



# **ETRAP 2017**

## **Conclusions & recommendations**

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## ETRAP 2017

A forum for decision makers, regulators, educational and training providers and practitioners, researchers, radiation protection experts and persons from international organisations to discuss the current state of the art in education and training in radiation protection. The conference aims to identify trends and good practice in the area while looking to the future so that society can continue to benefit from the many uses of ionizing radiation.

**120 participants from 40 countries**



## TOPICS

- ❑ Developments in education & training in radiation protection
- ❑ Strategic approaches & impact analysis
- ❑ Collaborations, networks & platforms: activities & achievements
- ❑ Tools & resources, methodology of training
- ❑ Integration of social sciences & humanities in radiation protection education & training
- ❑ Sector specific experiences
- ❑ Outreach activities
- ❑ Approaches to the implementation of the European BSS requirements for education & training



## TOPICS

### NOT ADDRESSED:

- Need for qualification, certification and accreditation of trainers, courses, participants



## Session 1: Developments in education & training in radiation protection

*5 presentations on:* RPW training, RPE training to the European standard, development of rp training in Argentina, rp training in Lithuania, and developing expertise and culture in rp.

- ECVET is a useful tool in the development of training courses and recognised qualifications.
- RPE training content & RPE recognition are major current issues in Europe (RPW training?)
- Development of distance learning. Significant pros & cons. Need to have on-site labs and exams.
- Companionship (mentoring) is a useful component in training.
- Blended learning is the modern methodology of choice. On-line & face-to-face.
- Computer simulations very helpful.

**Further development of blended learning, incorporating simulation.**



## Session 2: Strategic approaches & impact analysis

*4 presentations on:* synergies, harmonisation & opportunities, impact evaluation of IAEA PGEC, evaluation and assessment mechanisms for the PGEC, development of national policy for e&t in Malaysia.

### Course structure:

On-line pre-training course

Pre-training test

Module examinations

Post-training test

Impact evaluation



## Session 2: Strategic approaches & impact analysis

- PGEC assessed to have a positive impact on careers & job performance.
- Contributes to strengthening rp infrastructure at institutional/national level.
- The importance of adopting a strategic approach to building competence in rp was emphasised.
  - E&T needs analysis, training programme development & delivery.
- Development of national policy & strategy involves many stakeholders and is a major undertaking
- Look at existing training programmes and avoid duplication.
- Optimize resources.

**Greater coordination of training development to optimize resources**



## Session 3: Collaborations, networks & platforms: activities & achievements

*3 presentations on:* achievements of ENETRAP III, comparison of German-Dutch learning outcomes for RPO training program, support & integration of e&t for rp research in CONCERT.

- Constructive cross-border comparisons
- Further liaison between platforms and networks will be beneficial.
- Exchange of training information.





## Session 4: Tools & resources, methodology of training

*6 presentations on:* teaching radiation levels, effects & protection, RP awareness training at CERN, training for the use of e-learning tools, TTT course development, monitoring effectiveness of training at SCK-CEN, ENETRAP III tool for capacity building.

- Complex terminology & concepts cause confusion & misunderstanding.
- Consider Performance Indicators to quantify the effect & benefits of training.
- e-learning developers need appropriate training.
- ENETRAP III (EUTERP) database now being tested.

Performance indicators for effectiveness of training should be more widely developed.



## Session 5: Integration of social sciences & humanities in rp education & training

*3 presentations on:* lecturing ethics, the positive scholar, and towards a broad conception of nuclear activity .

- Science does not have all the answers!
- Ethics in rp courses; the key ideas.
- Stress in e&t results in low quality output.
- Positive scholar methodology

Consider incorporation of ethical debate into training programmes.



## Session 6: Sector specific experiences

*10 presentations on:* rp training developments in scrap processing, nuclear installations & waste, nuclear security, oil & gas industries. Training a combined audience.

- Nuclear security training materials developed in collaboration with IAEA.
- WINS Training Academy: modular training courses, on-line delivery, 900 participants from 80+ countries.
- Analysis of relevant indicators of impact is beneficial.
- RP training is most effective when in context.
- “Just-in-time” training has certain benefits.

**Further develop processes to measure impact.**



## Session 7: Outreach activities

*6 presentations on:* rp education & communication to the public, patient information, high school activities, .

- Don't underestimate the public!
- Communicate a balanced view of the risks & benefits.
- Significant programme of rp information dissemination in France, Belgium & Lithuania for high school students.
- An impact analysis of these activities would be beneficial.

National strategies should be developed for the communication of rp information to pupils, students and the public.



## Session 8: Approaches to the implementation of the EU BSS requirements for e & t

*6 presentations on:* Implementation of RPE & RPO requirements, ENETRAP III & IRPA guidance, EC actions, .

- .ENETRAP III guidance, best practice, derived from BSS.
- IRPA guidance, overview of national approaches.
- Differing approaches in different member states to implementation.

**Trainers should take account of guidance & national approaches when developing training for RPEs and RPOs**



## Recommendations

- Blended learning is the preferred training approach. Should be further developed and incorporate simulations where appropriate.
- Greater coordination of national & international training development to optimize resources.
- Performance indicators to assess effectiveness should be more widely developed.
- Consider incorporation of ethical debate into training programmes.
- Further develop processes to measure impact of training activities.
- National strategies should be developed for the communication of rp information to pupils, students and the public.
- Trainers should take account of guidance & national approaches when developing training for QE/RPEs and RPOs



POSTER AWARD!



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- Programme Committee**
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- All participants!**



