

Education and training activities in the radiation protection area

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On behalf of the MELODI Board

15 Y ENEN – 1 March, 2018

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- Radiation protection is a science that is applied in all fields where ionizing radiation is used, to protect man and environment from potential hazards
 - Competent personnel needed
 - To safely operate existing facilities (nuclear industry, medical application, NORM, non-nuclear industry, governmental organizations, ...)
 - To advance research and future developments for wellbeing of society

- Quantity:
 - Attract new resources via outreach to pupils and students, and general public
 - → education and communication
- Quality:
 - Good education: to establish basic knowledge, based on most recent finding and research results
 - Adequate additional training (CPD, LLL) adjusted to the needs of the learner: to build up and extend competences (= knowledge, skills, attitude)
- To meet these criteria, several actors play a role:
 - Universities, research centers, training providers, ...
 - Platforms, projects, groups, ... an overview...

- Supported in 6&7 FP
- Started in 2005, basis: variety in application of the function, recognition and E&T needs of the Qualified Expert as stated in former Euratom BSS in MSs
- Main results:
 - Consortium to organize European Master in Radiation Protection
 - Mapping of qualification and recognition criteria for QE in Europe, including view on non-harmonized national approaches
 - Suggestion for new definitions: RPE, RPO, (MPE) in current Euratom BSS
 - Guidance document for implementation of E&T for RPE and RPO
 - Proposal of a European training scheme for RPE facilitating mutual recognition within Europe, pilot sessions of courses
 - Capacity building platform including database with E&T opportunities
 - Sustainable Platform EUTERP

- Started as project supported by EC DG ENERGY
- Became sustainable platform (Foundation) in 2010
- Objectives:
 - to encourage and support harmonization of education and training requirements for RPEs, RPOs and radiation workers, facilitating the mobility of these professionals;
 - to promote the integration of radiation protection education and training systems into general vocational training; and
 - to act as a central focus for the sharing of information on training events, standards, developments, and all other related information for professionals.
- www.euterp.eu, workshops, newsletter

- Research Platform dedicated to low dose research
- Supported by EC, one of the three big research Platforms next to SNETP and IG-DTP
- Now a sustainable structure, SRA, plays important role in preparing and launching Euratom calls in the RP domain
- Recognizes the importance of competence building in RP: Working Group on E&T
- Projects: (DoReMi), OPERRA, CONCERT: promote joint use of infrastructures, first collaborations with other RP related Platforms EURADOS, NERIS, Alliance and medical groups, and several E&T deliverables such as courses, summer schools, mobility grants, etc...



- Providing support for students and young post-doctoral researchers to European E&T by offering **grants for training and travel**, and working for greater transferability of prerequisites and degrees among the EU states;
- Recognising that **E&T is an intrinsic part of knowledge management and dissemination of new science**, and promoting the provision of training courses, workshops and seminars within the RTD Programme;
- Organisation and sponsorship of targeted initiatives in order to promote the specialised skills and knowledge needed to maintain the full competence of the research community and to disseminate research results and stimulate exchanges;
- **Coordination and collaboration with all research platforms** and the wider industry and regulatory interests in order to take advantage of common policies, resources, and funding streams;
- Encouraging the **integration of junior scientists** into the European radiation risk research community.

- The mission of the NERIS Platform is to establish a forum for dialogue and methodological development between all European organizations and associations taking part in decision making of protective actions in **nuclear and radiological emergencies and recovery** in Europe.
- Supported E&T activities of European research projects NERIS-TP (2011 – 2014), PREPARE (2013 – 2016) and the ongoing project CONFIDENCE (2017 – 2019)
- Supports and co-organizes two training courses on a regular basis, typically once per year
 - Preparedness and Response for Nuclear and Radiological Emergencies
 - Late Phase Nuclear Accident Preparedness and Management

- Non-profit association for promoting research and development and European cooperation in the field of the **dosimetry of ionizing radiation**
- E&T activities:
 - Winterschools at Annual Meetings: 1 day “refresh courses” on dosimetry and related topics, selected by the Council on VM, WG and Council proposals
 - Grants & Awards: each year a research stay of young scientists is financed through the EURADOS Grant and an excellent research scientific work is recognized with the EURADOS Award. The winners are invited to present their research results at the EURADOS Annual meeting.
 - Symposia and Workshops: seminars on the work produced by EURADOS WG held at annual meetings. The proceedings are published in scientific journals.
 - Intercomparison participant’s meeting: at the end of each EURADOS inter-comparison on individual monitoring a participant’s meeting is organized to promote exchange of information among participants and to summarise lessons learned from each edition.

- Alliance programme: maintain and enhance **radioecological competences** and experimental infrastructures in Europe, with an international perspective, and address scientific and educational challenges related to the assessment of the impact of radioactive substances on humans and the environment.
- E&T activities:
 - Established a mechanism to grant short stays of students within institutes of the Alliance, and their attendance to congresses and workshops.
 - Organizes refresher courses in international conferences on radioecology and radiation protection
 - Participates in CONCERT-WP7 on E&T and will collaborate with the ongoing projects TERRITORIES (2017-2019) and CONFIDENCE (2017-2019) in E&T activities



- Represents a consortium of associations involved in the application of ionizing radiation in medicine:
 - European Association of Nuclear Medicine (EANM)
 - European Federation of Organizations for Medical Physics (EFOMP)
 - European Federation of Radiographer Societies (EFRS)
 - European Society of Radiology (ESR)
 - European Society for Radiotherapy and Oncology (ESTRO)
- Very strong E&T actions, MPE courses, others...

Beyond science and technology

- Platform on social sciences and humanities – proposal
- Nuclear technology attracts attention and strong opinions in society; while the science itself may not be controversial, its application often is
- Understanding the benefits and risks of radioactivity requires
 - Scientific and technical insight and training
 - An insight in the context and in the societal issues
- There is a growing awareness of the importance of being able to consider this wider context

- Each group, project, Platform, ...
 - Top-specialists in their domain
 - Best placed to foster E&T activities in their domain
- Interaction and exchange of information to be promoted
 - Best practices, best didactic approaches, ...
 - Identify the needs for education and continuous professional development in nuclear topics
 - Common organization of training sessions and courses on subjects of common interest
 - Strengthening the E&T landscape in Europe