

UNIVERSITY OF MARYLAND RADIOBIOLOGY & PHYSICS REVIEW VIRTUAL COURSE PROGRAM

Radiobiology - October 23, 2020

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| 8:00-8:05 AM EST | Zeljko Vujaskovic, MD, PhD | Opening Remarks |
| 8:10-8:25 AM EST | Richard C. Miller, PhD | Cell Survival Curves |
| 8:30-8:45 AM EST | David J. Grdina, PhD | LET, RBE, and OER |
| 8:50-9:05 AM EST | David J. Grdina, PhD | Protectors, Sensitizers, Bioreductive Drugs and ChemoRadiation Strategies |
| 9:10-9:25 AM EST | Richard C. Miller, PhD | Cell Cycle, Cell & Tissue Kinetics, SLDR/PLDR |
| 9:30-9:45 AM EST | Minesh Mehta, M.B.Ch.B., FASTRO | Radiobiological Aspects of Alternative Delivery Strategies: Radiosurgery and Proton Therapy |
| 9:50-10:05 AM EST | Jason Molitoris, MD, PhD | Cancer and Molecular Signaling |
| 10:10-10:25 AM EST | Elaine Zeman, PhD | Radiation Induced DNA Damage and Repair & Chromosome Aberrations |
| 10:30-10:45 AM EST | Elaine Zeman, PhD | Time, Dose, Fractionation & The Therapeutic Ratio |
| 10:50-11:05 AM EST | Zeljko Vujaskovic, MD, PhD | Radiation Induced Normal Tissue Damage |
| 11:10-11:25 AM EST | Elaine Zeman, PhD | The Tumor Microenvironment |
| 11:30-11:45 AM EST | Elaine Zeman, PhD | Radiation-Induced Hereditary Effect, Teratogenesis and Radiation Protection |
| 11:50-12:05 AM EST | Isabel Lauren Jackson, PhD | Medical Aspects of Acute, Total Body Radiation Exposure |
| 12:05-12:45 PM EST | Break | |
| 12:45-12:50 PM EST | Varian video presentation | |
| Physics - October 23, 2020 | | |
| 12:50-1:05 PM EST | Scott Hadley, PhD | X-ray Interactions |
| 1:10-1:25 PM EST | Scott Hadley, PhD | Electron Beams and Interactions |
| 1:30-1:45 PM EST | Yannick Poirier, PhD | Radiation Detection and Measurement |
| 1:50-2:05 PM EST | Amit Sawant, PhD | Medical Imaging and its Applications in Radiotherapy |
| 2:10-2:25 PM EST | Sina Mossahebi, PhD | Proton Beam Therapy |
| 2:30-2:45 PM EST | Giovanni Lasio, PhD | Dose ratios and Accelerator Monitor-Unit Calculations |
| 2:50-3:05 PM EST | Yannick Poirier, PhD | Linear Accelerators and Radiation Producing Machines |
| 3:10-3:25 PM EST | Chaitanya Kalavagunta, PhD | Classical Treatment Planning and Simulation |
| 3:30-3:45 PM EST | Arun Gopal, PhD | Radiation Safety, Protection, Shielding and Quality Assurance |
| 3:50-4:05 PM EST | Todd McNutt, PhD, FAAPM | Advanced Treatment Planning (Advanced Dose Calculation Algorithms, MLCs, Inverse Planning, IMRT, Treatment Plan Optimization: Physical and Biological) |
| 4:10-4:25 PM EST | Stewart Becker, PhD | Special and Advanced Treatment Procedures (SRS, SBRT, TBI) |
| 4:30-4:45 PM EST | Arun Gopal, PhD | Brachytherapy |