CCRI WEBINAR – October 15, 2025 | 11:00-13:00 UTC

Challenges with Monte Carlo Simulation in Ionizing Radiation Metrology

Monte Carlo models of ionizing radiation detectors are critical in ionizing radiation metrology. Ways to support the establishment of a robust metrological traceability chain with calibration based on MC simulation will be discussed with a panel of speakers from different perspectives, including code development, primary standardization and practical end-users' needs.

You are welcome to submit your questions in advance by contacting:
romain.coulon@bipm.org

KCDB-sim: Enabling Metrological Traceability for Ionizing Radiation Simulations

Dr Frédéric Tessier
National Research Council Canada (NRC)

Frédéric was born in Montreal (Canada), shortly after the world population reached 4 billion. He studied physics in Montreal and Vancouver, before earning a PhD in Physics from the University of Ottawa in 2005 for modelling DNA molecules travelling in microfluidic channels. He then joined the Ionizing Radiation Standards group at the National Research Council of Canada to delve into Monte Carlo simulation of radiation transport and the EGSnrc software. He applies the laws of physics, and in return, the laws of physics apply to him. Frédéric has been to Monte Carlo.

Special Issues with Monte Carlo Simulation in Radionuclide Metrology

Dr Cheick Thiam
French Atomic Energy Commission (CEA)

Cheick graduated from the University of Clermont-Ferrand (France) with a PhD in Particle Physics. Since then he has pursued a career at the Laboratoire National Henri Becquerel within the CEA/List and has 16 years' experience in the field of radionuclide metrology and neutron metrology. As an expert scientist, his R&D activities are focused on nuclear instrumentation and Monte Carlo simulation for ionizing radiation transport in matter.

ISOCS: Monte Carlo Simulation for Germanium Detector Efficiency Calibration with Traceable Uncertainty Quantification

Dr Gabriela Ilie
MIRION Canberra

Gabriela is the Product Line Manager for Specialty Detectors and Education, as well as a Senior Application Scientist at Mirion Technologies. She specializes in developing custom high-purity germanium (HPGe) detector solutions for challenging and unique applications. She joined Mirion in 2012 as a physicist and has worked on a variety of projects offering physics support and carrying out validation and testing for different products, including HPGe detector modeling and ISOCS. Gabriela holds a PhD in Experimental Nuclear Physics and previously served as a Postdoctoral Researcher at Yale University. In the last few years, she has played an active role in promoting new technologies that assist customers in selecting the most suitable radiation detection and instrumentation solutions for their needs.

Mrs Kara Phillips
MIRION Canberra

Kara is a Product Line Manager with the Mirion Technologies Services Team. She has held several roles since joining in 2008, including Research Scientist supporting HPGe detector modeling and product line manager of the gamma spectroscopy software portfolio and ISOCS Software. Kara holds a bachelor's degree in physics from the University of Rochester.