

Thuy-An Phan

**Graduation Year:** Junior

**College:** Science

**Major(s):** Biological Sciences, Economics

**Minors(s):** N/A

**Scholar Group Membership:** MSPS, Questbridge, Building Bridges

**Did you received other funding for this project?:** N/A

**Could you have completed this project without CUSE funding?** No

**More details on CUSE funding assistance?**

**Project Title:** Role of Tachykinin on Aedes aegypti Feeding Behavior

**Project Location:** McDowell Lab, University of Notre Dame

**ND Faculty Mentor:** Mary Ann McDowell

**Project Type:** Research, Conference - Attendance, Conference - Presentation, Eagan Fellowship

**Why did you undertake this project/experience?** Deepen your knowledge of a topic or issue, Research/experience necessary for senior thesis or capstone project, Prepare for graduate school (MA or PhD), Career discernment and/or preparation

**Did your funded experience help you:**

**[Deepen your understanding of your coursework or field of study]:** Very Much

**[Discern your interests and post-bac goals]:** Very Much

**[Become confident in your ability to set and achieve your goals]:** Very Much

**[Gain a more nuanced view of local, national, or global communities]:** A Little

**[Improve your written and verbal communications skills]:** Yes

**Tell us about your experience.**

My research for the Summer 2017 was on identifying the role of tachykinin on Aedes aegypti feeding behavior to help minimize the transmission of vector-borne diseases like Dengue fever, Chikungunya, Rift Valley fever, Yellow fever, and Zika virus. With my research goal to contribute to the development of new insecticides that effectively target arthropods and decrease the spread of vector-borne diseases, my protein of interest was the Tachykinin receptor (TRP) in A. aegypti that had been proposed to regulate feeding behavior through previous studies in B. dorsalis. With three main aims, I wanted to characterize the gene expression and localization, determine effectiveness of RNAi knockdown through quantitative reverse transcriptase polymerase chain reaction, and create a series of sensory assays to test the feeding behavior of A. aegypti. Through my experiments, I identified the low expression of the protein and learn a series of new laboratory as well as troubleshooting techniques. Furthermore, this experience gave me the opportunity to present and attend the National 10th Arthropod Genomics Symposium with the Eck Institute for Global Health with the preliminary results and background

data from the McDowell Laboratory. This research opportunity has allowed me to both deepen and broaden my skills and interests in my career as a biological science major.

**Describe the impact this project had, both on you as a student-scholar and on the people you worked with.**

This project was largely impactful on my ability to formulate my career choices. It allowed me to understand the procedures and the workload that comes with having a job in the research field. Working alongside REU, graduate, and students from very diverse backgrounds, it enabled me to grow and learn as both a scholar and an individual.

**Describe how this experience is connected to your plans as a student or future professional.**

My research project connects to my plan of working on a senior thesis, my ability to present at national conferences, and my discernment for my future career choices. Allowing me to spend time at the University of Notre Dame, the CUSE grant allowed me to be able to take time and focus on my independent research project. This experience gave me the opportunity to understand my project on a deeper level and allowed me to identify what career paths I want to pursue. Continuously, through my research, I was given the opportunity to do a poster presentation at a national conference during this summer and learn from the different speakers about Arthropod Genomics and science.

**What advice would you give other students who are planning to pursue similar projects?**

I would advise students to be very open to new experiences. There are so many different learning opportunities that come through doing a research project. There will be times where research may become difficult or there are drawbacks, but the learning experience is very valuable and rewarding.

I acknowledge that this form has been filled out truthfully and to the best of my ability. I understand that this information will be shared with many different CUSE constituencies. As such, I have provided as much useful information as I was able. I understand that CUSE will not complete my award disbursement until this form is successfully completed. If I have any questions or concerns, I will contact CUSE before submitting this form. To illustrate that you understand all of these points, please enter your Notre Dame email in the box below.

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