August 2018 Newsletter

**American Chemical Society** 

Volume 40 No. 8

#### **AUGUST 2018 NEWSLETTER TOPICS**

- September Dinner Seminar: Materials **R&D** at Lawrence Livermore National Laboratory
- Chair's Message
- Connect with Chemists
- Elections for 2019 Silicon Valley ACS Leadership
- A Tale of the Bylaws
- New SVACS Members
- Chemistry Quiz
- Invited Speaker Panel on Education of Students with Disabilities
- Ottenberg Award to Joe Castellano
- Regional Meetings
- Molecule of the Month
- Resources You Can Use

## Connect with Chemists

An early morning chat with fellow chemists

Thursday, August 16, 2018, at 7 a.m. Coupa Café, 538 Ramona Street, Palo Alto

Contact Ean Warren (ewarren@scvacs.org) for more information or ask for ACS at Coupa. **SVACS September Dinner Seminar** 

## Materials R&D at **Lawrence Livermore National Laboratory**

Dr. Robert S. Maxwell

#### **Abstract:**

Established in 1952, LLNL is a multidisciplinary National Laboratory 35 miles east of San Francisco focused on applying state of the art science, engineering, and operational expertise to Nuclear, International and Domestic and Energy and Environmental Security missions.

Chemical and Material Sciences play critical roles in meeting the decadal challenges in these areas including developing target and optical materials for the National Ignition Facility, science-based predictive models of material behavior and aging, and new material and manufacturing solutions for emerging energy security needs. An overview of LLNL, its missions, and examples of the integration of our capabilities in synthesis, characterization, multiscale modeling, and advanced manufacturing to advance material and component design and understanding will be presented.

This work is performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory



under Contract DE-AC52-07NA27344.

## Biography:

Dr. Maxwell is currently the Division Leader for Material Science at Lawrence Livermore National Laboratory. The 350 staff within MSD support all the National Security programs at

continued on next page

## **SVACS September Dinner Seminar**

Date: Thursday, September 6, 2018

Time: 6:00 p.m. Social Hour 7:00 p.m. Dinner 8:00 p.m. Presentation

Speaker: Dr. Robert Maxwell Lawrence Livermore National Laboratory Materials R&D at LLNL

**Location:** Michael's at Shoreline Park Mountain View, CA

http://michaelsatshoreline.com/

Costs: \$30 regular

\$15 for student/unemployed/

Menu: Chicken Cordon Bleu or Grilled Salmon or Spinach and Cheese Tortellini

Registration: www.scvacs.org

Sally Peters 650-477-3027

Reservations should be made by September 4th. Watch the web site for more information. If you are unable to honor your reservation, please cancel by Wednesday, September 5th.

## Chair's Message

#### Melody Esfandiari



The summer of 2018 is flying by right in front of my eyes. I was at the mall running errands when I noticed most stores are assembling their back-to-school aisles, stocked with pens, pencils, notebooks, and backpacks. Some stores have even begun putting up Halloween decorations, already with large 30%-50% off signs. This made me sad as I'm not ready to part ways with summer, but thankfully the Silicon Valley ACS has scheduled a variety of fun events for the upcoming months to keep us entertained. First we have a dinner meeting organized for

Thursday, September 6th. Dr. Robert Maxwell from the Lawrence Livermore National

continued on next page

#### Dinner Seminar, continued from front page

LLNL and include core capabilities in computational material science, advanced characterization, optical and composite material synthesis and manufacturing, and actinides and energetic materials. Dr. Maxwell received his Ph.D. in 1993 from the University of California Santa Barbara. He served as a Postdoctoral Fellow at PNNL and joined LLNL in 1997. Since then he has held numerous management and technical roles. He has ongoing research interests in the development and use of nuclear magnetic resonance (NMR) methods to study the structure and dynamics of materials, including glasses, ceramics, polymers, and composites; the application of experimental and computational methods to gain fundamental understanding of material aging and degradation mechanisms; and the development and characterization of novel materials and synthesis and manufacturing processes (including Additive Manufacturing) to meet the needs of the laboratory's National Security sponsors.

#### Chair's Message, continued from front page

Laboratory is our guest speaker. It will be at the usual location at Michael's restaurant at Shoreline. If you haven't made it to one of our dinner meetings, we hope to see you at this one. There is a cocktail hour (with a great wine selection) prior to the talk, which will give us a chance to get to know our members. Next on the schedule of events is the annual "Flavors of Chemistry", a joint meeting with the Sacramento and California ACS sections. Join us on September 29 to enjoy a day packed with speakers and sample tasting.

