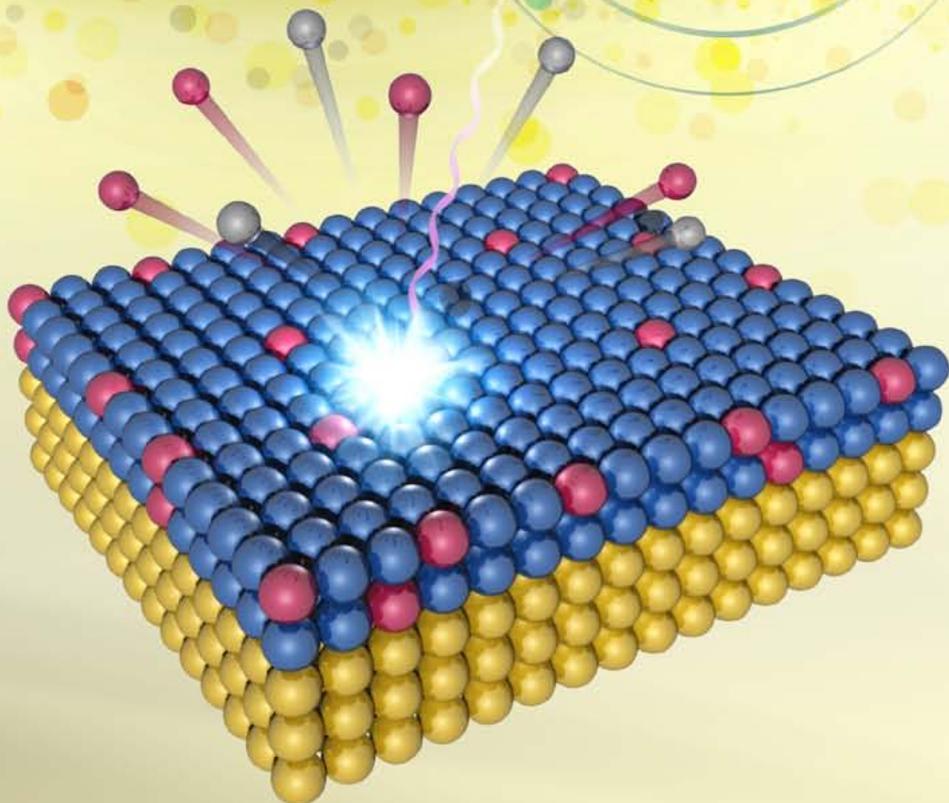


SURFACE ANALYSIS

'12



**34th Annual Symposium
on Applied Surface
Analysis**

&

**23rd Annual Symposium
of the Pacific Northwest
Chapter of AVS**

**Hosted at EMSL
Richland, WA
June 19-22, 2012**

**1st Call for Papers
Abstract Due Date:
March 15, 2012**



**Applied Surface
Science Division
Topical Conference**

Learn more:
www.emsl.pnl.gov/news/conferences

EMSL



Surface Analysis '12, the annual topical conference sponsored by the Applied Surface Science Division of AVS, is an interdisciplinary meeting to discuss advances in and applications of surface analysis. Historically, PNWAVS hosts a symposium each year that is related to the research areas and interests in the Pacific Northwest region. The joint symposium will be held in EMSL, a U.S. Department of Energy national scientific user facility located at Pacific Northwest National Laboratory (PNNL). EMSL houses several state-of-the-art capabilities including multi-modal surface science systems that can be used by scientists from all over the world.

The 2012 Annual Symposium marks the 50th anniversary of the PNWAVS chapter (the oldest in AVS), and several events such as dedicated workshops/tutorials, a technical program with plenary speakers, and history displays are anticipated to mark this occasion. Topics will include, but are not limited to:

- › Chemical imaging and analysis
- › Surface science
- › State-of-the-art methods of characterization
- › Application of surface science to material systems, including semiconductors, oxides, minerals, ceramics, metals, polymers composites, and biomaterials.

Multi-modal chemical imaging and analysis is important for the direct visualization of chemical, material, and biological transformations, and a special half-day session will be dedicated to this topic. One goal of this symposium is to promote interaction among all participants from industry, government, and university laboratories. Both invited and contributed papers in the form of oral and poster presentations will be presented at the conferences.

Sessions

Contributions from all areas of surface and vacuum science are encouraged. Highlighted topics will include:

Environmental Chemistry

- » Surfaces and interfaces of oxides and minerals
- » Experimental and computational geochemistry and biogeochemistry
- » Atmospheric chemistry
- » Biological interactions

Advanced Materials

- » Spintronics and magnetic materials
- » Energy generation and storage materials
- » Electronic and ionic conductive materials
- » Nanoscience and nanotechnology
- » Biomaterials and interfaces

Invited Speakers

- » Prof. David Bell, Harvard
- » Prof. Chuck Fadley, UC Davis
- » Prof. Brian Gorman, Colorado School of Mines
- » Prof. Vicki Grassian, University of Iowa
- » Prof. Yi Gu, Washington State University
- » Dr. Eugene Ilton, PNNL
- » Prof. Janelle Leger, Western Washington University
- » Dr. Dario Stacchiola, Brookhaven National Laboratory
- » Prof. Chong Fang, Oregon State University
- » Dr. Hendrik Bluhm, Lawrence Berkeley National Lab
- » Prof. Peter Pauzauskie, University of Washington

Chemical Imaging Workshop

A full-day Chemical Imaging Workshop is planned on Tuesday, June 19, with an associated tutorial session covering multi-modal chemical imaging using a combination of focused ion beam (FIB), scanning transmission electron microscopy (STEM), and atom probe tomography (APT) with limited hands on laboratory work. Seats are limited and students and faculty members who wish to participate in this workshop should contact Barbara Diehl at barb@pnnl.gov.

