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OSU offers first infrared structural biology workshop

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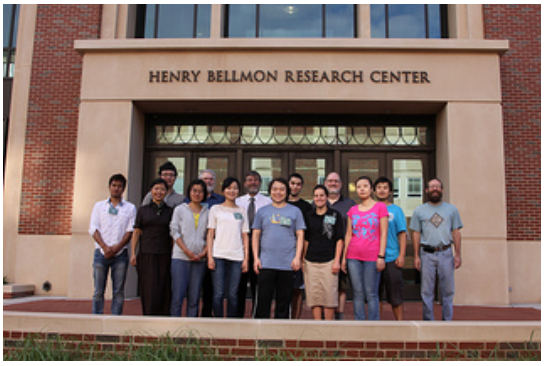
Friday, 16 August 2013 19:18

Oklahoma State University hosted the first Oklahoma Infrared Structural Biology Workshop at the Henry Bellmon Research Center July 29 to August 2.



Instructors and participants from the Oklahoma Infrared Structural Biology Workshop outside the Henry Bellmon Research Center at OSU in Stillwater. The first-ever workshop trained graduate students and postdoctoral researchers in this powerful and emerging technology.

Infrared structural biology is a powerful emerging technology that enables unique and sensitive detections of dynamic structural motions in proteins. It allows scientists to "see" proteins in action. This technology has multiple advantages over other structural biology techniques, namely its high structural sensitivity, outstanding time sensitivity (1 picosecond or 1 millionth of millionth of a second), and wide time window (from 1 picosecond to kiloseconds). Many areas of protein research can benefit from this emerging technology, including the understanding and treatment of many diseases that are caused by protein malfunction, understanding and application of electron transfer and proton transfer in molecular bioenergy, as well as fundamental understanding of life at molecular levels.

The main goal of this workshop was to provide education and training to graduate students and postdoctoral researchers in infrared structural biology and to develop OSU as a leader in applications of infrared structural biology to enhance broad areas of protein science research. Seven doctoral students and one postdoctoral researcher from three graduate programs participated in this workshop.

This workshop was jointly sponsored by the OSU Infrared Structural Biology Initiative Program, which is led by OSU physicist Dr. Aihua Xie, the OSU Interdisciplinary Creative Planning Program, which is managed by the Provost's office, and OSU Department of Physics.

Dr. Xie, a professor of physics and Fellow of American Physical Society, was the organizer and the main instructor of the workshop. She said, "I was grateful for the many supporters of the workshop, particularly to Mr. Zhouyang Kang, a senior PhD student in physics, for his hard work and skillful instruction in hands-on FTIR spectroscopic studies of biomolecules and computer-assisted studies of molecular vibrations. I am also grateful to Ms. Christine Nichols, outreach coordinator from OSU College of Arts and Sciences, for her professional, friendly, timely and tireless support in handling all administrative aspects of the workshop, and to OSU Interdisciplinary Creative Planning Program for financial support."