



# DoReMi-MELODI Training and Education Forum

## Report

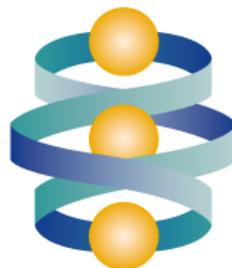
*Vere Smyth*

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Dipartimento di Fisica

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Pavia, Italy



**DoReMi**  
Integrating Low Dose Research



**MELODI**  
Multidisciplinary  
European Low Dose Initiative



## What is the DoReMi/MELODI E&T Forum?

- A practical means to implement **networking** and **support** of E&T within the community involved in the field of research into the risks from low-dose radiation.
- The focus is on ensuring there is a stream of top-calibre students coming into the field to continue essential lines of research into the next decades.
- Our stakeholders are the research centres (and anyone else who may benefit)



# Why do we need a Forum? What are the drivers?

## HLEG:

A group of 16 international experts (the “High Level Experts Group” – HLEG) were given the task of developing a strategic research agenda and road map for low dose risk research in Europe. Report January 2009:

“Many EU member states **have lost key competences and are no longer capable of independently retaining their current research activities** in radiation sciences, with implications for effectively fulfilling operational and policy needs and obligations.”

“MELODI will respond to these needs and aim at **establishing an integrated approach to E&T** in radiation research in Europe. Particular consideration will be given to the better integration of research and teaching at Universities and at non-university research organisations.”



## MELODI

Following HLEG, MELODI (“Multidisciplinary European Low Dose Initiative”) was set up in 2009. The aims are:

- Identifying research priorities in the low dose research
- Establishing and updating a Strategic Research Agenda (SRA) addressing low dose risk
- **Sustaining education & training activities**, maintaining infrastructures and disseminating results
- Promoting interdisciplinary collaboration
- Promoting regular interactions between the scientific community, international radiation protection bodies and stakeholders



## ***Two key workpackages of DoReMi are:***

### **WP2: Structuring MELODI.**

- The objective is to create an open multidisciplinary platform in Europe (MELODI) with funding bodies and research organisations that have significant contributions to low dose risk research.
- Part of Task 2.3 (Dissemination) Establishing and updating the Joint Programme of Spreading Excellence (JPSE) is:  
*“Establishing and maintaining a support structure for training and education (in collaboration with WP3)”*

## **WP3: Support of E&T for low-dose research**

The purpose of the WP is to:

- Investigate how DoReMi should support E&T
- Develop an “Integrated Training and Education Network” (ITEN)
- Develop a programme of short courses on topics that are key to low-dose research
- Develop sustainability in collaboration with MELODI so the support will continue on beyond the end of DoReMi



## “ITEN” – Forum

- The concept has arisen following the first 2 years of investigating the most effective means of integrating and promoting E&T.
- An E&T Workshop held in conjunction with the 3<sup>rd</sup> MELODI Workshop in Rome, 2011 endorsed the concept, and a Steering Committee was formed.
- The Forum will be a working meeting for the purpose of:
  - Discussing priorities for E&T
  - Discussing the practicalities of networking, sharing resources and students
  - Setting up working groups to develop courses, documents, etc.
  - Discussion of funding possibilities, formation of lobby groups



## The “Themes” of the Forum

### Theme 1: *Financial support*

- Funding is an essential support pillar of E&T. Research into the risks of low-dose radiation is a **Public Good activity** rather than RTD for commercial exploitation, so we can not simply rely on private investment initiatives or user-pays.
- Money in support of E&T for low dose research must be committed from national or international programmes as **an integral part of the research effort** to make the use of radiation safer for humans and the environment.



# What are the options?

## FP7

The final Euratom Work Programme 2013 for Nuclear Research and Training Activities states that:

“A significant part of the support for human resources and training will continue to be implemented by encouraging the embedding of this support within the funded projects. **It is considered that 5% of the total budget** of these should be dedicated to training activities for:

- The development and **delivery of training courses**, aiming at sharing RTD results in the subject matter of the EC funded projects. . .
- The **exchange of research workers** aiming at improving synergies between private and public research organisations at international level. . .”