This year, National Chemistry Week (NCW) is the week of October 22nd. If you have ideas you would like to share or volunteer for this year's NCW, we would love to hear from you. It's never too early to start planning. You can contact me or any of the Executive Committee members (our information can be found on the last page of the newsletter). Also, remember we have an awe-some Facebook page. Please feel free to share

your passion for chemistry or like/comment any of the postings.

As you may know I include a fun fact at the end of my chair message. I do the same at the end of my lectures to keep my students entertained. As I'm getting ready to wrap up my summer, find friends who have air-conditioned houses, and prepare for school, I have an astronomy-related fun fact. The earth orbits around the sun, but surprisingly that has very little effect on the seasons. What creates our seasons is the tilt of the Earth's axis. During different seasons, the sun's rays hit parts of the earth more directly. During summer, the angle of the earth's axis tilts the northern hemisphere towards the sun and the southern hemisphere away from it. Our planet is actually closer to the sun during the northern hemisphere's winter. However, distance from the sun does not affect the season. Stay cool and hydrated until the earth's axis tilts away from the sun.

## **Elections for 2019 Silicon Valley ACS Leadership**

A message from the Nominations Committee

This fall you have the opportunity to elect members of our section to the 2019 Silicon Valley ACS Executive Committee! The official online ballot with candidate bios and statements will be sent out in October by email to all section members, but first we would like to take this opportunity to present this year's candidates and to remind all of you that if you are interested in joining the leadership team, you can still petition to be on the ballot if you submit by September 10, 2018 (instructions below).

We have ten (!) open positions this year, which made us wonder if we would find enough people to run. We were excited to see so many members willing to run and stay/get involved at the leadership level of our section. Positions on the slate include Chair-Elect, Secretary, Treasurer, Councilors, and Alternate Councilors. Descriptions of these positions are available on our website (www.scvacs. org/?page id=4). On behalf of the current Silicon Valley Section Executive Committee, the Nominations Committee is very pleased to present the following group of candidates. We also have ballot measures regarding our revised bylaws, which our Bylaw Committee will comment on elsewhere in upcoming newsletters. We hope to get some strong voter

turnout and please feel free to reach out to any of the Executive Committee members if you have questions about the election process (our contact information can, as always, be found at the end of the newsletter).

Our slate of candidates:

#### Chair-Elect

Charlie Cox

Matt Greaney

#### Secretary

Jigisha Shah

#### Treasurer

Ihab Darwish

**Councilor** (3 open positions; the three candidates with the most votes will fill these 3-year positions. Vote for 3.)

Linda Brunauer

Jane Frommer

Alexander Hess

Magi Mettry

Sally Peters

Peter Rusch

Alternate Councilor (4 open positions: three 3-year terms and one 1-year term; the three candidates with the most votes will fill the 3-year positions. The candidate with the 4th most votes will fill the one-year position. Vote for 4.)

Richard Bone Steve Boyer Todd Eberspacher

John Goeltz

Dave Parker

Howard Peters

Sogol Teschler

Laura Yeager

How to petition to be on the ballot

This is a call for nominations of petition candidates. Properly completed petitions received by the due date of September 10, 2018 at 5 p.m. local time will appear on the ballot. Petitions can be sent to the attention of our section secretary, Jigisha Shah, at P.O. Box 395, Palo Alto, CA 94302. You can also contact Jigisha with questions (jssheth@syr.edu).

Requirements for petition candidates include:

- the name of the proposed candidate
- the proposed position
- 15 supporting SVACS member names, signatures, and ACS membership numbers
- submission by email of the completed petition (as a PDF) by September 10, 2018 at 5 p.m. local time to the SVACS Secretary.

All candidates must be members of the Section and must be willing to serve. According to ACS bylaws, affiliate members may not participate in the election. Student members may vote and sign petitions, but they may not run for office.

## A Tale of the Bylaws

George Lechner, SVACS Councilor

Toward the end of 2016, there was some discussion among several members about changing the name of our section, but to what? The discussion topics were about where is Santa Clara Valley (?) and shouldn't we have a name that talks about "us" and where we are that people recognize (?). The section covers a very large geography in California with many diverse peoples, agriculture business, high-tech companies and chemical interests. Although most of our members live and work just below South San Francisco in San Mateo and Santa Clara Counties, there are three more counties south of us, Santa Cruz, San Benito, and Monterey, where a lot of chemistry is going on in agriculture, marine science and education. Silicon, a pervasive element in the high-tech arena that involves many in our area, endowed our location with worldwide recognition as 'Silicon Valley'.

