

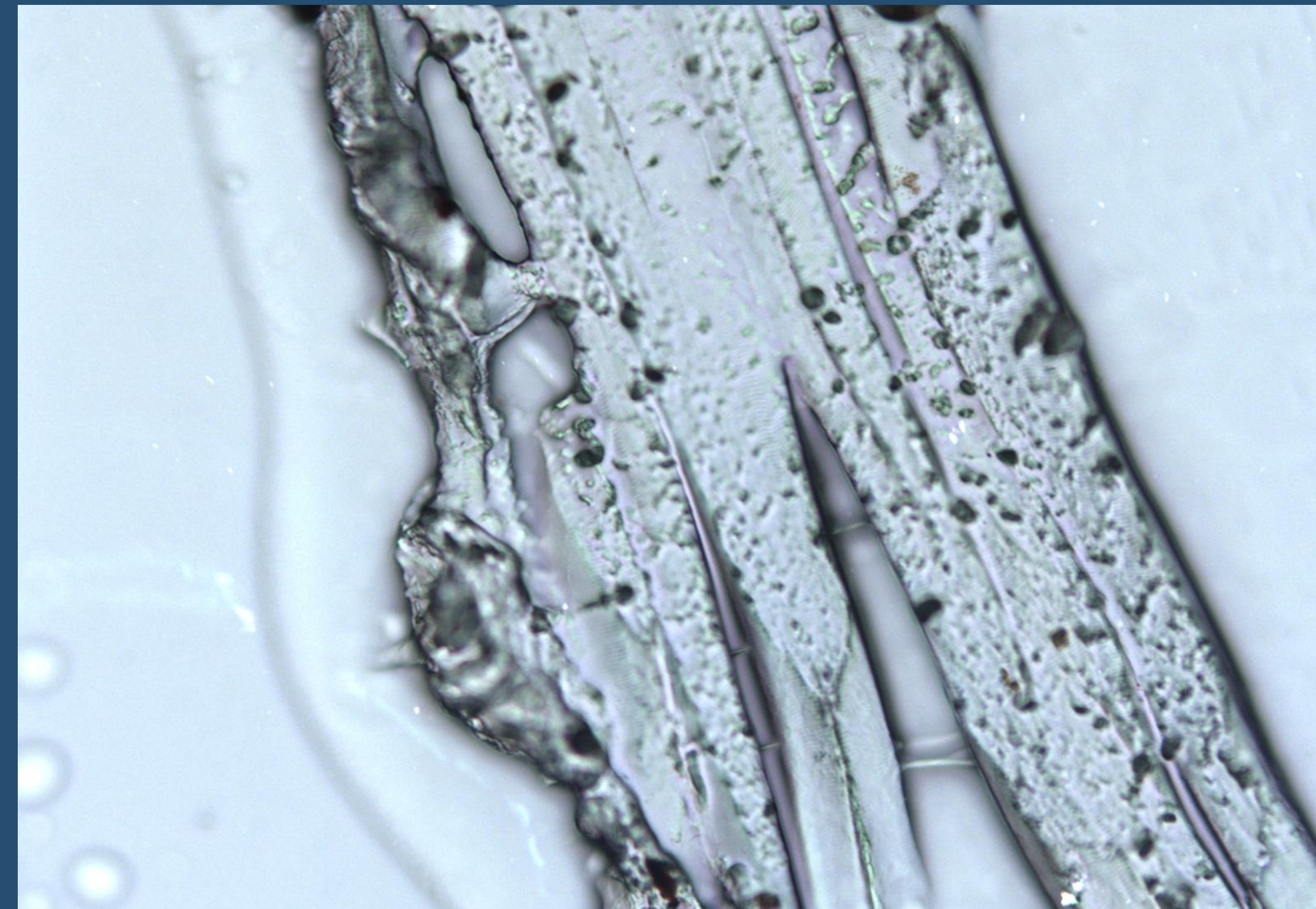
Histology

Bootcamp:

