

AVS Newsletter

AVS Newsletter Fall 2009

PRESIDENT'S REPORT

Outreach Activities as Summer Draws to a Close ...

By Gregory J. Exarhos,
2009 AVS President



The AVS 56 Program Committee along with AVS staff assembled at the Chicago O'Hare Hilton in June to organize the program for our November International Symposium and Exhibition to be held in San Jose, California. Despite economic woes on several fronts, abstract submissions have been within the normal range; the associated Exhibition has also been well subscribed. I encourage your participation and that of your colleagues at the Fall meeting. Our International Symposium and Exhibition provides an effective societal outreach platform to attract new members and engage visitors from sister vacuum societies worldwide.

Chapter Outreach

I am pleased to report the launching of a new AVS Chapter in New York state to fulfill the needs of our regional members. Vince Smentkowski has been elected Chair of the Hudson Mohawk Chapter. An organizational and a technical meeting have been held earlier this summer. We enthusiastically welcome this new Chapter into the fold and look forward to its growth and success. Additional outreach activities are in progress not only in this country but also overseas. I hope to report soon of progress on this front.

International Outreach

Our approach to promoting international outreach is led by Gary McGuire who chairs the International Interactions Committee. One successful avenue pursued by the Committee

involves recommending and partially funding invited speakers to attend symposia that are organized in other countries. In September, Jane Chang from UCLA will represent AVS at the Brazilian Vacuum Society meeting in Campos de Jordão, Brazil where she will present an invited talk entitled, "Synthesis and Integration of Multifunctional Oxide Materials."

In addition, John Grant, Joe Greene, Jay Lewis, and Neal Shinn will attend the Mexican Vacuum Society meeting in San Luis Potosi, Mexico, as representatives of AVS. Such activities present a marvelous opportunity to interact with scientists from other countries and to identify mutual areas of interest both in terms of individual research agendas and as a means to foster stronger interactions among the societies.

Government Outreach

Last year the Board of Directors (BoD) approved funding to secure an AVS-AIP Congressional Fellow to enhance our government outreach activities. Following a search by our selection committee chaired by Paula Grunthaler, I'm pleased to report that Dr. Marcos Huerta has

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President's Report

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AVS

125 Maiden Lane,
15th Floor
New York NY 10038
212-248-0200
www.avs.org

been appointed to this position. Dr. Huerta, an astrophysicist from Rice University, will not represent the Society per se but rather will provide layman explanations of technical issues to our Congressional leaders.

Success here demands a passion for science and we are confident that Dr. Huerta will be most effective in this role. He has been issued a complimentary membership to AVS and has been invited to attend both the AVS 56th International Symposium and Exhibition and December BoD meeting in New York.

Publications Outreach

AVS publications present yet another key platform for global Society outreach. Our journals publish top research papers in areas indigenous to the Society. The Publications Committee, chaired by Mark Engelhard, is in the process of embellishing our journal footprint based in part on a critical review of our journal business that occurred earlier this summer.

The review committee will present their findings at our next BoD meeting. We hope to offer new services to authors shortly thereafter. For example, a list of the top 20 downloaded articles by month has been made available by the AIP. This information will be incorporated into future journal promotional material. A recent teleconference with AVS leaders focused on new approaches to enhancing journal vitality. Inviting authors in technical areas that align with our International Symposium to submit review articles was but one suggestion.

While this already is being done, increased activity will certainly lead to greater journal impact on the technical community. Incorporating journal cover art was also mentioned as a means to provide authors greater recognition of their work. This is now being explored and likely will soon be implemented.

I am happy to report that our open-access journal, *Biointerphases*, which has been in business for three years now, has been issued a Journal Impact

MEETINGS CALENDAR

AVS Board Meetings 2009

- Sunday, September 13, 2009, Portland, Oregon (in conjunction with the Pacific Northwest Chapter Symposium)
- Sunday, December 6, 2009, New York, New York

AVS Board Meetings 2010

- Sunday, March 7, 2010, Tampa, Florida (in conjunction with Florida Chapter and Surface Analysis 2010 Meeting)
- Sunday, June 6, 2010, in Long Beach, California
- October 17, 2010, Albuquerque, New Mexico (in conjunction with the AVS 57th International Symposium and Exhibition)
- Sunday, December 5, 2010 in New York (in conjunction with a visit to AVS Headquarters)

