NORTH TEXAS CHAPTERS
will be presenting a “Technical Talk &
Tour of the “Electromechanical Laboratory” and “UTA
Characterization Center for Materials & Biology”

Nanostructured Materials for
Electrochemical Energy

The interfacial interaction between nano-components in heterogeneous nanostructured materials, including electronic coupling, surface charge transfer, and surface bonding, is key to tune functionality of the materials. The main theme of this talk will be centered on the relationship between electrochemistry and heterogeneous nanostructured materials, and its implication to more general electrochemical energy devices.

Specifically, Gold (Au)-Palladium (Pd) core-shell nanoparticles have been studied to understand the electronic interaction and geometric effect in the bimetallic nanomaterials. Such nanoparticles feature a Au-Pd bilayer structure which consists of a Pd shell and a hollow Au core. Our results have shown significant enhancement of electrocatalytic activities of such nanoparticles toward electrochemical reactions (e.g., formic acid oxidation) and substantially long-range electronic interaction between Pd and Au in the core-shell structure.

Dr. Fuqiang Liu
Assistant Professor, The University of Texas at Arlington
Department of Materials Science and Engineering

Wednesday, June 24th, 2015
6:00 pm
Location: University of Texas at Arlington
Room: ELB328 (Engineering Laboratory Building)
University of Texas at Arlington 328 ELB, Box 10931
Arlington, TX 76019

Pizza and drinks will be provided
(no cost to attend meeting)
Please RSVP (972) 501-0010 or asmntx@gmail.com by Tuesday the 23rd of June 2015 so that we can get a reasonable head count.
Tour Scope:

1. The **Electrochemical Energy Lab** at the University of Texas at Arlington is directed by **Dr. Fuqiang Liu**, Assistant Professor in Material Science and Engineering department. Our research is targeting emergent energy needs and developing highly-efficient energy conversion and storage materials and processes.

2. The **UTA Characterization Center for Materials and Biology (C2MB)** is a user facility that is available to faculty, students and researchers from UTA, other institutions and industry. The objective is to provide state-of-the-art instrumentation for use by the university research community in order to foster interdisciplinary collaboration and strengthen the research activities. The CCMB is located in Engineering Laboratory Building (ELB) Room 104.

**Nanostructured Materials for Electrochemical Energy**

**Dr. Fuqiang Liu**

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**Dr. Fuqiang Liu – Assistant Professor at University of Arlington TX**

Dr. Fuqiang Liu is currently an assistant professor in Department of Materials Science and Engineering at University of Texas at Arlington. He received his M.S. in chemical engineering from Chinese Academy of Sciences in 2002, and Ph.D. in materials science and engineering from Pennsylvania State University in 2006. From 2006 and 2009, he worked at United Technologies Research Center on fundamental studies of durability and kinetics of electrochemical energy systems. At University of Texas at Arlington, research interests of his group include lithium ion battery materials, battery diagnostics and simulation, redox flow batteries, solid polymer fuel cells, and photo-electrochemical energy storage. His scholarly work has produced — 20 patents and applications, 56 peer-reviewed journal publications, and 58 presentations. He is a recent recipient of the prestigious NSF CAREER Award.