



# Xu named Mineralogical Society of America Fellow

January 31, 2013

The Mineralogical Society of America (MSA) has selected Hongwu Xu of LANL's Earth System Observations group as a Fellow. MSA members who have contributed significantly to the advancement of mineralogy, crystallography, geochemistry, petrology or allied sciences and whose scientific contribution used mineralogical studies or data are elected to the rank of Fellow.

The Society recognized Xu as a crystallographer who is equally talented in neutron diffraction, conventional and synchrotron X-ray studies. His research focuses on detailed crystallographic analysis and complex problems of order-disorder and phase transitions important to repository science and the behavior of natural materials under geological pressures and temperatures.

## Research achievements

Xu earned a doctorate in Geoscience (emphasis in Mineral Science) at Princeton University. His dissertation revealed the crystal chemical mechanism underlying the ability of the main material in Corning dishware to maintain constant volume during heating. Xu joined LANL in 2004 as a Director's postdoctoral fellow and became a staff member in the Earth and Environmental Sciences Division in 2006. He pioneered in-situ high-pressure neutron diffraction methodologies.

Xu combines high-pressure synthesis, high-temperature reaction measurements and structural studies to examine high-pressure equations of state and pressure-induced amorphization (conversion of crystalline material to one lacking organization). The studies are important to ascertain nuclear waste immobilization under geological conditions.

Xu has authored 82 publications in key scientific journals. He received two Crystallography Scholarship Awards from the International Centre for Diffraction Data, and the Harry Hess Fellowship at Princeton. Xu serves as an associate editor of *American Mineralogist*.

## About the Mineralogical Society of America

The Society was founded in 1919 for the advancement of mineralogy, crystallography, geochemistry, petrology and promotion of their uses in other sciences, industry and the arts. It encourages fundamental research in natural materials, supports the teaching

of mineralogical concepts and procedures, and attempts to raise the scientific literacy of society for issues involving mineralogy. The Society encourages the preservation of mineral collections, displays, mineral localities, type minerals and scientific data. MSA represents the United States internationally for the science of mineralogy.

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