AVS International Symposia

- AVS 56, November 8-13, 2009, San Jose, California
- AVS 57, October 17-22, 2010, Albuquerque, New Mexico
- AVS 58, October 30-November 4, 2011, Nashville, Tennessee

AVS Short Courses

www.avs.org/education.shortcourses.aspx

AVS Technical Meetings

www.avs.org/calendar.technical.aspx

Factor (JIF) by Thomas-Reuters. The relatively high JIF of 2.347 is a measure of the article citation frequency and signifies that work published in the Journal is indeed widely cited by scientists active in this focused technical area. The Journal also boasts a relatively high immediacy index number that correlates with the time since publication that the article has been cited.

We are confident that these statistics will stimulate new authors to submit their manuscripts to the Journal. Increased marketing activities are being planned to further promote the Journal among both the physical science and

medical communities. The open access format and web publishing in general are attractive to authors in that these vehicles boast a relatively short submission to publication time. Continued success with this Journal may stimulate future AVS open access offerings of interest to AVS membership.

As we bid summer goodbye, I encourage all of you to be advocates for AVS with respect to outreach activities. In this manner, I am confident that the Society will continue to provide attractive member benefits that will stimulate our future growth.



members, and past award winners can present at the meeting but are not eligible for the award.

An Executive committee Meeting will take place at 2:30 p.m., all chapter members are welcome to attend. We would like to obtain nominations for 2010 Vice Chair (becomes 2011 Chair), 2010 Treasurer, and three Members-at-Large (2010-2012), please send nominations to Vincent S. Smentkowski or Hong Piao using the contact information below.

Registration for the meeting is free. To register for the meeting, please contact Hong Piao by Friday, October 2, 2009, piao@research.ge.com or Vincent S. Smentkowski, vincent_smentkowski@avs.org.

The 28th Annual Israel Vacuum Society Conference

October 15, 2009
Herzlia, Israel

Web: <http://www.science.co.il/ivs/conferences/2009/>

The Israel Vacuum Society (IVS) Conference is the premier conference in Israel for advanced materials and their applications, combining traditional fields of surfaces, thin films, vacuum science and technology with new and developing areas of alternative energy, nanomaterials, and sensors.

This year, a special emphasis will be placed on cutting edge technologies in hi-tech of interest to academics and industrial attendees alike with numerous local and international speakers. The conference includes an extensive equipment exhibition and lively poster session.

The plenary session will include a lecture on bio-sensors by Rich Colton of U.S. Navy Research (through special collaboration with AVS) and a talk by Gabi Sarusy of El Op on recent developments in electrooptics in Israel.

For more information, please visit <http://www.science.co.il/ivs/conferences/2009/>

SIMS XVII

September 14-18, 2009
Toronto, Canada

Web: www.simsXVII.org

The 17th International Conference on Secondary Ion Mass Spectrometry (SIMS XVII) is the premier international forum for reporting new results and sharing practical information about SIMS and its related techniques as well as providing an informal atmosphere to encourage extended discussions. This meeting is being jointly organized by The University at Buffalo (New York, USA), The University of Toronto (Toronto, ON) and The University of Western Ontario (London, ON).

A vendor program will include an exhibition for components, data systems, and other commercial services. A book of abstracts will be made available to all eligible participants at the conference. The proceedings will be published soon after the conference. Selected papers will be considered for publication. The proceedings will appear in a special issue of *Applied Surface Science*.

Topics covered include:

- Fundamentals
- Instrumentation
- Organic Materials
- Inorganic Materials
- Bio Sciences/Life Sciences
- Nanotechnology
- Semiconductors/Microelectronics
- Organic Electronics
- Environmental Sciences
- Geology/Cosmochemistry
- Art Conservation
- Focused ION Beams
- Depth Profiling
- Dynamic SIMS
- Imaging/Data Analysis
- Cluster ION Beam Sources
- Cell, Bacterial and Tissue Imaging
- Dynamic SIMS vs. TOF SIM Depth Profiling

For more information, please visit www.simsXVII.org.

