

# Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

Volume 37 No. 11

## NOVEMBER 2015 NEWSLETTER TOPICS

- Establishing and Protecting Your Intellectual Property
- Chair's Message
- Connect with Chemists
- Mosher Award Recipient Attila Pavlath
- Does the public realize what chemistry has done for them?
- Chemistry Quiz
- Report from the National ACS Meeting
- Two 2015 ACS Fellows from Santa Clara Valley ACS
- Outreach to Children in Homeless Shelters
- 2015 BUBBLE Grants Awarded
- New Members for September

## Connect with Chemists

Meet fellow local chemists for an early morning coffee.

Look for Ean at a table with molecular models.

**Thursday, November 19th, 2015 at 7a.m.**

Coupa Café

538 Ramona Street, Palo Alto

(a half a block off from University Avenue)

## Chair's Message

Ashley Piekarski



It's November which means it is election time for our local section! Please take the time to vote for our executive committee. This year we have several volunteers running

for the same position so every vote counts!

I have also sent out applications for the Teacher Scholar Award. This award was created in 2009 to recognize the contributions of

**Tuesday, November 10, 2015 Seminar Meeting**

## Establishing and Protecting Your Intellectual Property

The American Chemical Society Industry Member Office offers 'Program in a Box' - an initiative tailored to the needs of small business and industry professionals. The program is broadcasted live nationwide and attended locally in small groups.

"Establishing and Protecting Your Intellectual Property" is the topic of the second event in this series, taking place on Tuesday, November 10th at 4pm. The first event of the series took place in April on "How to Create a Safety Culture While Growing Your Business". November's speakers include Washington, DC, patent attorneys Robert Koch of Milbank and Justin Hasford of Finnegan. The presentations and discussion cover the definition, protection and costs of obtaining IP with real-life case studies of success and missed opportunities.

This event combines a live broadcast and real-time Q&A with an on site program hosted locally and simultaneously nationwide. In the "Program-in-a-Box" format, ACS national provides expert speakers and a physical box



with supporting materials for the afternoon event. Evans Analytical Group (EAG) generously provides our group a centrally located venue in their facility at 810 Kifer Road, Sunnyvale.

The local Santa Clara Valley ACS chapter provides refreshments, encouraging

networking. The event is offered at no cost to attendees as a public service of the ACS to support the small business culture.

### Program description

[www.acs.org/content/acs/en/acs-webinars/program-in-a-box/pib-on-demand/protect-ip.html](http://www.acs.org/content/acs/en/acs-webinars/program-in-a-box/pib-on-demand/protect-ip.html)

**Date:** Tuesday, November 10, 2015

**Time:** 4:00 PM Lecture

5:00 PM Q&A

6:00 PM Networking and Socializing

**Location:** Evans Analytical Group - EAG

810 Kifer Road, Sunnyvale

### Registration Required:

[www.scvacs.org/Local\\_Folder/meeting1511.html](http://www.scvacs.org/Local_Folder/meeting1511.html)

no cost, open to the public

**Inquiries:** [chair@scvacs.org](mailto:chair@scvacs.org)



## ACS PROGRAM BOX

for Chemical Business Groups

a community college chemistry teacher to science education. This year we will again honor an exemplary fulltime, adjunct, or emeritus faculty member from one of the 13 community colleges in the SCVACS local area that includes five counties around San Jose, CA.

If you are interested in nominating a

deserving individual please email me at [ashley@scvacs.org](mailto:ashley@scvacs.org)! I will send you the application. Qualities in candidates being nominated include:

- Excellent teaching in lab and classroom
- Extensive mentoring and encouragement of

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*Chair's Message, continued from front page*

- students toward academic success
- Collaborations with local high schools and four-year colleges and universities, leading to more student transfers and better articulation
- Supervision of undergraduate research
- Published articles and books related to chemistry education
- Participation in projects promoting innovative teaching methods and undergraduate research
- Development and dissemination of teaching innovations
- Exceptional contributions to the operation of the college's chemistry department

- Public outreach
- Contributions to the local community, for example through the K-12 system or local agencies
- Substantial service to the American Chemical Society and its affiliated groups

We understand that not all individuals may have participated in all the areas listed above, but we are looking for individuals who have significant contribution in at least two areas! The nominator should select the nominee's two most significant areas and for each one selected, provide a description of the nominee's accomplishments, limited to 100 words each. Additional relevant information

can be provided (limit to 200 words).

