

Grants in Aid of Research Recipient Profile: Anika Wohleben

Grant: \$500 in Fall 2018

Education level at time of the grant: PhD Student



Project Description: In my work, I am taking advantage of the independent colonization of freshwater bodies by three-spine stickleback in Southcentral Alaska. Here, they first encounter *Schistocephalus solidus*, a trophically transmitted parasite that is not viable in marine environments. Some stickleback populations display persistently high parasite

loads, some have consistently low parasite loads, and others exhibit extreme variations between years. With the timing of infection being of great importance in host-parasite systems, my goal was to investigate the timing of infection by *S. solidus* in four Alaskan stickleback populations that naturally differ in their infection rates.

With the help of Sigma Xi's Grants in Aid of Research award, I was able to travel to Alaska in August 2019 with an undergraduate student to study the infection rates in recently hatched stickleback fish. We found that young-of-year stickleback harbored *S. solidus* parasites with infection rates (percent infected fish) varying between 10 percent and 20 percent in low-infection populations, and between 30 percent and 70 percent in high-infection populations. This work is an integral part of my PhD research and will inform future investigations on the topic.

How did the grant process or the project itself influence you as a scientist/researcher? The support provided through the grant paid for our travel to Alaska, where we were able to carry out the research. Organizing this trip has taught me a lot about the ins and outs of fieldwork, and I made valuable connections with different agencies (including the Alaska Department of Fish and Game) and other stakeholders in Alaska that will prove to be helpful in the future.

Where are you now? I am still a PhD candidate at Clark University. Sadly, my two primary advisors both passed away earlier this year. Though losing two mentors and friends was hard, I have received amazing support from my new primary advisor who has helped guide me in generating many new connections with researchers in my field.

Nova Southeastern University Chapter Awarded Sigma Xi Grant for Hydroculture Project

The Nova Southeastern University chapter of Sigma Xi has received a \$1,500 Science, Mathematics, and Engineering Education (SMEE) grant from the Society as seed funding for the Nova Hydroculture Project. The project will engage Title I elementary school students in building hydroculture gardens with food plants such as lettuce, peas, tomatoes, and berries. The project will build a collaborative learning community where students learn STEM concepts as they relate to the gardens.

Members of the chapter will serve as mentors and work with teams of K–12 students and teachers. In addition to setting up the gardens, the teams will record and graph water chemistry data, take photos, and make science journal entries describing the process of making the hydroculture gardens. Each team will work together to test hypotheses of their choice related to their gardens and will present their results to the larger group. These notes will be assembled into a project book that will be displayed at the elementary school and posted electronically on the Nova Hydroculture Project website, with links to all collaborating groups.

The project is a collaboration between the Nova Southeastern University chapter and Science Alive, a nonprofit organization that provides undergraduate students the opportunity to develop and perform science activities with K–12 students. Sigma Xi chapters are invited to apply for grants by March 1, annually. For grant categories and guidelines, visit sigmaxi.org/chapter-grants.

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