# Beyond FP7 . . .

## Proposal for COUNCIL REGULATION

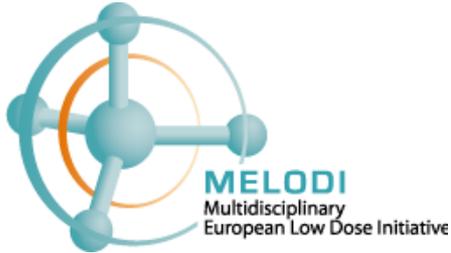
on the Research and Training Programme of the European Atomic Energy Community (2014-2018) complementing the **Horizon 2020** – The Framework Programme for Research and Innovation

*This includes the section:*

### “5. PRIORITY SETTING

In order to ensure that the indirect actions of the Euratom Programme mutually reinforce research efforts of the Member States and the private sector, **the priorities of the work programmes shall be established on the basis of inputs from** national public authorities and nuclear research stakeholders grouped in bodies or frameworks such as technology platforms and technical forums for nuclear systems and safety (SNETP), management of ultimate waste (IGDTP) **and radiation protection/low-dose risk (MELODI)**, the European Fusion Development Agreement, or any relevant organisation or forum of nuclear stakeholders.”

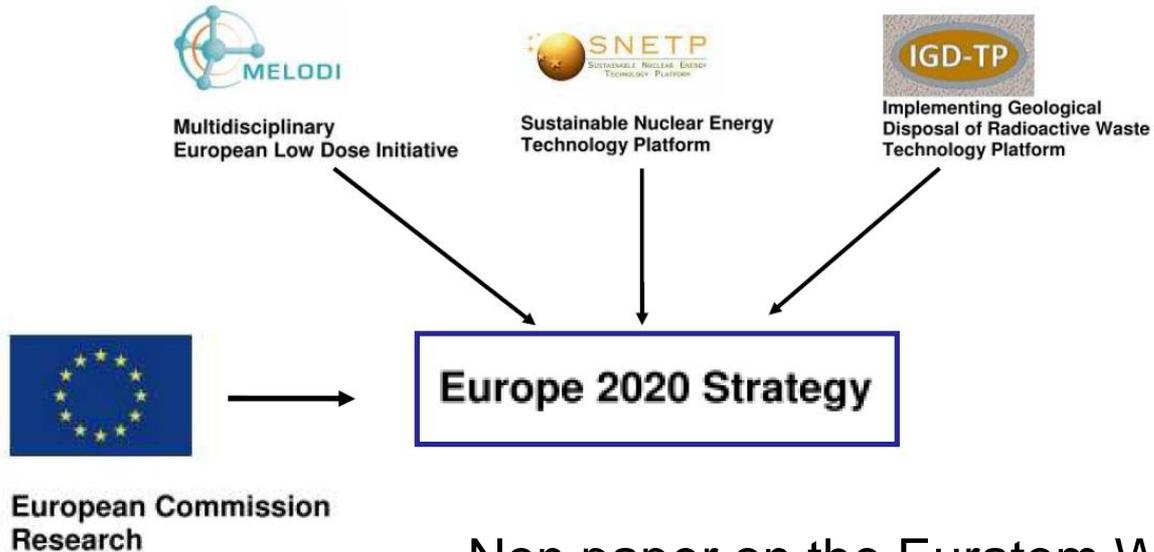
***The pipeline runs from this Forum, through MELODI, to MELODI members, and ultimately the EC.***



**Satellite event: DoReMi/MELODI Training & Education Forum**

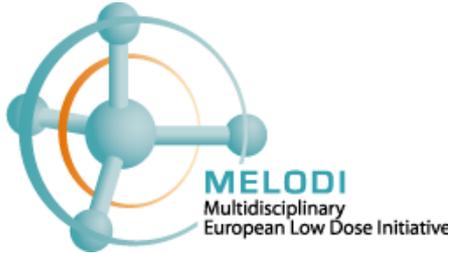
# The role of MELODI in the development and implementation of E&T