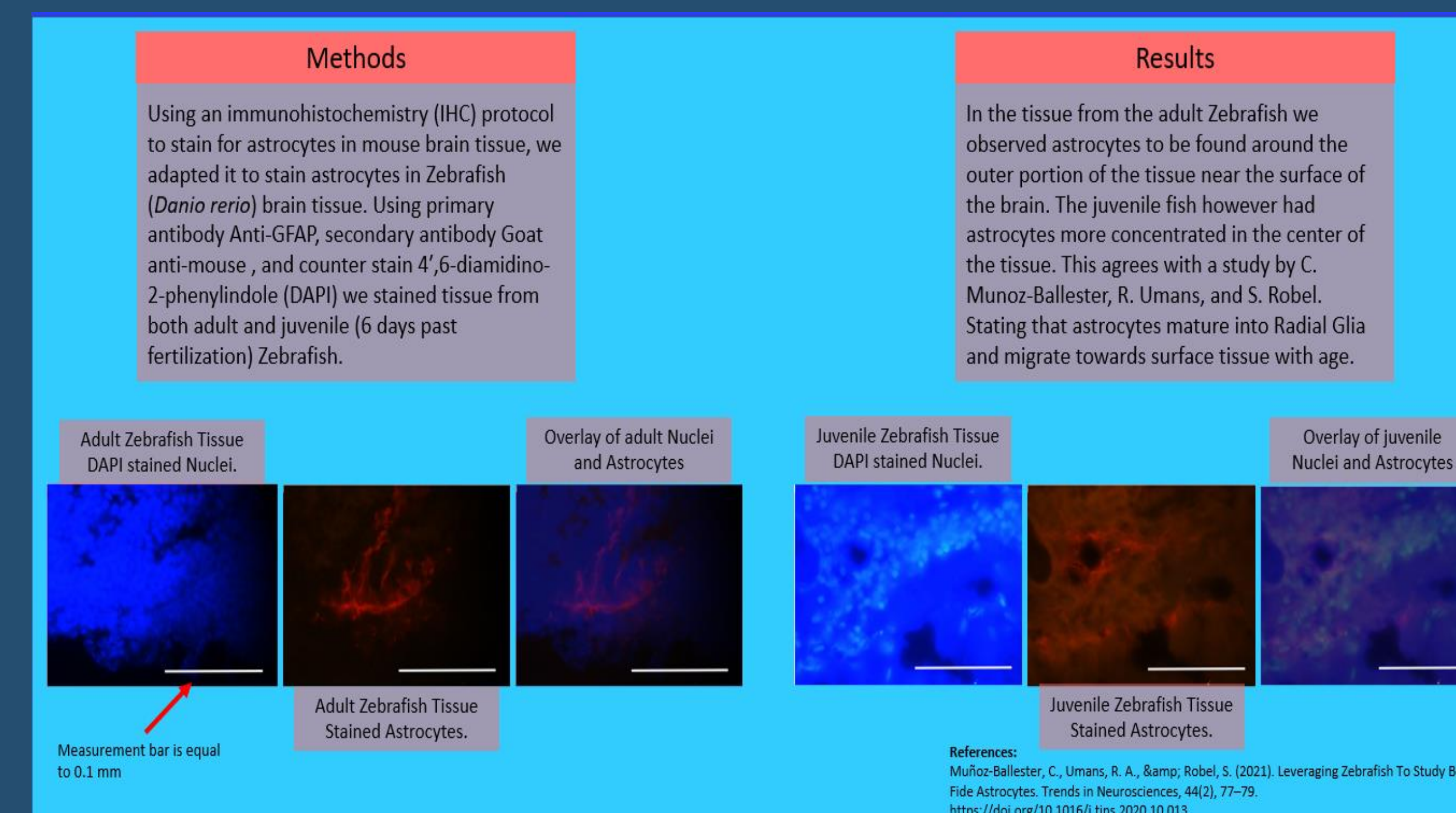
Creating a hybrid research experience for undergraduate students

Recent world events have highlighted the need to create programs and research experiences that do not require full in-person participation. For this program, I developed a semester workshop for undergraduates interested in learning histology that included two or three days of in-person work followed by virtual, self-paced research. For the in-person component, students practiced and refined an assigned histological staining technique using prepared fish integument slides on the first day. On the following research days, the students used this technique to stain slides. They then spent the rest of the semester working on a research project independently or in teams, turning in a short piece of writing once a month. At the end of the program, students presented research posters in a virtual research symposium explaining their work. Completed projects spanned a wide variety of subjects, from explaining technique development to comparing structures in the integument to other species of fish. This poster explains how to create a similar workshop to encourage more independent research while reducing the necessity for working physically in a lab space.

Students captured images of stained tissue.



Finished work was shared at a virtual poster symposium at the end of the semester



Timeline

- Students are scheduled for two histological staining sessions during winter break
 - One day to practice
 - One day to stain and capture images
- January
 - Working alone or in teams of two, students choose a project
 - Technique description
 - Tissue characterization
 - Morphological comparison to other species
 - Research question and working title due
- February
 - Write up of methods due
- March
 - Introduction due
 - Submit abstract for poster session
- April
 - Conclusions and finished poster due
 - Poster presentation at end of month



CARRIE BUO, PH.D.
CBUO@KENT.EDU