We are interested in understanding the cellular and circuit basis of motor control, particularly in the context of movement disorders such as Parkinson’s Disease and Dystonia. In these conditions, the basal ganglia and connected structures, which govern normal motor control, are dysfunctional, leading to loss of normal movements and/or the generation of involuntary movements. We use a combination of mouse models of disease, optogenetics, behavior, and slice and in vivo electrophysiology to identify aberrant synaptic connections or patterns of activity which contribute to disease phenotypes. We hope that by identifying the underlying cellular and synaptic mechanisms, new treatments can be developed for these disorders.

**Current Areas of Interest**

- Cellular and circuit mechanisms of motor function and movement disorders
- Cognitive and behavioral functions of the basal ganglia
- Striatal synaptic plasticity
- Basal Ganglia microcircuits

**Lab Openings**

We’re currently accepting applications for the following positions:

- Postdoctoral Fellow
- Research Assistant

Please send all inquiries to Alexandra Nelson at alexandra.nelson@ucsf.edu.