

AbstractID: 6070 Title: Therapy Physics Research

It is a very exciting time to be engaged in Radiation Therapy Physics Research. From diagnosis and tumor delineation, to understanding tumor physiology and the influence of tumor environment and radiosensitizers on radiation response, to advanced treatment planning and delivery, on-board imaging, tumor response imaging, and adaptive radiation therapy, radiation oncology has tremendous research opportunities. Many of these potential research areas are appropriate for clinical support, but there are many that are appropriate for extramural funding, whether from corporate sponsors, government agencies, or research-oriented foundations. An important challenge to the aspiring researcher is to develop a career plan that will ultimately lead to the ability to lead a challenging and productive research program. This plan needs to include the development of unique skill sets and expertise, the "advertising" of that expertise via peer-reviewed manuscripts and presentations, development of collaborations with groups with complementary expertise and track records, and finally the development of a research track record. This forum will allow aspiring researchers the ability to discuss these issues with Dr. Daniel Low, Director of Medical Physics and a Professor in the Department of Radiation Oncology at Washington University.

Dr. Low earned his Ph.D. in 1988 in the field of experimental Nuclear Physics from Indiana University and spent two years as a postdoctoral fellow at M.D. Anderson Cancer Center. In 1991, Dr. Low joined the faculty at Washington University in radiation oncology physics at what was then the Mallinckrodt Institute of Radiology. Dr. Low spent the next 10 years developing his medical physics research skills before getting his first NIH R01. Since then, Dr. Low has been the PI on an additional R01 and an R21 and has coauthored more than 80 peer-reviewed publications. Dr. Low was instrumental in the clinical development of IMRT and is now engaged in research into modeling human breathing motion for purposes of radiation therapy treatment planning and delivery, and the development of a small-animal experimental conformal irradiator, called microRT. Dr. Low is a member and fellow of the AAPM.