

Carolyn Ahlers

Graduation Year: Junior

College: Science

Major(s): Science Pre-Professional

Minors(s): European Studies, Peace Studies

Scholar Group Membership: n/a

Did you received other funding for this project?: College of Science

Could you have completed this project without CUSE funding? No

More details on CUSE funding assistance?

Project Title: Activation of Focal Adhesion Kinase (FAK) in Epithelial Morphogenesis"

Project Location: USA, Indiana, University of Notre Dame, Harper Cancer Research Institute, Indiana University School of Medicine - South Bend, Lab of Dr. Prospero

ND Faculty Mentor: Dr. Jeni Prospero

Project Type: Conference - Presentation

Why did you undertake this project/experience? Deepen your knowledge of a topic or issue, Prepare for professional school (MD, MBA, JD)

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]: Yes

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

[Gain a more nuanced view of local, national, or global communities]: Very Much

[Improve your written and verbal communications skills]:Yes

Tell us about your experience.

I started working in the laboratory of Dr. Prospero at the Harper Cancer Research Institute through the Indiana University School of Medicine – South Bend and the University of Notre Dame at the start of my sophomore year. Researching in this lab has been one of my most meaningful experiences at Notre Dame because I have had the opportunity to apply what I have been learning in my science courses at ND to a lab that is making great progress in the fight against breast cancer by studying the tumor suppressor Adenomatous Polyposis Coli (APC) – which is a tumor suppressor that is often down-regulated or mutated in epithelial cancers. Through this lab, I have had the opportunity to present this research at the University of Notre Dame College of Science Joint Annual Meeting (COS-JAM) and the Harper Cancer Research Institute Research Day in the spring of 2015. This research also resulted in the publication of an abstract presented at the American Association for Cancer Research (AACR) 2014 Annual Conference.

With the help of a grant from the University of Notre Dame Center for Undergraduate Scholarly Engagement (CUSE), I had the opportunity to present my research at the 2015 American Society for Cell Biology (ASCB) annual meeting in San Diego, California which occurred December 12-16, 2015. I presented a poster titled "Activation of Focal Adhesion

Kinase (FAK) in Epithelial Morphogenesis” at the “Oncogenes and Tumor Suppressors 2” poster session on December 15, 2015. The grant that I received from CUSE helped me pay for my flights to and from the conference and helped me pay for my registration and poster fees. I had a wonderful time at this conference not only presenting and answering questions at my poster session, but also attending talks given by some of the world’s leading cellular biologists. I really enjoyed attending this conference, and I would like to thank CUSE for their generous support.

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

Working on this project at Notre Dame with the other people from the laboratory and then presenting this research at the 2015 ASCB annual meeting was an incredible experience for me. By presenting at this conference and discussing this research with other cellular biologists, I had the opportunity to not only improve my public-speaking skills, but I also had the opportunity to deepen my understanding of this project. My discussions with other biologists at this conference helped me learn about other research that is relevant to our project. For example, I learned that microtubules play a large role in polarity and may help explain some of our results. As an aspiring physician and researcher, attending this conference was an invaluable experience and one that will be incredibly helpful as I continue to research in this lab back at Notre Dame.

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

“Cell Biology is increasingly relevant not only to those who think of themselves as cell biologists but also to more specialized researchers in neuroscience, immunology, cancer biology, synthetic biology, biophysics, molecular medicine, and more.” – 2015 ASCB Annual Meeting Website.

As an aspiring physician and researcher, attending the 2015 American Society for Cell Biology (ASCB) Annual Meeting directly fit my academic goals and interests. I am considering being a pediatric oncologist and incorporating research into my career, so having the opportunity to attend this conference and learn about the latest developments in cellular biology and cancer biology was incredible. I was able to attend minisymposiums titled, “The Cellular and Molecular Basis of Invasive Metastatic Cancer” and “Cytoskeleton, Motility, and Cell Mechanics: Microtubule Dynamics: From +TIPs to Membrane” and attend a roundtable discussion led by Dr. Macara, a senior cellular biologist from the Vanderbilt University School of Medicine studying the polarization of mammalian epithelial cells, a topic in which my laboratory at Notre Dame is very interested.

Presenting at this conference and being exposed to some of the most cutting-edge research in cellular biology will be incredibly helpful as I hope to couple medicine with research in the future.

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

