“From Nuclear Physics Research to Clinical Medical Physics: A Physicist Working in Medicine for Cancer Treatment”

The applications of physics in medicine, particularly in radiation oncology, help to visualize and target cancer for treatment or cure. They provide some of the best examples of how fundamental physics research had led to impacts on improving human health and saving lives. In the first half of the talk, after introducing a few basic physics concepts that are used in radiation treatments of cancer, I’ll present both the current photon-based radiation treatments, including IMRT (Intensity Modulated Radiation Therapy), SRS (Stereotactic Radio-Surgery), SBRT (Stereotactic Body Radiation Therapy), and the emerging proton therapy including IMPT (Intensity-Modulated-Proton-Therapy) for cancer treatment. I will highlight the essential physics contributions and the cutting-edge technologies implemented in these highly-targeted and accurate cancer treatments. In the second half, I’ll present how a typical medical physicist career is developed through post-graduate training from medical physics residency and fellowship to the board certification by the American Board of Radiology (ABR). Besides closely working with radiation oncologists, medical physicists also collaborate with medical dosimetrists, radiation therapy technologists, health physicists and specialized IT-computer support professionals to assure safe-accurate-and-efficient delivery of the intended treatments to patients.

By
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Wednesday, November 13, 2019
4:00 – 5:00 p.m.
Roddy Hall, Room 149

Refreshments will be available at 3:30 p.m.
All invited to attend!

Please Contact Dr. Natalia Dushkina at 717-871-7445 or Natalia.Dushkina@millersville.edu if you have any questions.