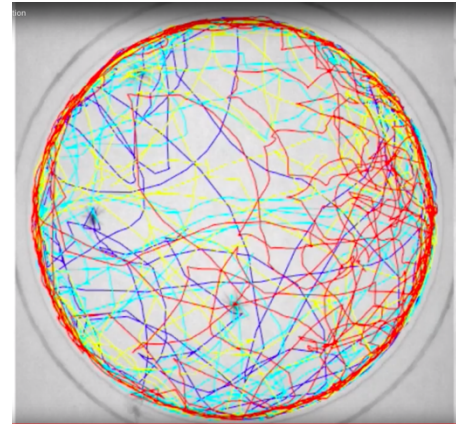


## Summer Undergraduate Internship on ‘The Effects of Temperature on Schooling Behavior in Juvenile Asian Carp’

We are seeking an outstanding undergraduate student for a paid internship through the National Great Rivers Research and Education Center summer internship program. This program is a paid internship, providing a stipend of \$5,000 for full participation in the program, plus research funds. To apply, students must complete an online application form, which is available through the intern page at [www.ngrrec.org/internship](http://www.ngrrec.org/internship). Here, you will find a summary of all the projects for which students will be selected, and if you are specifically interested in our project on thermal effects on fish schooling (see below) then select this as your preferred project (it is Project #5 on the online application system). For general questions about the intern program contact Intern Program Coordinator, Natalie Marioni at [ngrrrecintern@lc.edu](mailto:ngrrrecintern@lc.edu). Questions about the specific project on thermal effects on fish schooling should contact one of the project mentors (see below). All applications are due via online submission by midnight **January 23, 2019**.



**Project Description:** Using state-of-the-art experimental methods that include video and automated tracking, the intern will conduct laboratory experiments to measure how changes to water temperature affect the schooling behavior of juvenile Asian carp, which are highly invasive in Midwest rivers. The student will collect juvenile carp from sites near NGRREC, and will use equipment in Anthony Dell’s lab ([www.dellecologylab.org](http://www.dellecologylab.org)) to film and track the collective behavior of juvenile carp in environmental chambers. The student will primarily be based at the National Great Rivers Research and Education Center in East Alton, IL (just outside of St Louis, MO), with a possible brief trip to Andrew Berdahl’s lab at UW (<https://fish.uw.edu/faculty/andrew-berdahl/>) to analyze tracking results. The student will also work in Jason Knouft’s lab at Saint Louis University (<http://knouftlab.weebly.com/>) as required.

**Desired Skills:** Good quantitative skills and be computer savvy (both dealing with hardware, and also coding); preferably worked with fish in experiments; preferably a student looking to continue with grad school, so they will be excited to publish results.

**Project Mentors:** Dr Anthony Dell ([www.dellecologylab.org](http://www.dellecologylab.org)); Dr Andrew Berdahl (<https://fish.uw.edu/faculty/andrew-berdahl/>); Dr Jason Knouft (<http://knouftlab.weebly.com/>)