



University of California
San Francisco
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Department of Radiology &
Biomedical Imaging
185 Berry Street, Suite 350
San Francisco, CA 94107

POSTDOCTORAL POSITION IN INSTRUMENTATION AND RECONSTRUCTION FOR GAMMA-RAY IMAGING

The Physics Research Laboratory (PRL) in the Department of Radiology & Biomedical Imaging at the University of California San Francisco (UCSF) is looking for an outstanding and highly motivated postdoctoral candidate to lead the development of novel gamma-ray imaging technology. There are multiple positions under the supervision of Drs. Youngho Seo and Javier Caravaca to work on **one or several of these topics**:

- Design and development of the next generation of SPECT and PET detectors
- Exploration of cutting-edge gamma-ray detection technology for nuclear imaging, such as solid-state detectors (CZT, etc.) or modern photosensors (SiPM, MCP-PMT, etc.)
- Monte Carlo modeling of PET and SPECT detectors with Geant4 and GATE
- Conception and implementation of modern image reconstruction algorithms (Bayesian, AI, ML, DL, etc.)
- Quantitative data analysis for medical imaging and dosimetry

The candidate is expected to engage with and expand the broad research program of PRL, which covers from basic instrumentation development and data science research, to clinical and preclinical imaging applications in oncology, cardiovascular diseases and neurological disorders. Involvement in preparation of research proposals for funding applications is expected.

Essential requirements:

- A doctorate degree or equivalent in physics, engineering, applied mathematics, or any science/engineering field related to biomedical imaging.
- Familiarity with the principles of radiation detection.
- Analytical background with experience in data analysis in Python, C/C++ or Matlab.
- Ability to communicate your research and to work independently or in a team.
- Experience in medical imaging is **NOT** a requirement.

Desirable experience and skills:

- Experience in gamma-ray instrumentation: solid-state or optical detectors.
- Experience in Geant4 and/or GATE.
- Experience in algorithm development, in particular for image reconstruction.
- Independence and ability to develop their own original ideas.

To apply: please send CV and brief statement describing your interest and any relevant experience to: youngho.seo@ucsf.edu or javier.caravacarodriguez@ucsf.edu

The UCSF Department of Radiology and Biomedical Imaging, the birthplace of the combined dual-modality SPECT/CT technology, has a rich history of innovation and academic leadership. Significant advances in research by our department over the past decades have fostered new clinical, technical, and scientific developments in medical imaging and have garnered growing national acclaim for the quality and scope of our teaching, research, and patient care programs. The Center for Molecular and Functional Imaging (CMFI) at China Basin Landing, adjacent to the UCSF Mission Bay campus, positions the department for even greater advances over the next decades. The CMFI opened in December 2003 with the purpose of centralizing and enhancing both preclinical and clinical imaging research at UCSF. The CMFI is a state-of-the-art research and clinical facility and houses major research groups with basic and clinical science faculty members focusing in imaging probe development, instrumentation development, and translational imaging research. The PRL is an integral part of the CMFI research community, and possesses its own rich history in research excellence. Please see <http://www.radiology.ucsf.edu/physics> for more information on our research activities.