Postdoctoral Fellow in Neuroscience

We are seeking to fill a postdoctoral scholar position available in the development and application of multimodal PET/MRI/ultrasound in small animal models of cancer and neurodegenerative diseases. 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 at Keck USC will be centered on a 7T/24cm MRSolutions (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 Postdoc Scholar will have the opportunity to be involved in several multimodal imaging efforts including MRI/PET agent development, applications using our dual μPET/μMRI scanner, implementation of MRI guided focused ultrasound (FUS) manipulations and quantitative analysis of MR images using an array of computational warping and statistical parametric analyses. Simultaneous PET/MRI is a truly synergistic merging of technologies. In particular, our work with agents visible in both modalities allows unequivocal identification of the multimodal agent within its anatomical context (MRI) at picomolar sensitivity (PET). “Unequivocal” because it must manifest in both modalities at the same place and time. Our current preclinical efforts with simultaneous μPET/μMRI involve applications of β-amyloid and tau PET agent in mouse models of Alzheimer’s Disease, as well as CAR-NK & CAR-T cell tracking studies in tumor models. With advent of clinical PET/MRI systems, agents and methodologies developed in this work will be directly translatable to patients.

If you have questions, contact me directly at jacobsr@usc.edu

Interested individuals please apply at: https://usc wd5.myworkdayjobs.com/ExternalUSCCareers/job/Los-Angeles-CA---Health-Sciences-Campus/Postdoc-Scholar-Research-Associate_REQ20035117