AVS Specialized Training Courses

2 Courses ❖ September 14-15, 2010 ❖ Richland, Washington

Sputter Deposition

Course Objectives:

- Understand target effects and sputtered atoms.
- Learn about magnetron, diode, triode, and ion beam systems.
- Learn about DC and RF systems for targets and substrates.
- Understand reactive sputtering.
- Understand film properties and learn system parameters.

Dates: September 14, 2010 (T)

Instructor: Angus Rockett, Professor of Materials Science and Engineering, University of Illinois

Cost: $575 Regular/$150 Student

Introduction to Photovoltaic Technology

Course Objectives:

- Learn the fundamentals of photovoltaic (PV) from its potential importance to energy security (world level), through the macroscopic level (system operation), to the microscopic level (device operation).
- Understand the reasons for the significant growth in the U.S. and world markets for PV--who's making it, who's buyting it, how it's being used, and what are the price trends.
- Learn about the materials and processes used in present PV manufacturing.
- Gain insight into what products the PV industry will need to have developed.
- Understand the current R&D focuses for different PV technologies and materials.

Dates: September 15, 2010 (W)

Instructor: Angus Rockett, Professor of Materials Science and Engineering, University of Illinois

Cost: $575 Regular/$150 Student

Click here for complete course descriptions and secure registration

Travel and Hotel Information

All short courses will be held at the Pacific Northwest National Laboratory (PNNL), in Richland, WA, located minutes from both downtown Richland and Kennewick. A block of rooms are available at the User Guest House (within walking distance from PNNL. Information and driving directions can be found at www.pnl.gov/guesthouse. Additional accommodations are available in nearby hotels within North Richland and Kennewick (4-7 miles). Contact Barbara Diehl, barb@pnl.gov, 509-371-6453 for more information.

Symposium and Exhibition

The AVS Pacific Northwest Chapter AVS (PNWAVS) Annual Symposium will be held in the Environmental Molecular Sciences Laboratory, a U.S. Department of Energy national scientific user facility, located at PNNL on September 16-17, 2010. The symposium will include invited and contributed talks, a poster session, and an exhibit. The PNWAVS symposium has a long tradition of providing a stimulating interdisciplinary program in a relaxed, informal atmosphere. The meeting attracts a broad representation of government, corporate, and university researchers from throughout the Pacific Northwest, Western Canada, and Alaska. Graduate and undergraduate student participation in this meeting is encouraged and will be subsidized in part. There will also be monetary prizes for the best student posters. Contributed papers are requested for both oral and poster sessions. Participants who wish to present a paper should submit an abstract for consideration by August 22, 2010. Contact Shuttha Shuthanandan, shuttha@pnl.gov, Doug Jones, dlj9@comcast.net for more information.

Special Tutorial Session at EMSL

A tutorial is planned on September 14-15 on the application and integration of experimental imaging and spectroscopic capabilities and molecular simulations using NWChem (A scalable computational chemistry code utlizing the supercomputers at EMSL), with the focus on surface and interfacial characterization of materials. Although the tutorial is free of charge, registration is needed to reserve a place. We can only accommodate about 40 attendees and places will be reserved on a first-come, first-served basis. Limited financial support maybe available for graduate students (accommodation) and if the support is needed the graduate students are encouraged to indicate the need for the support in their e-mails.Tutorials will be held for 1.5 days followed by a half day hands-on session to gain experimental and simulation experience. The following topics will be discussed:

- Combination of atom probe tomography and focused ion beam capability.
- Application of Helium ion microscopy in material characterization.
- Surface analysis methods (XPS, ToF SIMS and RBS).
- Applications of Spallation Neutron Source (SNS) in surface and interface characterization
- NWChem computational chemistry and Chinook

The graduate students, researchers, engineers and the faculty members are encouraged to attend this tutorial. The interested people should send their requests to Theva Thevuthasan, theva@pnl.gov or Barbara Diehl, barb@pnl.gov.