



CCRI webinar: X-ray imaging dosimetry challenges

28 May 2024, 12:00 - 13:40 UTC

Chair: Paula Toroi, STUK, Finland

Medical X-ray imaging constitutes the most significant source of exposure to artificial ionizing radiation. Accurate quantification of radiation exposure, facilitated by calibrated dosimetry equipment, is imperative for ensuring patient safety and adherence to fundamental safety protocols. Calibration laboratories adhere to established standards and international protocols in their procedures. However, these protocols may not fully integrate recent advancements in technology and evolving clinical practices in X-ray imaging. Consequently, there is a pressing need for a critical evaluation of current calibration and measurement methodologies, as well as an update of relevant standards and protocols. This webinar offers an overview of the existing landscape in X-ray imaging dosimetry and proposes necessary updates to enhance accuracy and align with predefined objectives.



XMM technology before and today

Sören Sturesson, RTI, Sweden

Sören manages RTI's ISO 17025 accredited dosimetry calibration lab in Sweden. With almost 30 years of experience, he specializes in developing X-ray multimeters (XMMs) as an application and product specialist.



Relevant IEC standards

Wesley Culberson, IEC, USA

Wesley convenes the IEC Subcommittee 62C WG3, ensuring international safety standards for radiotherapy, nuclear medicine, and radiation dosimetry, including X-ray dosimetry. He also directs the University of Wisconsin Accredited Dosimetry Calibration Laboratory.



International code of practice IAEA TRS-457

Zakithi Msimang, IAEA

Zakithi, a Medical Radiation Physicist and SSDL Officer at the IAEA, also acts as the project officer for the Coordinated Research Project E24024, focused on evaluating dosimetry needs and practices for updating the Code of Practice for Dosimetry in Diagnostic Radiology (TRS-457).



Regulations on X-ray imaging dosimetry

Jenia Vassileva, Bulgaria

Jenia, a Bulgarian Professor of Medical Physics, retired as a Radiation Protection Specialist at the IAEA's Radiation Protection of Patients Unit after working there since 2014. She focused on projects enhancing patient safety, particularly in diagnostic radiology physics and radiation protection.



Medical Physics perspective

Olivera Ciraj Bjelac, IAEA

Olivera, an Imaging Medical Physicist at the IAEA, also serves as the alternate project officer for CRP E24024. With over 25 years of expertise in diagnostic radiology medical physics, dosimetry, and radiation protection, she transitioned from her previous role as a full professor at the University of Belgrade.



Calibration laboratory perspective

Helen Khoury, UFPE, Brazil

Helen is Professor at the Federal University of Pernambuco. She coordinates the Metrology Laboratory of Ionizing Radiation at DEN/UFPE and conducts research with a special interest in diagnostic radiology quality control and calibration.



Current efforts for improvement

Paula Toroi, STUK, Finland

Paula serves as the principal advisor at STUK's SSDL, overseeing ionizing radiation metrology in Finland. She also holds the role of coordinator for the EURAMET 22NRM01 TraMeXI project, dedicated to enhancing traceability in medical X-ray imaging dosimetry.