MedAustron

Ion Therapy Center

Endorsed by ESTRO

ÖGRO

Particle Therapy Co-Operative Group

Radiation Oncology Online-Seminar

The-State-of-the-Art In Immunogenic Potential of Photon and Particle Radiotherapy

September 23, 2021 • 03.00 – 08.00 p.m. CET
Online-Seminar via MS Teams

Please register via events@medaustron.at, the participation link will be sent separately.

DFP credits granted

Outline:

The **abscopal effect,** together with the **bystander effect**, as a **hallmark of radiation-induced immune-mediated radiotherapy phenomena** is still a rare clinical event. Because of its pronounced therapeutic potential, there is currently a lot of interest on this topic, but also a lot of skepticism, which casts a shadow on this phenomenon because of the limited clinical evidence. Indeed, it is still difficult to generate these effects and gain their contribution in tumor control. Better understanding of why that is the case together with currently available evidence and outcomes would hopefully inspire scientists to continue hunting for abscopal effects.

In order to **present and to discuss the currently available data in regard to radiation immunogenic potential**, MedAustron is organizing an online seminar that will focus on novel and emerging unconventional approaches aiming to increase the radiation therapeutic ratio by boosting anti-tumor immune response. The goal is to bring together current leaders in the field to give talks that are experience-focused to foster learning, understanding, inspiration and wonder, provoking conversations that matter.

Organizing Committee MedAustron:

Dr. Slavisa Tubin, CHAIR
Director of Clinical Radiobiology,
Co-Scientific Director,
MedAustron Ion Therapy Center

Prof. Dr. Eugen B. Hug
Medical Director,
MedAustron Ion Therapy Center

Dr. Piero Fossati
Scientific Director Clinical Carbon Ion Program,
MedAustron Ion Therapy Center

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Scientific Program

All times are Central European Summer Time (CEST)
Each 20-minute talk is followed by a 5-minute Q&A session

03.00 Welcome Adress

Dr. Slavisa Tubin, Chair of the Organizing Committee
Prof. Dr. Ben J. Slotman, ESTRO President
Prof. Dr. Christoph Zielinski, CECOG President
Prof. Dr. Eugen B. Hug, PTCOG Past President

03.15 – 04.55 Session 1
Radiation-induced immune-mediated non-targeted effects: past, present & future

03.15 – 03.35
- **State-of-the-art in combination immuno/radiotherapy: hunting for abscopal effects**
  Silvia C. Formenti, Weill Cornell Medicine, Radiation Oncology, New York, USA

03.40 – 04.00
- **Overcoming the gap between preclinic and clinic: where did abscopal stuck in translation?**
  Sean Park, Mayo Clinic, Radiation Oncology, Rochester, Minnesota, USA

04.05 – 04.25
- **Importance of radiation dose and fraction in immunogenicity and immunomodulation**
  Mansoor M. Ahmed, National Cancer Institute, Program Director in Radiotherapy Development Branch, Rockville, USA

04.30 – 04.50
- **Immunogenicity and immunomodulation by carbon ions: (pre)clinical models, outcomes and developments**
  Alexander Helm, GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt, Germany

04.55 – 05.15
- **Interplay between the tumor hypoxia and anti-tumor immune response in presence of radiation**
  Chandan Guha, Montefiore Medical Center, New York, USA

05.20 Break

05.40 – 08.00 Session 2
Immunogenic potential of emerging unconventional approaches

05.40 – 06.00
- **Potentiation of Anti-Tumor Immunity by high-LET particles-carbon ions**
  Masaru Wakatsuki, Department of Radiation Medicine, QST Hospital, National Institute for Quantum and Radiological Science and Technolog, Chiba, Japan

06.05 – 06.25
- **Novel agents and emerging concepts in immunotherapy**
  Samir N. Khleif, Georgetown University, Immunology and Immunotherapy, Augusta, Georgia, USA

06.30 – 06.50
- **Specific anti-tumor immunity ensued by diffusing alpha emitters radiation (DaRT) inflicted tumor damage and its amplification by immune modulation**
  Yona Keisari, Tel Aviv University, Clinical Microbiology & Immunology, Tel Aviv, Israel

