

**UNIVERSITY OF MARYLAND RADIOBIOLOGY & PHYSICS REVIEW
VIRTUAL COURSE PROGRAM**

Physics - June 11, 2021

7:30 - 8:00 AM EST	All Speakers	Zoom Setup
8:00-8:05 AM EST	Amit Sawant, PhD	Opening Remarks
8:10-8:25 AM EST	Scott Hadley, PhD	X-ray Interactions
8:30-8:45 AM EST	Scott Hadley, PhD	Electron Beams and Interactions
8:50-9:05 AM EST	Yannick Poirier, PhD	Radiation Detection and Measurement
9:10-9:25 AM EST	Amit Sawant, PhD	Medical Imaging and its Applications in Radiotherapy
9:30-9:45 AM EST	Sina Mossahebi, PhD	Proton Beam Therapy
9:50-10:05 AM EST	TBD	Dose ratios and Accelerator Monitor-Unit Calculations
10:10-10:25 AM EST	Yannick Poirier, PhD	Linear Accelerators and Radiation Producing Machines
10:30-10:45 AM EST	Chaitanya Kalavagunta, PhD	Classical Treatment Planning and Simulation
10:50-11:05 AM EST	Arun Gopal, PhD	Radiation Safety, Protection, Shielding and Quality Assurance
11:10-11:25 AM EST	Todd McNutt, PhD, FAAPM	Advanced Treatment Planning (Advanced Dose Calculation Algorithms, MLCs, Inverse Planning, IMRT, Treatment Plan Optimization: Physical and Biological)
11:30-11:45 AM EST	Stewart Becker, PhD	Special and Advanced Treatment Procedures (SRS, SBRT, TBI)
11:50-12:05 PM EST	Arun Gopal, PhD	Brachytherapy
12:05-12:50 PM EST	Break	
Radiobiology - June 11, 2021		
12:50-1:05 PM EST	Richard C. Miller, PhD	Cell Survival Curves
1:10-1:25 PM EST	David J. Grdina, PhD	LET, RBE, and OER
1:30-1:45 PM EST	David J. Grdina, PhD	Protectors, Sensitizers, Bioreductive Drugs and ChemoRadiation Strategies
1:50-2:05 PM EST	Richard C. Miller, PhD	Cell Cycle, Cell & Tissue Kinetics, SLDR/ PLDR
2:10-2:25 PM EST	Minesh Mehta, M.B.Ch.B., FASTRO	Radiobiological Aspects of Alternative Delivery Strategies: Radiosurgery and Proton Therapy
2:30-2:45 PM EST	Jason Molitoris, MD, PhD	Cancer and Molecular Signaling
2:50-3:05 PM EST	Elaine Zeman, PhD	Radiation Induced DNA Damage and Repair & Chromosome Aberrations
3:10-3:25 PM EST	Elaine Zeman, PhD	Time, Dose, Fractionation & The Therapeutic Ratio
3:30-3:45 PM EST	Zeljko Vujaskovic, MD, PhD	Radiation Induced Normal Tissue Damage
3:50-4:05 PM EST	Elaine Zeman, PhD	The Tumor Microenvironment
4:10-4:25 PM EST	Elaine Zeman, PhD	Radiation-Induced Hereditary Effect, Teratogenesis and Radiation Protection
4:30-4:45 PM EST	Isabel Lauren Jackson, PhD	Medical Aspects of Acute, Total Body Radiation Exposure