**PreClinical Imaging Scientist**

A Scientist position is available in the development and application of multimodal positron emission tomography (PET) magnetic resonance imaging (MRI) and ultrasound in small animal models of disease. We are interested in an individual who is firmly grounded in MR imaging theory and practice with an interest in biological applications. This work will involve various PET, MR and focused ultrasound methodologies in rodent model systems; including DTI, DSC and DCE MRI; simultaneous µPET imaging with both small molecule, antibody, and nanoparticle tracers; and focused ultrasound manipulation while imaging. Small animal MRI facilities in the Functional Biological Imaging Core at Keck USC employ a 7T/24cm MR Solutions (Guildford, Surrey, UK) scanner with µPET insert and focused ultrasound instrumentation from Image Guided Therapy (Pessac, France). There are also facilities for MRI hardware development and data analysis.

The Scientist will support multimodal imaging efforts including MRI/PET applications using our dual µPET/µMRI scanner, implementation of MRI guided focused ultrasound (FUS) and quantitative analysis of MR images using an array of computational warping and statistical parametric analyses. Our current preclinical efforts with simultaneous µPET/µMRI include applications of β-amyloid and tau PET agent in mouse models of Alzheimer’s Disease, CAR-NK & CAR-T cell tracking studies in tumor models, development of multimodal nanoparticles, and investigation of blood brain barrier breakdown.

**Key Responsibilities:**

- Assist in all aspects of the acquisition, development and execution of complex pre-clinical imaging protocols for FBI Core users (faculty, post doctoral fellows, graduate students and research staff), with particular focus on Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET). Oversee maintenance and troubleshooting of pre-clinical imaging platforms.
- Provide training to faculty, staff, post docs, and students in complex pre-clinical imaging techniques including in vivo and ex vivo approaches and their respective data processing, analysis and interpretation.
- Maintain and establish SOPs and training material including safety training materials; contribute to billing support and IACUC compliance in collaboration with the FBI Core manager.
- Assist with Manuscript preparation, grant submission, and progress reports.

**Requirements:**

- MS or PhD in Biomedical Engineering, Physics, Chemistry or related scientific discipline
- Demonstrated expertise (e.g. publication record) using Bruker, Agilent, MRSolutions or other major MRI platform as a pre-clinical, scientific investigatory tool.
- Experience in image processing and post processing data skills. Experience and proficiency with some or all of the following software: MATLAB, Amira, FSL, ANTS, AFNI, SPM, DSImstudio, ITK-SNAP, MIPAV, ImageJ, Python, Perl, Word, Excel, PowerPoint and R preferred.
- Experience with and knowledge of advanced MR neuroimaging techniques is highly desirable, such as tensor imaging (DTI), arterial spin labelling (ASL), dynamic contrast enhanced (DCE) and/or dynamic susceptibility contrast (DSC) MRI.
- Rodent handling skills

**Respond at:**

https://usc.wd5.myworkdayjobs.com/ExternalUSCCareers/job/Los-Angeles-CA---Health-Sciences-Campus/Research-Associate_REQ20115430