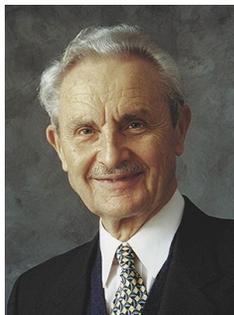
One letter of recommendation from a colleague, administrator, former student and others with knowledge of the nominee's professional life is required. We also need the CV or resume of the individual being nominated.

Nominations are due to me by November 20th at midnight by email. Please take the time to nominate someone if you know an individual who deserves this award! As a community college faculty member myself, I know we all work hard and it is nice to be recognized for those efforts! Please let me know if you have any questions.



## Mosher Award Recipient Attila Pavlath

Attila Pavlath was born in 1930 in Budapest and received all his education there. In Hungary, he was an Assistant Professor at the Technical University of Budapest and co-founder of fluorine chemistry activity. In 1956, after the Hungarian Revolution, he escaped Hungary together with his family. After two years at McGill University in Montreal, Canada, he joined the Stauffer Chemical Company in Richmond, California, to lead a research group on agriculture-related problems. In 1967, on the invitation of the U.S. Department of Agriculture, he continued his research at their Western Regional Research Center in Albany, California, where he headed various research projects. He is still doing research there as a senior emeritus



scientist.

With over 60 years of teaching and research, Dr. Pavlath has pioneered research not just in fluorine chemistry, but also in areas of glow discharge, biomass, biodegradable films and various agricultural chemistry problems. He published

more than 130+ research papers and wrote 10 books and larger chapters. He has 25 patents and has lectured throughout the world. In 1997, he was recognized with the Pioneer of the Year Award by the American Institute of Chemists and, in 2004, he was elected to the

Hungarian Academy of Science. He received the Kenneth Spencer Award in 2013 for outstanding achievement in food and agricultural chemistry.

In 1999, he was elected President of the American Chemical Society. He continues activities to modernize the Society and to improve the public image of chemistry worldwide.



## Does the public realize what chemistry has done for them?

**Attila E. Pavlath, ACS President 2001**

In an average household, it is rarely noticed when everything is in order and neat shape. The work of someone, regardless of who is keeping it up, is taken for granted. There is rarely given any award, recognition or thanks for time-consuming hard work. However, when once in awhile something goes wrong, the ones who do the least work are likely to criticize it.

In everyday life, we enjoy the benefits of chemistry 24 hours a day in every daily activity, e.g., health, transportation, entertainment, cooking, dressing, just to name a few. The

public takes them for granted to be there when they use them and rarely think about how it was made possible. Similarly, when something goes wrong, e.g., the car does not start or medication has a side effect, they are quick to blame the problem on whatever or whomever made them available for our everyday life. They are quickly influenced by the media on the malfunctions of, or possible harms caused by, these developments, ignoring their successful use 99% of the time after use.

Is this human nature or the lack of understanding? My talk in January will give

numerous examples on what our life would be without the benefits that chemistry provides. The first amendment gives freedom to the media to report disproportionately on the effects of chemistry on our life. It is the chemical community's responsibility to remind the public of the numerous benefits of chemistry, once proudly displayed on the logo of a large chemical company: Better things for better life through chemistry. What can and should be done by everyone of us? The talk will answer these questions.



