SCK•CEN Academy training courses



Radiobiology

The multidisciplinary biological research on the effects of radiation performed at SCK•CEN forms the basis of our education and training courses in radiobiology.

These courses explain the effects of radiation exposure at the cellular and molecular levels in order to understand the effects on human health.

Theoretical lectures are complemented by a number of practical lessons and tutorials in the fields of cellular and molecular biology, bioinformatics, biomarkers, cell cultures, dissection, and microscopy.
Hands-on exercise sessions and technical visits to several SCK•CEN laboratories and to the animal facility are also included.

Themes

International policies
Our courses provide an introduction to the international advisory bodies (UNSCEAR and ICRP) as well as to the impact for U-workers and from legacy sites.

Low dose effects and non-cancer diseases
Courses emphasis on the individual susceptibility to ionizing radiation and the related non-cancer risks, thereby concentrating on effects induced on the cardiovascular system and the brain. The study on the impact of ionizing radiation on female gametes and on the development of the embryo is also a part of the course.

Oncology
Beside biological effects, an overview is given of the recent and current research in the field of oncology and an introduction to new technologies for cancer treatment such as hadrontherapy or nanobody-based molecular radionuclide therapy. Furthermore, lectures on cancer epidemiology, etiology, classification and hallmarks of cancer are also foreseen.

Space
Another module is devoted to space radiation and dosimetry as well as space health effects or the control and use of microbes to support human life in space.

High throughput technologies
High throughput methods in (epi)genetics are also introduced together with bioinformatics analysis during the courses.

Visit us at academy.sckcen.be for more information

Technical visits

- Radio- and microbiology laboratories
- Animal facility
- Space biology laboratories
- Dosimetry and nuclear calibration laboratories
- Anthropogammametry laboratory
- Alpha, beta and gamma spectroscopy laboratory
- Radioactive decontamination wing of the medical services

Methodology

All courses are tailored to the needs of the customer:

- The programme consists of one or more lectures and/or practical sessions in the themes mentioned above;
- Topics that are not listed above but that are SCK•CEN R&D subjects can also be offered;
- The level is adapted to the target audience;
- Courses are given in English, French or Dutch;
- Courses are given preferably at SCK•CEN's premises in Mol (Belgium) because of the availability of the specialized laboratories, and possibilities for hands-on exercises. Alternatively, if only theoretical classes are involved courses can also be given at the customer's premises.

Lecturers

Courses are given by top-level SCK•CEN scientists with solid expertise in their research domain. Furthermore, they have followed learning facilitator training sessions and can thus transfer their theoretical knowledge and practical experience to the course participants efficiently and effectively.

Target audience

The training courses in radiobiology are intended to train those who want to perform active research in radiobiology or who wish to acquire detailed knowledge of the effects of ionizing radiations on living matter.

Annual organisations

Summer school in radiation biology, specifically targeted towards pupils and Bachelor students.

Space summer school targeted towards MSc and PhD students.

2-week course in the frame of the European Master in Radiation Biology, targeted towards master and PhD students in life sciences.

SCK•CEN
STUDIECENTRUM VOOR KERNENERGIE
CENTRE D'ETUDE DE L'ENERGIE NUCLEAIRE

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