

Bi/BE 227 Winter 2020

### **Assignment #3**

Building a Light Sheet Microscope

#### **Schedule:**

Jan 20: Assignment

Jan 20-Mar 9: Work on assignment

Mar 9: Present light sheet images

#### **Goals for this week**

Begin building light sheet microscopes

#### **INSTRUCTIONS:**

This week you will begin building your light sheet microscopes. We will supply all the parts you need for building your light sheet. The instructions (including videos) are located on the [openspim.org](http://openspim.org) website. The original openSPIM paper from Nature Methods in 2013 is on the course website. The light sheet instructions on week 9 are some practical instructions from a former student in the class, Josh Brake. These can help you trouble shoot some common difficulties. You will have the remainder of the quarter to complete the microscope culminating in presentations of images collected with it.

You will work on the building as a group and receive credit for this assignment once each member of your group has presented a representative image collected with your microscope and commenting on your experience.

We can provide you with samples (fluorescent beads, zebrafish embryos, etc.), however, this could be a fun opportunity for you to try out light sheet microscopy with whatever samples you work with in your own lab and this is encouraged.