

Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

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JANUARY 2016 NEWSLETTER TOPICS

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Connect with Chemists

Meet fellow local chemists for an early morning coffee.

Look for Ean at a table with molecular models.

Thursday, January 14, 2016 at 7a.m.

Coupa Café, 538 Ramona Street, Palo Alto (a half a block off from University Avenue)

Chair's Message

Jane Frommer



Welcome to 2016's Santa Clara Valley ACS.

As the 2016 chair of this ACS section, I will author this Chair's Message each month in the Silicon Valley Chemist newsletter. Have an idea for the column? Write me or be a guest author!

A brief background: most of my career as a research chemist has been at the IBM Research labs above Almaden Valley in San Jose. There I have been involved in the evolution of instrumentation that observes and manipulates materials on the nanometer scale, AKA scanning probe microscopy, AFM (atomic force microscopy), STM (scanning tunneling microscopy). My interest is primarily in organic materials and extends to hybrids such as core-shell magnetic nanopar-

ticles and DNA origami. Stepping further back in time - following a Ph.D. in organometallic chemistry from Caltech (Bob Bergman), I entered the then nascent field of organic conducting polymers at the Allied Corporation (now Honeywell). That field of materials research set my pattern of working in the solid state as the chemist beside physicists and engineers that persists until today. Also over the years I have held teaching positions with the University of Sao Paulo electrical engineering and chemistry departments and the Physics Institute of the University of Basel, and long-term collaborations with the Tokyo Institute of Technology, University of Washington, University

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Councilor Column Reactions in the Beaker

By George Lechner

The Santa Clara Valley section of the ACS is guided by an assembly of wonderful councilors who remain somewhat incognito to you, the readers. We are out to change that with a Councilor Column that introduces you to a different councilor each month. They will share with you their choice of a perspective on chemistry, the ACS, or a particular topic that engages them.

In the laboratory, we all know that reactions often take place in a beaker. These reactions happen depending on the ingredients, the medium in which they reside, temperature, pressure and all that stuff. The beaker I'm referring to here is the Executive Committee of our Local Section. The ingredients are the committee members who bring their energy and reactivity to the group and to the members to effect change in governance, outreach to the community, awards and a host of other activities. You all just elected a slate of local section officers to help us continue into 2016. In addition to the Chair-elect, Secretary and Treasurer, there were six other members elected to the positions of Councilor and

Alternate Councilor. All nine people elected are the ingredients, along with the incoming Chair, Jane Frommer, our main stirring rod for 2016 reactions, the Immediate Past-Chair, Ashley Piekarski, and those Councilors and Alternate Councilors already in place who will bring their energy, thoughts and ideas to our Section to help keep Chemistry alive around Silicon Valley. But, who are these Councilor folks? Well, they are all members of the Council of the American Society and serve a three-year term.

Councilors perform many functions of the Society that include representing Local Section members on the national level, participating in Council meetings at ACS National

meetings, and serving on national committees whose jobs are to govern the Society (policy, dues, ethics and the like). Those committees are the source, for example, of expertise in education and training of future chemists and chemical engineers and of recommendations to Members for the safe practice of chemistry in the laboratory, in educational institutions, at home and in the public domain. Committees also oversee aspects of ACS Publications and Chemical Abstracts that we all rely on for chemical knowledge and in research.

For me, I am a member of the ACS national Council Committee on Chemical Safety. We are a collection of chemists, professors, teachers, industrial hygienists, health & safety folks who review and comment on documents that involve chemical demonstrations, accidents and fires. Our mission is to offer a centralized ACS source of advice on safe practices in laboratories and in general - a worthwhile premise for teachers,

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Chair's Message, continued from front page of Alabama, SJSU, UC Davis, and the IBM Research Millipede team in Zurich. You can read more here: <http://researcher.watson.ibm.com/researcher/view.php?person=us-frommer>

I am a relative newcomer to the local ACS section and still asking about the mission of a local section. In querying colleagues about the role of the ACS in their careers, frequently heard are words like 'irrelevant' and 'disconnected'. Rather than dismiss these negative descriptors, they motivate to become more relevant, for which we need your input. We have a varied and stimulating series of dinner speakers, from last October's Nobel Laureate W.E. Moerner to next April's Peter Gleick, an authority in the politics and science of water resources. The monthly dinner meetings are a good networking milieu you can use to meet up with colleagues and to make unpredicted connections with new acquaintances.