**Wolfgang Weiss**



## Non paper on the Euratom Work Programme for Nuclear Research and Training Activities for 2013

*“Under the Euratom programme, the EC should promote and facilitate nuclear research activities in the Member States and complement them through specific **Community Research and Training activities**. In this scope, it should help stimulating joint funding from Member States and/or enterprises and benefits should be taken from the increasing interaction between SNETP, IGDTP and MELODI and other stakeholder fora at the Union level.”*



## ***MELODI Association Next steps***

Based on the findings and recommendations of DoReMi MELODI needs to

- establish an **concept and a strategy** to integrate training into the research activities within the SRA
- develop a **road map** for the implementation of the plans.



# **E&T initiatives in the European Radioecology Alliance**

**Frank Hardeman**  
Chair of the ALLIANCE

**frank.hardeman@sckcen.be**



- WP6: Mobility, training and education
- Leader: Deborah Oughton, UMB (Norwegian University for Life Sciences)
- Stakeholder Consultations on 'Demand and Supply'. D6.1 available at: [www.star-radioecology.org](http://www.star-radioecology.org) (STAR Publications)
- For Students:
  - UMB/Aix-Marseille: EU MSc in Radioecology in cooperation DoReMi
  - PhD/MSc course on 'Environmental Radiobiology' (in collaboration with DoReMi)
- For Professionals: STAR partners + Stirling University: Training about 'Erica' Tool (<http://www.eric-tool.com/>)
- Training Material
- PhD Research School: to promote networking between STAR students/scientists and members of the radioecology community

# NERIS – European Platform on Preparedness for Nuclear and Radiological Emergency Response and Recovery

## Education and training aspects

Raimo Mustonen, Chair of NERIS  
raimo.mustonen@stuk.fi

DoReMi/MELODI Forum, 11 September 2012, Helsinki



The NERIS Platform also supports the organisation of training courses

## Training course on preparedness and response for nuclear and radiological emergencies

SCK·CEN, Club-House, Mol, Belgium

October 1 – 5, 2012

What is the state-of-the-art in nuclear and radiological emergency management?

What are the lessons learned from the Fukushima accident?

Be prepared for nuclear and radiological emergencies!

