

# Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

Volume 36 No. 2

## FEBRUARY 2014 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 an ACS card

**Tuesday, February 25th at 7 a.m.**

Specialty's Café and Bakery  
3399 Bowers Avenue, Santa Clara

**Thursday, February 27th at 7 a.m.**

La Boulange  
151 University Avenue, Palo Alto

## Chair's Message

Ean Warren



For this month's Chair's message, I want to talk about your local section. The Santa Clara Valley Section has 2,875 members and is one of 189 sections across the nation serving the ACS's nearly 160,000 members. In the state of California, there are ten local sections with membership totaling more than 12,000. Our Section includes five counties: San Mateo, Santa Clara, Santa Cruz, San Benito, and Monterey and was formed and incorporated in 1954.

The Santa Clara Valley Section administers many programs using funds primarily from local section members and the National organization. In addition to hosting monthly seminars and publishing monthly newsletters, we participate in National Chemistry Week, the Chemistry Olympiad, and the Synopsis Championship. We present several awards during the year including the Harry and Carol Mosher Award, the Shirley B. Radding Award, the Abraham Ottenberg Award and our new, first-in-the-nation Teacher Scholar Award for Community College Chemistry

Faculty. We are always looking for volunteers for these and others programs. If you are interested, you can contact any of the people on the back of your newsletter or the web committee.

Our members participate in a number of activities at the national level including national meetings.

The next meeting will be in Dallas, March 16-20. The theme of the Dallas meeting is Chemistry and Materials for Energy. ACS technical divisions will provide programming related to the theme as well as wide variety of other chemistry-related topics. With over 10,000 chemists in attendance, ACS meetings provide something for everyone!

As I mentioned in my last Chair's message, I am starting a program called Connect with Chemists. The idea is for our members to meet other chemists to chat over coffee or tea. Our next Connect with Chemists will be on Tuesday, February 25th at 7 a.m. at Specialty's Café and Bakery at 3399 Bowers Ave in Santa Clara. Look for me there — I'll have an ACS tent card in front of me.

FOLLOW THE MOLE

★ DALLAS ★

There's a Mole in the organization.



There will not be a Seminar Meeting in March since the 247th ACS National Meeting will be taking place in Dallas, Texas, March 16-20, 2014.

The meeting theme will be: Chemistry and Materials for Energy.

For information visit: <https://www.acs.org/content/acs/en/meetings/spring-2014.html>



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# 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 vol-

unteer organization. Please attend an event, volunteer to help, and get to know your local fellow chemists. Welcome!

## New Members List for January

Susan G. Berg  
Dr. Mark Adam Ditzler  
Rahim Esfandyarpour  
Antoun G. Fam  
Dr. Renata T. Fam  
Dr. Nicole D. Ford  
Sarah Hesse  
Elena Jaffer  
Alam Jahangir  
Christopher Jones  
Dr. Omid Khakshoor  
Yeonju Kwak  
Dr. Christian Laggner  
Dr. Satish Lakhapatri  
Antonett P. Madriaga  
Nicholas Mai  
Michael Jeffrey McCarthy  
Mannat C. Menon  
Frank Russell Moss III  
Dr. Andro C. Rios  
Laura Sanman  
Dr. James Schweppe  
Dr. Earl Roby Shelton  
Molly Duncan Stone  
Steven H. Unger  
Madeline Wu

## Call for Nominations 2014 Shirley B. Radding Award

The Santa Clara Valley Section of the American Chemical Society (ACS) announces the call for nominations for the 2014 Shirley B. Radding Award.

First awarded in 1994 to its namesake, the Shirley B. Radding Award annually honors someone who has been a member of the ACS for at least 20 years. Nominees must have demonstrated dedicated, unselfish leadership, service and significant contributions over a sustained period of time to industrial, applied or academic chemistry and to the ACS through elected or appointed positions at local, district and national levels.

### Award Criteria

- Member of the American Chemical Society for more than twenty (20) years.
- Demonstrated dedicated and unselfish service to ACS and its members over a sustained period of time.
- Provided leadership through elected and appointed ACS positions at local, district and national levels.
- Made significant contributions to industrial, applied or academic chemistry.

