Postdoctoral Position in µPET/µMRI/FUS

A postdoctoral position is 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 MR Solutions (Guildford, Surrey, UK) scanner with µPET insert and focused ultrasound instrumentation from Image Guided Therapy (Pessac, France). There are also facilities for all aspects of MRI hardware development and data analysis.

The Fellow 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 NK & T cell tracking studies and elucidation of effects of focused ultrasound. With advent of clinical PET/MRI systems, agents and methodologies developed in this work will be directly translatable to patients.

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

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