Webinar October

Exploring Biological Frontiers: Revealing the Potential of FLASH Radiotherapy

26 October at 17:00 – 18:30 CEST/GMT+2

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In Mexico, Paola Ballesteros-Zebadúa obtained her Master's degree in Medical Physics at the Institute of Physics of the UNAM, receiving the Alfonso Caso Medal for Merit. Later she got honours for her Ph. D. in Biomedical Sciences at the Faculty of Medicine of the UNAM. Thanks to a grant from the Mexican National Council of Science, she started radiobiology research at the National Institute of Neurology and Neurosurgery to investigate the undesired late effects of radiotherapy in the CNS. Her laboratory was the first in Mexico dedicated to applied neurosciences focused on brain response after conventional radiotherapy. In parallel, she has worked on diverse neuroscience topics and dosimetry for small-animal irradiation. In Mexico, she organized and participated in several workshops for medical specialists and medical physics students about topics in radiobiology. She is a regular radiobiology lecturer at the UNAM Mexico. She has also established close collaborations with other institutions and,

more recently, with Prof. Vozenin at CHUV, Lausanne, Switzerland, and Prof. Limoli at UCI, Irvine, USA. In collaboration with them and with an SNSF grant, she is now focused on exploring the feasibility of FLASH-RT as medulloblastoma treatment using orthotopic cerebellar injections of MB human cells in juvenile mice.Jessica Fleming, Ph.D. is a Radiobiologist within the department of Radiation Oncology at the Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute. She earned her bachelor's degree in Biology from Ashland University and her doctorate in Molecular, Cellular, and Developmental Biology from the Ohio State University. She currently serves on the Head Start 4/NEXT Consortium Trial Scientific Committee, the Advances in Radiation Oncology Editorial Board, and the FRPT International Committee and Advisory Board. Jess is a Co-investigator on four NCI CTEP protocols and leads the research efforts within the NRG Oncology Brain Translational Research Program. Her research focuses on identifying prognostic and predictive biomarkers in adult and pediatric CNS patients, as well as studying the mechanisms of chemoradiation response, resistance, and toxicity using in vitro and in vivo models. For the past three years, she has been leading the Radiobiology pre-clinical studies within the OSU FLASH Program, with the goal of understanding which disease sites most benefit from electron FLASH radiotherapy. Most recently a central focus for the OSU FLASH Program has been to evaluate the differential biological response between FLASH and conventional radiotherapy on normal skin and cutaneous cancers.**Presentation Title:** "FLASH for Non-Tumoral Disease"**Presentation Title:** "FLASH for Pancreas"**Presentation Title:** "FLASH-RT in Dogs"**Presentation Title:** "FLASH and Breast Cancer"Dr. Verginadis is a Research Assistant Professor in the Department of Radiation Oncology. He is a Molecular and Radiation Biologist by training, and he has extensive experience and publications in the fields of normal tissue response to radiation, development of clinically relevant

mouse models to radiotherapy, FLASH proton radiotherapy, tumor microenvironment and cancer biology.Dr. Taniguchi is an Associate Professor at UT MD Anderson Cancer Center, where he is a physician scientist who specializes in treatment of gastrointestinal malignancies, with a clinical and research focus on pancreatic cancer. He is a pioneer of ablative radiotherapy techniques in pancreatic cancer, he has developed novel technologies to reduce radiation injury to the nearby intestines, which often the dose-limiting toxicity of abdominal radiation. Towards this end, he collaborates with Dr. Emil Schueler to translate FLASH RT for the eventual treatment of pancreatic cancer. Dr. Taniguchi has been the PI on several innovative trials featuring the use of ablative radiation for locally advanced pancreatic cancer. Dr. Taniguchi's efforts as a clinician and scientist have been recognized with multiple grants from the NIH and CPRIT, as well from the V Foundation, Sidney Kimmel Foundation, Mark Foundation, and NASA. His excellence has been recognized with Young Investigator Award from the American Society of Clinical Investigation (ASCI, 2017), an AACR Cancer Research Early Career Investigator Award (2020), J.W. Osborne Award for excellence in radiation biology (Radiation Research Society, 2020) and was elected as a fellow of the American Association for the Advancement of Science (AAAS, 2022).I am a medical physicist and researcher from Lund University, Sweden. My research focuses on dosimetric and technical developments to enable a safe and precise delivery of ultra-high dose rates, as well as using canine cancer patients as models to study the clinical benefits of FLASH-RT.Pierre Montay-Gruel graduated in 2014 from the Ecole Normale Supérieure and Université Paris-Saclay in radiobiology. After a PhD and post-doc on the topic of FLASH radiotherapy, he joined the University of California as a post-doctoral fellow, working on new techniques to prevent radiation-induced normal tissue injury. In 2021, he joined Iridium Netwerk (Antwerp, Belgium) as a radiobiologist. In 2022, he participated in the creation of the Antwerp Research in Radiation Oncology (AReRO) group at the Centre for

Oncological Research (CORE) of the University of Antwerp, where he leads the radiobiology group. His research focuses on preclinical studies to increase the therapeutic window of radiation therapy, especially in the context of breast cancer treatment, including FLASH radiotherapy, cellular and molecular interventions.