

<b>UNIVERSITY OF MARYLAND DEPARTMENT OF RADIATION ONCOLOGY</b> <b>21st ANNUAL DR. KARL PRADO PHYSICS &amp; RADIOBIOLOGY REVIEW COURSE</b>		
<b>Radiobiology - Monday, May 6, 2024 (day 1)</b>		
7:50 - 7:55 AM ET	Sarah McAvoy, MD	Welcome Remarks from the Vice Chair of Education
7:55 - 8:00 AM ET	France Carrier, PhD	Opening Remarks - Radiobiology Portion
8:00 - 9:15 AM ET	Elaine Zeman, PhD	Radiation Induced DNA Damage and Repair & Chromosome Aberrations
9:15 - 10:15 AM ET	Gayle Woloschak, PhD, FASTRO	Cell Survival Curves
10:15 - 10:25 AM ET	<b>AM Break</b>	
10:25 - 11:25 AM ET	Jason Molitoris, MD, PhD	Cancer and Molecular Signaling
11:25 AM - 12:35 PM ET	France Carrier, PhD	Radiosensitizers, Radioprotectors, Bio-Reductive Drugs and ChemoRadiation Strategies
12:35 - 1:00 PM ET	<b>Lunch Break</b>	
1:00 PM ET	Return to the WebEx meeting	
1:00 - 2:00 PM ET	Gayle Woloschak, PhD, FASTRO	Cell Cycle, Cell & Tissue Kinetics, SLDR/ PLDR
2:00 - 3:00 PM ET	Zaker H. Rana, MD	Normal Tissue Damage - Total Body Irradiation
3:00 - 4:00 PM ET	Elizabeth Balcer-Kubiczek, PhD	Linear energy transfer, relative biological effectiveness, and oxygen effect - Radiobiology behind hadron radiotherapy
4:00 - 4:10 PM ET	<b>PM Break</b>	
4:10 - 5:25 PM ET	Elaine Zeman, PhD	The Tumor Microenvironment
5:25 - 5:55 PM ET	Constantino Koumenis, PhD	The Biology of FLASH
<b>Physics - Thursday, May 16, 2024 (day 2)</b>		
7:55 - 8:00 AM ET	Amit Sawant, PhD	Opening Remarks - Physics Portion
8:00 - 9:00 AM ET	Scott Hadley, PhD	Electron Beams and Interactions
9:00 - 10:00 AM ET	Scott Hadley, PhD	X-ray Interactions
10:00 - 10:10 AM ET	<b>AM Break</b>	
10:10 - 11:10 AM ET	Jochen Cammin, PhD	Medical Imaging and its Applications in Radiotherapy
11:10 AM - 12:10 PM ET	Kai Jiang, PhD	Linear Accelerators and Radiation Producing Machines
12:10 - 12:35 PM ET	<b>Lunch Break</b>	
12:35 PM ET	Return to the WebEx meeting	
12:35 - 1:50 PM ET	Yannick Poirier, PhD	Radiation Detection and Measurement
1:50 - 2:50 PM ET	Chaitanya Kalavagunta, PhD	Patient Simulation and Classical Treatment Planning
2:50 - 3:00 PM ET	<b>PM Break</b>	
3:00 - 3:30 PM ET	Lei Ren, PhD	Clinical Applications of AI in Radiotherapy
3:30 - 4:30 PM ET	Michael J. MacFarlane, PhD	Radiation Safety, Protection, Shielding and Quality Assurance
4:30 - 5:45 PM ET	Stewart Becker, PhD	Dose Ratios and Accelerator Monitor-Unit Calculations
<b>Radiobiology - Thursday, May 30, 2024 (day 3 AM)</b>		
8:00 - 9:00 AM ET	Minesh Mehta, M.B.Ch.B., FASTRO	Radiobiological Aspects of Alternative Delivery Strategies: Radiosurgery, Proton Therapy, Neutron Therapy
9:00 - 10:00 AM ET	Ioannis (Yiannis) Verginadis, PhD	Radiation-Induced Hereditary Effects, Teratogenesis and Radiation Protection
10:00 - 10:10 AM ET	<b>AM Break</b>	
10:10 - 11:10 AM ET	Elaine Zeman, PhD	Time, Dose, Fractionation & The Therapeutic Ratio
11:10 AM - 12:10 PM ET	Matthew Ferris, MD	Immunotherapy
12:10 - 12:50 PM ET	<b>Lunch Break</b>	
12:50 PM ET	Return to the WebEx meeting	
<b>Physics - Thursday, May 30, 2024 (day 3 PM)</b>		
12:50 - 2:05 PM ET	Todd McNutt, PhD, FAAPM	Advanced Treatment Planning (Advanced Dose Calculation Algorithms, MLCs, Inverse Planning, IMRT, Treatment Plan Optimization: Physical and Biological)
2:05 - 3:05 PM ET	Stewart Becker, PhD	Special and Advanced Treatment Procedures (SRS, SBRT, TBI)
3:05 - 3:15 PM ET	<b>PM Break</b>	
3:15 - 4:15 PM ET	Arun Gopal, PhD	Brachytherapy
4:15 - 4:45 PM ET	Sina Mossahebi, PhD	Proton Beam Therapy
4:45 - 4:50 PM ET	France Carrier, PhD	Closing Remarks