## Training course on “Preparedness and Response for Nuclear or Radiological Emergencies”:

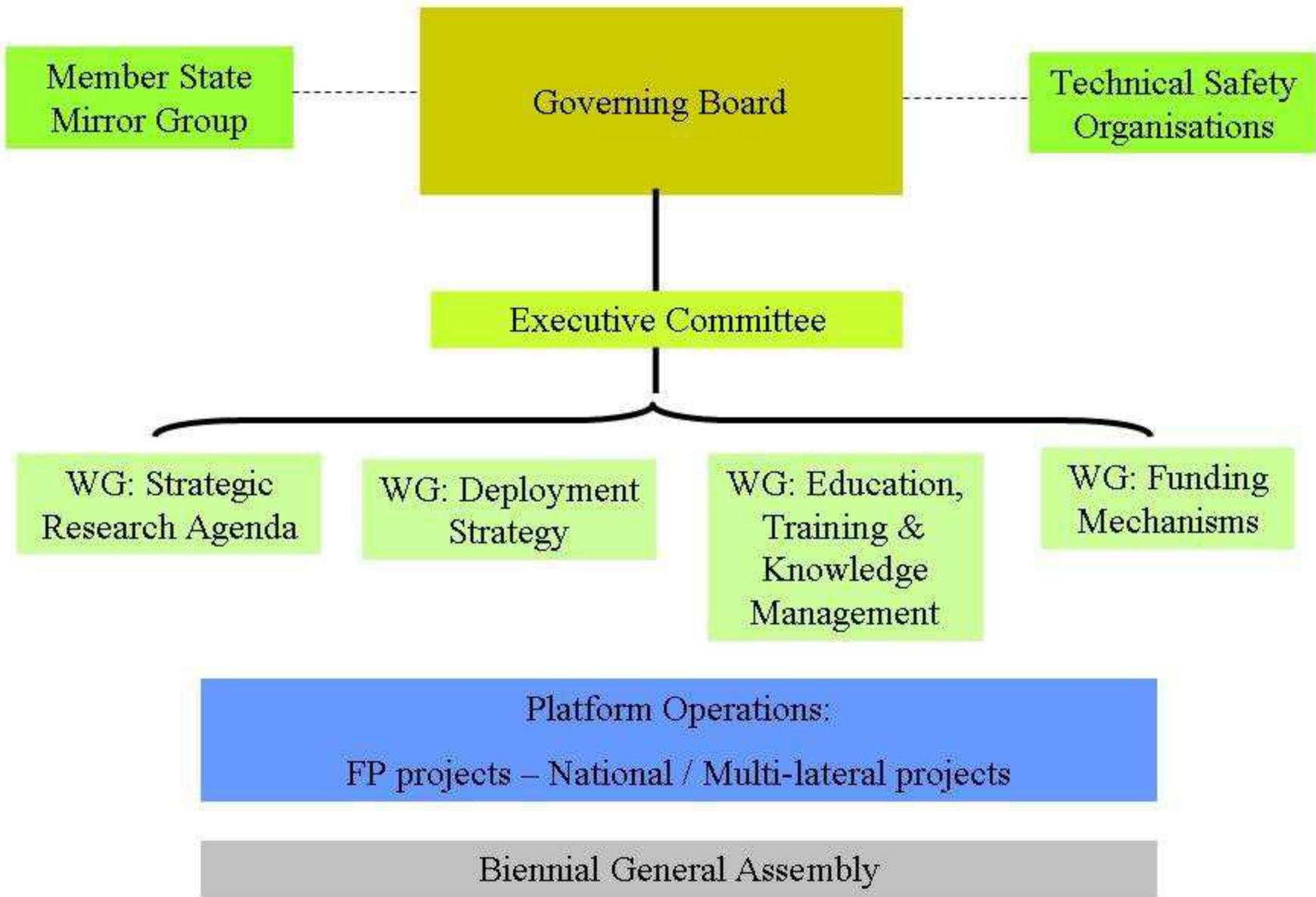
- Organised by SCK·CEN.
- Next edition: 1-5 October, 2012 in Mol, Belgium.
- Main objective: provide fundamental knowledge and practical advice to all those involved in emergency planning and response.
- Includes: principles of intervention; radiological evaluations; decision-support tools; different aspects of planning and organisation in off-site emergency response; economic, social and psychological impacts, etc.
- Special session on Fukushima accident



# THE SUSTAINABLE NUCLEAR ENERGY TECHNOLOGY PLATFORM



Presented on behalf of SNE-TP by  
Vere Smyth, University of Pavia





# IGD-TP's Competence Maintenance, Education and Training (CMET) Activities as part of the SRA Deployment

Actions taken and planned within European context

Marjatta Palmu

*The Secretariat activities for the IGD-TP has received funding from the European Atomic Energy Community's Seventh Framework Programme (FP7/2007-2011) under grant agreement no 249396 SecIGD.*



POSIVA



6.9.2012



Palmu Marjatta



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## OUR SHARED VISION

*Our vision is that by 2025, the first geological disposal facilities for spent fuel, high-level waste, and other long-lived radioactive waste will be operating safely in Europe.*

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Our commitment is to:

- build confidence in the safety of geological disposal solutions among European citizens and decision-makers
- encourage the establishment of waste management programmes that integrate geological disposal as the accepted option for the safe long-term management of long-lived and/or high-level waste
- facilitate access to expertise and technology and maintain competences in the field of geological disposal for the benefit of Member States



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Source: IGD-TP Vision Document 2009  
6.9.2012