# Report from the August 2015 National ACS Meeting in Boston

By Herbert Silber, SCVACS Councilor

Before commenting upon the major issues from the August 2015 National Meeting in Boston, I would like to describe the responsibilities of a Local Section Councilor. We are elected according to each Local Section's By-laws along with Alternate Councilors (who attend if a Councilor is unable to attend a meeting). Once a year, the ACS Secretary's Office requests Councilors to list their committee choices. At the Fall Meeting, the Committee on Committees (CONC) matches Councilors with Committees, usually based upon the individual's choice. Depending upon the Committee, the Board or the ACS President-Elect selects the Committee members. Almost all Councilors serve on a Committee. Almost all Committees meet before or at the National Meeting, starting the Thursday before or often the weekend of the Meeting. The ACS Council acts as an advisory body in matters pertaining to the general management of the ACS. Council traditionally meets at 8 a.m.

on the Wednesday of the Meeting. Each Committee usually makes a report to the ACS Council at least once a year. Motions put forth by Committees are acted upon by Council. Council also votes on candidates for elected Committees, President-Elect, Region Board Members and At-Large Board Members. At least two nominees are selected per position, plus any candidates nominated by petition.

The Council met in Boston on Wednesday, August 19, at 8 a.m., and covered the following topics.

Council members were elected to the Committee on Committees (CONC), the Council Policy Committee (CPC) and the Committee on Nominations and Elections (N&E).

In addition to Committee reports, there were reports from the Society President-Elect, President, Past President, Chairman of the Board and the Executive Director.

The first important motion was to accept or reject the Bylaw change on Balloting and Preferential Voting Procedures for Elections of President-Elect, District Directors, and Directors-At-Large of the American Chemical Society. The purpose of this Bylaw change was to eliminate multiple ballots in case no candidate receives a majority vote. Surprisingly, this passed with little dissent. The actual procedures were approved separately from the Bylaw change. This is the procedure the Council had passed in a previous Council

Meeting for President-Elect.

The Chair of the Budget and Finance Committee (B&F) reported that the Society ended 2014 with a net contribution from operations of 17.9 million dollars. For those who are not aware of how this is made, the bulk of the money comes from journals, Chemical Abstracts and SciFinder, not member dues. The dues for 2016 were increased by \$4.00 to \$162 with Council approval.

The Chair of the Society Committee on Education (SOCED) reported that there are now more than 2500 members of AACT, the new society for K-12 teachers of chemistry.

New procedures and a Bylaw change for the ACS Procedure for Expulsion of a Member were also approved with little dissent. It was pointed out that there has only been one member removed from the Society since 1969, but the procedures still had to be cleaned up.

The Early Registration Fee for 2016 National Meetings was approved to increase by \$20 to \$415. Program books will no longer be provided for National Meetings with everything now going on-line.

Council approved a new International Chapter for the United Arab Emirates.

The detailed Council Agenda is available on the ACS Governance Site.

<http://www.acs.org/content/acs/en/about/governance/councilors.html>



## Two 2015 ACS Fellows from Santa Clara Valley ACS

The ACS Fellowship program recognizes members who have demonstrated outstanding accomplishments in chemistry and made important contributions to the ACS, the world's largest scientific society. The induction ceremony for the 2015 class of

ACS fellows took place in August at the ACS National Meeting in Boston.

The Santa Clara Valley local section proudly produced two of the 78 honored members: Dr. Bonnie Charpentier and Dr. Jane Frommer.



## Outreach to Children in Homeless Shelters

As Stanford students oversee the careful pipetting of chemicals, their lab partners giggle, wiggle and sometimes dive under the table. Such is the unbridled enthusiasm of the children at Haven House homeless shelter, where an outreach project of the ACS Santa Clara Valley Section provides monthly hands-on science lessons.

Started in 2012 with funds from an ACS

Innovative Project Grant, the shelter outreach project exposes at-risk children to science and aims to broaden their view of what they might do in the future. Section member Bonnie Charpentier began and continues to nurture the project, which relies upon volunteers from the section.

In the first year, the project brought

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science to the summer day camps of four shelters in the bay area. Volunteers facilitated hands-on experiments, such as exploring polymers through making slime, flubber and bouncy balls and demonstrating freezing point depression by making ice cream in plastic bags. Each child received a gift bag with chemistry-themed items and the shelter libraries received copies of the book "Apples, Bubbles, and Crystals".

