67th Course of the Advanced Radiation Protection School "Carlo Polvani"

The Use of New Technologies in E&T
A joint AIRP-EUTERP train-the-trainer event in collaboration with Politecnico di Milano

Milano, June 24-27, 2025

The classes will take place at the Politecnico di Milano
Via Raffaele Lambruschini 4, Milano
Building BL25, Council Room

The practical training will take place on June 26 at two different venues of Politecnico di Milano:
- Building B12, Room L.0.4
  Via Privata Giuseppe La Masa 34, Milano
- Building 2, Room 2.2.5
  Piazza Leonardo da Vinci 32, Milano

Registration procedure

The course accommodates up to 90 participants, admitted on a first-come, first-served basis, with 20 slots reserved for students.

Registration is exclusively available online through the website of the Italian Association of Radiation Protection.

To register, visit www.airp-asso.it and click on «Registration for the 67th Polvani School Course»

Registration fees

- Students: 100 €
- AIRP & EUTERP members: 300 €
- HERCA, IRPA, ICRP & EURADOS
  members: 350 €
- Regular Fee: 400 €

The registration fees cover all course materials, lunches and refreshments during breaks.

This course provides **17 credit hours** for Radiation Protection Experts as established by the Italian D.Lgs 101/20.

Background

Nuclear and radiological applications are integral to daily life, providing stable energy, enhancing medical diagnoses and treatments, and optimizing industrial processes. As countries aim to expand these practices, it is crucial to equip professionals with the necessary knowledge and skills for the safe use of ionizing radiation. Radiation protection experts (RPE) and officers (RPO) play vital roles in safeguarding workers, the public, and the environment from radiation exposure. While many countries offer dedicated education and training for these roles, it is essential to adapt these programs to keep pace with evolving technologies. In response to the ICRP Vancouver Call for Action, EUTERP and AIRP are collaborating with Politecnico di Milano to enhance education and training in radiation protection.

Aim, objectives and methods

The event aims to equip participants with modern training methods for effective radiation protection. Conducted in English, it features theoretical classes and hands-on practical training, emphasizing interactive and technology-driven approaches, including Virtual Reality (VR), Augmented Reality (AR), and AI. Open to students and professionals in radiation protection, the course promotes innovative teaching techniques and cross-border collaboration in radiation safety, enhancing understanding of key safety concepts.

Tuesday, June 24, 2025 (morning)

| 09:00-12:00 | **EUTERP Board meeting** |

Tuesday, June 24, 2025 (afternoon)

| 13:30-14:00 | **Opening Addresses** |

Francesco d'Errico, Raffaele Zagarella (AIRP Polvani School)
Jan-Willem Vahlbruch (EUTERP)
Elena Macerata (POLIMI)

| 14:00-15:00 | **Systematic approach to training in radiation protection** Tom Clarijs (SCK-CEN) |

| 15:00-15:30 | Coffee break |

| 15:30-16:30 | **AI techniques in education** Giuseppe Anastasi (University of Pisa) |

| 16:30-17:15 | **IAEA E&T programs in RP** Andrea Luciani (IAEA) |

| 17:15-17:45 | **CBRN training programs in Rieti** Giorgio Guariglia (CBRN-School Rieti) |

| 18:00-19:30 | **EUTERP Associates meeting** |

Wednesday, June 25, 2025 (morning)

| 09:00-10:00 | **Developing Interactive Digital learning tools for radiation protection training** Wout Moerman, RadSchool (Radboud UMC) |

| 10:00-10:45 | **Virtual reality tools for education and training** Riccardo Rossa (SCK-CEN) |

| 10:45-11:15 | Coffee break |

| 11:15-11:45 | **An Improvement of a Laboratory Course: A Design-Based Research Approach** Charlotte Fischer (IRS/LUH) |

| 11:45-12:15 | **Digital twins for personal dosimetry** Marco Caresana (POLIMI/EURADOS) |

| 12:15-13:45 | Lunch break |

Wednesday, June 25, 2025 (afternoon)

| 13:45-14:45 | **Fair use of training data in medical radiation protection with or without AI** Hugo de las Heras Gala (EFOMP) |

| 14:45-15:30 | **Innovative Digital Trainings for Building a Proactive Safety Culture in the Nuclear Industry** Felix Möllerke (Framatome) |

| 15:30-16:00 | Coffee break |

| 16:00-16:30 | **The use of VR for training in interventional radiology** Hugo de las Heras Gala(BfS) |

| 16:30-17:15 | **Virtual Reality Experiments, Augmented Reality Tools and Interactive Screen Experiments (ISEs) as training-tools in RP** Tobias Weissenborn, Janne Hilberg, Hanne Schmitz, Milo Albrecht, Emily-Marie Zube (LUH/IRS) and Elena Macerata, Mario Mariani (POLIMI) |

Thursday, June 26, 2025

| 09:00-17:00 | **Using VR and AR: practical hands-on Training** Tobias Weissenborn, Janne Hilberg, Hanne Schmitz, Milo Albrecht, Emily-Marie Zube, Charlotte Fischer (LUH/IRS), Elena Macerata, Mario Mariani, Maddalena Negrin, Francesco Galluccio, Gabriele Magugliani, Ilaria Moschetti (POLIMI), Silas Fuchs (Northdocks), Felix Möllerke (Framatome) |

09:00-10:15	**Hands-on Training Part 1**
10:15-10:45	Coffee break
10:45-12:00	**Hands-on Training Part 2**
12:00-14:00	Lunch break
14:00-15:15	**Hands-on Training Part 3**
15:15-15:45	Coffee break
15:45-17:00	**Evaluation by participants**

Friday, June 27, 2025 (morning)

| 09:00-09:45 | **Training techniques of the European Qualification Framework** Silvio Mazzella (CBRN-School Rieti) |

| 09:45-11:00 | **Study, design, building and deployment of a CBRN XR Training Platform** Giampaolo Santini (CBRN-School Rieti) |

| 11:00-11:30 | Coffee break |

| 11:30-12:15 | **AI exercise and real-time evaluations** Andrea Malizia (Univ Tor Vergata) |

| 12:15-12:30 | **Closing** |

Organizing Committee

Francesco d'Errico
(AIRP Polvani School Director)

Jan-Willem Vahlbruch
(EUTERP Chairperson)

Mauro Magnoni (ARPA Piemonte)

Mario Mariani (POLIMI)

Elena Macerata (POLIMI)

Giorgio Guariglia (CBRN-School Rieti)

Raffaele Zagarella (CISAM)

Hielke Freerk Boersma (Univ Groningen)

Tom Clarijs (SCK-CEN)

Folkert Draaisma (NRG PALLAS)

Jorge Miguel Sousa Isidoro (ULS Coimbra)

Cristina Llorente (CIEMAT)

Sonja Schreurs (Uhasselt)

Course Secretariat

Debora Siqueira, Francesca Barco

scuola.polvani@gmail.com

Anna Prandstatter (AIRP – iscrizioni)

Tel. +39 01 119681544 info@airp-asso.it