



MASSACHUSETTS
GENERAL HOSPITAL



HARVARD
MEDICAL SCHOOL

**Postdoctoral opportunity in *Imaging system simulation/modeling and image reconstruction*
at the Massachusetts General Hospital and Harvard Medical School**

Position Description: Radiation Physics and Instrumentation Lab (RPIL) at GCMI-Radiology, Massachusetts General Hospital (MGH) and Harvard Medical School (HMS) has an opening for highly qualified and motivated individual at the post-doctoral level to join multidisciplinary team working on simulation and modeling of nuclear imaging scanners, and development of image reconstruction algorithms. Current active projects at RPIL (<https://scholar.harvard.edu/sabet>) are developing high-performance cardiac SPECT system, novel time of flight brain and small animal PET detector systems, photon counting CT detector, and multimodality time of flight intraoperative imaging system. The successful candidate will have joint appointments at MGH and HMS.

Roles and responsibilities: Successful candidate will work on development of parametric system modeling, and image reconstruction/analysis tools for PET, SPECT, CT, and Compton camera. The primary focus is on development of a complete reconstruction package which includes the iterative reconstruction engine, scatter correction, randoms correction, and implementing accurate system matrix (including depth of interaction) for a small animal PET scanner under development in our laboratory. The candidate is expected to prepare research results through reports, peer reviewed articles, conference proceeding, and intellectual property.

Requirements: Applicants must have obtained a Ph.D. in electronics, physics, biomedical engineering, or related fields. S/he must be self-motivated, should have strong problem-solving and communications skills. A good command of English is required. Applicants must have obtained a Ph.D. in Physics, Mathematics, Engineering, or related fields. Applicant's skill set must include quantitative skills, computer programming in C/C++, MATLAB for image reconstruction and familiarity with asymmetrical imaging system geometry. Proficiency in GPU programming, light transport simulation, GEANT/GATE simulation, reconstruction packages such as CASToR and STIR, and implementation of artificial intelligence techniques is preferred.

Application: If interested, please send a CV, letter of interest, and name of three reference to Dr. Hamid Sabet (hsabet@mgh.harvard.edu), Assistant Professor of Radiology at MGH-HMS. Review process will begin immediately and will continue until the position is filled. The initial appointment is for two years and can be renewed based on performance.

MGH & HMS are equal-opportunity, affirmative action employers.