

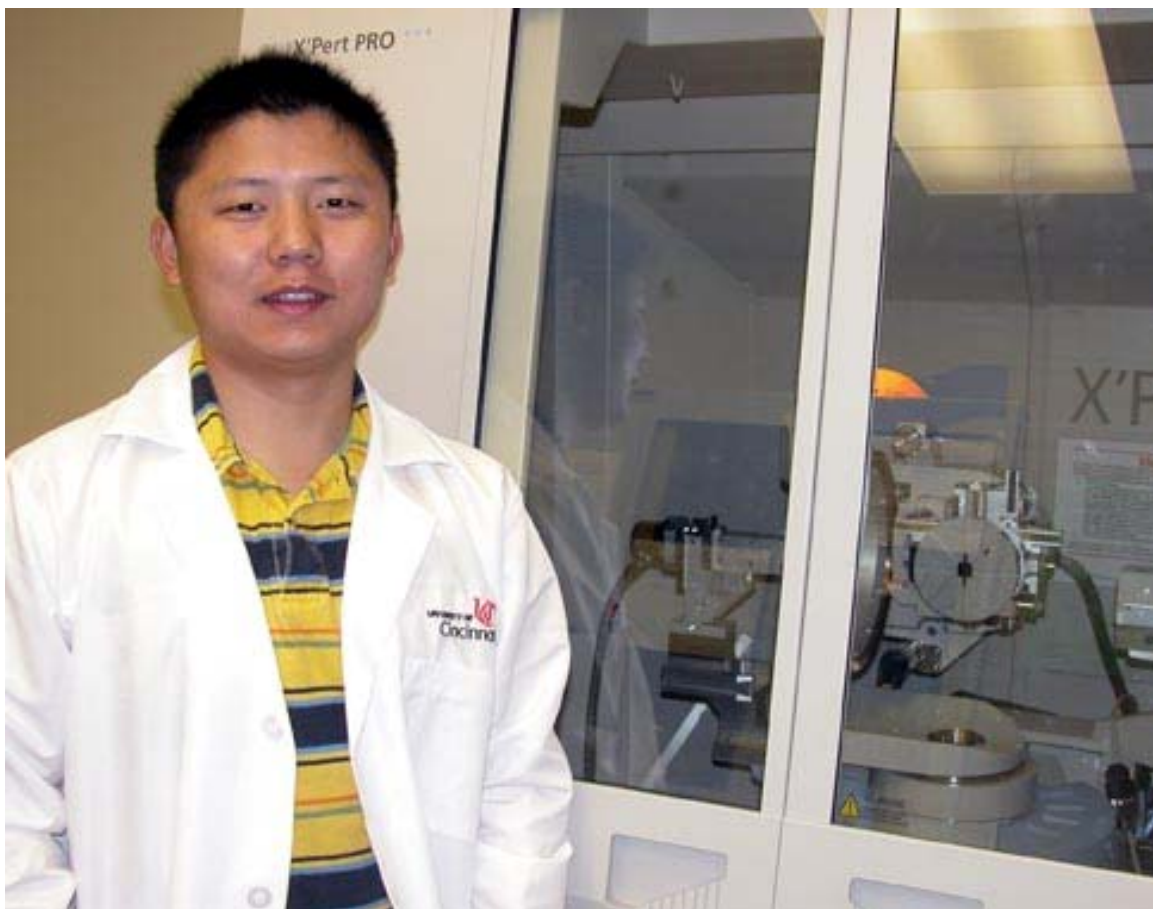
ACA Etter Award for anti-corrosion scattering studies

Peng Wang was recently awarded the Margaret C. Etter Student Lecturer Award 2006 given by the American Crystallographic Association during their 2006 annual meeting held in Honolulu, Hawaii. Wang is a graduate student with professor Dale W. Schaefer in the Department of Chemical and Materials Engineering at the University of Cincinnati. The Etter award cited his presentation entitled "Characterization of Epoxy-Silane Films by Combined Scattering Techniques." The award honors the memory of Professor Margaret C. Etter (1943-1992), who was a major contributor to the field of organic solid-state chemistry.

Wang's thesis work covers structure-property relationships and characterizing polymers and composite thin film materials. His experimental program has included light scattering, small angle x-ray and neutron scattering, and grazing incidence small angle x-ray scattering (GISAXS) techniques. His work has taken him to beamlines at neutron and x-ray national labs for at least 1000 working hours.

His presentation covered two component silane-epoxy systems. Bis-silanes show excellent performance as coupling agents in anti-corrosion films and epoxy resins have superior chemical and corrosion resistance. A mixture of epoxy (EPI-REZ™ 5003-W-55) and bis-sulfur silane provided a one-step, high hardness coating system for anti-corrosion protection of metals substrates. X-ray and neutron reflectivity measurements were used to investigate the morphology, thickness, chemical composition, water permeability, response to organic solvents, and hydrothermal degradation of mixtures. Phase separation was studied by small angle scattering of neutrons and x-rays. The minority phase distribution profile was characterized using GISAXS measurements taken at the Cornell High Energy Synchrotron Source (CHESS) and the Advanced Photon Source (APS) at Argonne National Laboratory. Neutron studies were performed at the Surface Profile Analysis Reflectometer (SPEAR) at Los Alamos National Laboratory.

The award is based on the quality of submitted abstracts, judged by elected officers of the Special Interest Groups (SIG), and is given yearly to an outstanding graduate student. The recipient is invited to present a lecture in one of the SIG sessions and receives a monetary award of \$250.



Peng Wang, University of Cincinnati (photo provided).