



Memorial Sloan Kettering
Cancer Center



Postdoctoral Fellow / Research Scientist in MR-guided Radiotherapy (MRgRT)

The MRI Physics Group at Memorial Sloan Kettering Cancer Center (MSK) is seeking a Postdoctoral Research Fellow or Research Scientist in MR-guided Radiotherapy (MRgRT). The successful candidate will work under the direct supervision of Dr. Can Wu and will participate in MRI research activities within the group led by the Vice Chair of Research, Dr. Ricardo Otazo, in the Department of Medical Physics.

The primary goal of this position is to develop novel motion imaging techniques, such as 4D MRI, for motion-adaptive radiation therapy of high-risk thoracic and abdominal tumors. Specifically, we aim to develop motion-resolved MRI data acquisition methods (e.g., 3D radial sampling) and deep learning-based image reconstruction techniques to enable rapid 4D MRI reconstruction for treatment planning of tumors affected by respiratory motion, including those in the lung, pancreas, and liver. The work will involve developing and implementing novel algorithms for MRI data acquisition, image reconstruction, and image processing, as well as translating these techniques into clinical practice. In addition, there will be opportunities to pursue research in quantitative MRI methods for assessing treatment response across a range of tumor sites, including head and neck, rectal, gynecologic, liver, and pancreatic cancers in the context of radiotherapy.

The selected candidate will have the opportunity to work in a highly collaborative, multidisciplinary environment alongside clinical imaging and radiotherapy physicists, engineers, computer scientists, and clinicians within the Departments of Medical Physics and Radiation Oncology at one of the world's leading institutions in clinical cancer care and research. This collaborative environment offers unique opportunities to contribute to translational research, engage in innovative, cutting-edge projects, and collaborate with a multidisciplinary community dedicated to advancing MRI-guided radiotherapy and improving patient care and outcomes. The candidate will benefit from advanced imaging and computing resources, as well as opportunities to advance professionally and share research outcomes through conferences and publications.

Facilities:

- One Elekta Unity MR-Linac system (which includes a 1.5T Philips MRI scanner) and two 3T Philips scanners (Elition MR7700).
- Five high performance computer (HPC) servers with multiple GPUs for image processing and reconstruction, and deep-learning tasks.



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- Active research collaborations with Philips and Elekta for MRI sequence development and image reconstruction.

Requirements:

- PhD degree in physics, engineering, computer science, or related field
- Strong programming skills (e.g., Python, Matlab)
- Expertise in developing deep-learning models for imaging applications
- Experience in MRI data acquisition and image reconstruction (preferred but not required)
- A strong track record of peer-reviewed publications
- Highly motivated with the ability to work both independently and collaboratively
- Excellent written and verbal communication skills in English

To apply: Please submit your CV and any inquiries regarding this position to:

Can Wu, Ph.D.

Department of Medical Physics

Memorial Sloan Kettering Cancer Center

wuc4@mskcc.org

Salary range: \$72,071 - \$93,730

Salary and benefits will be commensurate with experience and the cost of living in New York City. The office is located on the Upper East Side of Manhattan, within walking distance of the MSK main campus hospital and the David Koch Center for Cancer Care at MSK, where the MRI and MR-Linac machines are located. Subsidized housing near the MSK campus is available for Postdoctoral Research Fellows.

MSK is an equal opportunity and affirmative action employer committed to diversity and inclusion in all aspects of recruiting and employment. All qualified individuals are encouraged to apply and will receive consideration without regard to race, color, gender, gender identity or expression, sexual orientation, national origin, age, religion, creed, disability, veteran status or any other factor which cannot lawfully be used as a basis for an employment decision.