

# Workpackage 7: Education and Training

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# Aim of WP7

- To respond to the challenge of developing and maintaining new competence
- Support of E&T in the sciences underpinning radiation protection in general, and in particular specific research areas such as the hazards from low-dose radiation, medical applications of ionising radiation, radioecology, emergency and recovery management and dosimetry.
- CONCERT will provide a Programme of E&T support consistent with the priorities identified in strategic research agendas developed as part of the Programme.

## **Task 7.1 – Attracting and retaining students and junior scientists into the Radiation Protection research fields**

(Lead: SU; Partner: UniPv, HMGU, NMBU, NRIRR, MTA-EK, SCK•CEN, MedUni Vienna, UT; LTPs: IST, UBB-FF)

### **Subtask 7.1.1**

- A Programme of annual grants and awards and conditions for applicants will be drawn up. This will be reviewed annually.
- Grants will be offered on a competitive basis to junior scientists to attend conferences and training courses
- Grants will be provided as financial support to individuals on the basis of actual costs of travel and subsistence.
- The maximum per grant will be €1000.
- A maximum of €10,000 (100% EC) per year will be allocated for this task.
- The criteria for giving support will be based on references provided by the applicant, and the appropriateness of the proposed grant for furthering the aims of CONCERT.

## Task 7.1 cont.

### Subtask 7.1.2

- The possibility of increasing transferability within the EU states will be investigated, in order to facilitate cross-crediting university course modules (such as the MScs in Radiobiology and Radioecology)
- The possibility of joint MSc degrees or double degrees will be explored
- Work towards full mutual recognition of pre-requisites and degrees.
- Dialogue with institutions involved will be maintained through a regular forum coordinated by this task.

## **Task 7.2: Education and training as an essential part of dissemination and knowledge management within CONCERT**

(Lead: NRIRR; Partners: SCK•CEN, UniPv, NCRRP, SU, MedUni Vienna, VUJE, CEA, MTA-EK, STUK; LTPs: NMBU, CREAL, FZ-Jülich)

- In collaboration with WP 2 (development of SRAs) and WP 3 (Joint priority setting) E&T will be promoted as an integral part of all funded RTD research projects.
- Proposals will be encouraged to include provision for:
  - PhD thesis work; where possible students from new member states shall be encouraged to qualify for PhD Programmes.
  - MSc project work; project partners will be encouraged to liaise with universities offering MSc programmes in scientific disciplines required for radiation protection research to provide supervised projects.
  - Offering short courses (1-3 weeks) or teaching seminars on the new science/technology being used or developed (in collaboration with Task 7.3)
  - Mobility of scientists to provide expert lectures at courses or seminars will be encouraged
- Courses, seminars, and student opportunities within the RTD projects will be coordinated by this task and promoted through the EJP website.

## **Task 7.3: Targeted E&T initiatives**

(Lead: UniPv; Partners: NRIRR, NCRRP, HMGU, SU, CEA, MedUni Vienna, MTA-EK, SCK•CEN, STUK; LTPs: NMBU, CREAL)

- An annual open call will be made for institutions to organise short courses (up to 3 weeks length), summer schools, or teaching seminars on topics of relevance to research into radiation protection
- Topics or scientific areas identified either through platform SRAs or through dialogue with stakeholders as requiring development or dissemination (Task 7.4 and WP5)
- There will be call each year of the EJP starting 2015
- The programme will be reviewed annually on the basis of student feedback and consultation in Task 7.4, and modified if necessary

# Possible topics (suggested during proposal development)

- Radiation epidemiology and molecular radiation epidemiology
- Emergency and recovery preparedness, and response
- Source term and dynamic ecosystem transfer
- Molecular radiation carcinogenesis
- Modelling low dose radiation effects from initial physical events
- Radiation effects in utero and human radiation genetics
- Environmental radiobiology and the ecosystem approach
- Non-targeted radiation effects, their role in low dose radiation risk
- New investigative techniques in radiation biology (tracer techniques, track analysis, synchrotron nano-micro techniques, microdosimetry, etc)
- Risk governance and stakeholder dialogue
- Individual monitoring for external exposures
- Individual monitoring and dose assessment for internal exposures
- Computational dosimetry
- Voxel Phantom Development and Implementation for Radiation Physics Calculations



## **Task 7.4: Coordination and collaboration on E&T policy and strategy**

(Lead: SCK•CEN; Partners: BfS, HMGU, UniPv, NRIRR, VUJE, CEA, MTA-EK, ENEA, EEAE, UT, STUK, IMROH; LTPs: ENSTTI, IST, NMBU, CREAL, Uni-Hannover)

