



SCCAVS Newsletter

March 2010

First Issue of 2010!

Special points of interest:

- Speaker/Dinner Meeting Announcement
- Educational Outreach: Local Science Fairs
- "Ask The Experts" ask YOU what short courses you would like for 2010
- ICMCTF April 26-30
- 21st Annual SEW announced for local science educators

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Dick Madison, Past-Chair

Greg Mills

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Vacuum Technology and Entrepreneurship at Sygen

Jeff Lince

The Southern California Chapter of the AVS Science and Technology Society invite you to a plant tour of Sygen Technology, Inc., dinner, and a presentation by Jack Syage, President, Sygen Technology, Inc. The title of this event is Vacuum Technology and Entrepreneurship at Sygen.

The event begins with the tour on **Wednesday, April 21, 2010 at 6:00pm**, at Sygen Technology (1411 Warner Ave., Tustin, CA 92780) and is followed by dinner at 7:15 at the nearby Holiday Inn Santa Ana (2726 South Grand Ave., Santa Ana, CA 92705).

The cost is \$25 (\$20 for students), and includes dinner and attendance at both the tour and the presentation.

Sygen is a leader in applying ionization mass spectrometer technology to such diverse applications as explosives, bio-weapon, and drug detection at airports as well as high performance life sciences instrumentation. Dr. Syage will discuss technical and business challenges the company has met. The event will be of interest to both technologists and entrepreneurs.



Dr. Syage has over 20 years of experience in creating and leading the development of innovative technologies in the analytical and aerospace industries. Jack has published over 120 papers and delivered over 50



invited talks in fields of mass spectrometry, trace detection, and ultrafast spectrometry, and has 20 U.S. patents issued or pending. He appears on the list of the Most Highly Cited Chemists of the last 2 decades. He received a BA in chemistry from Hamilton College (1976) and a PhD in Physical Chemistry from Brown University (1982). Jack was a postdoctoral fellow at CalTech under Nobel Laureate Ahmed Zewail (1982-1984).

Pre-registration required as space is limited! Contact:

info@sccavs.org

For forms and payment instructions

Seeking Sponsors for Area Events

The SCCAVS is actively seeking sponsors for local events such as the upcoming speaker dinner and tour at Sygen.

This particular event allows for tabletop display (up to 6 ft. rectangular), online recognition of sponsorship on the Chapter website, and

includes attendance at the tour and dinner for only \$150.00.

Interested parties should contact Larry Oberlander as soon as possible to make arrangements at chair@sccavs.org

More events to come!

SCCAVS FREE Job Site on Web

The Southern California Chapter of the American Vacuum Society would like to remind our members that we have a jobs page on our website, and that we will post resumes or employer job announcements free of charge.

For info contact:
jeff@sccavs.org

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DF Technology Inc.
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Southern California Representatives for:

Alcatel Vacuum Products Inc. - www.adixen-usa.com
Brooks Automation Inc. - www.brooks.com
Nor-Cal Products Inc. - www.n-c.com
Materials Science Inc. - www.msi-pse.com
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Support Your Local Chapter

Ad Sponsorship starts at just \$75 per quarter for a business card sized advertisement, and a discount rate of \$250 for the entire year (4 issues) is available.

Larger format advertisements now accepted. For pricing on 1/4 page and 1/2 page ads please contact Corinne Freeman with questions. Our next issue will go out in June/July 2010.

Corinne@sccavs.org

21st Annual Science Educator's Workshop Announced for October 18-19th, 2010

Corinne Freeman

The 21st Annual Science Educator's Workshop will be held in Albuquerque, New Mexico during the AVS 57th National Symposium on October 18th and 19th, 2010. Once again, the Southern California Chapter of the AVS Science and Technology Society will be sponsoring a local teacher to attend this event. The in-service workshop will be fully accredited by the University of Dayton and therefore attendees will be eligible for continuing education credit at no cost. Another important benefit to the teachers and their schools provided by the AVS will be a grant to the attendee's school for a vacuum system having a retail value of approximately \$1,100.00.

