Job Type: Postdoctoral Fellow

Job Location: Center for Genomic Medicine, Massachusetts General Hospital

The <u>Karmacharya lab</u> is located in the <u>Center for Genomic Medicine</u> at Massachusetts General Hospital and part of the <u>Harvard Program in</u> <u>Neuroscience</u> and the <u>Harvard Chemical Biology program</u>. Our lab is interested in using innovative stem cell-based models to interrogate the molecular and cellular underpinnings of neuropsychiatric disorders with the goal of developing novel therapeutics for these disorders.

Job description: We are looking to recruit a highly motivated postdoctoral research fellow to join a multidisciplinary research group focused on studying synaptic plasticity in the context of the disease biology of neuropsychiatric disorders using human iPSC-derived neurons and brain organoids. The project will include mechanistic studies of synaptic plasticity with newly synthesized small molecules in human iPSC-derived cortical neurons and brain organoids from healthy individuals and patients. Techniques will include high-content microscopy, single cell transcriptomic experiments, proteomic experiments, and electrophysiological experiments with microelectrode arrays as well as CRISPR-mediated alterations to identify genes involved in modulating synaptic plasticity. This is a unique opportunity for working in a highly collaborative research environment at the interface of chemistry, biology, and therapeutic development. The work will involve close collaborations with the Chemical Biology Program at the Broad Institute. The fellow will have simultaneous academic appointments at Harvard Medical School and Massachusetts General Hospital.

Qualifications: Ph.D. in neurobiology, stem cell biology, cell biology, or related field required. Must have 1-2 years experience in working with stem cells and have demonstrated expertise in the use of fluorescence microscopy, flow cytometry, cellular imaging/microscopy, and molecular biology (RT-PCR, cloning, immunoprecipitation, western blotting). Additional expertise in the use of CRISPR, RNA interference and viral vectors preferred. Must possess excellent computer skills and be able to perform quantitative analysis of large data sets. Advanced statistics or programming skills a plus. Excellent critical thinking skills and attention to detail needed. Must be able to use sound judgment to effectively solve problems, work independently, and handle a variety of tasks. Requires effective oral and written communication skills along with meticulous laboratory technique and recording skills.

Interested applicants should send cover letter, curriculum vitae, and the names, telephone numbers, and email addresses of three references to: Rakesh Karmacharya, MD, PhD <u>karmacharya@mgh.harvard.edu</u>