The award consists of an honorarium of \$1,000 and inscribed memento. Nominations must consist of at least one letter of nomination stating how the nominee's work relates to all aspects of the award. It is strongly recommended that seconding letters accompany the nomination.

Nominations are due on or before May 1, 2014, and may be sent electronically to [Radding-Award@scvacs.org](mailto:Radding-Award@scvacs.org) or be mailed to:  
Radding Award Committee, Santa Clara Valley ACS Section  
P. O. Box 395, Palo Alto, CA 94302.

## February Seminar Meeting

**Date:** Thursday, February 20, 2014  
**Time:** 6:00 p.m. Social Hour  
7:00 p.m. Dinner  
8:00 p.m. Presentation

**Speakers:** Dr. Paula Findlen  
Stanford University  
History of Science

**Location:** Biltmore Hotel & Suites  
2151 Laurelwood Blvd.  
Santa Clara, CA

**Cost:** \$26.00, Grilled Salmon or  
Vegetarian Crepes

**Reservations:** [www.scvacs.org](http://www.scvacs.org)  
or Sally Peters 650-854-4614

Reservations should be made by Monday, February 17th stating your name, address, company/school affiliation, number of people in party. Watch the web site for more information. If you are unable to honor your reservation, please cancel by Wednesday, February 19th.

**Reminder**

**February Seminar Meeting**

**Reminder**

## What was Alchemy? The Laboratory Life of the Middle Ages and the Renaissance

### Abstract:

Alchemy is the quintessential pseudo-science in the popular imagination but it was far more than that in its historical reality. This talk explores the meaning of alchemy in the Middle Ages and the Renaissance. It explains why it was a meaningful, indeed profound activity that also was a source of experiential knowledge. The alchemist's laboratory may indeed have something to tell us about the evolution of scientific knowledge and practice.



### Biography

Paula Findlen is Ubaldo Pierotti Professor of Italian History at Stanford and Director of the Suppes Center for the History and Philosophy of Science. Her research and teaching focus on the early history of science and medicine in the age of Leonardo, Galileo, and their contemporaries, the role of women in early modern science, and the encyclopedic dreams of the Renaissance and beyond. Her essays on the history of science have appeared in *The Nation*.

# The 247th ACS National Meeting: Chemistry and Materials for Energy

The 247th ACS National Meeting and Exposition will take place in Dallas, TX from March 16-20, 2014. The meeting theme will be Chemistry and Materials for Energy. This theme will include topics in catalysis, solar energy, nuclear materials and fuels, energy storage, materials for energy efficiency, fossil fuel recovery, and carbon dioxide sequestration. Three lectures for the plenary session have been announced, which focus on the meeting theme.

The first plenary lecture is scheduled for Sunday, March 16th at 3:00 p.m. Professor Jens K. Nørskov, from the department of Chemical Engineering at Stanford University, will present on Catalysis for Sustainable Energy. The talk will focus on catalyst discovery and design for efficient conversion of solar energy into storable chemical fuels. Professor Nørskov is also the director of the SUNCAT Center for Interface Science and Catalysis at Stanford University and SLAC National Accelerator Laboratory. The Center explores challenges associated with the atomic-scale design of catalysts for chemical transformations of interest for energy conversion and storage.

Following Professor Nørskov's talk, Professor Héctor D. Abruña from the Departments of Chemistry and Chemical Biology, and the Energy Materials Center and Center for Molecular Interfacing at Cornell University will present on Operando methods for characterization of fuel cell and battery materials. The presentation will cover a brief overview of the methods employed including X-ray diffraction (XRD) and X-ray absorption spectroscopy (XAS), transmission electron microscopy (TEM) under active potential control, confocal Raman and differential electrochemical mass spectrometry as applied to lithium-ion battery research.