06.55 – 07.15
- **Potentiation of anti-tumor immunity by high-dose partial tumor irradiation targeting hypoxic segment (PATHY)**
  Slavisa Tubin, MedAustron Center for Particle Therapy and Research, Wr. Neustadt, Austria

07.20 – 07.40
- **Potentiation of Anti-Tumor Immunity by GRID and LATTICE therapy**
  Robert J. Griffin, UAMS Winthrop P. Rockefeller Cancer Institute, Radiation Oncology Department, Little Rock, Arkansas, USA

07.45– 08.00 Concluding Remarks

Slavisa Tubin, Chair of the Organizing Committee

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Learn more about the speakers

Mansoor M. Ahmed, PhD, is the Program Director in Radiotherapy Development Branch and lead organizer of Molecular Radiation Therapeutics Working Groups in Radiation Research Program at the U.S. National Cancer Institute. He promotes and manages a broad portfolio of grants and conducts cancer research outreach activities in India, China, and the IAEA. He received his Ph.D. from the University of Madras in Environmental Toxicologyn and was trained as a Monbusho Scholar at the Research Institute for Radiation Biology and Medicine, Hiroshima University, Japan. He has received his post-doctoral training at various universities in the U.S. and has established several Molecular Radiation Biology Programs. His primary research focuses involved employing various novel strategies to increase the therapeutic ratio. His major interest is in the best way to apply radiation fractionation schemes from a mechanistic standpoint. His work produced seminal contributions in various aspects of radiation therapy, resulted in novel clinical protocols and is reflected in more than 150 peer-reviewed publications and a co-authored book.

Dr. Silvia Formenti is Chair of the Dept. of Radiation Oncology, Professor of Radiation Oncology & Medicine, Associate Director of Translational Research at the Sandra and Edward Meyer Cancer Center, Radiation Oncologist-in-Chief at NewYork-Presbyterian/Weill Cornell Medical Center and Sandra and Edward Meyer Professor of Cancer Research at Weill Cornell Medicine. Dr. Formenti received her medical degree in Italy from the University of Milan. She is board certified in medical oncology, radiology and radiation oncology. Dr. Formenti is a recognized leader in radiation oncology and breast cancer research, specializing in combining radiotherapy with immunotherapy. Since joining Weill Cornell in 2015, she has initiated eighteen investigator initiated clinical trials that translate our preclinical findings to the clinic She has published more than 290 papers recognized by high-impact journals and received the ASTRO Gold Medal in 2019.

Robert J. Griffin, PhD, is professor of Radiation Biology at the University of Arkansas for Medical Sciences. His research focuses on normal and tumor microvasculature and using thermal or high dose radiation therapy for therapeutic gain. He is active in the GRID, Lattice and FLASH radiotherapy working group of the U.S. National Cancer Institute.

Chandan Guha, MBBS, PhD, is the Vice Chair of Radiation Oncology at the Albert Einstein College of Medicine (Einstein) and Montefiore Medical Center and Professor of Pathology, Urology, and Radiation Oncology at Einstein. He is also the founding director of Einstein's Institute for Onco-physics. Dr. Guha's research work is in the fields of immunology, radiation oncology, and liver diseases, and has been focused on two areas: 1. Immunotherapeutic approaches for cancer therapy, and 2. Use of regenerative strategies to repopulate injured tissue by use of stem cell-based technologies. As a clinician, he is also involved in treating prostate and liver cancers and is an investigator in several worldwide clinical trials.

Dr. Alexander Helm (PhD) is a PostDoc at the GSI Helmholtz Center for Heavy Ion Research, Biophysics Department, in Darmstadt, Germany. He has been working in particle radiobiology on different topics for over 12 years. His current research interest is the immunomodulatory effects of ionizing radiation, especially of particle radiation and the resulting potential for combined therapies. He investigates this applying different pre-clinical in vitro and in vivo models.

