

R0079543

A Postdoctoral Research Associate position in advanced MRI acquisition, analysis, and modeling is available in the Department of Radiology at the University of Virginia School of Medicine, under the supervision of Dr. Merry Mani. The successful candidate will work on the development, validation, and translation of cutting-edge MRI techniques for imaging slow-flowing neurofluids and brain microstructure in the healthy human brain, with future applications in neurodegenerative disorders.

This position supports a broader effort to understand brain clearance mechanisms and their relationship to traumatic brain injury and long-term neurological health. The overarching goal is to create new imaging methodologies with improved sensitivity and specificity to study the interaction of neurofluids and neurodegeneration, along with detecting early microstructural changes, by combining advanced acquisition, reconstruction, and modeling approaches. The position is based in a state-of-the-art neuroimaging research facility that houses advanced 3T human and 9.4T preclinical MRI scanners, both equipped with ultra-high-performance gradient systems.

Qualifications: Applicants must hold a doctoral degree, preferably a Ph.D. in electrical engineering, biomedical engineering, computer science, medical physics, neuroscience, or a related field. While this is the preferred background, highly qualified candidates from other scientific disciplines will also be considered.

Candidates should have a strong analytical foundation and demonstrate a high level of creativity in problem-solving and research design. First-hand experience with MRI acquisition and reconstruction—particularly diffusion or dynamic imaging—is highly desirable, along with strong programming abilities in languages such as Python or MATLAB.

Experience with pulse sequence development is especially beneficial. Preference will be given to candidates who have prior experience in brain clearance research, glymphatic imaging, or traumatic brain injury. Familiarity with high-gradient MRI systems or multi-shell diffusion modeling, and hands-on experience with neuroimaging software such as FSL, ANTs, SPM, or AFNI, will also be considered advantageous. A demonstrated interest in translational neuroscience and the development of imaging biomarkers is highly valued.

Postdoctoral employment is normally limited to an individual who has been awarded a doctoral degree within the previous five years. This is a 12-month appointment with the possibility of renewal (for an additional two, one-year increments) contingent upon satisfactory performance and the availability of funding. Salary will be commensurate with education and experience.

This position is based in Charlottesville, VA, and is eligible for a hybrid schedule with several days on grounds per week and additional on-site presence as needed, in accordance with UVA's remote work guidelines.

For information on resources for postdocs at UVA, visit <https://postdoc.virginia.edu/>. To learn more about UVA and in the Charlottesville area, visit [UVA Life](#) and [Embark CVA](#). Background checks and pre-employment health screenings will be conducted on all new hires prior to employment.

HOW TO APPLY

Please apply [online](#), by searching for requisition number R0079543. Complete an application with the following documents:

- Resume
- Cover Letter

Upload all materials into the resume submission field. You can submit multiple documents into this one field or combine them into one PDF. Applications without all required documents will not receive full consideration.

Reference checks will be completed by UVA's third-party partner, SkillSurvey, during the final phase of the interview. For questions about the application process, please contact Jeremy Brofft, Senior Recruiter at xmf9ad@virginia.edu.

The University of Virginia is an equal opportunity employer. All interested persons are encouraged to apply, including veterans and individuals with disabilities. Click [here](#) to read more about UVA's commitment to non-discrimination and equal opportunity employment.