Palmu Marjatta

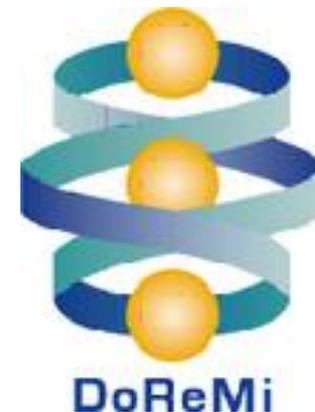


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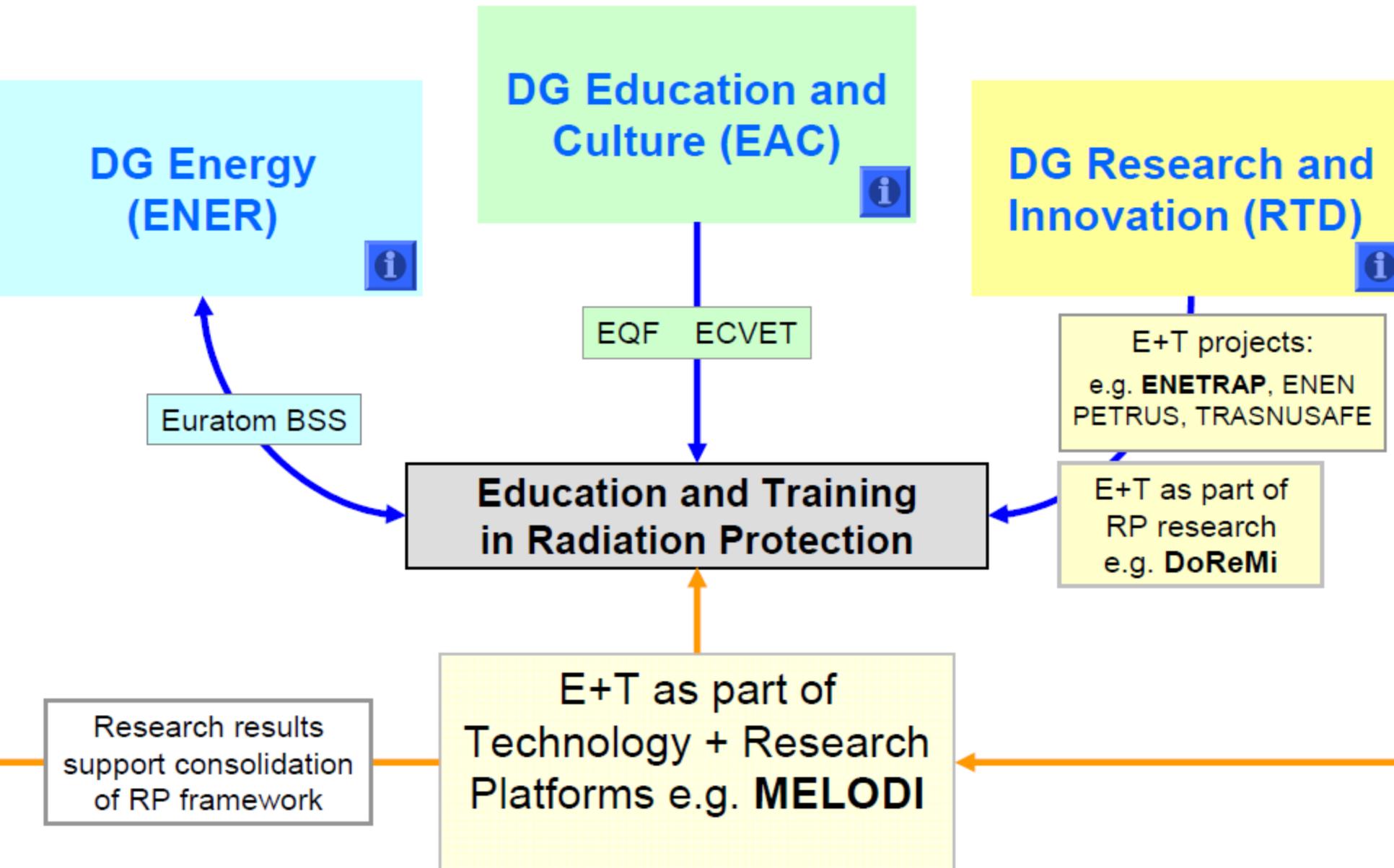
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# EURATOM E&T Approach for Radiation Protection

