

Wenhua Wang
Graduate Women in Science Travel Award Report

The GWIS Travel Award funded me to attend the 2012 American Crystallographic Association (ACA) Meeting in Boston, MA. This was my second ACA meeting, but it was the first time that I felt I had sufficient knowledge to fully appreciate the richness of the science.

The ACA meeting is medium-sized so as to have a tighter focus compared to larger general-interest meetings. The medium size is good to meet new people. The tighter focus meant there were many informative talks about crystallographic methodology and techniques that were close enough to my field to be of interest, while far enough away to introduce me to new ideas and research areas.

I started the ACA experience by attending the “Refmac and Coot” workshop. Refmac is part of Collaborative Computational Project No. 4 (CCP4) software suite for macromolecular X-ray crystallography, and Coot is the software for macromolecular model building. It was exciting to meet the software developers, and I had a deeper understanding of the programs after attending their lectures.

The conference provided many interesting sessions, including great talks covering crystallization methods and structural enzymology. I felt so anxious to return to the lab to try the new tips and tricks. Crystallization of membrane proteins is still a hard nut to crack. However, it is becoming more promising with new techniques such as the Lipidic Cubic Phase crystallization method and the advanced beamline tools for micro-sized crystals. The “Structure-guided Drug Discovery” session was eye-catching. I think a deeper understanding of the fundamental physical chemistry of molecules combined with structural and thermodynamic analyses could be key for drug discovery and development. I was glad to find that the Small Angle X-ray Scattering method (SAXS), which I think I have mastered, is becoming more and more popular. SAXS has the advantage of providing information on the shape and conformation of macromolecules in solution.

I presented a poster during the meeting, and a number of people stopped by to talk with me. Some were interested in the isothermal titration calorimetry (ITC) and SAXS techniques that I use in my research. Some were friends of mine, my Ph.D. thesis mentor Clara Kielkopf, or another structural biologist and departmental faculty member, Joseph Wedekind. I not only got many good comments from our discussions, but I was able to make new acquaintances and reconnect with old friends. The opportunity to present my work to experts enabled me to improve my scientific communication and discursive skills.

The social events, such as the “Young Scientists Scientific Interest Group (YSSIG)” mixer night, offered other great venues to meet new people. Visiting the industrial exhibition booths and seeing some of the latest equipment and techniques was also a big plus for me at this conference.

Overall, the 2012 ACA was a great experience. I am so grateful to Graduate Women in Science for generously providing me with a travel award. While at the meeting, I let people know we have GWIS as a featured organization at the University of Rochester.