The workshop is divided into two parts: (1) lectures on the underlying science and the mathematical calculations and (2) hands-on experience in which a group of teachers perform experiments and develop models under guidance of an instructor team. The workshop is aligned with the national science and mathematics standards.

If you are a Southern California middle or high school science teacher please contact Corinne@sccavs.org for more information and to apply. Applications are available online at <http://www.avs.org/education.workshop.aspx>



**SOUTHERN
CALIFORNIA
CHAPTER OF THE
AMERICAN
VACUUM SOCIETY**

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We're on the web!
www.sccavs.org

Upcoming Events:

**ICMCTF
(37th International
Conference on Metal-
lurgical Coatings and
Thin Films)**

April 26-30, 2010

**Town & Country
Hotel**

San Diego, CA

www.icmctf.org



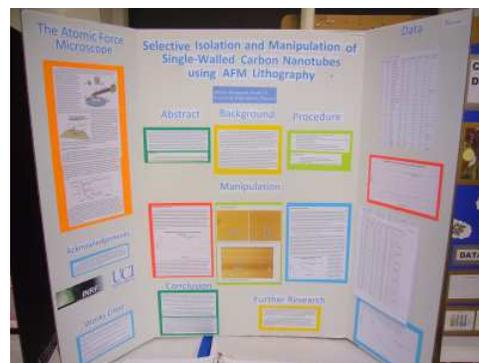
The Science and Technology Society

Educational Outreach: SCCAVS members to judge Special Awards category at LA and Orange County Science Fairs

April not only signals Spring is here but is the month local students look forward to both the Los Angeles County Science Fair in Pasadena and the Orange County Science Fair in Costa Mesa.

On April 7th, 2010, SCCAVS members will be judging the 55th Annual OCSEF at Orange County Fair and Exposition Center and will be awarding 1st and 2nd cash prizes to deserving students with projects related to vacuum science. Just one week later on April 14-16th, we will be doing the same for students competing in the 60th Annual LA County Science Fair held at the Pasadena Convention Center.

The SCCAVS is proud to act as Special Awards Judges and support the development of middle and high school student's interest in vacuum science.



Pictures from last year's OCSEF: (From left to right) 1st place winner Jonathan Ota's "Phototropic Emulation to Increase the Efficiency of Solar Panels" and runner-up Abhejit Rajagopal's "Selective Isolation & Manipulation of Single Walled Carbon Nanotubes"

Community Q&A: "Ask The Experts"

Questions and answers are to be sent to:

ask@sccavs.org

Deadline is June 1st, 2010

Last Month's Question:

The typical potting compounds used for producing metallurgical cross sections tend to work well for scanning electron microscopy, but not for Auger electron spectroscopy (and other surface analysis techniques) because of the lower vacuum level (UHV vs. HV) and increased sensitivity to charging. Are there compounds available that have sufficiently low electrical conductivity and vapor pressure, and yet retain good properties for sectioning and polishing cross sections?

Member Response:

Potting compounds are generally nonconductive, and although many are OK for HV (e.g. for SEM analy-

sis), their vapor pressures are too high for UHV. There are a few compounds that can work, however. For example, try EPO-TEK® 377, STYCAST™ 2651, INSULCAST 3230 LV, and Epibond 1210-A. The easiest way to make them conductive is to mix in various amounts of graphite powder appropriate to your application. A 2:1 ratio of graphite:resin by weight may work.

Question of the Month:

The question posed in this issue is a little different than in the past because it is being posed by your SCCAVS members at large. We are currently developing our short course program for 2010, and we need your input to determine what courses will meet the needs of the Southern California technical community. If you have a particular vacuum-related topic that would

benefit you or members of your company, we would like to hear from you.

SCCAVS can offer a variety of short courses in vacuum technology, coatings technology, surface science/analysis, surface engineering, and other vacuum related areas.

For a catalog of short courses that are offered through the AVS and can be offered here locally in Southern California please visit:

<http://www.avs.org/education.catalog.aspx>

We are looking forward to hearing from you!

***Don't forget to submit your questions for appearance in our next issue which will be out in June/July 2010!**