Open Call for Post-doctoral Researcher in Functional Imaging

Multimodal Functional Brain Imaging Hub,
St. Jude Children’s Research Hospital, Memphis (TN), USA.

Contact: ranganatha.sitaram@stjude.org

The Employer: St. Jude Children’s Research Hospital has spent more than a half century conducting research into catastrophic diseases in children, including cancer, hematological disorders and various infections (e.g. pandemic viruses and HIV). St. Jude Children’s Research Hospital is the only National Cancer Institute designated Cancer Center that is dedicated solely to the research and treatment of pediatric malignancies. The mission of the Comprehensive Cancer Center at St. Jude Children's Research Hospital is to advance cures and means of prevention for pediatric cancer, the leading cause of disease-related death in children aged 1 to 14 years. The St. Jude Comprehensive Cancer Center supports several multidisciplinary research programs that are organized with the specific intent of translating basic science discoveries into curative therapies for children with cancer, while minimizing long-term side effects.

Multimodal Functional Brain Imaging in Pediatric Cancer: St. Jude is highly motivated to develop a novel research program to acquire cognitive and psychosocial data pre- and post-cancer therapy, for characterizing and predicting the effect of cancer and cancer-therapy on sensory, perceptual, cognitive and emotional aspects of brain function and behavior, and for developing interventions with brain modulation and stimulation techniques to reverse the adverse cognitive effect of pediatric cancer. This new program would heavily rely on the application of multimodal functional brain imaging which requires highly sophisticated imaging techniques, such as functional magnetic resonance imaging (fMRI), functional Near Infrared Spectroscopy (fNIRS), electro/magnetoencephalography (EEG/MEG) and brain stimulation combined with novel experimental paradigms. In addition, novel computational neuroscience and artificial intelligence methods including functional and effective connectivity, causality modeling, real-time imaging, brain-computer interfaces and neurofeedback would be key tools for scientific investigation and translational intervention in this new research program.

Candidate eligibility and requirements: We are looking for talented and motivated individuals to fill a post-doctoral researcher position to conduct research in functional MRI, real-time fMRI and related approaches to conduct cognitive neuroscience research in pediatric oncology. All candidates are expected to have
completed PhD or equivalent doctoral degree in neuroscience, biomedical engineering, biomedical sciences, electronic/electrical engineering, physics, mathematics, computer science, psychology, or related areas. Other strong requirements include demonstrated experience and ability to conduct experimental work on humans or animal models, skills in analytical and computational techniques, and excellent written and spoken communication skills. Candidates with demonstration of peer-reviewed journal publications, patents and conference presentations are preferred.