



MASSACHUSETTS
GENERAL HOSPITAL



HARVARD
MEDICAL SCHOOL

**Postdoctoral opportunity in *Laser microfabrication, and optics-photonics engineering*
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 development of laser microstructured crystals, optics, and photonics devices. 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 primarily work on internal microstructuring of scintillator crystals using laser-induced optical barrier technique, development of combinational methods for laser microfabrication (such as surface and sub-surface ablation), laser texturing, design and fabrication of high aspect ratio metalens, and multi beam integration with beam steering system. 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 Physics, Optical engineering, Laser physics and engineering, or related fields. S/he must be self-motivated, should have strong problem-solving and communications skills. Applicant's skill set must include understanding of short pulsed laser interaction with matter, laser microfabrication, nonlinear optics, and optics/photonics design. Experience in direct waveguide writing, modeling of laser beam interaction with matter, use of galvo scanner, freeform optics, meta-surfaces, nano-photonics, zero-index optics, and Multiscale and Multiphysics simulation 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.