The third talk will be given by Dr. Michael R. Wasielewski, Director of the Argonne-Northwestern Solar Energy Research (ANSER) Center and Clare Hamilton Hall Professor of Chemistry, Northwestern University. This talk will explore the topic of photoactive molecules as applied to artificial photosynthetic systems for solar fuels production and in organic photovoltaics (OPVs) for solar electricity generation. Although the design and synthesis of complex, covalent molecular systems comprising chromophores, electron donors, and electron acceptors, have

been demonstrated, the development of self-ordering and self-assembling components remains a challenge that Dr. Wasielewski and his colleagues are working to overcome.

The national meeting will also serve as the venue for the Kavli Foundation Lecture Series. The mission of the foundation is to promote groundbreaking discovery and public understanding of the world's mounting challenges and how chemistry can provide solutions. On Monday March 17, 2014 at 5:30 p.m., the Fred Kavli Foundation Innovations in Chemistry Lecture will be presented by Dr. John A. Rogers, Professor of Materials Science and Engineering from the Department of Chemistry at the University of Illinois at Urbana-Champaign. Dr. Rogers will present on recently developed classes of electronic materials which can be used to construct electronic devices that dissolve completely in water, giving harmless end products. The envisioned applications range from greener consumer electronics to bio-resorbable medical implants – none of which are possible with technologies that exist today. The talk will summarize recent work from basic advances in materials chemistry, to fundamental studies of dissolution reactions, to engineering development of complete sets of device components, sensors and integrated systems. An 'electroceutical' bactericide designed for treatment of surgical site infections provides an application example.

Immediately preceding Dr. Rodgers talk will be the Kavli Foundation Emerging Leader in Chemistry Lecture presented by Dr. Emily A. Weiss, Associate Professor of the Department of Chemistry, at Northwestern University. Dr. Weiss will discuss chemical functionalization of nanostructured materials as a means to address the challenges of understanding and controlling the behavior of electrons and energy at interfaces between different types or phases of materials. Using metal and semiconductor nanoparticles as model systems, this talk will explore the power of tuning the chemistry at the organic-inorganic interface within colloidal semiconductor and metal nanoparticles as a strategy for controlling their structure and properties.

Several of the technical sections will present symposia with a thematic focus. Sessions will include Biofuels and Sustainable Energy, New Business in Energy Sector, Renewable Resources for Materials and Energy: Recent

Research and Developments in Latin America, Hydraulic Fracturing and its Impact on our Energy Security and the Environment, Innovative Materials for Waste Recycling and Environmental Applications, and Radiation Hardened Materials for Accelerators, Reactors and Spacecraft.

In addition to energy-themed events, there will be the usual governance meetings, special events, and social functions of the many divisions. Of note, 2014 ACS President Thomas J. Barton's first presidential symposium, "Engaging Chemistry Departments in the Preparation of Chemistry Teachers," will present successful models for increasing the quality and quantity of chemistry teachers. The ACS Board of Directors will host an open session for all members to discuss "What is the one best thing that you like that ACS does, and why?" on Sunday, March 16, at 12 noon.

Meeting information including registration, accommodations, event planning, and program overviews can be found on the meeting website: <https://www.acs.org/content/acs/en/meetings/spring-2014.html>

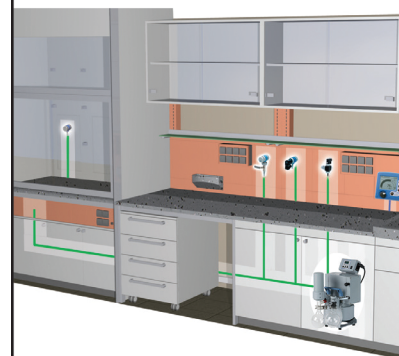
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# Chocolate is the Food of the Gods

Howard and Sally Peters

Editor's note: The December 2013 Newsletter of the ACS Newsletter for Senior Chemists featured our local section members Howard and Sally Peters. The article about their passion for chocolate appears here courtesy of the ACS Senior Chemists Committee.

Retirement from his IP law firm, Peters Verry LLP, came in 2007 for Howard Peters. After twelve years in chemical research with Dow and SRI International, mostly in high explosives projects for the Department of Defense, and then about thirty years as a corporate attorney, founder and partner of a law firm, it was time. Sally retired in 2012 from the Xerox Palo Alto Research Center after 28 years as a technical librarian. The elephant in the living room was: "What to do with our retirement years?"

