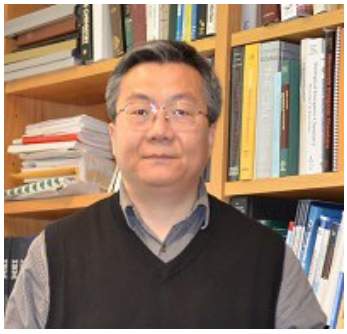
University at Buffalo
Department of Chemical and Biological Engineering
School of Engineering and Applied Sciences

September 19 | 11:00AM | 206 Furnas



Shouheng Sun

Professor

Department of Chemistry

Brown University

Tuning Nanoparticle Catalysis for Efficient Electrochemical Reactions

Recent advance in solution phase chemical reactions has made it possible to design and synthesize nanoparticles with nearly precise controls on nanoparticle sizes, shapes, compositions and structures for catalytic applications. In this talk, I will summarize the common methods we used to synthesize monodisperse nanoparticles, especially intermetallic nanoparticles, core/shell nanoparticles, nanowires and their self-assemblies on conducting supports. I will use Au-, Pt-, Pd-, Fe-, and Cu -based elemental and alloy nanoparticles as examples to demonstrate the rational tuning and enhancement of nanoparticle catalysis for electrochemical reduction of O2, electrochemical oxidation of HCOOH and other chemical reactions for renewable energy applications.

Wednesday Seminar Series