - Duration: 33 months
 - Start: July 24, 2017
 - Finish: April 23, 2020
 - **EFOMP is in the External Advisory Panel**



EIBIR RESEARCH PLATFORM



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EIBIR

<http://www.eibir.org/>



- European Institute for Biomedical Imaging Research (EIBIR) is a non-profit limited liability company that was founded in 2006 by the European Society of Radiology (ESR), dedicated to the coordination of research.
- EIBIR aims to coordinate and support the development of biomedical imaging technologies and the dissemination of knowledge with the ultimate goal of improving the diagnosis, treatment and prevention of disease.
- The platform supports research networking activities and plays a key role in spreading good practice, promoting common initiatives and interoperability in the field of biomedical imaging research.
- EFOMP is a shareholder of EIBIR and has a representative to stand on the Scientific Advisory Board

EURAMED PLATFORM



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The European Alliance for Medical Radiation Protection Research (EURAMED) represents a consortium of associations involved in the application of ionising radiation in medicine:

- **European Association of Nuclear Medicine (EANM)**
- **European Federation of Organisations for Medical Physics (EFOMP)**
- **European Federation of Radiographer Societies (EFRS)**
- **European Society of Radiology (ESR)**
- **European Society for Radiotherapy and Oncology (ESTRO)**

with the goal of jointly improving medical care and its radiation protection issues through sustainable research efforts.

VISION

Leading European research activities in medical radiation protection and harmonising clinical practice to advance the European radiation protection safety culture in medicine

STRUCTURE

EURAMED has been set up as a joint initiative under the umbrella of the European Institute for Biomedical Imaging Research (EIBIR) but aims to become a separate entity in the future.

The founding organisations are currently working on developing a sustainable structure for its governance and membership in order to allow other interested organisations to participate in its endeavours in the future as well as on setting up an action plan for the coming years.

You can contact EURAMED through the EIBIR office:

office@eibir.org
Neutorgasse 9, 1010, Vienna Austria
+43 1 533 4064 13

The EURAMED Steering Committee Members as of May 2016:

- Christoph Hoeschen, Chair
- John Damilakis, EFOMP
- Wolfgang Doerr, ESTRO
- Guy Frija, ESR
- Gerhard Glatting, EANM
- Hans Langendijk, ESTRO
- Kristoff Muylle, EANM
- Graciano Paulo, EFRS
- Wolfram Stiller, ESR
- Virginia Tsapaki, EFOMP
- Jonathan McNulty, EFRS
- Monika Hierath, EIBIR, Management



1 EURAMED EXECUTIVE BOARD

- **President: John Damilakis, EFOMP**
- **Vice-President: Klaus Bacher, EANM**
- Past President: Christoph Hoeschen
- Secretary: Wolfgang Doerr, ESTRO
- Treasurer: Graciano Paulo, EFRS
- Member at large: Guy Frija, ESR

Wednesday October 11

14:00 – 17:30

Advanced Radiotherapy: Benefits and Radiation Protection due to Developments in Imaging, New Technologies, and Stratification

Organised by EURAMED & ICRP

Co-Chairs: Pierre Scalliet (former ICRP C3, Belgium)

Virginia Tsapaki (EURAMED, Greece)

- 14:00 Introductory Presentation: **The Mandate and Work of ICRP Committee 3 on Radiological Protection in Medicine**, Colin Martin (C3 Vice-Chair, UK)
- 14:15 Introductory Presentation: **EURAMED's Vision on Medical Radiation Protection (Research)**, Christoph Hoeschen (EURAMED)
- 14:30 **Multimodal Imaging for Dosimetry and its Benefit**, Vincent Gregoire (Université Catholique de Louvain, Brussels, Belgium)
- 15:00 **The Need of Image Guidance in Radiation Therapy and its Implementation**, Geoffrey Ibbott (MD Anderson Center, Houston, Texas, USA)
- 15:30 *Coffee break*
- 16:00 **Specific Radioprotection Issues with Proton Therapy**, Tom Depuydt (Katholieke Universiteit Leuven, Leuven, Belgium)
- 16:30 **Targeted Alpha Particle Therapy: Imaging, Dosimetry and Radiation Protection**, Michael Lassmann (University Clinic of Wuerzburg, Germany)
- 17:00 Panel Discussion



ICRP

4TH INTERNATIONAL SYMPOSIUM ON THE
SYSTEM OF RADIOLOGICAL PROTECTION

October 10-12 2017, Paris, France

ERPW

2ND EUROPEAN RADIOLOGICAL
PROTECTION RESEARCH WEEK

VISION OF EFOMP PROJECTS COMMITTEE

- The vision of the Committee is to increase EFOMP's activity in research and to lead more projects.
- To become a major stakeholder in medical physics research in Europe and beyond.
- To make the EURAMED platform a strong influencing research alliance for the benefit of medical physics.



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THANK YOU FOR YOUR ATTENTION