### **Subtask 7.4.1: Coordination and collaboration (SCK•CEN)**

- Ensure the inclusion of the E&T interests of all radiation protection research platforms involved in the EJP (MELODI, ALLIANCE, NERIS and EURADOS, and medical radiation groups)
- Programme of dialogue with other interest groups and stakeholders in order to take account of common policies, resources, and funding streams. Links will be established with:
  - Relevant European regulatory groups in charge of implementing the requirements of the EURATOM Basic Safety Standards (BSS), such as HERCA.
  - Projects under NFRP 10 (ANNETTE) and to E&T networks and projects, such as EUTERP, ENETRAP, EUTEMPERX, as well as training activities carried out under other EURATOM platforms, such as SNETP and IGDTP, or networks linked to these platforms.
  - The European Human Resources Observatory for the Nuclear Energy Sector (EHRO-N)
  - International Organisations, such as IAEA, WHO, ILO, ICRP, CRPPH/NEA/OECD, IRPA, **IUR**, EC DG ENER etc.

## Task 7.4 cont.

### **Subtask 7.4.2:** Vocational training for experts foreseen in the new Euratom BSS directive (Lead: ENSTTI)

- Several EC programmes have been conducted in recent years to align professional development with upcoming new standards and harmonize staff training and training certification (projects listed in 2nd bullet of Task 7.4) in compliance with the BSS.
- Investigation of the suitability of E&T developed within CONCERT for contributing to the updating the training and retraining of staff concerned with radiation protection in organizations using or controlling the use of ionizing radiation
- Relevant courses pooled into consistent professional learning pathways to be transferred to the training plans of radiation protection organizations
- If gaps are identified by CONCERT, the development of new pilot training based on up to date standards, knowledge and knowhow will be initiated.

## **Task 7.5: European integration of junior scientist career development**

(Lead: HMGU; Partners: UniPv, NRIRR, CIEMAT, VUJE, CEA, MedUni Vienna, MTA-EK, UT, NCRRP, IMROH; LTPs: NMBU, IST )

- **Subtask 7.5.1** Initiate and encourage interaction between CONCERT, the platforms and the EURAYS association of junior radiation research scientists.
- **Subtask 7.5.2** Establish a cross-border network of mentoring for junior scientists based on a selection and mentor-mentee matching Programme.
- **Subtask 7.5.3** Conduct career days for junior scientists during CONCERT meetings, to include meetings with senior scientists, job fair, career advice and networking.
- **Subtask 7.5.4** Hold “Meet the Professor” lunches during international conferences held in Europe (including the IRPA, ERR, ICRR, MELODI and DoReMi meetings), to allow junior scientists contact with leaders in the community from academia and stakeholders, regulators and policy makers.
- **Subtask 7.5.5** Establish the NEWS network to facilitate dialogue between junior faculty members in new and established member states.

# Initiatives to be funded

## **7.1.1 Travel grants to junior scientists**, maximum of €1k to an individual, up to a total of €10k/year

- A programme and rules for eligibility will be drawn up by subtask 7.1.1.
- There will be a continuing open call for applications from individuals for as long as the annual budget is not exceeded.
- Any remainder will be carried over to the next year.
- The programme will continue through the 5 years of CONCERT.

**7.3 Grants for short courses and other initiatives** such as summer schools and seminars will be made on the basis of direct costs (travel, subsistence, consumables), up to typically €8k EC per week for courses.

- There will be an annual call for proposals prepared by Task 7.3 and issued by the coordinator to all beneficiaries and LTPs. (The possibility of this becoming an open call will be investigated, both in terms of desirability and technical feasibility.)
- The call will take account of the interests of all participating platforms and promotion of strategic agendas.
- There should also be the possibility of ad hoc applications for potentially valuable proposals that were not foreseen at the time of the call but planned to be held before the next call.
- The programme will continue through the 5 years of CONCERT.

# Proposed administration of funding

- An E&T Committee (ETC) will be formed from the task-leaders of WP7 (SU, NRIRR, UniPv, SCK•CEN, HMGU). Applications will be made to the ETC who will make recommendations for funding based on the quality of the application, the worthiness of the proposal, and the appropriateness to the aims of CONCERT..
- Grants of less than €1000 can be approved by the ECT.
- For grants of greater than €1000, the recommendation will be submitted to the ExB for approval following guidelines agreed by the MB.
- All funds will be held and administered by the coordinator.
- All travel grants under 7.1.1 will be paid to the individuals on the basis of valid receipts at 100% rate of reimbursement.
- Grants for courses etc. under 7.3 will be paid to either a CONCERT beneficiary or LTP at the reimbursement rate of 70%. The 30% co-funding may be in-kind contributions from the institution. (The possible inclusion of external institutions to be investigated)