While the ACS mission aims to support chemists in their careers, it also provides a local venue to reach nonchemists. The real-life phenomena of chemistry are ideal for bridging the gap to the nonscientific community. How 'irrelevant' is a better informed society from which we all benefit, chemists and nonchemists?

To this end, the ACS offers a wide range of resources to be implemented on the local level. For example, funds and materials to support teacher-chemist partnerships are provided in the Science Coach and Bubble programs, membership fees in the American Association of Chemistry Teachers are subsidized (for anyone, not just chemistry teachers), and summer research internships for high school students are awarded through the RISE and Project SEED programs. The resources are available, awaiting the good will of implementation. By you, by me, by us.

What would you like to see as a purpose of our local ACS section? Come to a monthly ExComm meeting or dinner lecture and let's figure out your answer together.



Reactions in the Beaker, continued from front page students and practitioners.

The range of ACS activities is so broad that Councilors choose particular areas to focus their energy. Among our Councilors' choices of local activities are National Chemistry Week, Teach-the-Teachers Workshops, science fairs, The Bay Area Science Festival, Tech Trek, after-school hands-on kids chemistry in homeless shelters, high school research internships (RISE), Programs-in-a-Box for

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 November

Dr. Toby Astill	Eric Lansdon	Ying Zhu
Kimberly Barrett	Quang Luu Nguyen	Iwnetim Abate
Hunter Bryan Boyce	Dr. Joseph P. Lyssikatos	Dr. Amber Carr
Amanda Brambila	Dr. Robert R. Milburn	Joshua James Cooper
Lauren J. Bruns	Dr. Ronald McRae Milburn	Patrick Cyr
Bryce Cai	Ioannis Mountziaris	Dr. Glenn Eldridge
Dr. Jennifer Cottine Hitchcock	Matthew Munson	Keira Garland
Dr. Charles A. Crichlow	Lidia Nazarova	Michael Joseph Guardino
Joshua Thomas Eggold	Eric T. Newcomb	Dr. Gregory Hamilton
Whitney Francis	Darlene H. P. Nguyen	Dr. Yi Jin
Cooper J. Galvin	Dr. Steven H. Olson	Robert John Jones
Rosalia Pet Gemora	Dr. Lakshmipathi Pandarinathan	Jaspreet Kaur
Gwendolyn E. Gibbons	Brian Patrick	Holden Lai
Mark Gregory Gorelik	Dr. Anthony B. Port	Dr. Karl A. Littau
Christopher Steven Gradwohl	Frances P. Rodriguez	Eugene Paul Marsh
Dr. Stefanie Gravano-Doerffler	David Michael Sanchez	Michael Mohsen
Imad Haidar Ahmad	Dr. Melody T. Schmidt	Natasha Morgan-Witts
Dr. Anna Harrison	Barry Sharp	Dr. Ko Nishimura
Dr. Feras Hatahet	Peyton Shieh	Mr. Akshaya Padhi
Jocelyn Havel	Hui-Wen Shih	Olivia Pierce
Alastair Neale Herron	Hanna Grace Tempesta I	Molleigh Preefer
Alexandra Lauren Holmes	Andrew Patrick Teuthorn	Dr. Roger C. Rich
Dr. Michael Holmes	Eric S. Tillman	Annina Sartor
Hayden Robert Holmlund	Dr. Brian Toleno	Dr. Cetin Seren
Dr. Allen Y. Hong	Dr. Anthony Tsuchien Tu	Laszlo Ryan Seress
Wenrong Huang	Alexandra Ulicki	Stefan Seritan
Dr. Toan Huynh	Raymond J. Vass	Dr. Kaushal K. Singh
Dr. Barbara M. Jagodzinska	Haopeng Wang	Jacob Swett
Dr. Barbara A. Jones	Katharine White	Mark Alexander Wadolkowski
Yukyung Jung	Tiffany Williams	Dr. Neil Winterbottom
Dr. Carl R. Kemnitz	Dr. Christina Woo	Joshua Henry Wurzer
Ashley Kim	Hang Yu	Xiaolei Zhu

small chemistry-related businesses, Women Chemists (WCC), student chemistry clubs, and maintaining order with Section Bylaws.

If any of you reading this have an interest in learning more about our positions of Councilors and Alternate Councilors, or joining in their activity, contact anyone on the Executive Committee listed monthly on the last page of

this Silicon Valley Chemist newsletter. Consider running for office yourself next Fall or volunteer to be on a committee. We welcome you as an ingredient, as a catalyst or even as a 'free radical' to start a new activity.

