

Cong (Charles) Xu

Class of 2014

Major: Environmental Sciences, minor: Chinese

Poster presentation of "Genetic differentiation among populations of *Echinolittorina radiata* across East Asia" at the Evolution 2013 conference

Location: Snowbird, Utah

While I studied abroad at the Chinese University of Hong Kong (CUHK) for the 2012-13 academic year, I joined the research laboratory of Dr. Ka Hou Chu at the Simon F.S. Lee Marine Science Laboratory to study the population genetics of a species of marine intertidal snail. Under the supervision of Ph.D. student Wei (Daniel) Wang, I designed, tested, and utilized a neutral DNA marker to assess the genetic structuring of *Echinolittorina radiata* populations across East Asia in Hong Kong, Japan, Ningbo, Qingdao, Taiwan, and Xiamen. My project was conducted in collaboration with researchers at various institutions including Dr. Benny K.K. Chan of Academia Sinica in Taipei, Taiwan, Professor Yun-wei Dong of Xiamen University in Xiamen, China, Dr. Tomoyuki Nakano of the National Museum of Nature and Science in Tokyo, Japan, and Professor Gray A. Williams of the University of Hong Kong in Hong Kong. The ultimate goal of this larger international collaboration is to elucidate the genetic mechanism and regulatory networks that underlie thermal tolerance and plasticity. The results of my project confirmed our initial hypothesis of low genetic variation and high gene flow between all populations, corresponding with expectations of genetic structuring after a recent demographic expansion due to glacial retreat in the post-Pleistocene period.

I wanted to do research while I studied abroad in order to gain international research experience. Publications with authors from multiple countries are common as science is increasingly internationalized. My experience conducting research in a different country and a different culture has broadened my horizons and exposed me to a new research culture from the thinking style in regards to scientific questions to the way lab members interacted. Although it was not always easy such as in times of communication difficulties or dealing with differences in how research problems are approached, I know I have learned valuable lessons in cultural understanding, patience, and compromise.

Thanks to the generous support of the Center for Undergraduate Scholarly Engagement (CUSE), the College of Science, and the MSPS Scholars program, I was able to present my findings at the national Evolution conference from June 21-25 in Snowbird, Utah. This opportunity not only allowed me to present my original findings to the broader research community and gain more experience in the art of scientific communication, but also exposed research conducted on the other side of the world that would not have otherwise been presented. At the conference, I was most surprised at how many people were interested in my research, which included professors from California, China, Japan, and Chile! One professor even gave me her card. While interacting and networking with researchers whom I have never met before is useful and great, I was most satisfied that I was able to reconnect with previous contacts. In particular, a postdoctoral researcher whom I worked with before attended the conference and we were able to discuss fieldwork opportunities over fall break as well as the possibility of my Ph.D. work in research lab after graduation.

For students who also wish to conduct research internationally and then present their work at international conferences, my advice is simple: be proactive. Look at the websites and publications of professors and see what you are interested in. Don't be afraid of sending emails, even to professors whom you have never met. Look for funding opportunities from places like your department or CUSE to obtain funding that will enable those research endeavors. Get yourself out there and good luck!