When the discussion came to the attention of our Executive Committee, our then Chair, Jane Frommer, queried some of the membership about changing our name to something like-Silicon Valley Section-with a

positive response. The proposal was approved by the Executive Committee and placed on the November 2016 election ballot. The membership voted to approve the measure with 80% of the vote. Following this was a successful petition to the ACS Council Committee on Local Section Activities (LSAC) to approve at the ACS Spring meeting in San Francisco. This caused us to start looking at our existing bylaws, which identifies us as the Santa Clara Valley Section, Inc., of the American Chemical Society.

Wait! What? "Inc."? Yes, we are incorporated in California. OK, where are our Articles of Incorporation? No one knew! We need to change them! By luck, we received a copy of the Articles from ACS in the form of a California Section (The Vortex) newsletter article, dated September, 1955, the year of our incorporation. The Bylaws Committee then got busy finding out what to do and successfully got a certification from the California Secretary of State to change our name to the Silicon Valley Section, Inc., of the American Chemical Society. We supplied LSAC all the

necessary paperwork and, voila!, here comes in the mail our "new" bylaws with the name change. Job finished!

No?! Wait! Now, ACS wants us to further revise the "new" bylaws with a "ton" of new and suggested items of revision. A couple of years ago, ACS developed a set of Model Bylaws, and, with the assistance of Barbara Polansky at ACS, we received a blended version of our existing bylaws with the model and are just about to have our new set of bylaws approved by the Executive Committee, ACS LSAC, and a vote of the membership for approval in the November 2018 election. Now! The job is done! Well, almost!

## **Chemistry Quiz**

What is the common name and biologic role of this molecule?

The answer will appear in next month's newsletter.

### **Last Month's Chemistry Quiz**

Which of the 5 Platonic Hydrocarbons can be synthesized and observed experimentally? Learn about *platonic hydrocarbons*.

- 1. Tetrahedrane  $(C_4H_4)$  has not yet been synthesized without substituents, but it is predicted to be kinetically stable
- 2. Cubane  $(C_8H_8)$  has been synthesized: Chem. Rev., 2015, 115 (14), pp 6719–6745
- The existence of octahedrane cannot be ruled out completely, although calculations have shown that it is unlikely
- Dodecahedrane (C<sub>20</sub>H<sub>20</sub>) has been synthesized, and has almost zero angle strain: J. Am. Chem. Soc., 1982, 104 (16), pp 4503–4504
- 5. Icosahedron is not feasible with tetravalent carbon because 5 edges meet at each vertex

## Welcome to the Silicon Valley Section of ACS

Each month, the section receives a spreadsheet from national ACS with the names of members new to our section. The members are either new to ACS, have transferred in from other areas, or are the newest members — students. To welcome you to the section and get to know you, the Executive Committee offers new members a free dinner! To encourage you to attend a monthly section seminar meeting, we would like you to be our guest. When you register, make certain to mention that you are a new member and you and a friend will be our guests. The seminar meetings are held at a number of local venues. If you are unable to attend inthe evening, perhaps you would join us for an outreach event, like judging a science fair, proctoring the Chemistry Olympiad or participating in a National Chemistry Week event in October. Then, there is our annual wine tasting and awards picnic in July. The local section is a volunteer organization. Please attend an event, volunteer to help and get to know your local fellow chemists. Welcome!

## **New SVACS Members**

Dr. Claudia L. Averbuj Dr. Simon Russell Bare Salma Bejaoui Frances Benson Sophia Boettcher Olivia Boisen Catherine Cassou Kyle Bradley Clagg Michelia Dam Cheng-Guo Dong Ian J. Doxsee Meredith Durant Sayed Habibul Gafur Dr. Keith Gneshin Marjorie F. Haskell Dr. Alexander Edward Hess Dr. Aru Hill Leonhard Moeckl Vivian Qu Summer Ramsay-Burrough

Meera Rao Donald Ripatti Sylvia Gwyn Speights Yichi Su Takashi Sugioka Tori Tafuri Sogol Teschler Dr. Arun Thottumkara William Vernier Dr. Xueqing Wang Putra Wibisono Cody Wrasman Maheeka Yapa Abeywardana Men Zhu

