

March Webinar

Dosimetry Solutions for FLASH and SFRT Irradiation

28 March 2024, 17:00 – 18:30
CET/GMT+1

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*National Physical Laboratory
UK*

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Dr Anna Subiel joined the National Physical Laboratory in 2014 and is currently employed as Scientist in the Medical Radiation Science group. She also holds an Honorary Research Fellow appointment at the UCL Medical Physics and Biomedical Engineering Department. Anna is also member of several national and international scientific societies and organizations, including Institute of Physics (IOP), Radiation Research Society (RRS) and the European Society for Radiotherapy and Oncology (ESTRO). Anna has extensive expertise in pre-clinical radiation research, in particularly related to dosimetry and is currently leading the NPL's research activities focused on metrology for FLASH radiotherapy. Anna is contributing to a number of international initiatives related to FLASH radiotherapy, including ESTRO/AAPM Task Group 359 working on the recommendations for the ultra-high dose rate radiation

dosimetry. Dr. Giuliana Milluzzo is currently a temporary researcher at the Italian National Institute for Nuclear Physics (INFN), Catania Division.

She was working for more than 5 years at the INFN National Southern Laboratory in Catania on dosimetry, diagnostics and Monte Carlo simulations for proton therapy. Specifically in her PhD thesis she developed new diagnostics and dosimetric approaches for measuring the energy and the dose distributions of laser-driven proton beams along the ELIMED transport and dosimetry beamline developed at the INFN for multidisciplinary applications of laser-driven ion beams at ELI-Beamlines (CZ). She moved in 2018 in the United Kingdom where she obtained a post-doc position at the Queen's University Belfast (UK). Here, she was responsible for the dosimetry and the TOF diagnostics during radiobiological in-vitro experiments performed with high-energy laser-driven proton and carbon ion beams. Her main expertise is on radiation dosimetry with proton and electron beams at conventional and ultra-high dose rate beams and on Monte Carlo Geant4 simulations for medical applications, being also an official contributor of the International Geant4 collaboration. Currently she is working in the framework of the INFN FRIDA project and of the NRRP ANTHEM project on the development and the experimental characterization of new dosimeters for FLASH radiotherapy, mainly based on Silicon Carbide detectors and on calorimetry.

She is also responsible for the Work Package 3, dedicated to the reference dosimetry, of the INFN CSN5 funded "MIRO" (MINIBEAMS RADIOtherapy) national project, which aims to study the minibeam effect and its possible combinations with the FLASH effect.

***Principal Scientist
VSL Dutch Metrology Institute
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***Professor for Biomedical Radiation Physics
Institute for Applied Physics and Measurement Technology
University of the Bundeswehr, Munich, Germany***

Presentation Title: “The Challenges of Reference Dosimetry for FLASH Radiotherapy”
Presentation Title: “The Challenge of Dosimetry in SFRT”
Jacco de Pooter, based in Amsterdam, NH, NL, is currently a Principal Scientist at VSL Dutch Metrology Institute, bringing experience from previous roles at VSL Dutch Metrology Institute and Erasmus MC. Jacco de Pooter holds a 1996 – 2002 MSc in Physics @ Delft University of Technology. With a robust skill set that includes Radiation, Physics, Dosimetry, Radiation Therapy, R&d and more.
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