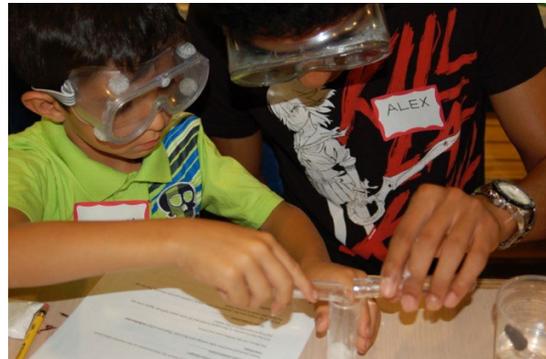
Since then, the shelter outreach project evolved into its current format, offering afterschool and evening programs at shelters once a month. We are now working to grow and revitalize the program, partnering with InnVision Shelter Network, which encompasses shelters in Menlo Park, Palo Alto, San Jose, and San Mateo. An enthusiastic group of Stanford students worked through the summer at the Haven House in Menlo Park to do workshops with the kids who reside there. We are in the process of matching other volunteer student groups at area colleges and universities with nearby shelters to establish regular schedules of visits to shelters to work with the children there.

Last spring the shelter outreach project gained a new coordinator, Kristan Hutchison, an experienced science educator and curriculum developer. She is curating a series of fun, hands-on labs appropriate for mixed ages to cover basic chemistry topics, including properties of water, density, chemical reactions, pH, and polymers.

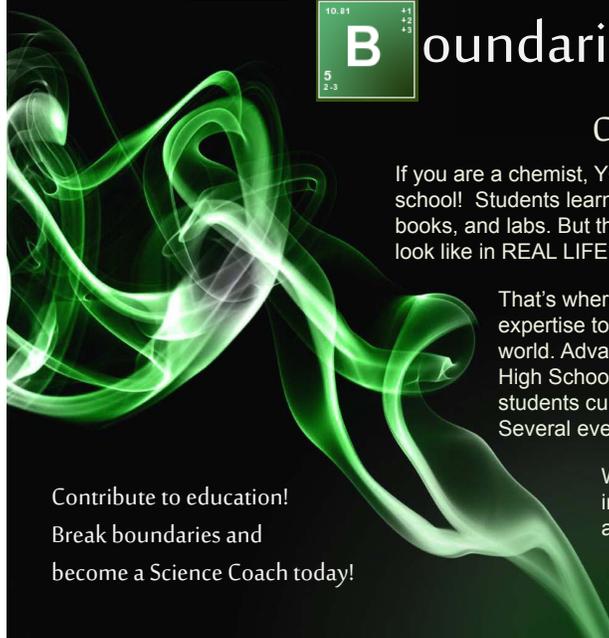
We welcome and need more volunteers to keep this program going and growing. There are opportunities to match any amount

of time you can contribute and many tasks can be done at home. We want to establish a committee to share the work of preparing, organizing and delivering materials, and coordinating student volunteers working with shelters. If you have an interest in helping with this program, please contact:

Kristan Hutchison  
[kristanhutchison@yahoo.com](mailto:kristanhutchison@yahoo.com)  
Bonnie Charpentier  
[charpentierbon@yahoo.com](mailto:charpentierbon@yahoo.com)



*Stanford volunteers do chemistry experiments with children at Haven House shelter in Menlo Park.*



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### Chemists Wanted!

If you are a chemist, YOU are wanted in a local public high school! Students learn about chemistry from their teachers, books, and labs. But the question remains: "What does chemistry look like in REAL LIFE?!"

That's where YOU are needed. We need YOUR expertise to tell us about chemistry in the professional world. Advanced Placement Chemistry at Overfelt High School in San Jose has 24 inquisitive, amazing students curious about applications of chemistry. Several even want to pursue chemistry as a career.