# Invited Speaker Panel on Education of Students with Disabilities

Christopher J. Pope

AIChE's Chem.E.'s with Disabilities (ChEwD) Task Force and Education Division are jointly sponsoring a session of invited speakers entitled "Catalyzing the Unique Abilities of Students with Disabilities" [https://aiche.confex.com/aiche/2018/meetingapp.cgi/Session/38519] at the 2018 AIChE Annual Meeting this fall in Pittsburgh [https://www.aiche.org/conferences/aiche-annual-meeting/2018]. There is currently an opening for one more speaker. We are looking for someone who has been a leader in expanding opportunities for inclusion of students with disabilities in the chemical sciences or related STEM fields. If you or someone you know would be a good match, please contact me at cjpope.phd@gmail.com or (831) 346-9510.

As both an ACS and AIChE member, my becoming aware of ACS's Chemists With Disabilities (CWD) Committee several years ago inspired me to create similar opportunities within AIChE. Starting with the 2016 AIChE Annual Meeting in San Francisco, there have been invited speaker panels at AIChE national meetings promoting awareness and inclusion of professionals with disabilities. Called the Disability Unity Community Convocation (DUCC), each session -- including the one this fall -- includes ACS CWD speakers. Information about the first DUCC can be found here: https://www.aiche.org/giving/impact/stories/disabilityunity-community-convocation. That page also includes links to a transcript of the whole 2-1/2 hour session, as well as to two video interviews of members of the speaker panel interviewed by Bill Byers, an AIChE Past President (2004) and member of the ChEwD Task Force. The past three DUCC events have been made possible by funding from the AIChE Foundation (as will hopefully be the one this fall). Anyone who is interested in strengthening this ongoing collaboration between ACS and AIChE is also welcome to contact me. If you are also an AIChE member or would like to be, we have room for you in the task force, which will soon become a standing committee. There is room for all talented people in the chemical sciences, especially for those of us having the unique abilities that adapting to living with disabilities has given us.

## Ottenberg Award to Joe Castellano

The 2018 Ottenberg Award is presented to Dr. Joseph (Joe) A. Castellano. Joe Castellano has been the champion and administrator of the Bubble grant award from the initiation of this program to present, at least 7 years. Joe prepares flyers, does outreach and information campaigns for schools

across California and chairs the committee which selects the recipients of this program. Joe is also very active in school programs. Joe is very involved with TOPS of Santa Clara Valley where Joe is the webmaster as well as involved in the school outreach programs.

After being raised and educated in New York City, Joe spent 47 years in scientific research, technology development, and man-



agement before retiring in 2002. During his career, he authored or co-authored more than 60 scientific/technical papers published in books, journals, and government contract reports. He also holds twelve U.S. patents and continues to write and speak on topics related to science and technology. I

also volunteer to help teach physical science at a local middle school. His wife Rose and he have two sons, a daughter, and four grandchildren.

The Ottenberg Award was established in 1973 to recognize outstanding service to the Santa Clara Valley (now Silicon Valley) Section. Named after Dr. Abraham Ottenberg, it is awarded annually to a mem-

## **Online Video**



Why Should We Do Laboratory Chemical Risk Assessments? (2:12)

https://www.youtube.com/watch?v=mYTaITYUEKE

Laboratory Chemical Risk Assessments are an important habit to develop in the research laboratory. This video outlines how they are done and some of the key reasons that they are important.

From the ACS Division of Chemical Health and Safety.

## **Regional Meetings**

ACS Regional Meetings are organized by ACS Local Sections and reflect the diverse professional interests in their geographic regions. These meetings feature excellent technical programs on a variety of topics, poster sessions, expositions, and social events over the course of a three to four day period. The smaller size of an ACS Regional Meeting allows for a greater opportunity for interactions between attendees, and costs less to attend than a National Meeting.

Midwest (MWRM)

October 21 - 23 Ames, IA

Nano WRM

October 27 Pasadena, CA

Southeastern (SERMACS)

October 31 - November 3 Augusta, GA

Southwest (SWRM)

November 7 - 10 Little Rock, AR

ber of the section nominated for his or her service. Previous recipients are not eligible for the award.







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## **Resources You Can Use**

## Chemical Education Xchange (ChemEd X) <a href="https://www.chemedx.org/">https://www.chemedx.org/</a>

"Aimed at precollege and two-year college audiences, ChemEd X hopes to strengthen the community of chemistry educators by providing learning resources and forums for discussion and collaboration on our interactive platform." Provided by the ACS Division of Chemical Education.