North Carolina Section of the Materials Research Society, Carolinas Central Chapter of ASM International, and AVS Mid-Atlantic Chapter

November 20, 2009
North Carolina State University
Centennial Campus
Raleigh, North Carolina

We are pleased to continue a joint symposium between the North Carolina Section of the Materials Research Society, Carolinas Central Chapter of ASM International, and AVS Mid-Atlantic Chapter. The meeting is expected to draw about 100 participants, both locally and from the surrounding region. Topics in materials science, processing, characterization, and biomaterials will be presented by both invited and selected student contributors.

The ASM/MRS/AVS-NC program will feature morning and afternoon oral sessions. A student poster session will also be held in the afternoon. Registration and poster setup is from 8:30 a.m.-9:15 a.m. Invited speakers and topics include:

- Robert Piascik (NASA), "The Space Shuttle-Lessons Learned"
- Ganapati Myneni (Jefferson Lab), "Low Purity Ingot Niobium for Accelerator Driven Systems"
- J.R. Gaines (Kurt Lesker Co.), "Lithium Thin Film Batteries: Architecture, History of Development, and Future Applications"
- Nancy Allbritton (UNC), "Micropallet Arrays for Cell Sorting"
- Roger Lawrence (NCSU), "Role of Solar Energy"

Several student contributed papers will be considered for oral presentation and will be allotted 15 minutes. A student poster session will also be held.

Contributions from students on research results, even at intermediate stages of completion, are strongly encouraged.

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Conference Announcements

Please indicate whether your abstract should be considered as a paper or as a poster. Electronic abstracts are required (please use Times New Roman font in 12 point). Cash prizes will be awarded for the best student oral presentation and for the top three poster presentations.

Please send electronic abstracts to Fred Stevie, fred_stevie@ncsu.edu. Abstracts are due November 11, 2009.

For more information, please contact Fred Stevie, fred_stevie@ncsu.edu, 919-515-7037.

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Society of Vacuum Coaters Inaugural Topical Conference (TopCon)

**November 3-5, 2009
Albuquerque Marriott
Albuquerque, New Mexico**

The conference focus is Advanced Coating Technologies for Corrosion/Erosion and Decorative Coatings-Alternatives for Electroplating Techniques.

This conference will discuss existing and potential applications of advanced coating technologies for high volume and demanding applications in various industries. It will also offer a unique forum for discussing these subjects from both fundamental and industrial perspectives. Particular emphasis will be given to alternative technologies, which are aimed to replace wet chemical methods. Some examples of high volume coatings for industrial applications are:

- Automotive: engine and turbo charger bearings, piston rings, transmission components, forward and rear lighting, wheels, trim
- Aerospace: engine compressor blades, coated high strength steel, abrasion protection on plastics, trim, lighting, electronic shielding, aluminum coated fasteners
- Energy/Military: tubes and pipes with interior and exterior coatings

- Consumer Products: white goods, lighting, cosmetics, electronics
- Raw Stock: zinc alloys, aluminum and nickel on continuous metal strip

This Topical Conference is co-sponsored by Sandia National Laboratories.

The technical program will open on November 4 with a presentation by the Keynote Speaker, Dr. F. Doug Wall, Sandia National Laboratories, Albuquerque, NM who will speak on "The Role of Corrosion Resistant Materials in the License Application" for a Repository at Yucca Mountain. Other invited speakers and presentations are listed in the TopCon Preliminary Program at <http://www.svc.org>. The Program Committee welcomes additional abstract submissions in the oral sessions and poster session.

On November 3 and 4 several popular SVC tutorial courses will be presented: Practical Aspects of Vacuum Technology: Operation & Maintenance of Production Vacuum Systems; Sputter Deposition in Manufacturing; ITO and Other Transparent Conductive Coatings: Fundamentals, Deposition, Properties, and Applications; and Practice of Reactive Sputtering. In addition a tutorial course developed by ASM entitled, "An Introduction to Aqueous Corrosion" will complement the conference focus. This Topical Conference will include a limited number of tabletop exhibits. TopCon sponsorships are also available which offer opportunities for corporate recognition at this event.

On-line registration for the SVC TopCon, tabletop exhibit, and tutorials is now open. To learn more about the <http://www.svc.org>.

