

Summer Connectomics Internship for Outreach Neuroscience (SCION)

Dates: Jun/05/2023- July/28/2023

Overview

This research project is a collaboration between the Engert and Lichtman labs at Harvard, with a goal to produce the world's first map of an intact vertebrate animal's nervous system - a three-dimensional version of Google Maps, but for the brain of a larval zebrafish.

Program description

What does the brain's wiring tell us about its function? You will begin answering this question by reconstructing zebrafish neurons from high resolution electron microscopy images and you will consider your findings in the context of ongoing zebrafish behavioral experiments. [“The Brain Mappers”](#) documentary made by the Boston Museum of Science gives a glimpse at the type of summer research questions we will be after.

You will be part of a larger student team, but you will work individually or with a partner and focus on a specific neural circuit question. You will gain expertise in reading and interpreting electron microscopy images and understanding of how behavioral experiments lead to neural circuit models which can be tested with connectomics data. We will invite a guest scientist weekly for an informal conversation with the student team about science and what it is like to be a scientist. Students will participate in team workshops on writing and communication and will practice these skills via lightning talks and abstract writing.

Importantly, **the students will be the primary contributors** to testing circuit models against the wiring diagram of a vertebrate brain.

We expect exciting surprises and discoveries.

Who can apply?

To apply you must be at least 16 years old as this is a paid internship. No prior experience in research or programming is necessary. **We assume zero knowledge and will teach you everything you need.** All that we ask from you is to bring attention to detail and enthusiasm!

How to apply?

Please email Mariela Petkova at mpetkova@fas.harvard.edu with a couple of sentences introducing yourself, why you are interested in the internship, and a couple of times when you are available to meet!

