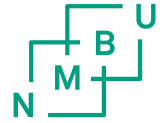


Development of Education and Training within Radioecology in Europe

Lindis Skipperud

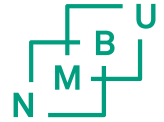
Center for Environmental Radioactivity (CERAD),
Norwegian University of Life Sciences (NMBU)

European MSc in Radioecology



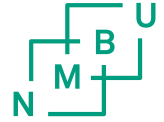
- In short, the EU MSc in Radioecology is a tailored two year, Bologna accredited (120 ECTS) MSc program
 - consisting of obligatory and voluntary stand-alone course modules,
 - with expert teachers from national and international institutions.
- At present the MSc is hosted at the NMBU. But, as for any EU MSc, students are free to obtain credits by taking ECTS accredited courses at other institutions and at collaborating universities.
- All courses are given in English and most courses are run intensively to make access possible for students from all over Europe.

Objectives



- The ultimate aim of the education and training parts of European MSc in Radioecology is to ensure a sustainable workforce in radioecology and radioecotoxicology.
 - to provide an internationally attractive research environment, and to produce candidates that are internationally competitive within radioecology and ecotoxicology.
- To do this we are dependent on interactions with the wider radioecology community:
 - through outreach to students, teachers, employers and employees, and other stakeholders outside of our networks.

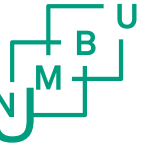
Objectives cont.



- Since radioecology is a multidisciplinary science, students on MSc or PhD projects in radioecology have a wide range of future career opportunities,
 - one of our goals is to put students in contact with potential employers and research projects,
 - as well as to ensure that training and education in radioecology meets the needs of those employers.

Projects on education and training

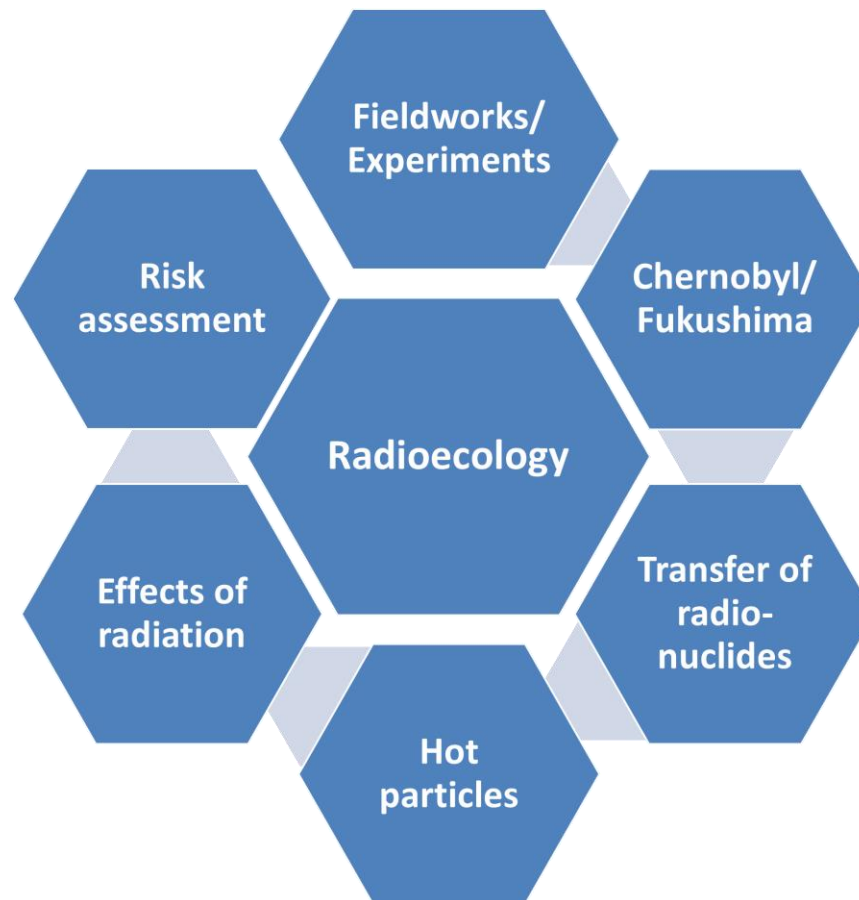
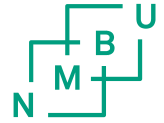
– the development of EU MSc at CERAD/NMBU



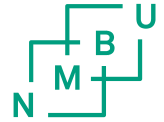
- FP6 EURAC – identified the need of an European MSc in Radioecology along with other nuclear disciplines
- FP6 ENEN-II – implemented the EU MSc in Radioecology at NMBU
- FP7 CHINCH – identified the content of an European MSc in Nuclear chemistry where Radioecology is one module
- FP7 STAR WP6 – education and training within Radioecology
 - revision and improvement of the EU MSC in Radioecology
- FP7 CHINCH-II – implementation of EU MSc in Nuclear Chemistry
- SIU – collaboration with Moscow State University, Russia, on radioecology education
- SIU – collaboration with Ukrainian Institute of Agricultural Radiology (UIAR), Ukraine, on radioecology education
- FP7 COMET – continue education and training within Radioecology
- FP7 CONCERT project – funding of specific courses within the MSc