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AVS Florida Chapter and Surface Analysis 2010

**March 8-10, 2010
University of Central Florida
Orlando, Florida**

Web: www.flavs.org

Surface Analysis 2010 will be held in conjunction with the AVS Florida Chapter and the Florida Society for Microscopy Annual Joint Symposium. The symposium will provide a forum for discussion of the quantitative and qualitative aspects of surface analysis.

Topics of particular interest will include renewable energy, surfaces, thin films, nano/biomaterials analysis, techniques and instrumentation, depth profiling and data processing, reference data and materials for interpretation and quantification.

Attention will be given to these topics as they apply to traditional techniques (e.g., AES, XPS, SIMS, SPM) and to emerging techniques such as scanning helium ion microscopy and extreme resolution SEM.

The symposium will consist of invited and contributed presentations, a poster session and competition, and a vendor exhibit. For more information, please visit www.flavs.org.

The ASSD division is also seeking nominations from a local AVS Chapter or Group to hold Surface Analysis 2011. For more information see: <http://www.avs.org/popup.aspx?FileName=assd>.

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Tom Keenan
Siew Joon Kon
Joseph Michaud
Scott Morton
Henry Perez
Jeremy Price
Rich Price
Shu Qin
Shyama Rath
Esteban Romano
Debdulal Roy
Richard Smith
Linda Tardie
Perry Taylor
Maria Torija
Jaap Van den Berg

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New Post Doc Members

Guido Verbeck
Danda Acharya
Yu Sato
Earl Tipton
Fengli Wang

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New Student Members

Scott Benus
Joshua Bevivino
Jonathan Brauer
Etosha Cave
Santanu Das
Erica Douglas
Christopher Flores
Konstantinos Gerasopoulos
Luke Habermehl
Ryan Hinkle
Justin Kreil
Omar Mousa
Chris Redden
Joseph Rivers
Selena Russell
Hikmet Sezen
Amish Shah
Sudhakar Shet
Alan Stottlemyer
Madhana Sunder
Joshua Wilson

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2009 Corporate Members

AVS wishes to thank the following Corporate Members for their support. Corporate Membership benefits include voting privileges, complimentary subscriptions, recognition, promotional opportunities, short course discounts, and more.

- Advanced Energy Industries, Inc.
- AJA International, Inc.
- Alcatel Vacuum Products, Inc.
- Anatech USA
- Angstrom Sciences, Inc.
- Applied Surface Technologies
- BellowsTech, LLC
- Brooks Automation, Inc.
- CemeCon AG
- CeramTec North America Corp.
- Chuanbei Technology (Beijing) Co., Ltd.
- Duniway Stockroom Corp.
- Evac International, Inc.
- FMG Enterprises, Inc.
- G.P.R. Company, Inc.
- Gamma Vacuum
- Helium Leak Testing, Inc.
- Innovative Vacuum Solutions, Inc.
- ION-TOF USA, Inc.
- Kimball Physics
- Kratos Analytical
- Kurt J. Lesker Company
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- Midwest Tungsten Service, Inc.
- MKS Instruments, Inc.
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- Sumitomo (SHI) Cryogenics of America, Inc.
- Ted Pella, Inc.

- Thermal Conductive Bonding, Inc.
- Thermo Fisher Scientific
- Torr Scientific, Ltd.
- Transfer Engineering and Manufacturing, Inc.
- Trinos Vacuum Systems, Inc.
- U-C Components, Inc.
- Vacuum Research Corp.
- VAT, Inc.
- Veeco Instruments, Inc.

For more information, please contact Angela Klink, membership@avs.org, 212-248-0200, or visit www.avs.org.

INTERNATIONAL SYMPOSIUM

AVS 56

November 8-13, 2009
San Jose, California

Web: www.avs.org

Technical Symposia:

- Advanced Surface Engineering
- Applied Surface Science
- Biomaterial Interfaces
- Electronic Materials and Processing
- Magnetic Interfaces and Nanostructures
- MEMS and NEMS
- Manufacturing Science and Technology
- Nanometer-scale Science and Technology
- Plasma Science and Technology
- Surface Science
- Thin Film
- Vacuum Technology

Focused Topics:

- BioMEMS
- Photovoltaics
- Tribology

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International Symposium

The *AVS Newsletter* is published quarterly. The contribution deadlines are the first of February, May, August, and November. Please send your contributions to: Managing Editor, Della Miller, della@avs.org, 530-896-0477.

