

Postdoctoral Research Associate in Intravoxel Incoherent Motion MRI*March 2026*

A full-time postdoctoral research associate position is available in the *Quantitative Imaging Methods Lab* within the Departments of Radiology and Medical Physics at the **University of Wisconsin School of Medicine and Public Health** (Madison, Wisconsin, United States). The successful candidate will be involved in a National Institutes of Health funded project focused on the development, validation, and translation of intravoxel incoherent motion (IVIM) MRI. The successful candidate will work closely with Diego Hernando, Ph.D. and Gregory Simchick, Ph.D. within a large multi-disciplinary team (see details below).

This project seeks to develop highly precise (repeatable and reproducible) IVIM quantification in abdominal organs, including the liver and kidneys, and to validate the developed methods using numerical simulations, machine-perfused explanted human organs, and in vivo volunteer and patient data. Technical developments will focus on IVIM acquisitions and post-processing methods, including diffusion and flow-encoding gradient waveform design, IVIM signal modeling, advanced fitting methods, confounder-correction, and motion-mitigation strategies. This project will also validate the clinical utility of IVIM using highly relevant applications, such as patients with chronic liver disease and/or portal hypertension.

Team: This position seeks highly talented and creative scientists/engineers to join a dynamic, collaborative, and diverse multidisciplinary team performing advanced MRI research. This position may include involvement in other non-IVIM related projects being conducted by our team, including relaxometry, fat and iron quantification, pulse sequence development including vendor-neutral pulse sequences, and AI methods for image reconstruction and workflow optimization. Our highly interdisciplinary team is comprised of engineers, scientists, post-doctoral fellows, students, and physicians from a wide variety of backgrounds including radiologists, hepatologists, endocrinologists, and surgeons across the University of Wisconsin campus. Our team collaborates closely with multiple industrial partners including GE Healthcare. We enjoy a unique laboratory environment located within the world-class Wisconsin Institutes of Medical Research embedded within the medical complex on the main campus of UW-Madison. We have access to state-of-the-art imaging equipment including 23 MRI systems, PET/MR, and advanced CT and ultrasound systems. Our team has a strong track record of developments that make an impact on research as well as in the clinic.

In brief, the postdoctoral position will involve

- Development and validation of IVIM MRI acquisition and post-processing methods
- Implementation, collection, and analysis of numerical simulation, phantom, ex vivo, and in vivo data
- Preparation and publication of scientific journal articles
- Attending and presenting research findings at scientific meetings
- Possible involvement in other non-IVIM related projects

Qualifications

- PhD in physics, biomedical engineering, electrical engineering, computer science, or a related field
- Background in MR physics with publications in the field
- Preferred (although not required) experience in diffusion-weighted imaging and/or IVIM MRI
- Preferred (although not required) experience in body MR

Next steps: Interested candidates should send an email to David Harris (david.harris@wisc.edu), Diego Hernando (dhernando@wisc.edu), and Gregory Simchick (gsimchick@wisc.edu), including their curriculum vitae and a cover letter highlighting relevant qualifications, experience, and motivation. Please also include contact information for 2-3 professional references and your available start date in your cover letter.

The Immigration Reform and Control Act of 1986 requires the University to verify the identity and work authorization of the successful applicant. Any offer of employment is contingent upon verification. The University of Wisconsin is an equal opportunity and affirmative action employer. We promote excellence through diversity and encourage all qualified individuals to apply.