

Overview

We have an opening for an exceptional **Postdoctoral Scholar or Research Associate** with a background in magnetic resonance imaging (MRI) or spectroscopic techniques for biological applications with emphasis on oncology. Candidates with interest and experience in animal models, data analysis, computation are also suitable candidates for this project.

The scholar will be involved in development of **translational metabolic** markers of *tumor metabolism* in the Magnetic Resonance imaging laboratory of Dr. Renuka Sriram (<https://radiology.ucsf.edu/research/labs/translational-metabolic-imaging>). The breadth of studies will encompass the *chemical preparation of promising precursors* and its testing in *ex vivo* models, validation in cutting edge preclinical models of *urologic cancer*. Specifically, this announcement is for a funded position (for two years minimum) for development of metabolic imaging biomarkers of therapeutic efficacy using multinuclear (^1H , ^{13}C and ^2H) magnetic resonance in the field of bladder and prostate cancer. The studies will also focus on development of clinically pertinent *in vivo* murine models which will be used to identify and validate imaging markers of disease presence, severity, and treatment response. Another dimension of this project involves computational proficiency with data analysis kinetic modeling as well as multi-omics integration. A new emphasis of the lab is computational science application to various aspects of imaging biomarker development spanning from automatic tumor segmentation to integration of metabolomics (MS and NMR based), transcriptomics and proteomics. This is an exceptional opportunity to work alongside top-notch researchers in the field of metabolic imaging at the world-renowned center for DNP applications and development at the Hyperpolarized MRI Technology Research Center (HMTRC) at University of California, San Francisco (<https://hyperpolarizedmri.ucsf.edu/hmtrc-center>) as well as the Cancer Center.

Essential job functions

- The applicant should also be highly motivated with the ability to work with a dynamic team.
- Participate in scientific activities such as imaging optimization, troubleshooting, discussion of data analysis and modeling, standardization of measurements, experimental validation and quality assurance
- Conduct scientific research and actively contribute to publications in peer-reviewed journals and grant applications
- Help generate preliminary data for grant purposes
- Provide guidance and training to students and research staff

Qualifications

The ideal candidate would have a Ph.D. in biomedical engineering, bioengineering, biophysics, medical physics, or related scientific field required or be near completion of their degree or have vast experience in one of the areas 1) magnetic resonance imaging and/or spectroscopy technology or 2) Cancer murine models or 3) Computational Analysis

- Preferred qualifications –
 - Familiarity with computational tools (e.g. MATLAB, Linux, Python, R, PRISM)
 - Hands-on experience of mouse tumor models
 - Familiarity with biochemical and molecular assays
- Candidates with fervent interest in metabolism and its implication in diseases like cancer are encouraged to apply.

About UCSF Preclinical MR Imaging and Spectroscopy Core: The UCSF Preclinical MR Imaging and Spectroscopy Core in the Department of Radiology and Biomedical Imaging on the Mission Bay Campus of UCSF occupies 1660 sq. ft. and houses two high field (500 and 600 MHz with microimaging capability) Varian NMR spectrometers, a low field (3T) animal imaging system, a brand new 9.4T Bruker scanner and 1.5T bench top NMR (Pulsar™, Oxford Instruments) uniquely integrated with two HyperSense™ (Oxford Instruments) and SpinAligner (Polarize) DNP polarizers enabling cell /tissue culture and animal studies. The high field magnets have complimentary features, including high-resolution magic angle spinning spectroscopy and micro-imaging capabilities. We are strategically placed adjacent to the Surbeck Laboratory for Advanced Imaging which is equipped with two GE SPINlab polarizers and a GE 3T and 7T MRI with ¹³C coils and capabilities. We are also funded by the P41 center grant for hyperpolarized carbon-13 MRI. The department also has facilities for chemistry, cell and tissue molecular biology, and RF coil fabrication. More details can be found at https://radiology.ucsf.edu/research/core-services/preclinical_MRI_MRS_core

How to Apply: Interested applicants should submit 1) a curriculum vitae, 2) a brief statement of research interests (optional) and 3) a list of three references. Please send inquiries to **Renuka Sriram (Renuka.Sriram@ucsf.edu).**