#### https://www.ebi.ac.uk/services

"The European Molecular Biology Laboratory-European Bioinformatics Institute (EMBL-EBI) maintains the world's most comprehensive range of freely available and up-to-date molecular data resources. EMBL-EBI supports life-science research throughout the world by providing open data, open-source software and analytical tools, and technical infrastructure." *Learn more*.

## Mason OER Metafinder (MOM)

https://mason.deepwebaccess.com/mason\_ MasonLibrariesOpenEducationResources\_ 5f4/desktop/en/search.html

"In conjunction with Deep Web Technologies, the George Mason University Libraries has developed a search engine that simultaneously queries a number of open educational resource sites. We're still adding search targets but today our OER Metafinder searches sixteen sites in real time, returning the top 250 or so hits from each site—in seconds! Additional matches continue to trickle in as you begin examining your results."

## The Materials Project

## https://materialsproject.org/

"Harnessing the power of supercomputing and state of the art electronic structure methods, the Materials Project provides open



web-based access to computed information on known and predicted materials as well as powerful analysis tools to inspire and design novel materials."

## MERLOT

## https://www.merlot.org/merlot/index.htm

"The MERLOT system provides access to curated online learning and support materials and content creation tools, led by an international community of educators, learners and researchers."

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#### nanoHUB

#### https://nanohub.org/

"nanoHUB.org is the premier place for computational nanotechnology research, education, and collaboration. Our site hosts a rapidly growing collection of simulation tools for nanoscale phenomena that run in the cloud and are accessible through a web browser. In addition to simulations, nanoHUB provides online presentations, cutting-edge nano-HUB-U short courses, animations, teaching materials, and more."

## •

## National Center for Science and Engineering Statistics (NCSES)

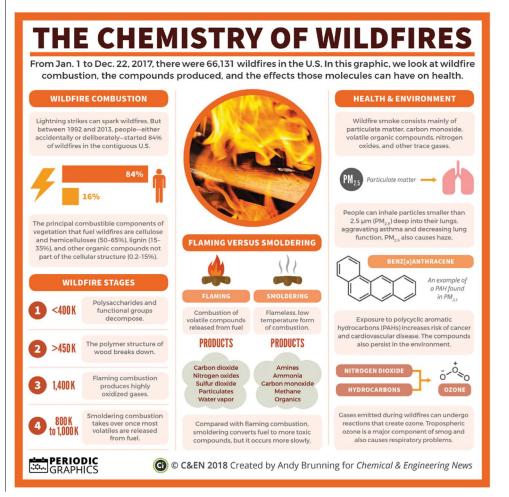
## https://www.nsf.gov/statistics/

"The National Center for Science and Engineering Statistics (NCSES) is the nation's leading provider of statistical data on the U.S. science and engineering enterprise. Explore their website for data on research and development, the science and engineering workforce, the condition and progress of STEM education, and U.S. competitiveness in science, engineering, technology, and R&D." Updated annually, one key publication they produce is *Science and Engineering Indicators*.

## Wolfram Alpha

## http://m.wolframalpha.com/

"Wolfram|Alpha has defined a fundamentally new paradigm for getting knowledge and answers—not by searching the web, but by doing dynamic computations based on a vast collection of built-in data, algorithms and methods. Wolfram|Alpha's long-term goal is to make all systematic knowledge immediately computable and accessible to everyone."







To receive an email when our newsletter is published on our web site, sign up at: http://scvacs.org/?page\_id=99

### SILICON VALLEY SECTION

## **2018 Section Officers**

Director:

Liang Cao

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Treasurer	Ihab Darwish	650-624-1389	darwishis@yahoo.com
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### **FUTURE EVENTS**

Aug 19-23 Fall National ACS Meeting Nanoscience, Nanotechnology and Beyond Boston, MA https://www.acs.org/content/acs/en.html Sep 6 SVACS Dinner Seminar Materials R&D at Lawrence Livermore National Laboratory Dr. Robert Maxwell Michael's at Shoreline, Mountain View, CA **Sep 29** Save the Date: joint event with Sacramento

and California local ACS sections Flavors of Chemistry

UC Davis, Davis, CA

Oct 12-18 Save the Dates: ACS-sponsored performances of No Belles by the Portal Theatre Group Various college campuses in the SF and Monterey Bay areas

Click on links for more information or see this newsletter at <a href="http://scvacs.org/?page\_id=99">http://scvacs.org/?page\_id=99</a>