



Radiation protection training at the Belgian Nuclear Research Centre **SCK•CEN**

Michèle Coeck
SCK•CEN - Belgian Nuclear Research Centre
Mol, Belgium

mcoeck@sckcen.be

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- Thanks to its thorough experience in the field of peaceful applications of nuclear science, radiological protection and radiobiology, the Belgian nuclear research centre SCK•CEN is reputed to be an outstanding centre of research, and also education and training (E&T).
- <http://www.sckcen.be/en/Education-Training>
- The international school for Radiological Protection (isRP), a group within the SCK•CEN, initiates and manages training and research projects and contributes to related activities on national and international level.

1. Coordination and organisation of E&T programmes on radiation protection
2. Support and guidance for early-stage researchers
3. Research on transdisciplinary aspects of E&T
4. Policy support with regard to applied education and training on a national and international level

1. Coordination and organisation of E&T programmes on radiation protection

1. Academic collaborations

- Collaboration with several Belgian technical universities: radiation protection for helpers in medical (radiology, radiotherapy, nuclear medicine)
- Radiation Protection Expert Course, in collaboration with XIOS Limburg, ISIB Brussels, IRE Fleurus
- BNEN, Belgian Nuclear higher Education Network, with 6 Belgian universities, www.sckcen.be/bnen
- Several other like participation to SPERANSA, European Master in Radiobiology, ...

2. Training activities

- Tailored to needs of the customer, high flexibility in topics, level, dates, duration, language, location, ...
- Programme composed of several modules:

Background modules

- Basic principles of nuclear physics
- Interaction of radiation with matter
- Radiation and dose measurements
- Biological effects of ionising radiation
- Gamma spectrometry
- Standards and legislation
- ALARA and safety culture

Visits

- BR2 and hot cells (radioisotope production)
- Decontamination wing of the medical services
- Emergency planning & follow-up room
- Laboratory anthropogammametry & dosimetry
- Radio- and microbiology laboratories
- Nuclear calibration services

Expertise modules

- Transport of radioactive materials
- Radon and increased natural radioactivity
 - Ethical aspects of the radiological risk
 - Management of radioactive waste
- Internal dosimetry assessment from bioassay measurements
 - Quality assurance in nuclear safety
- Decommissioning and dismantling techniques
 - Good safety practices in controlled areas (practical training)
 - Organization of emergency planning
- Misuse of radioactive materials: prevention and response (safeguards)
 - Radiochemistry

2. Support and guidance for early-stage researchers

- Visit of last year **high school** (18 year olds) to SCK•CEN laboratories
- **Bachelor/Master thesis**: SCK•CEN experts are available to supervise Bachelor/Master students and help them with their dissertation work prepared in our laboratories
- **PhD and post-doc research**: today, about **35 young scientific researchers** perform their PhD work at SCK•CEN, in research fields that reflect our priority programmes and R&D topics. About half of them are working within the field of radiation protection.
See also www.sckcen.be/PhD

3. Research on transdisciplinary aspects of E&T

- Understanding the benefits and risks of radioactivity requires
 - scientific and technical insight and training
 - also an insight in the context and a sense for the societal and philosophical aspects of the situation.
- Two specific training modules are available to support this approach:
 - Ethical aspects of the radiological risk
 - Nuclear technology assessment

4. Policy support with regard to applied E&T on a national and international level

- SCK•CEN participates in several international E&T programmes

- 6FP and 7FP ENETRAP (see also e-poster at this conference)

www.sckcen.be/enetrap2



- EUTERP, www.euterp.eu



- Collaborates with IAEA, OECD, EFOMP, IRPA, ...
- Guarantees international E&T standards incorporated in our training programmes

- Over 50 years of experience in radiation protection research
- From this knowledge → outstanding training institute
- Lecturers: team of engineers, physicists, technicians, biologists, occupational physicians, social scientists, ... each having solid knowledge and experience in their field and good didactic qualities
- Close collaboration with academic institutes for courses and guidance of young researchers (Bachelor/Master, PhD & post-doc)
- Training programmes tailored to needs of customer, with high flexibility
- Attention for both scientific/technical and societal context
- All in international context