

Postdoctoral Research Fellow/Associate, Medical Physics



Company overview

The people of Memorial Sloan Kettering Cancer Center (MSK) are united by a singular mission: ending cancer for life. Our specialized care teams provide personalized, compassionate, expert care to patients of all ages. Informed by basic research done at our Sloan Kettering Institute, scientists across MSK collaborate to conduct innovative translational and clinical research that is driving a revolution in our understanding of cancer as a disease and improving the ability to prevent, diagnose, and treat it. MSK is dedicated to training the next generation of scientists and clinicians, who go on to pursue our mission at MSK and around the globe.

Please review important announcements about vaccination requirements and our upcoming EHR implementation by clicking [here](#).

Exciting Opportunity at MSK: Postdoctoral Research Fellow/Associate, Medical Physics

As the **Postdoctoral Research Fellow/Associate, Medical Physics**, you will work on developing and implementing innovative deep-learning methods to improve MRI acquisition and reconstruction. This role focuses on creating new methods for acquiring and reconstructing images using deep learning, focusing on applying these techniques to clinical cases. The goal is to develop MRI acquisition and reconstruction techniques using artificial intelligence (AI) to shorten scan times without compromising image quality and to improve the quality of free-breathing scans for cancer imaging, including detection, diagnosis, and treatment response evaluation. The aim is also to integrate these new methods into the routine clinical MRI program at MSK in collaboration with industrial partners and clinicians.

The Department of Medical Physics consists of over eighty faculty physicists and computer scientists plus support staff working on various physical problems related to diagnosis and therapy for cancer, in partnership with radiologists, radiation oncologists, and other medical professionals. Medical Physicists in the diagnostic imaging physics track are actively engaged in several research programs that include molecular, MR and CT imaging as well as the new radionuclide therapies called theranostics.

Examples of Diagnostic Imaging & Theranostics

- Advanced MR acquisition techniques
- Motion correction
- MR fingerprinting
- Artificial intelligence
- Deep learning for image reconstruction in all imaging modalities

MSK is a World leader in imaging and theranostic research and supports one of the largest pre-clinical small animal core facilities in the United States that includes MR, PET, SPECT, CT, and ultrasound imaging equipment that provides a conduit for the translation of experimental techniques into clinical trials. Additional highlights include grant-funded research in quantitative MRI, hypoxia imaging, imaging drug delivery, and radionuclide dosimetry. Research and development in radiotherapy physics include the use of artificial intelligence for improved imaging and target localization, real-time tumor tracking, tissue segmentation, treatment planning, and adaptive radiotherapy.

Diagnostic, Nuclear, and MRI Medical Physicists play a key role in supporting all imaging devices throughout the MSK enterprise, maintaining and harmonizing acquisition protocols, troubleshooting image artifacts, and maintaining equipment accreditation and regulatory compliance. We support well over 500 imaging instruments that include 40 CT scanners, 21 MR scanners, and 17 PET scanners and work with

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radiologists in the selection of new imaging equipment and the implementation of new imaging techniques. Since diagnostic images are at the core of cancer diagnosis and response assessment, we have a strong philosophy to ensure that all imaging equipment throughout the network is operating at the optimum performance, per the overall mission of MSKCC to advance the state of cancer care. The MR lab conducts substantial research using cutting-edge clinical MRI scanners (1.5T and 3T GE Healthcare, 3T Philips, and 1.5T Elekta MR-Linac). The group also has access to high-performance computer servers with multiple GPUs to develop deep-learning reconstruction algorithms.

Key Requirements:

- PhD in Engineering, Computer Science, Physics, or a related area.
- A background in MRI physics, application of deep learning to MRI, signal processing, and efficient implementation are pluses.
- Experience in publishing papers is highly recommended.
- Excellent verbal and written communication skills are required.

Contact Info: If you have any questions about this job opportunity, please contact: Victor Murray, Ph.D. murrayv@mskcc.org

Pay range: \$72,071.00 - 93,730.00

Helpful links:

- [MSK's Compensation Philosophy](#)
- [Benefits](#)

Physician compensation is based on multiple variables. This range represents annual salary only and does not include supplemental performance-based pay or any one-time payments that eligible candidates may be offered at the time of hire. Salary will be commensurate with experience and the cost of living in New York City. Subsidized housing close to the MSK campus is available.

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.

Federal law requires employers to provide reasonable accommodation to qualified individuals with disabilities. Please tell us if you require a reasonable accommodation to apply for a job or to perform your job. Examples of reasonable accommodation include making a change to the application process or work procedures, providing documents in an alternate format, using a sign language interpreter, or using specialized equipment.