

3-week training course on

“Radiation Epidemiology and Dosimetry - How to Quantify Radiation Risk”

Munich & Salzburg, January 09 – 27, 2017

A joint course between Helmholtz Zentrum München, Technische Universität München and Universität Salzburg

Supported by



About the Training Course

Dear Colleagues

The 3-week training course on "Radiation Epidemiology and Dosimetry – How to Quantify Radiation Risk" is jointly organized by the Helmholtz Zentrum München and the Technical University of Munich TUM, Germany under the umbrella of the 'CONCERT-European Joint Programme for the Integration of Radiation Protection Research' under Horizon 2020 that aims to contribute to the sustainable integration of European and national research programs in the field of radiation protection and supports innovative research projects in radiation protection.

During the course we will teach the concepts and designs of studies into the elucidation of the health effects of low, moderate and high radiation doses by epidemiological methods in suitable cohorts. Particular emphasis will be given to the methods and uncertainties of dose reconstruction from external and internal radiation exposure, the strength and weakness of different study designs, the analysis of competing risk factors and of individual susceptibility including molecular epidemiology methods. The relevant health consequences as studied with the epidemiological tools will cover both cancer as well as non-malignant diseases (cardiovascular, ocular and neurological disorders).

The course is open to postgraduate students and to scientists studying biological or medical aspects of ionizing irradiation in laboratories in the European Union. All lectures are given in English. Based on the great success of our previous Workshops in 2013 and 2014 we are able to present you a very interesting, balanced and multi-faceted program.

Welcome in Munich and Salzburg in January 2017!

Prof. Dr. Werner Rühm
Helmholtz Zentrum München

Prof. Dr. Klaus Trott
TU München

Ao. Univ.Prof. Dr. Herbert Lettner
Universität Salzburg

Registration

Please submit the following documents via e-mail before 10th December 2016

- Letter of application
- CV with a description of the scientific career
- Supporting letter from the supervisor/head of laboratory (only for PhD students)
- Confirmations of acceptance will be sent back immediately after the decision.

To:

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Please note that due to limitations at the visited external research sites there is a maximum number of 15 participants.

Organization of the Course

- Participants will get free accommodation and lunch on lecture days.
- Public transport and travel fees to the site visits will be covered.
- No course fee.
- A certificate of attendance will be issued to each participant at the end of the course.

Venue

Helmholtz Zentrum München
Deutsches Forschungszentrum für Gesundheit und Umwelt (GmbH)
Ingolstädter Landstr. 1
D- 85764 Neuherberg, Germany

University of Salzburg
Department of Physics
Hellbrunnerstrasse 34
Salzburg
A-5020 Salzburg, Austria

Preliminary timetable "Radiation Epidemiology and Dosimetry - How to Quantify Radiation Risk"		
Mo, 09.01.	11:00 13:00 15:00	Introduction to CONCERT course Principles of radiation Epidemiology Radiation doses of the A-bombs in Japan
Tue, 10.01.	10:00 13:00 15:00	The acute effects of the A-bombs in Japan The late effects of the A-bombs in Japan: leukaemia and cancer The late effects of the A-bombs in Japan: non-cancer effects
Wed, 11.01.	10:00 13:00 15:00	The implications of the RERF study on concepts of radiation risk and radiation protection legislation Radiation risks from medical exposure in diagnostic radiology Tutorial: radiation doses and radiation risks in medicine
Thu, 12.01.	10:00 13:00	A-bomb test explosion studies: Islands, Khasakstan Risks of occupational radiation exposure, Sellafield, Mayak et al.
Fr, 13.01.	10:00 13:00	Molecular radiation epidemiology Designing molecular biology studies in radiation protection research
Sa, 14.01.		*** no lecture ***
Su, 15.01.		*** no lecture ***
Mo, 16.01.	10:00 13:00 15:00	Doses and health effects of the Chernobyl accident: liquidators Doses and health effects of the Chernobyl accident: Population Doses and health effects of Techa River Population
Tue, 17.01.	10:00 13:00 15:00	Radiation exposures from nuclear power plants: (releases, air transport, transfer to food chain) Radiation risks from nuclear power plants: Clusters Radiation risks from nuclear power plants: INWORKS Study
Wed, 18.01.	10:00 13:00 14:00 16:00	Molecular biology of radiation-induced heritable mutations in germ cells Radiation genetics: Mendelian genetics, human population genetics Experimental models for radiation-induced mutation rates Risk of heritable diseases after radiation exposure of populations and individuals
Thu, 19.01.	10:00 13:00 15:00	Prenatal and postnatal development of human conceptus Experimental data on radiation-induced developmental defects in utero Radiation effects on prenatal and postnatal development of the human conceptus: risk assessment
Fr, 20.01	10:00	Dose specification in radiation protection: the "effective dose controversy"
Sa, 21.01.		*** no lecture ***
Sun, 22.01		Transfer to Salzburg
Mo, 23.01.	10:00 13:00	Radon in the environment Radon physics and metrology
Tue, 24.01.	09:00 13:00	Excursion to Bad Gastein and Bockstein Medical applications of Radon, biological mechanisms of radon therapy
Wed, 25.01.	10:00 15:00	Lab work: measuring samples Radon exposure and lung dosimetry
Thu, 26.01.	10:00 13:00	Lab work: measuring samples Lab work: Lung dosimetry
Fr, 27.01		Return to Munich
	13:00 15:00	Test of CONCERT course participants General discussion of CONCERT course