

# Tuning Crystal Structure and Magnetic Properties of FePt Nanomagnets

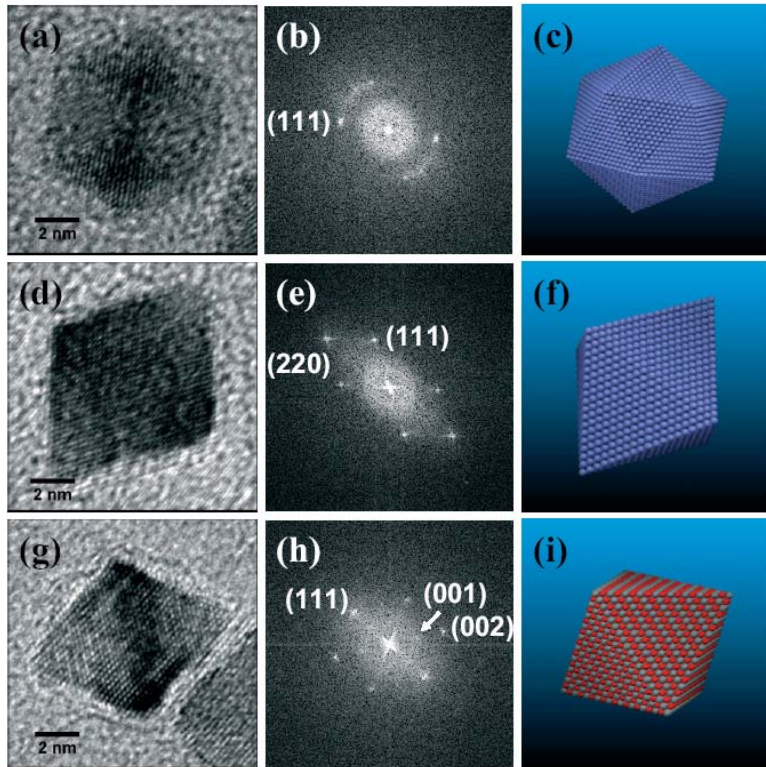
Jian-Ping Wang (PI), Jiaoming Qiu, Xiaoqi Liu

Electrical & Computer Engineering, University of Minnesota

NNIN Facility utilized: Characterization Facility

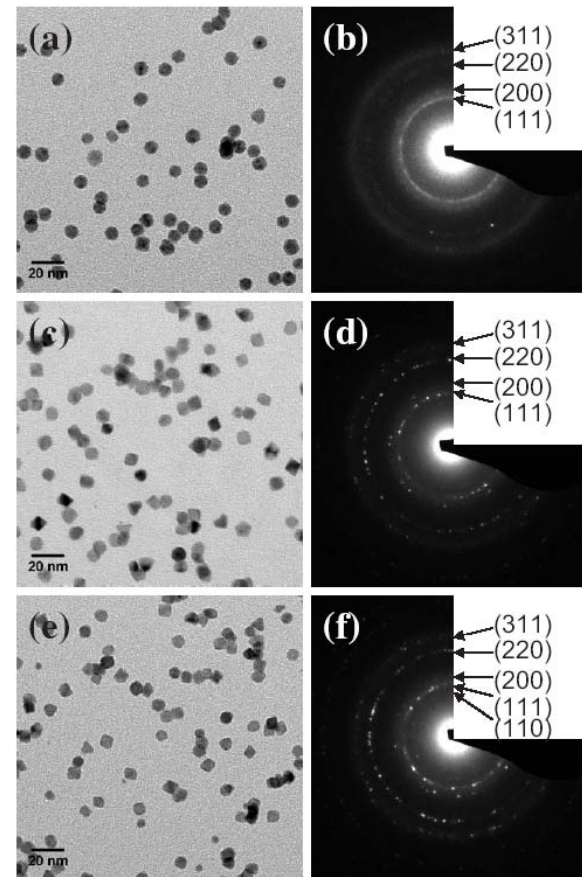
## DESCRIPTION OF WORK

- ◆ Developed a general fabrication method for crystal structure control and phase selective growth of nanoparticles



## MAJOR OBSERVATIONS

Achieved 6 nm  $L1_0$  FePt particles with Octahedron shape (tiniest magnets);  
6 nm  $A1$  FePt particles with Icosahedra and Octahedron shape



- ◆ Jiao-Ming Qiu, Jian-Ping Wang, "Tuning crystal structure and magnetic properties of FePt nanomagnets", *Advanced Materials*, 19, 1703 (2007); Highlighted in *Nature*, "Nanotechnology: Tiniest Magnets Shape up", 447, 888 (2007)