Heterogeneous Catalysis – Metal Oxides

- » Synthesis and characterization
- » Fundamental surface science in catalysis

Chemical Imaging and Analysis

- » Synchrotron and laboratory based capabilities
- » Multi-modal imaging
- » *In situ* imaging

Advanced Methods in Surface, Interface, and Nano Analysis

- » New methods including helium ion microscopy and atom probe tomography
- » *In situ* characterization methods



Call for Contributed Papers

Contributed papers are requested for both oral and poster sessions. The Program Committee will organize papers into appropriate technical sessions. Participants who wish to present a paper should submit an abstract for consideration before March 15, 2012. Instructions for abstract preparation will be available at the conference website at www.emsl.pnl.gov/news/conferences/surface_analysis2012/.

Published Proceedings

Papers from the symposium will be published in a special issue of Surface and Interface Analysis. When you submit your abstract(s), please indicate if you intend to submit a full-length manuscript for publication. Instructions regarding the preparation of the manuscript will be sent with the acceptance notice of the abstract.

Poster Presentations

A poster session and reception will be held in conjunction with the vendor exhibit on Wednesday, June 20. Included in the poster session will be a student poster competition for full-time undergraduate and graduate students. A cash award of \$500 plus \$500 towards expenses to attend the national AVS meeting will be given to the winner of the graduate competition. A cash award of \$250 will be given to the winner of the undergraduate competition. Cash awards of \$100 and \$50 will be given to the 2nd and 3rd place winners from both competitions. High school students are encouraged to participate in the poster presentation through a nominal award for every poster presenter.

Registration

Registration cost for the full symposium will be \$290 for pre-registration or \$350 at the conference. The registration fee includes the final program; one copy of the conference proceedings; lunches on the 20th, 21st, and 22nd; refreshments; poster and vendor receptions; and the conference banquet. The student registration fee of \$100 includes everything listed above except the conference proceedings. A single-day registration fee for non-students is available at \$125/day.

Student Participation

To encourage student participation, PNWAVS will subsidize accommodations for students. For details, contact Barbara Diehl at barb@pnnl.gov.



Vendor Exhibit

Representatives from surface, thin film, and vacuum equipment manufacturers are invited to exhibit and/or provide sponsorship at the symposium. The vendor exhibit will be held on Wednesday, June 20 and Thursday, June 21 during the symposium. Because space is limited, please contact Everett Lapp at erlapp@comcast.net and/or Theva Thevuthasan at theva@pnnl.gov at your earliest convenience. Three levels of sponsorships (\$1000 contribution towards student and invited speakers expenses, \$2000 contribution towards receptions, and \$3000 sponsorships towards lunches) are available. Please contact Barbara Diehl for further information at barb@pnnl.gov.

Accommodations

Blocks of rooms have been reserved at the PNNL Guest House (509-943-0400), Red Lion Inn (509-946-7611), and Hampton Inn (509-943-4400). Because student accommodations are heavily subsidized by PNWAVS, limited space is available. Please contact Barbara Diehl at barb@pnnl.gov early to make arrangements.

Banquet

The banquet will be held on Thursday, June 21st at the Battelle Staff Association Picnic Grounds at PNNL. The famous Bill Rogers' Texas BBQ will be served. Extra tickets are available for \$35.

5K Run

A 5K fun run will be held along the majestic Columbia River within walking distance of the Red Lion and Hampton Inn hotels. For more information contact Mark Engelhard at mark.engelhard@pnl.gov.

Transportation

The airport at Pasco (PSC) is served by Delta, United, Alaska/Horizon, and Allegiant airlines. The Tri-Cities area is composed of Richland, Pasco, and Kennewick, and is located 220 miles southeast of Seattle, WA and 210 miles east of Portland, OR.

Recreation Activities

The Tri-Cities is located within 1-3 hours drive of Mount Rainier National Park, Mount St. Helens National Volcanic Monument, and the Columbia Gorge National Scenic Area to the west and the beautiful Blue Mountains to the east. The Columbia, Snake, and Yakima rivers meet at the Tri-Cities so water sports and fishing opportunities abound. Numerous wineries throughout the valley are open daily.



Photo: Andrew Rakowski



Conference Co-Chairs

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Program Committee

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Prof. Fumio Ohuchi – University of Washington

Dr. Vincent Smentkowski – General Electric

Prof. Kerry Higgs – Washington State University

Prof. Alex Chang – Oregon State University

Prof. John Grant – University of Dayton Research Institute

Prof. Liney Arnadottir – Oregon State University

Prof. Steve Golledge – University of Oregon

Prof. David Patrick – Western Washington University

Dr. Theva Thevuthasan – PNNL

Tentative Deadlines

2nd Call for Papers: December 15, 2011

Abstract Due Date: March 15, 2012

Post-Deadline Poster: May 15, 2012

Pre-Registration: June 1, 2012

Manuscripts Due: June 16, 2012