AVS National Staff

New York

125 Maiden Lane., 15th Floor
New York, NY 10038
212-248-0200

Managing Director:
Yvonne Towse,
Ext. 222, yvonne@avs.org

Exhibit & Sales Coordinator:
Jeannette DeGennaro,
Ext. 229, jeannette@avs.org

Information Systems Coordinator:
Keith Mitchell,
Ext. 223, keith@avs.org

Membership/General Information:
Angela Klink,
Ext. 221, angela@avs.org

Financial Operations Coordinator:
Peter Burke,
Ext. 224, peter@avs.org

Electronic Services Assistant:
Steve Barker,
Ext. 225, steve@avs.org

Office Assistant:
Ricky Baldeo,
Ext. 226, ricky@avs.org

California

110 Yellowstone Drive, Suite 120
Chico, CA 95973
530-896-0477

MarCom/Events Manager:
Della Miller, della@avs.org

Events/Office Coordinator:
Heather Korff, heather@avs.org

North Carolina

Publications Office, 100 Park Drive,
Suite 105, Caller Box 13994
Research Triangle Park, NC 27709
919-361-2787

Nancy Schultheis,
Publications Office Manager
nancy_schultheis@avs.org

- 2:20 p.m.–3:20 p.m.: Epitaxial Graphenes, Professor Phillip N. First, Georgia Institute of Technology
- 3:20 p.m.–3:40 p.m.: Break
- 3:40 p.m.–4:40 p.m.: New Physics in Graphene Two-Dimensional Electron Systems, Professor Allan H. MacDonald, University of Texas-Austin

Who Should Attend?

These tutorials are designed to benefit both the technical non-specialist and those currently doing graphene research and should appeal to a broad range of engineers, scientists, technicians, students, as well as industry professionals.

Questions? E-mail heather@avs.org; Call 530-896-0477. Register online at <https://www.xpressreg.net/Register/avss119/lookup.asp>.

Call for Art Zone Submissions

Submission Deadline: October 20, 2009

Often members of the AVS community use scientific images to convey information—sometimes these images contain aesthetic qualities that evoke a personal, intellectual, emotional, or spiritual response transforming them into objects of art. The question then is where does the science end and the art begin? Let your fellow colleagues be the judge of your artistic interpretations of science as art.

Submission Guidelines and Rules

Submissions should consist of images that complement the “science & technology” topics of the meeting. Images could be obtained by any material imaging technique, modeling and simulation, or by combining multiple images into one artistic image.

The AVS Marketing and Communications Committee will select the top 50 submissions for entry into the contest at the Exhibition. While judging will be based on the aesthetics of the image rather than its scientific quality, it should still relate back to the science & technology of this meeting.

All images should be submitted by October 20, 2009, as low resolution jpeg/PDF files with a brief description of the technique(s) used, the object(s) imaged, and any other relevant comments. Please e-mail them to Della Miller, della@avs.org. Questions? Call 530-896-0477.

Accepted images will need to be brought to the conference in a designated format; easels will be supplied for display.

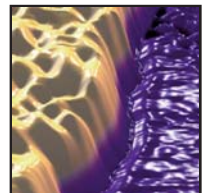
Attendee Judging and Prizes

The top images, up to 50, will be displayed at Equipment Exhibition from Tuesday-Thursday. Attendees will have the opportunity to vote for the best submission throughout the week. Bring your friends!

First prize (\$500), second prize (\$250), and third prize (\$100) winners (based on voting) will be announced at the Exhibit Finale on Thursday in the Exhibit Hall. These winning images may be used in future AVS promotional pieces. Below are last years winning images.

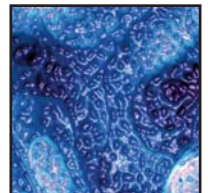
First Place

"Seashore at Sunset,"
Courtesy of Heather Tierney, Tufts University, 2008



Second Place

"Rough Waters,"
Courtesy of Seth Darling, Argonne National Laboratory, 2008



Third Place

"Through the Eye of the Double-Helix,"
Courtesy of Sasha Ishmael, Advanced Magnet Lab, Inc., 2007

