

**MEDICAL APPLICATIONS
MONDAY APRIL 8, 2019 (AFTERNOON)**

**1:45 PM – 3:15 PM
LECTURE ROOM A**

Session Title: Measurement Needs for Validating Dosimetry Methods for Epidemiological Studies of Health Risks

Following Radiotherapy

Session Chair: Dr. Matthew Mille, National Cancer Institute, National Institutes of Health

Dr. Jeremy Polf, University of Maryland

Calibrating CT scanners for Patient Dose Calculations in Proton Beam Radiotherapy

Dr. Matthew Mille, National Cancer Institute, National Institutes of Health

Out-of-Field Dose Reconstruction for Studies of Health Risks Following Photon Radiotherapy When DICOM-RT Files Are Available

Dr. David Borrego, National Cancer Institute, National Institutes of Health

Out-of-Field Dose Reconstruction for Studies of Health Risks Following Photon Radiotherapy When DICOM-RT Files Are Not Available

Dr. Choonsik Lee, National Cancer Institute, National Institutes of Health

Overview of the National Cancer Institute's Radiation Epidemiology Branch and Key Challenges Faced when Reconstructing Patient Dose for Epidemiological Applications

Dr. Yeon Soo Yeom, National Cancer Institute, National Institutes of Health

Out-of-field Dose Reconstruction for Proton Therapy and Measurement of Secondary Neutron Dose

**3:15 PM – 3:45 PM
Coffee Break**

**3:45 PM – 5:15 PM
RED AUDITORIUM**

Joint Sessions: Medical Applications, Radiation Protection & Industrial Applications

Session Title: Chemistry and Biology of the DNA Damage and its Modification

Session Chair: Dr. Amitava Adhikary, Department of Chemistry, Oakland University

Dr. Michael Dingfelder, East Carolina University

Track Structure: Simulating the Physics and Chemistry Basis of Radiation Damage

Dr. David Becker, Oakland University

A Radiation Chemistry Track Structure Model in 3D for Ion-beam Irradiated DNA

Dr. Shubhankar Suman, Georgetown University

Role of Persistent DNA Damage Response in Heavy-Ion Space Radiation-Induced Carcinogenesis

Dr. Sudipta Seal, University of Central Florida

Understanding the Rare Earth Nanomaterials in Mitigation Radiation in Biological Environment

Dr. Jeffrey Buchsbaum, Radiation Research Program, National Institute of Health

DNA Damage and High LET Radiation and the Clinic – Biologic Dosimetry is the Goal

**MEDICAL APPLICATIONS
TUESDAY APRIL 9, 2019 (AFTERNOON)**

**1:45 PM – 3:15 PM
LECTURE ROOM A**

Session Title: Targeted Radionuclide Therapies (TRT)

Session Chair: Dr. Jacek Capala, National Cancer Institute, National Institutes of Health

Dr. Robert Hobbs, Johns Hopkins University

Radiation Dosimetry as a Biomarker

Dr. Sara St. James, University of California San Francisco

Radiation Dose: External Beam Radiation Therapy Conventions and the Evolving Field of Radiopharmaceutical Therapy

Dr. Yuni Dewaraja, University of Michigan

Patient Specific Dosimetry: To What Extent Can It be Simplified to Move from Research to The Clinic

Dr. Bryan Bednarz, University of Wisconsin

Implications of Heterogenous Dose Distributions for Radiopharmaceutical Therapy Revisited

Dr. Richard Wahl, Washington University

Patient-Specific Dosimetry: A Nuclear Medicine Physician Perspective

3:15 PM – 3:45 PM

Coffee Break

**3:45 PM – 5:15 PM
LECTURE ROOM A**

Session Title: Radionuclide Therapy and Standards

Session Chair: Dr. Wesley Culberson, University of Wisconsin

Elisa Napoli, Oncoinvent

Radium Isotopes as a Weapon Against Cancer

Dr. John Keightley, National Physical Laboratory, United Kingdom.

Recent Progress in Primary Activity Standards and Nuclear Data for Targeted Alpha Therapy

Dr. Brian Zimmerman, National Institute of Standards and Technology

Radioactivity Standards for Image-based, Patient-specific Nuclear Medicine Treatment Planning