

Postdoctoral Research Fellow in Molecular Neuroscience

The Petryshen laboratory within the Psychiatric and Neurodevelopmental Genetics Unit in the Center for Human Genetic Research at Massachusetts General Hospital (Boston, USA) is seeking a motivated and highly trained postdoctoral fellow to conduct neuroscience research to study psychiatric disorder risk genes in rodent and cellular models. Studies will focus on examining the function of a bipolar disorder risk gene in disease-related cellular and neural processes (e.g., stress response, neurogenesis, synaptic transmission) and mood-related behaviors. The position entails using expert scientific knowledge and technical expertise in molecular neuroscience to design and execute experiments using methods encompassing pharmacology, transgenic models, molecular cloning, cell culture, behavioral assays, gene expression, biochemistry, and microscopy.

The fellow will work in a world-class genetics-focused training environment consisting of clinical and basic research scientists who are leaders in human genetic studies of psychiatric and other multifactorial disorders, animal and cellular model studies of genetic diseases, and development of novel treatments. The fellow will have joint appointments at MGH and Harvard Medical School.

The projected start date is November 1, 2014. A two-year commitment is expected, with possible extension dependent upon grant funding.

Responsibilities:

- Evaluate effects of gene perturbation in neuronal cultures and mouse brain including transcriptome and protein analysis, assessment of neuronal morphology and function, evaluation of HPA axis activity, and behavioral analysis to determine the disease-relevant function of psychiatric risk genes.
- Present results in seminars and at conferences, generate data for fellowship and grant applications, and prepare scientific publications.

Qualifications:

- PhD in Molecular Neuroscience or a related field and at least 4 years experience in a rodent neuroscience research laboratory.
- Training in molecular biology and rodent neurobiology principles and methods including DNA/RNA/protein isolation and measurement (PCR, qRT-PCR, in situ hybridization, microarray and RNAseq transcript profiling, Western blotting, immunohistochemistry), molecular cloning, viral vector construction, culture and transfection of cell lines and primary neurons, antibody production, brain stereotaxic surgery, brain tissue fixation, sectioning, and microscopy (fluorescent and confocal), and behavioral analyses. Familiarity with psychiatric models is desirable.
- Experience with scientific and bioinformatics databases for characterizing gene structure, designing targeting constructs, measuring brain transcript and protein expression, and sequence analysis. Experience with statistical software and data graphics software.
- Demonstrated ability to design and conduct research with minimal instruction. Strong initiative to learn and develop new techniques, and resourceful in troubleshooting technical challenges. Highly motivated to work independently and within a team on multiple projects simultaneously in a multi-disciplinary fast-paced environment.

Interested candidates should email their CV and names of 3 references to Dr. Tracey Petryshen: petryshen@chgr.mgh.harvard.edu

Lab website: http://www.massgeneral.org/psychiatry/research/pngu_bio_Petryshen.aspx