

## The Science and Technology of Materials for Energy at Sandia National Laboratories

15 November 2013 – ME Auditorium 1300

### With Guest Lecturer Nancy Yang

Energy Nanomaterial Sciences Department,  
Sandia National Laboratories, California (SNL/CA)

As a DOE funded R&D laboratory, Sandia National Laboratories is actively engaged in multiple fronts of science and technology (S&T) related to energy applications. Many of these programs can be applied to defense as well as civilian use.



Nancy Yang

### Topics for this seminar will include:

- Description of the energy programs and missions at the Sandia CA, including material development for hydrogen storage and S&T advancement in thermoelectric power generation
- Discussion on thermoelectric (TE) power generation, including the material science issues encountered for Bi<sub>2</sub>Te<sub>3</sub>-based TE system and its implication to power generation efficiency

### Abridged Biography:

Nancy is a material scientist with extensive experience and expertise in electron optics (EO) applications. She is currently a team leader of the Electron Optical (EO) instrumentation group and play a dual technical roles at SNL/CA. She has been the Principal Investigators for many research projects such as Bi-Te thermal electric system, Nanocrystalline Aluminum R&D, Alloy Synthesis Technology, LIGA microsystem and Corrosion resistance material R&D for Yucca Mountain Project. Nancy has presented more than 100 significant findings from these diverse research projects in professional conferences, meetings and journals and five patents. In addition to the R&D role, Nancy also is responsible for providing site-wide support of material characterization using electron optics (EO) analyses at SNL, CA.

Including SNL, Nancy has 30 years of experience in materials R&D, electron optical applications, and facility operations from a wide range of industries and institutions, including University of Pennsylvania, GE Nuclear Power Division and Kaiser Aluminum Co. Nancy's R&D activities has gone beyond Sandia. She collaborate extensively with scientist in many institutions, e.g. Lawrence Livermore Laboratory, and University of California, Davis, In addition to her critical technical roles.