Annemarie Schmitt-Hannig  
Bundesamt für Strahlenschutz, Germany



# Education and Training in Radiation Protection



## **Suggested resolutions:**

MELODI should formally incorporate E&T:

- By including an E&T representative (or advocate) on the Scientific Committee
- By adopting the E&T Forum as an integral part of the MELODI Workshop
- By setting up an on-going MELODI Working Group for E&T
- By advising the EC on explicit support for E&T in future Research and Training Work Programmes



- Formal relationships should be developed with other research platforms
  - European Radioecology Alliance
  - NERIS
  - SNE-TP
  - IGD-TP
- Relationships should be developed with other organisations
  - EUTERP
  - ENEN
  - EURADOS
  - Others?



## **Theme 2: *Integration operations***

This section will deal with all of the practical issues of integrating and supporting E&T for low-dose research. The issues to be addressed are:

- How do we take maximum advantage of existing E&T facilities, capacity, and resources?
- How can we achieve mutual recognition of courses and course modules so they can be integrated into MSc and PhD programmes, so that students can gain credits for their degrees?
- How can we strengthen networking and communication among members of the community?
- Other groups to be invited into the Forum: other platforms, EC projects with 5% E&T commitment, etc
- Feedback on the Forum: is it serving its purpose? How can we improve it?

# The European Master of Science course at the University of London 1992 to 2012

Klaus-Rüdiger Trott, University College  
London and Università degli Studi di Pavia

# Field of undergraduate studies of MSc students

Medicine	31
Biology	76
Physics	26
Others	4

## Field of future career (variable follow-up, not yet traced 40)

	Radiotherapy research	Radiation biol&prot	Research admin.	Others
Graduates in				
Medicine	20	7	2	
Physics	15	6	2	
Biology	12	25	2	6

**HelmholtzZentrum münchen**

German Research Center for Environmental Health

# **The Heraeus Physics School and EURADOS Training Activities**

MELODI Workshop

September 11<sup>th</sup>, 2012

W. Rühm

Institute for Radiation Protection

Helmholtz Zentrum München

German Research Center for Environmental Health

# WE-Heraeus Physics School

## "Ionising Radiation and Protection of Man and Environment"

- Organised since 2005  
(initiated by H. Paretzke, HMGU, Germany)
- Venue: Physik Zentrum Bad Honnef, Germany

### Concept

- About 10-12 days
- About 72 lecture units (45 minutes each)
- Exercises (measurements, simulations)
- Poster sessions and poster prize
- **First Year:** *Physics School* in Radiation Protection  
Basics in radiation physics, radiation biology, radiation protection, radioecology, radiation epidemiology, radiation in medicine, ...
- **Second Year:** *Advanced Physics School* in RP  
Lessons learned in the first year are applied by discussion of special topics
- Last years: about 50 participants, 20 lecturers
- All lived at the Physik Zentrum, to stimulate discussions and promote networking
- Costs: 150 Euro per participant
- Target group:  
Students, Graduates,  
PhD-students, Postdocs



# EURADOS Training Courses

- European Recommendations for Monitoring Individuals, Kraków, 12-16 November 2012
- School on Retrospective Dosimetry, Neuherberg, 22-26 October 2012
- Voxel Phantom School, Fontenay-aux-Roses, 11-13 October, 2011
- Advanced Methods for Internal Dose Assessment, Prague, 2-6 February, 2009
- Unfolding Training Course, Cape Town, 7-8 April, 2006

