

Postdoctoral Fellowship – Molecular Imaging of CEST MR Reporter Genes

A post-doctoral research fellowship is available in the Farrar lab at the Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital (MGH). This NIH-funded project seeks to develop improved MRI reporter genes and quantitative detection methods for imaging cell and viral based therapies. The successful candidate will work on both the optimization and characterization of the sensitivity and specificity of Chemical Exchange Saturation Transfer (CEST) reporter genes as well as the optimization of deep learning based CEST fingerprinting methods for quantitative imaging of reporter proteins. The developed reporter genes and CEST fingerprinting methods will be tested in preclinical tumor models treated with oncolytic viruses engineered with the optimized reporter genes. For more details about our research efforts, please see some of our recent publications.

- Perlman, et al., Magn Reson Med 2022. <https://doi.org/10.1002/mrm.29173>
- Perlman, et al., Nature Biomed Eng 2021. <https://rdcu.be/cBemp>
- Perlman, et al., Sci Rep 2020;10:20664. <https://doi.org/10.1038/s41598-020-77576-z>
- Farrar, et al., Radiology 2015;275(3):746-754. <https://doi.org/10.1148/radiol.14140251>

QUALIFICATIONS

The successful candidate will be a highly motivated researcher with a desire to pursue an independent research career in MR molecular imaging and machine learning. Candidates should have a PhD in biomedical engineering, biophysics, medical imaging, or related fields. Candidates with strong programming skills (Matlab, Python, C++) and experience in preclinical MRI are highly desired. Candidates should be enthusiastic about working in a fast-paced, interdisciplinary environment. The successful candidate will be able to work both independently and collaboratively in a multi-institutional project. Strong written and oral English communication skills are required.

APPLICATION

Interested applicants should send a cover letter describing research experience, interests, and future research and career goals, as well as an up-to-date curriculum vitae and contact information for three references, to Christian Farrar (cfarrar@mgh.harvard.edu).

This position is full-time with benefits and is available immediately. The Massachusetts General Hospital and Harvard Medical School are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, gender identity, sexual orientation, pregnancy and pregnancy-related conditions or any other characteristic protected by law.