**Controlled Synthesis and Properties of Magnetic Nanomaterials**

by Dr. Zhang Haitao

**Abstract**

Monodispersed CoO nanocrystals and nanoscale MnO superstructures were synthesized by nonhydrolytic chemical colloidal process. Size, shape and morphology of the nanomaterials were controlled by modulating the nucleation stage and crystal growth stage. Systemic magnetic study indicates that the uncompensated spins at the surface of nanoparticles play an important role on the anomalous magnetic properties of CoO nanocrystals and MnO superstructures.

Dr. Zhang Haitao obtained his bachelor degree in Chemical Engineering from Central South University in 2000. In 2006, he received his PhD degree from the Hefei National Laboratory for Physical Sciences at Microscale, University of Science & Technology of China. Since July 2006, he has been working as a research fellow under Advanced Materials for Infocom Technology cluster at Department of Materials Science and Engineering in National University of Singapore.