It turns out the ACS, the chemical enterprise, chemists and colleagues provided one answer—and it was drenched in chocolate. In February 2004, we gave our first major talk about "Chocolate: Food of the Gods" for our home ACS Santa Clara Valley local section. One thing led to another and we ended up as the Valentine's Day story in the San Jose Mercury News in Silicon Valley.

After that event, we learned just how popular the chemistry of chocolate was as a topic for public outreach for chemistry. It



doesn't hurt that we usually bring some samples of chocolate and have a free drawing for attendees who stay to the bitter end—for "bittersweet" chocolate, and in most cases a 10-pound bar. The Chocolate talk has been given well over a hundred times in various venues across the U.S., including ACS national meetings. It was

recorded in 2009 at the ACS National Meeting in Washington. The slides can be found on the web for free, synced with Howard's voice-over (see <http://tiny-url.org/chocolate>). We have presented at many ACS SciMix events and regional meetings including Houston, Denver and yes, even Hershey, Pennsylvania. We went on the ACS speaker tours to local sections, and gave our talk to divisions, universities, colleges and the SPLASH program for high school students at Stanford, high schools, service groups, and even our granddaughters' grade school.

There were surprising connections and opportunities which included a written review in Chemical and Engineering News (May 2008) on physicist Stephen Beckett's Royal Society of Chemistry (RSC) book on The Science of Chocolate, 2nd edition. That was amazingly followed by a series of speaking engagements about the chemistry of chocolate on cruise ships, again as public outreach. Our

first cruising chocolate adventure was on Cunard's Queen Mary 2 in the Caribbean in March 2008. Cruising and talking about chocolate has turned out to be an amazing gig in our retirement. We have presented the fun Chocolate talk at other times on the Princess, Cunard, and Norwegian cruise lines.

The present fun talk on chocolate is still viable and is given often, but we are planning to make some topical divisions about the subject of chocolate as separate presentations. We are exploring "Chocolate: A Religious Experience" at the upcoming Pepperdine Bible Lectures in Malibu, CA, in May 2014. Another topic to be examined is "Chocolate as Medicine", using some materials from the recent RSC book of the same name. A session is planned on "The Laws of Chocolate", possibly for continuing legal education in California. We have already had sessions on pairing chocolate with wine and plan to continue. Bay area local Pete Schlossberg (of Pete's Wicked Ale & Coca Pete's fame) is amenable to a session on pairing chocolate and beer. Finally, in response to many, many questions over the past ten years, we are now researching a talk on "Is Chocolate an Aphrodisiac?" a.k.a. "XXX-Is Chocolate better than Sex?" For more information, see [www.howard-peters.com](http://www.howard-peters.com), or search for "Howard Sally Peters chocolate chemist".

In 2014, the theme for ACS's National Chemistry Week will be "The Chemistry of Candy". We expect to be kept very busy.

## CHEMPLOYMENT ABSTRACTS FEBRUARY 2014

For a complete list of current abstracts, please visit: [www.scvacs.org/Local\\_Folder/abstract.htm](http://www.scvacs.org/Local_Folder/abstract.htm)

### CHEMPLOYMENT ABSTRACT 3987

*Position Title:* Scientist II, Medicinal Chemistry

*Job Description:* 1. Have responsibility for the optimization of chemical leads through the utilization of SAR, structure-based design for potency, selectivity and pharmacokinetic profile; 2. Support the development of clinical candidates through designing synthetic routes, synthesizing impurities, major metabolites and degradants.

#### QUALIFICATIONS DESIRED:

*Education:* PhD in organic, medicinal or pharmaceutical chemistry with a minimum of 3-5 years of relevant industry work experience

*Experience:* 1. Strong command of synthetic organic chemistry laboratory skills; 2. Demonstrated excellence in applying medicinal chemistry to address selectivity, PK/ADME and toxicology issues; 3. Strong analytical skills employing characterization and purification techniques, i.e. normal phase chromatography and reverse phase HPLC.