Want to help? Visit our classroom and interact with students through hands-on activity, conversation, and inspiration.

Contribute to education!  
Break boundaries and  
become a Science Coach today!

Contact: [shiojia@esuhsd.org](mailto:shiojia@esuhsd.org)

## Happy Thanksgiving



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## 2015 BUBBLE Grants Awarded

The Santa Clara Valley Section of the American Chemical Society provides elementary and secondary school educators funds for science programs. The BUBBLE Grant program was established in 2011 by a \$500 donation from ACS member Bryan Balazs. His generous donations have continued to support the program, which awards up to \$500 per year to worthwhile science projects. Grants are awarded for projects that enhance the teaching of physical, life or earth science. Qualified uses of the funds are for purchases such items as scientific equipment, instructional materials and/or supplies.

The 2015 BUBBLE Grant Committee consisted of Rex Maimait, Peter Rusch and Joseph A. Castellano. The committee decided to split the grant this year and award \$250 each to Jerry Holland Middle School and Corte Madera School.

Thomas Lau, a science teacher at Jerry D. Holland Middle School in Baldwin Park, CA, will use the funds to purchase safety goggles and pH paper for use in chemistry experiments and dissecting equipment for life science teaching. It has been difficult for the science teachers to share the limited number

of goggles and pH paper among four teachers and 500 students. The student population at Holland Middle School is 90% Hispanic, 7% White, 3% Asian-American, and less than 1% African-American. In 2015, Holland Middle School received the California Golden Ribbon School Award for demonstrating exemplary achievements in implementing state standards in science.

Hope Oliver was a science teacher at Bret Harte Middle School in San Jose,

CA, for 20 years. She recently joined Corte Madera School in Portola Valley, CA, where she teaches physical science and life science. She will use the funds to purchase materials for the study of acid-base chemical reactions, polymer cross-linking and kits for the study of Newton's Laws of Motion.

For more information, please visit [www.scvacs.org/Local\\_Folder/Bubble.html](http://www.scvacs.org/Local_Folder/Bubble.html)

For all applications, please email to [BUBBLE\\_Grant@scvacs.org](mailto:BUBBLE_Grant@scvacs.org)

## Welcome to the Santa Clara 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 spouse (or friend) will be our guests. The seminar meetings are often the 3rd Thursday of the month at a local spot, somewhat convenient to the entire section. If you are unable to attend in the evening, perhaps you would join us for an outreach event, like judging a science fair, participating in the Chemistry Olympiad, or 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 Members for September

Dr. Jonathan Brown	Jigisha Sheth	Lakmal Charidu Kalutarage
Chelsea Carman	Jaskiranjeet Sodhi	Jessica Lee Klockow
Dr. Aroop Chandra	Dr. James Su	Quan N. Lam
John I Jen Chen	David Wang	Michael Lu
Tilani De Costa	Dr. Guangyi Wang	Dr. Craig James Markin
John Michael Ellison	Zimeng Wang	Joshua Michael McEnaney
Dr. Eric S. Handberg	Dr. Thomas James Barbarich	Scott Molinaroli
Jeremiah Hong	Matthew Thomas Berry	Shenmin Pan
Dr. Mani Jayaraman	Dr. Carolyn Ruth Bertozzi	Jason Pifer
Matthew Scott Jeffreys	Yi Cao	Samuel Chesson Price
Dr. Justin Kim	Dr. Biau-Hung Chang	Dr. Trent D. Ridder
Andrew Klein	Dr. Shiv Chiruvolu	Dr. Frank Rivera III
Dr. Vineet Kumar	Dr. Chen-Hwa Chiu	Dr. Jason P. Rolland
Zuqin Liu	Dr. Craig S. Criddle	Cameron D. Ross
Radu Mihaila	Neha Dharwadkar	Isaac Rutenberg
Dr. Marion H. O'Leary	Angela M. Diccio	Dr. Mark Saifer
Max Osipov	Dr. Victor Dokukin	Dr. Mark Lewis Stolorow
Dr. Senthil Perumal	Dr. Ellen D. Eberhard	Dr. Daniel P. Sutherlin
Derek Popple	Sarah Ellison	Loza Tadesse
Dr. Shailise Ross	Brett Gohre	Dr. Crystal E. Valdez
Jeffrey Steven	Kimberly Guttinger	Sharat Bharat Varma
Kerr Rossini	Dr. Juan Haydu	Chi San Wu
Timothy Ruckh	Kenneth Scott Hettie	Shenglin Ye
Dr. Zhe Rui	Dr. Chuandong Jia	Grace Yee
Scott Michael Shepard	Dr. Anastasia Kadina	Dr. Wenxiang Zeng

