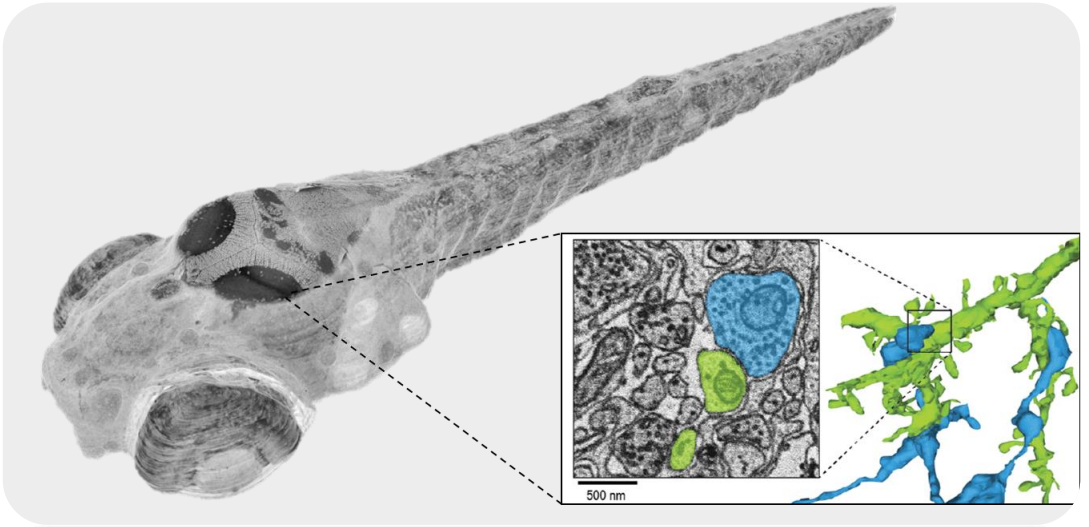
Virtual summer internship program in zebrafish connectomics



Dates: Mid June to mid August 2021

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. 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. Two mentors will help you gain expertise in reading and interpreting electron microscopy images (Mariela Petkova), and understanding of how behavioral experiments lead to neural circuit models which can be tested with connectomics data (Engert lab member).

To put your work in a broader scientific context, you will be invited to attend the Lichtman (Tues) and Engert (Fri) lab meetings. We will also invite a guest scientist every Monday for an informal conversation with the student team about science and what it is like to be a scientist. The student team will meet on Wednesdays when we will have team workshops on writing and communication and opportunities to practice these skills via lighting talks and abstract writing. At the end of the internship the team will present at the Engert lab meeting!

Importantly, the student team will be the primary **contributors** to the first wiring diagram of a whole vertebrate brain.
We expect exciting surprises and discoveries.

What experience do you need?

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!