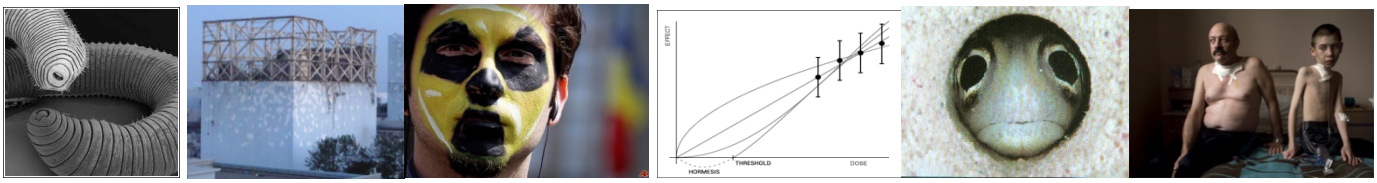
Assessing Risk to Humans and the Environment

10-20th June 2014, NMBU, Norway

Organised by the Centre for Environmental Radioactivity (CERAD), Norwegian University of Life Sciences (NMBU) and Stockholm University, supported by IUR, DoReMi and STAR



Course Aims and Overview

The aim of the course is to give students a grounding in the theory and skills needed to carry out environmental risk assessment for humans and non-human organisms. This will include hands-on training in some of the risk assessment tools and models. In addition to learning the basic theory and strengths of risk assessment and management, students are given insights into the assumptions, uncertainties and limitations of the tools and models. The central theme is environmental risk assessment, hence the main focus is the exposure of humans to radionuclides in the environment, as well as the exposure of non-human biota to ionising radiation. The course does not cover worker or medical exposures, although these themes are touched upon when the tools used are similar (e.g., radiation dose calculations and epidemiology). The course concentrates on the approaches used in radiation risk assessment and management, but it also covers the assessment of other chemicals and stressors. This provides nuclear science and radiation protection students with important insights into similarities and differences in risk assessment and management of ionising radiation as compared to other stressors. Topics covered include risk assessment approaches, international regulation and policy, risk communication and perception, and social and ethical aspects of risk management. It is open to students of environmental science, ecology and nature management, as well as those from nuclear sciences. Professionals and students may also attend parts of the course, for example the "Society, perception and communication", "ERICA Assessment Tool" modules.

Teachers: Per Strand (CERAD, Norway), Andrzej Wojcik and Clare Bradshaw (Stockholm University); Wataru Naito (AIST, Japan), Lawrence Kapustka (Canada), Justin Brown (NRPA/CERAD), Simon Carroll (Sweden) Richard Wakeford (Manchester University), Brian Wynne (Lancaster University), Mikihito Tanaka (Wasada University, Japan), Prof Deborah Oughton (CERAD/NMBU)

ECTS accreditation: Bologna Accredited 5 or 10 ECTS (depending on exam form).

Accommodation: Available on a first-come-first-served basis, and ranges from rooms in student residence halls to shared apartments and hotels. A limited number of accommodation support grants are available for MSc and PhD students.

Extracurricular activities: Various cultural activities, including films and a Midsummer Party will be organized for students.

Application Deadline 30th April 2014

Further information and application for the course: deborah.oughton@nmbu.no
www.star-radioecology.org www.doremi-noe.net

photos: takethesquare.net; news.kievukraine.info

Detailed course contents and modelling/assessment tool activities:

The course is mainly lecture based, with two days dedicated to hands-on training in modelling and assessment tools.

Monday 9th : Public Holiday
Day 1: Tuesday 10th
General Introduction + Human Risk Assessment and Radiological Protection for Ionising Radiation (Prof Per Strand CERAD/NRPA, Norway)
Day 2: Wednesday 11th
Morning: Assessing the impacts of radiation on humans (Per Strand, CERAD/NRPA, Norway)
Afternoon (Prof Deborah Oughton, CERAD/NMBU)
1: Ecological Risk Assessment: 2. Uncertainties in Environmental Risk Assessment (incuding group work); 3. Assessing risks from multiple stressors (*Literature: Suter, Ecological Risk Assessment, selected chapters*)
Day 3: Thursday 12th
Morning: Assessing doses, costs and remediation efficiency after Fukushima (Dr Wataru Naito, AIST Japan)
Afternoon: Assessing human radiation risk following high dose exposures (Prof Andrzej Wojcik, SU)
Day 4: Friday 13th
Morning/Afternoon: Epidemiology; Human Risk Assessment (Prof Richard Wakeford, Univ Manchester)

ERICA ASSESSMENT TOOL MODULE
Day 5: Monday 16th
Morning/Afternoon Ecological Risk Assessment: Chemicals and Radiation; Ecosystem Approach (Prof Lawrence Kapustka, Canada and Dr Clare Bradshaw, SU)
Day 6 and 7: Tuesday 17th – Wednesday 18th
Assessing Risks to Non-human biota: ERICA Assessment tool introduction and training sessions (Dr Justin Brown, NRPA and Boris Faclilia, Sweden)
SOCIETY, PERCEPTION AND COMMUNICATION MODULE
Day 8: Thursday 19th
Morning: International management and regulation of environmental risks – focus on OSPAR, etc (Dr Simon Carroll, Sweden, and former Greenpeace International etc.)
Afternoon: Social and Ethical Aspects of Radiation Risk Assessment and Management: Experience from Chernobyl and Fukushima (Prof Deborah Oughton, CERAD/NMBU, Norway)
Day 9: Friday 20th
Media and Communication after Fukushima (Prof Mikihito Tanaka, Wasada University, Japan) ; Risk, Uncertainty and Communication: STS studies (Prof Brian Wynne, University of Lancaster)

The ECTS exam is either a short exam after the course (5 ECTS credits) or a course assignment to carry out a risk assessment on either human or environmental case (10 ECTS). This can be the choice of the student or an assignment provided by the course tutors. Students are expected to spend one week on research for the risk assessment assignment, and will be given tutoring (distance) by the course teachers during this time.

Alternatively, provided that places are available, students or professionals can attend parts of the course (e.g. epidemiology; ERICA Assessment Tool; Society, Perception and Communication). Certificates of attendance can be provided, including accreditation (by IUR) as an ERICA Tool User.