

## ASD Neuroscience Postdoctoral Position-Krogan Lab at UCSF

The Krogan (<https://kroganlab.ucsf.edu/krogan-lab>) and Kampmann (<https://kampmannlab.ucsf.edu/>) labs at UCSF and The Gladstone Institutes are jointly seeking an independent and creative researcher for a postdoc position to study the molecular networks underlying Autism Spectrum Disorders (ASD).

The Krogan lab has pioneered a systems biology approach, which combines proteomics and functional genomics to unravel mechanisms of disease and discover novel putative therapeutic targets. Historically, we have successfully applied our approach to infectious diseases to reveal host-pathogen interactions of various pathogens, e.g. HIV, Ebola, ZIKA, Tuberculosis and recently SARS-CoV-2, to name a few. Excitingly, we have recently expanded our disease-agnostic systems biology platform to neurologic disorders. Our current projects in the neuro space include mechanisms of Tauopathies (Alzheimer's Disease, Frontotemporal Dementia), Pain, and our Psychiatric Cell Mapping Initiative (PCMI) (<https://pcmi.ucsf.edu/>). PCMI aims to systematically map the physical and genetic interaction networks underlying ASD, Tourette, epilepsy, schizophrenia and other neuropsychiatric disorders and identify key molecular pathways that can be targeted pharmacologically. PCMI is supported by a Collaborative U01 award as part of the Convergent Neurosciences Consortium at the National Institute of Mental Health (NIMH) at National Institutes of Health (NIH) and includes a team of geneticists, structural biologists, neurobiologists, systems biologists, and clinicians.

The Kampmann lab spearheaded the development of innovative CRISPR-based functional genomics platforms for genome-wide screens and genetic interaction maps in mammalian cells to understand cellular and molecular mechanisms of human diseases, and to discover new therapeutic strategies. Genetic interaction maps reveal functional pathways in normal and disease states of cells, and complement physical protein-protein interaction maps. Recently, we have enhanced this platform by developing CRISPR-based technologies enabling both loss-of-function (CRISPRi) and gain-of-function (CRISPRa) genome-wide screens in human iPSC-derived cells, including neurons and glia. A major focus of our research are neurodegenerative and neuropsychiatric diseases. Together with the Krogan lab, we are part of PCMI and collaborate on Tauopathies, among other disease areas.

Our projects leverage a wide array of experimental approaches with a collaborative infrastructure necessary for long-term investigation. To add relevant expertise to our labs, we are seeking a highly motivated neuroscientist with an interest in systems biology and the desire to contribute to a collaborative and fun environment. As part of PCMI, you will lead efforts in discovering interaction networks connecting ASD risk genes and functionally characterizing selected molecular interactions in relevant cellular systems. You will attend lab meetings and learn new skills in both the Kampmann and Krogan labs.

**Required qualifications:**

- Ph.D. in neuroscience, stem cell biology, or a related field.
- Expertise with human iPSC maintenance and differentiation to neural cells.
- Experience in Neuroscience.
- Experience with cell/molecular biology and biochemistry techniques (e.g. cell cultures of mammalian cells, molecular cloning, transfection/transduction, protein purification, western blotting).
- Record of publication in peer-reviewed journal(s).
- Excellent problem-solving skills including critical and analytical thinking.
- Excellent communication, leadership, and project management skills.
- Ability to independently design and execute experiments, interpret data, and identify appropriate follow-up strategies.
- Ability to thrive in a multidisciplinary, collaborative environment.
- Desire to learn unbiased proteomics and CRISPR-based functional genomics approaches.
- Highly motivated, curious and detail-oriented scientist.

**Preferred qualifications:**

- Experience with immunofluorescence, microscopy and imaging.
- Experience with CRISPR or siRNA-based functional genomics approaches.
- Background in neuropsychiatric, neurodevelopmental or neurodegenerative diseases.

Apply by sending the following to Kirsten Obernier ([Kirsten.obernier@ucsf.edu](mailto:Kirsten.obernier@ucsf.edu)), Associate Science Director to Professor Nevan Krogan:

- Current CV
- Cover Letter
- Two Reference Contacts

We are looking forward to hearing from you!