## Chemistry Quiz

An alternate nuclear energy reactor that uses molten salt to cool the reaction was developed by the Oak Ridge National Lab in 1960. This system has several advantages over  $^{235}\text{U}$  and  $^{238}\text{U}/^{239}\text{Pu}$  reactors: it operates at lower pressure, has no risk of nuclear meltdown, and can receive fuel by pumping without shutdown. What is the fissile isotope used in this reactor?

## Last Month's Quiz

Digoxin is a cardiac glycoside that has been used to treat various heart conditions, including atrial fibrillation, atrial flutter, and heart failure since the 18th century. What is the common name for the plant from the genus *Digitalis* from which it was isolated?

**The common name for these species in the *Digitalis* genus is foxglove.**



SANTA CLARA VALLEY SECTION  
AMERICAN CHEMICAL SOCIETY  
P.O. Box 395, Palo Alto, CA 94302

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### 2015 Section Officers

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Past Chair	Ean Warren	650-329-4554	<a href="mailto:ewarren@scvacs.org">ewarren@scvacs.org</a>
Secretary	Karl Marhenke	831-688-4959	<a href="mailto:karlmar@armory.com">karlmar@armory.com</a>
Treasurer	Ihab Darwish	650-594-1654	<a href="mailto:darwishis@yahoo.com">darwishis@yahoo.com</a>

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2013-2015	Peter Rusch	650-961-8120	<a href="mailto:pfrusch@aol.com">pfrusch@aol.com</a>
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2014-2016	Herb Silber	408-924-4954	<a href="mailto:hbsilber@science.sjsu.edu">hbsilber@science.sjsu.edu</a>
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2015-2017	Ean Warren	650-329-4554	<a href="mailto:ewarren@scvacs.org">ewarren@scvacs.org</a>

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2015-2017	David Parker	408-615-4961	<a href="mailto:drdrparker@comcast.net">drdrparker@comcast.net</a>
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Director:	Liang Cao	<a href="mailto:liang.cao@aol.com">liang.cao@aol.com</a>
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## FUTURE EVENTS

- Nov 6-8** ACS Western Regional Meeting 2015  
California State University, San Marcos  
<http://wrm2015.sites.acs.org/>
- Nov 10** SCVACS Monthly Seminar Meeting  
With ACS National Program-in-a-Box  
Establishing and Protecting Your Intellectual  
Property  
Evans Analytical Group (EAG), Sunnyvale, CA  
[http://www.scvacs.org/Local\\_Folder/meeting1511.html](http://www.scvacs.org/Local_Folder/meeting1511.html)
- Nov 14** SCVACS Teach-the-Teachers Workshop  
Hands-on workshop for local K-12 teachers  
Mission College, Santa Clara
- Dec 7** Golden Gate Polymer Forum, GGPF.org  
Professor Kenneth J. Wynne  
VA Commonwealth University  
Soft Surface Polymer Science and Engineering  
Michael's at Shoreline, Mountain View, CA
- Jan 21** SCVACS Monthly Seminar Dinner Meeting  
Dr. Attila Pavlath, Mosher Award recipient  
Basque Cultural Center  
South San Francisco, CA
- Feb 18** Community College Teacher Scholar Award  
Mission College, Santa Clara, CA  
<http://scvacs.org>