## WG10 – Retrospective Dosimetry

**Location:**



The school will be held at Neuherberg, which is just outside the city limits of Munich

**Date:**  
22-26 October 2012  
Duration: 5 days

**Important dates:**

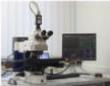
Registration open: 1 March 2012  
Registration deadline: 31 July 2012  
Deadline for payment of registration fee: 15 September 2012  
School: 22-26 October 2012

The completed registration form has to be returned by email to [EURADOSchool@bfs.de](mailto:EURADOSchool@bfs.de)

**EURADOS**  
European Radiation Dosimetry Group e. V.

Neuherberg, Germany  
22-26 October 2012

**EURADOS School on Retrospective Dosimetry (Practical exercises in Solid State & Cytogenetic dose reconstruction)**

**Organisation:**

**Helmholtz Zentrum münchen**  
German Research Center for Environmental Health

**Bundesamt für Strahlenschutz**

**First Announcement**

## WG2 – Harmonisation

**Location:**



The training course will be held at the Henryk Niewodniczański Institute of Nuclear Physics of the Polish Academy of Sciences in Kraków, Poland

**Local organising committee:**  
Maciej Budzanowski, IFJ, Poland  
Renata Kopec, IFJ, Poland  
Pawel Oliko, IFJ, Poland

**Programme committee:**  
João Garcia Alves, IST/ITN, Portugal  
Peter Ambrosi, PTB, Germany  
David Bartlett, United Kingdom  
Janwillem van Dijk, The Netherlands  
Hannes Stadtmann, Seibersdorf Labor GmbH, Austria

**Registration:**  
Registration through the IFJ website at: <http://eurados-training.ifj.edu.pl>

**Contact:** Renata Kopec, [renata.kopec@ifj.edu.pl](mailto:renata.kopec@ifj.edu.pl)

Acceptance of registration will be done based on first come, first served basis. If needed however, the organizers may limit the number of candidates from the same institute. EURADOS will confirm when your application is accepted. Upon confirmation you will be informed about bank data for payment of the fee.

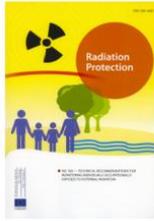
**Certificate:**  
EURADOS will issue a certificate of participation at the end of the course

**Literature:**  
The participants are advised to have a basic knowledge of the contents of the Technical Recommendations RP160 and the report on the 2008 EURADOS intercomparison IC2008, both available from the EURADOS web-site, [www.eurados.org](http://www.eurados.org), on the web page on the training course.

**Date:**  
12-16 November 2012  
Duration: 4.5 days

**EURADOS**  
European Radiation Dosimetry Group

Kraków, Poland  
12-16 November 2012  
**EURADOS Training Course**  
European Technical Recommendations for Monitoring Individuals Occupationally Exposed to External Radiation  
(Radiation Protection 160)



**First announcement**

# **ECTS, ERASMUS MUNDUS and a possible multi-institution MSc course in radiation biology**

**Andrzej Wojcik**

**Centre for Radiation  
Protection Research  
Stockholm University**

**[andrzej.wojcik@gmt.su.se](mailto:andrzej.wojcik@gmt.su.se)**



## **More resolutions:**

3. The means should be explored by way of the Bologna Process, Erasmus Student Mobility Grants, etc, to increase the mobility and accessibility for students taking part in the any of the 4 Radiation Biology MSc courses which will be offered by 2014 (SU, TUM, TUD, Oxford) and to enable students to carry out their research projects in other institutions.

4. The DoReMi short courses were endorsed. The coordinating and organising task should ultimately be taken over by the new MELODI E&T WG in collaboration with the other Technical Platforms and organisations. The need for particular focussed courses would be determined through the Forum, and the funding would be provided by on-going EC grants, E&T commitment of collaborative projects, and sponsorship from regulatory bodies or other interested parties.

**5. The Forum was endorsed.**



**Thank you for your attention**