Watch for future articles and learn about what the other Councilors and Alternate Councilors are doing.

Reminder: SCVACS Dinner Meeting, January 21, 2016 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. 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.

Local Science Fairs in 2016 by Susan Oldham-Fritts

Haven't decided on a New Year's resolution yet? How about encouraging middle and high school students to participate in the world of STEM - Science, Technology, Engineering, and Mathematics? It takes just one day of your time to judge at your local science fair. The following area science fairs need **category awards judges**, especially in the areas of botany, biology, biochemistry, chemistry, microbiology, and the behavioral/social sciences. In addition, we need more chemists on our judging team for the SCVACS-sponsored special ACS Award at the Santa Clara County Science Fair Synopsys Championship on March 17, 2016. The Synopsys Championship is a qualifier for the International Science and Engineering Fair (ISEF). Please contact me at sofritts@garlic.com to join our team of chemists at the Synopsys Championship Science Fair on March 17th. No matter which fair includes your home town, please volunteer now!

All Morgan Hill Science Fair* (January 14, 2016)

Oakwood School Contact: sofritts@garlic.com

Sciencepalooza* (January 23, 2016)

Santa Clara County Fair Grounds, San Jose www.outreach-foundation.org/judges.html

San Mateo County Science, Math and Technology Fair (February 29, 2016)

Hiller Aviation Museum <http://www.stemfair.net>

Monterey County Science and Engineering Fair (March 5, 2016)

California State University, Monterey Bay – University Center, Bldg 29

www.montereycountysciencefair.info

Santa Cruz Science Fair (March 12, 2016)

Santa Cruz County Fairgrounds <http://www.science.santacruz.k12.ca.us>

San Francisco Bay Area Science Fair (March 16, 2016)

San Francisco County Fair Building - Golden Gate Park <http://sfbasf.org>

Synopsys Championship (March 17, 2016)

San Jose Convention Center, San Jose www.outreach-foundation.org/judges.html

*Many students at these competitions are first time science fair participants.

Mosher Award SCVACS Dinner and Presentation

Thursday, January 21, 2016

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

Speaker: Dr. Attila Pavlath, Former President of American Chemical Society
"Does the public realize what chemistry has done for them?"

Location: Basque Cultural Center
599 Railroad Avenue
South San Francisco, CA
www.basqueculturalcenter.com

Cost: \$30.00 for regular participant.
\$15 for 50-year ACS members and students. Free to attend just the lecture at 8 PM, but please register for seating

Meal Selection: Roast veal, Breast of chicken, or Vegetarian pasta

Reservation:
www.scvacs.org/Local_Folder/din_mtg.html

Question? Contact Dr. Howard Peters
Peters4pa@sbcglobal.net
650-854-4614

Reservations are required by January 18th with your name, email address, company/school affiliation. One reservation per person in your party.

If you are unable to honor your reservation please cancel by Wednesday, January 20th.

Chemistry Quiz

Bastnäsite deposits in China and the United States constitute the largest percentage of the world's rare-earth economic resources. What three rare earth elements are most abundant in Bastnäsite?

Last Month's Quiz

In 2014, Agilent announced they would cease making and selling nuclear magnetic resonance (NMR) spectrometers. Agilent's NMR capability came entirely from the acquisition of which Palo Alto-based firm?

Agilent's NMR capability came from the purchase of Varian Inc., a spin-off of Varian Associates. Founded in San Carlos in 1948, Varian Associates moved its headquarters to the Stanford Industrial Park in Palo Alto in 1953.



SANTA CLARA VALLEY SECTION
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<http://www.scvacs.org>

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ChemPloyment Abstracts

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FUTURE EVENTS

- Jan 21** SCVACS Dinner Seminar
Harry and Carol Mosher Award Presentation
Dr. Attila Pavlath, award recipient and speaker
Basque Cultural Center
South San Francisco, CA
- Jan 28** Dr. Richard Elphic, NASA
Water on the Moon and (Mars?)
Lockheed Martin Colloquia
<http://lockheedmartin.com/us/ssc/atc/colloquia.html>
- Feb 2** Groundhog Day – Free day at the
Exploratorium
www.exploratorium.edu/visit/calendar/groundhog-free-day-2016
- Feb 18** SCVACS Teacher Scholar Award presentation
Mission College
Santa Clara, CA
- Feb 22-26** National Engineers Week
at the Hiller Aviation Museum
Open to grades 3-8
San Carlos, CA
www.hiller.org/engineers_week_2016.shtml