#### LOCATION, SALARY, EMPLOYER:

*Job Location:* South San Francisco, CA

*Salary:* DOE

*Employer Description:* Portola Pharmaceuticals completed an IPO in May 2013 and has nearly 75 employees. Our goal is to build a biopharmaceutical company with compounds that advance the care of patients in the areas of thrombosis and other hematologic disorders and inflammation

*Application Instructions:* Please submit a cover letter that highlights your qualifications and matches our requirements along with your resume to [careers@portola.com](mailto:careers@portola.com)

Happy  
Valentine's  
Day



**13<sup>th</sup> IUPAC INTERNATIONAL CONGRESS OF PESTICIDE CHEMISTRY**  
Crop, Environment, and Public Health Protection: Technologies for a Changing World  
August 10–14, 2014 San Francisco, California

## Call for Papers and Educational Award Applicants!

The international scientific and regulatory community gathers every four years to share latest research findings and discuss emerging issues of global significance in agriculture. The 13th IUPAC International Congress of Pesticide Chemistry will be held in San Francisco, CA, during August 10–14, 2014, and submitted abstracts are due by 10 March. For the first time, an IUPAC Congress will be held in conjunction with an American Chemical Society (ACS) National meeting. Between 1000 and 1500 delegates are expected to attend the Pesticide Congress in addition to 12–13,000 chemists who will be involved in technical programming organized by other ACS divisions. In addition to Congress sessions, registrants will enjoy full access to sessions organized by all ACS divisions as well as the ACS exhibition.



The AGRO division of ACS, in collaboration with many national and international partner organizations, is developing an outstanding scientific program for the Pesticide Congress that will attract top scientists, regulators, academicians, and industry leaders from around the world. The technical program is being organized around nine main scientific topics and more than 40 scientific symposia, each of which will include lectures, panel discussions, and posters. Examples of some of the symposia topics include:

- Agriculture's Response to Climate Change and Population Growth
- Pollinator Health: Safety Assessment and Sustainable Management
- New Approaches to the Discovery of Crop Protection Products
- Agroecosystems: Sustaining Biodiversity and Key Ecosystem Services
- Fate, Effects, and Risks of Nano-Pesticides
- Global Approaches to Assessment of Bystander and Worker Exposure and Risk
- Improved and Novel Methods to Estimate Pesticide Degradation Patterns
- Formulation and Application Technologies for Sustainable Crop Protection
- Progress in Global Harmonization of MRLs
- Common Global Goals in Pesticide Stewardship

### **Abstract Submission and Student Travel Award Applications**

The “call for papers” has gone out and **abstracts for presented papers are due by March 10**. Congress registration will open during early May. To encourage student participation, a special travel grant program has been organized, and **Student Travel Award Applications are due March 1**. Early career scientists are also encouraged to apply for the **New Investigator Award by March 10**. Details regarding the Congress, including scientific program topics, abstract submission instructions, student travel award applications, and sponsorship opportunities are available at the Congress website:

**[www.IUPAC2014.org](http://www.IUPAC2014.org)**



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### ChemPloyment Abstracts

Director:	Liang Cao	liang.cao@aol.com
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## FUTURE MEETINGS

- Feb 19** BioScience Forum  
*[www.biosf.org/programs.htm](http://www.biosf.org/programs.htm)*
- Feb 20** Dr. Paula Findlen, Stanford University  
History of Science  
Biltmore Hotel & Suites  
Santa Clara, CA
- Feb 25** AIChE Norcal Meeting  
*<http://norcal.aiche.org/content/meetings-and-events>*
- Mar 16-20** ACS Spring National Meeting  
Dallas, TX
- Apr 17** Movie Night: "Supercar: Building  
the Car of the Future"  
Time and Location TBD
- Apr 26** 2014 Chemistry Olympiad Local  
Section Exam  
Las Positas College  
Livermore, CA
- Jun 23-27** National Organic Chemistry Symposium  
Seattle, WA  
*[www.organicdivision.org/ama/orig/NOS/index.html](http://www.organicdivision.org/ama/orig/NOS/index.html)*