Available courses

– whole range of topics available through our network

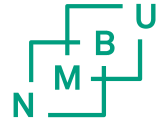


Goal: Cooperation with others



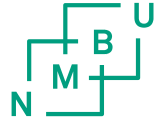
- Intensive courses
 - Make courses available for international students
- Bologna model – Academic merited
 - Make it possible for students to pick courses and put together an accredited MSc
- Research based education
- Research projects
 - Students to get research projects at collaborating universities/institutes
- Lecturers / supervisors
 - High Quality lecturers and supervisors from European Universities, Institutes and Authorities etc.
 - Experts giving lectures within their field of expertise.
 - Interaction with students
- Networking

European MSc in Radioecology



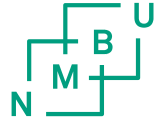
- Students from within Europe and outside have attended individual course modules or the whole MSc program.
- Expert teachers are also from institutions from different countries in Europe and in North America.
- Other MSc programs within CERAD focus areas are:
 - MSc in Chemistry, towards Radiochemistry and Environmental Chemistry
 - MSc in Environment and natural resources, towards Ecotoxicology

International Collaboration



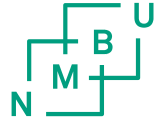
- Memorandum of Understanding – signed
 - Moscow State University, Russia.
 - National University of Life and Environmental Sciences of Ukraine, Ukraine.
 - University of Fukushima, Japan.
 - Chalk River, Canada.
 - Tomsk Polytechnical University, Russia.
 - University of Seville, Spain.
 - CIEMAT, Spain.
- Cotutelle agreement signed with
 - University of Seville (UoS), Spain, giving credits to both NMBU and UoS for common PhD student

International Collaboration



- Letter of intent – signed
 - Czech Technical University in Prague (CTU, Czech Republic),
 - Chalmers University of Technology (CHALMERS, Sweden),
 - University of Helsinki (UH, Finland),
 - Loughborough University (LU, United Kingdom),
 - University of Leeds (UNIVLEEDS, United Kingdom),
 - University of Oslo (UiO, Norway)
- ERASMUS+ Inter-institutional agreement
 - With all the above universities

Education and training platform

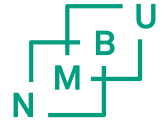


Information about the MSc program and courses can be found on NMBU web pages and CERAD web pages.

- But also on other education and training platforms:
- Radioecology exchange:
<https://wiki.ceh.ac.uk/display/radex/The+Radioecology+Exchange>
- CINCH Nuclear chemistry site:
<https://nucwik.wikispaces.com/>
- DoReMi training & education: http://www.doremioe.net/training_and_education.html

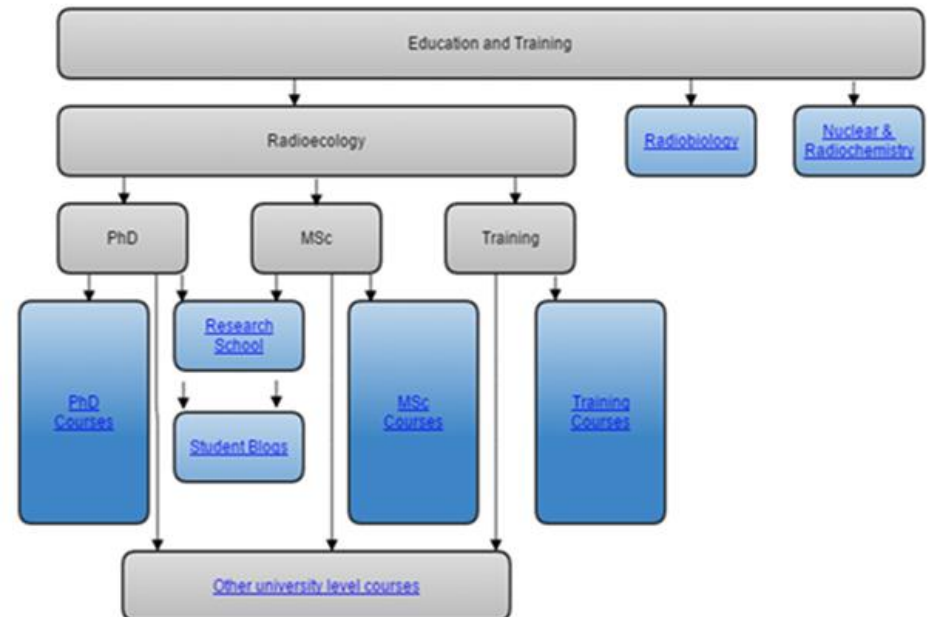
Radioecology Exchange

Education and training platform

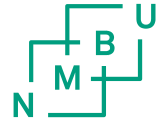


- Within the Radioecology Exchange webpage, CERAD has been involved in the development of the education and training platform:
 - The Radioecology Education and Training Platform is a website focal point for students and professionals interested in radioecology.
 - The platform presents an overview of education and training course modules within radioecology/environmental radioactivity presently offered by the radioecology network.
 - PhD network
 - Will continue as part of the Radioecology ALLIANCE

- <http://www.radioecology-exchange.org/content/training-education>



New funding for CERAD courses



- In 2016, CERAD applied and got funding from EC Euratom CONCERT project to further give two of our courses internationally:
 1. The KJM351 Experimental Radioecology course to be given in January 2017, and
 2. The KJM360 Environmental Risk Assessment course to be given in June 2017.

Conclusion

- The MSc in Radioecology at CERAD/NMBU is providing research based education and training at both national and international level
 - MSc level courses
 - PhD level courses
 - Training courses
 - (Workshops)
- Utilising the expertise we have both within CERAD/NMBU and in our international network

Thank you!