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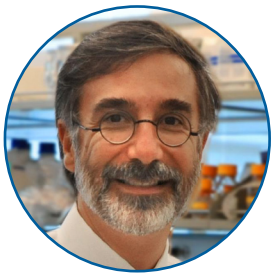
Dr. Yona Keisari Is Member and Professor Emeritus of the Dept. of Clinical Microbiology and Immunology at the Sackler Faculty of Medicine at the Tel Aviv University in Israel and Chief Scientific Officer and co-founder of Alpha Tau Medical in Tel Aviv. He is responsible for promoting and organizing clinical trials worldwide and for basic and translational research. His main research topics include the development of tumor ablation treatments by using DaRT, the activation of anti-tumoral immune reactivity with DaRT and the sensitization of tumor cells to alpha radiation. Prof. Keisari is co-author of over 90 peer-reviewed papers, several reviews and book-chapters and edited two books and three patents. He is one of the founders and past president of the "Israeli Society for Cancer Research" (ISCR), serves as the treasurer of the "International Cancer Microenvironment Society" and held a variety of management positions in national and international professional societies.

Dr. Samir N. Khleif is a Biomedical Scholar and professor in Medicine and Oncology at Georgetown University Medical School and the Director of the Center for Immunology and Immunotherapy and the Loop Immuno-Oncology Laboratory. He is a pioneer, a leading basic and clinical scientist and a key opinion leader in the field of immunotherapy and has served in various management positions of cancer institutes. Dr. Khleif has received many awards, is the author of numerous peer review articles, the editor of 3 books, the author of many, and the holder of more than 100 national and international patents and patent applications. He serves in an advisory capacity on both governmental and non-governmental expert bodies and sits on many national and international committees. His team currently works on exploring T cell plasticity and signaling engineering, mechanism of resistance of immunotherapy and strategies to reverse resistance, and development of novel immune-therapeutic approaches.



Sean S. Park, M.D., PhD, is an Associate Professor in Radiation Oncology at Mayo Clinic Rochester. After completing his undergraduate studies with Magna Cum Laude, his M.D./Ph.D. in immunology with Alpha Omega Alpha distinction and his residency as a chief resident at William Beaumont Hospital, he joined the faculty at Mayo Clinic. Dr. Park's clinical expertise include HDR brachytherapy, stereotactic body radiotherapy, image-guided radiotherapy, and intensity modulated proton therapy. His research theme is in improving clinical outcomes in patients with metastatic cancers. His complementary translational research focuses on the immune-induction effects of radiotherapy to develop novel treatments through a multidisciplinary team approach by combining the latest technology in radiotherapy – including proton therapy -- with immunotherapy to improve outcomes in metastatic cancer patients while safely minimizing side effects.

Dr. Slavisa Tubin is a board-certified radiation oncologist and scientific investigator, currently working as a director of clinical radiobiology and co-scientific director at MedAustron. His research interests include the use of radiation for induction of the immune-mediated non-targeted effects of radiotherapy. He is a principle investigator of ongoing prospective studies on induction of the abscopal and bystander effects among patients with oligometastatic and unrescetable bulky tumors. He graduated at the University of Rome "La Sapienza" in 2008, and then finished the residency-training also in Rome in 2012. During 2010-2011, he joined the University of Miami performing the preclinical in vitro / in vivo research on radiation-induced bystander and abscopal effects. The findings of those studies led to the development of a novel technique for partial tumor irradiation targeting the hypoxic segment of bulky unresectable tumors. He was awarded several times for these findings.

Dr. Masaru Wakatsuki currently serves as Director of the Department of Radiation Medicine at the QST Hospital, National Institute for Quantum and Radiological Science and Technology in Chiba, Japan. He graduated at Gunma University, where he subsequently also served as Assistant Professor. After a fellowship at the Harvard Medical School and a position at the National Institute for Radiological Sciences, he held a professorship at Jichi Medical University. Among other positions in various academic societies, he currently is Director of the Japanese College of Radiology. His field of expertise is the use of carbon ions in the treatment of gynecological malignancies.