**Postdoctoral Researcher – Molecular Mechanisms and Cellular Pathways Driving Viral-Induced Toxicity in the Developing Nervous System**

**Description**A position is open for a postdoctoral researcher with a strong background in molecular and cell biology to join the research laboratory of Dr. Matthew Shtrahman in the Department of Neurosciences at the University of California San Diego (UCSD). Applicants should hold (or soon receive) a Ph.D. in molecular or cell biology, virology, neuroscience, or a related discipline. The research project will investigate the molecular mechanisms and cellular pathways driving adeno-associated virus (AAV), zika virus, and other viral toxicity in neural stem/progenitor cells and the developing nervous system. The position is available November 1, 2022, and is located at UCSD in La Jolla, California.

**Research Description**

Major goals and objectives: to study how viral infection kills progenitor cells in the developing and adult nervous system and identify therapeutic targets for attenuating or reversing this toxicity. In addition, a major goal of the project is to work with collaborators to engineer AAV and its components to attenuate viral toxicity.

**Research Activity**

• Utilizing high throughput in vitro assays to quantify cell proliferation and cell death

• Pharmacological experiments to identify and confirm molecular targets involved in viral toxicity

• Immunohistochemistry, spatial transcriptomics, western analysis of protein and RNA expression

• Molecular techniques for characterizing viral activation of cellular and immune pathways

• Recombinant protein and DNA techniques

• Fluorescence microscopy of immunostaining in cell culture and tissue

• Work with wildtype and genetically engineered mice

• Prepare and write manuscripts for publication

**Requirements**Applicants should hold (or soon receive) a Ph.D. in molecular or cell biology, virology, neuroscience, or a related discipline. Applicants should have experience with 1) cell culture techniques, preferably human embryonic stem (ES) or induced pluripotent (IPC) derived stem cells; 2) molecular techniques, preferably recombinant DNA techniques and recombinant protein production. Applicants should also be comfortable working with animals and willing to learn to perform animal experiments (surgery, immunohistochemistry, breeding). Successful applicants should be highly self-motivated, have outstanding experimental skills, and be able to think independently but also work well in a collaborative team environment. At least one first-authored publication from previous research work is required to be eligible.

**Document Requirements**

• Curriculum Vitae - Your most recently updated C.V.

• Cover Letter

• 2-to-4 references (contact information only)

• First author publication

**About**

Dr. Shtrahman is a board-certified neurologist with graduate training in physics and Assistant Professor in the Department of Neurosciences at UCSD. Dr. Shtrahman’s lab is located at the Sanford Consortium for Regenerative Medicine on the UCSD campus. The Shtrahman lab develops and utilizes optical techniques to probe the function of hippocampal and neocortical circuits within the brain. Their research focuses on how developing neurons in the adult dentate gyrus encode memories in the brain and become altered in diseases of the nervous system. Recently work in the Shtrahman laboratory has shown that recombinant adeno-associated virus (AAV) attenuates adult neurogenesis in the murine dentate gyrus, which alters activity in this important brain region.

Through its location and its distinguished reputation, UCSD serves as the conduit for scientific dialogue throughout the region and has formed key partnerships with the [**Salk Institute**](http://www.salk.edu/), the [**Scripps Research Institute**](http://www.scripps.edu/), [**La Jolla Institute for Immunology**](https://www.lji.org/), and the [**Sanford/Burnham Institute**](http://www.sanfordburnham.org/), which are all located within walking distance or short bike ride from UCSD.

With approximately 140 faculty members, UCSD’s Department of Neurosciences is among the nation's largest and is among the nation’s leaders in NIH funding. The program's labs, medical centers and clinics are located in the heart of the San Diego life sciences district. The Department offers a rich training environment with is its unique blend of clinical neurologists and basic scientists. They collaborate in the diagnosis, management, and research of neurodegenerative diseases, especially Alzheimer's and Parkinson's diseases, Huntington's disease, Down syndrome, stroke, epilepsy, neuromuscular disorders such as ALS, metabolic disorders, and neuro-developmental disorders, including autism.

Publications available at:

Dr. Matt Shtrahman <https://www.ncbi.nlm.nih.gov/sites/myncbi/1PA7JdHfDHO5b/bibliography/45584990/public/>

For further information, please contact Dr. Matthew Shtrahman [mshtrahman@health.ucsd.edu](mailto:mshtrahman@health.ucsd.edu).

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or status as a protected veteran.