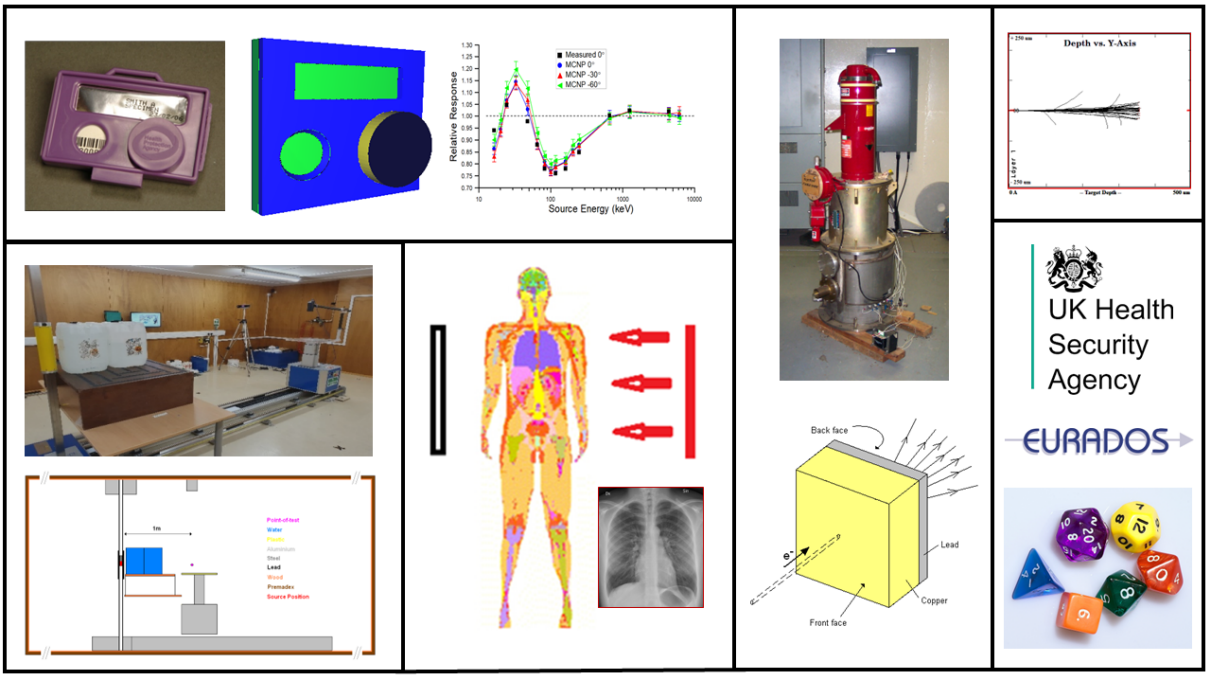
Side event - EURADOS Training Course: "Monte Carlo modelling: basic concepts, available resources, and applications in radiological protection"

Friday, 12th April 2024

organised by WG6 "Computational Dosimetry" (Jonathan Eakins)



We invite you to participate in the **EURADOS WG6 Training Course on " Monte Carlo modelling: basic concepts, available resources, and applications in radiological protection"**, which will be held on **Friday, 12th April 2023 from 9:00-13:00** as a side-event to the EURADOS Annual Meeting in Oxford, UK.

Monte Carlo modelling is a very widely used technique in radiological protection that can determine the passage and effects of radiation through matter, with applications spanning an enormous range of topics and contributing results to all of the EURADOS Working Groups. However, the Monte Carlo approach is not always well understood by those researchers who are not actively involved in it. The upcoming EURADOS short course aims to address this, by providing introductory lectures that explain what the Monte Carlo method is, summarize some of the computer codes that are available to achieve its ends, and highlight the large variety of projects that have benefited from its input. The course is aimed at individuals who have little or no experience of Monte Carlo calculations, but would be curious to learn how it could potentially enhance their areas of work.

Training Course Programme

09:00	Welcome, Introduction, Housekeeping (Jon Eakins)
09:05	'Introduction to Monte Carlo and the radiation transport algorithm'. (Jon Eakins)
10:00	'Monte Carlo codes for radiation protection. Part 1'. (Michaël Petit)
11:00	*Coffee Break*
11:30	'Monte Carlo codes for radiation protection. Part 2'. (Michaël Petit)
12:00	'Applications of Monte Carlo modelling'. (Roberto Versaci)
13:00	Q&A and End

Training Course Lecturers

Dr. Jon Eakins is a physicist working at the Radiation, Chemical and Environment Division (RCE) of the United Kingdom Health Security Agency (UKHSA). He has an MSci degree in physics from the University of Bristol, a PhD in mathematical physics from the University of Nottingham, and nearly twenty years' postdoctoral research experience in the dosimetry of external ionizing radiation with a particular focus on Monte Carlo modelling techniques using the MCNP family of codes. He has published over 60 peer-reviewed papers, on topics including: passive dosemeter and active instrument design; field characterization; shielding applications; dose quantities; dosimetry of microparticles; and emergency and retrospective dosimetry. He leads task groups in EURADOS Working Group 6 (*Computational Dosimetry*) and Working Group 10 (*Retrospective Dosimetry*). (jonathan.eakins@ukhsa.gov.uk)

Dr. Michaël Petit is a physicist working at the Laboratory of Micro-irradiation, Metrology and Neutron Dosimetry (LMDN) of the (French) Institute for Radiation Protection and Nuclear Safety (IRSN). He holds a PhD in physics. He has five years of experience in the field of nuclear engineering as head of a radioprotection/criticality calculation department. He has a research experience of fourteen years in nuclear physics and has published more than 15 peer-reviewed papers. He has extensive experience in MCNP for dosimetry and shielding applications and regularly gives courses for University or for the Nuclear Science and Technology Institute. He is a member of the French Society for Radiation Protection (SFRP) as well as a full member of EURADOS WG6 (*Computational Dosimetry*) and WG11 (*High Energy Radiation Fields*). He leads tasks in EURADOS about nuclear data for radiation protection. (michael.petit@irsn.fr)

Dr. Roberto Versaci is a physicist working for ELI ERIC at the ELI Beamlines facility (Czech Republic) where he is the head of the Monte Carlo group and works in radiation protection and detector development. He obtained his PhD in high energy physics at the University of RomaTre (Italy) and has more than 15 years' experience in Monte Carlo simulations. He is a member of the FLUKA.CERN collaboration. He has been working on field characterization, shielding design, radiation damage to electronics, active and passive detectors, and ionizing radiation generated by high energy lasers. He is a member of EURADOS Working Group 6 (*Computational Dosimetry*) and Working Group 11 (*High Energy Radiation Fields*). (roberto.versaci@eli-beams.eu)

Training Course Registration and Participation Fee

Please register before 26th March 2024:
https://eurados.sckcen.be/news-overview/eurados-training-course-wg6-monte-carlo-modelling-basic-concepts-available-resources-and-applications-radiological-protection-call-registration

Participation fee (no online participation possible) will be **125 €** with a 20 % discount (**100 €**) for **EURADOS sponsor organisations**, see www.eurados.org/sponsors).

The registration and participation fee for this Training Course are independent on the registration and fee for participation in the Annual Meeting.

Training Course Venue

The EURADOS Annual Meeting 2024 will take place in room 6 at:

Examination Schools, Oxford University

75-81 The High Street

Oxford, OX1 4BG

United Kingdom

https://www.venues.ox.ac.uk/our-venues/examination-schools/