A Full-Time Post Doctoral Associate position is available through the Department of Radiation Oncology at the University of Miami, Miller School of Medicine. The University of Miami, Miller School of Medicine is a multidisciplinary clinical and research center in the heart of Miami, FL. The post-doctoral fellowship advisor is Eric Mellon, MD, PhD (eric.mellon@med.miami.edu), board certified radiation oncologist with PhD in MRI physics.

The focus of this position is development, implementation, and analysis of low-field MRI for guidance of radiation therapy and early response assessment in brain cancer. The main goal of this project is to implement and optimize new quantitative techniques for low field on a hybrid MRI-guided radiotherapy machine such as Diffusion Weighted Imaging and Magnetic Resonance Spectroscopy. Additionally, the appointee will also be welcomed to work on other quantitative datasets, such as T1, T2 and T2* quantitative maps that were and are currently acquired.

The University of Miami has the fourth ViewRay 0.35T MRI-guided radiation therapy system in the world. Our established protocol uses daily multi-parametric MRI on the low-field MRI built into the ViewRay system for daily measurements of glioblastoma response during six weeks of chemotherapy and radiotherapy for adaptation of treatment for poorly responding cancers. Additional data is also obtained on high field MRI scanners (MRS, DWI and DSC) available within the neighboring Department of Radiology. While post-doctoral fellows are encouraged to seek their own funding for career development, the work and the post-doctoral fellowship position is funded for at least 3 years through an R37 MERIT award from the NIH to Dr. Mellon.

Minimum Requirements

Education: Ph.D. or equivalent in physics, bioengineering, neuroscience, or related fields

Experience

• Background in MRI physics and experience in MRI technique development necessary.
• Experience in the Siemens IDEA development environment preferred.
• History of scientific writing for research protocols, publications, and/or grants, preferred.
• Experience in analysis software such as: Matlab, IDL, ImageJ, etc preferred

Knowledge, Skills, and Abilities desired

• Knowledge of MRI physics
• Able to simulate expected signal output from MRI pulse sequences
• Knowledge of image analysis techniques
• Able to perform basic laboratory such as building of custom MRI phantoms
• Able to convey information effectively
• Able to work independently and effectively
• Strong analytical skills