

# Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

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## JULY 2015 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, July 23 at 7 a.m.**

La Boulange

151 University Avenue, Palo Alto



## Chair's Message

For this month's Chair message, I would like to talk to you about your local section. The Santa Clara Valley section's geography covers all the way from Monterey up to South San Francisco. Our section includes five counties: San Benito, Santa Clara, Santa Cruz, San Mateo and Monterey. Our section has about 2800 members and is one of 189 sections across the nation. In total, ACS has about 160,000 members! Talk about an extensive



*continued on next page*

## 2015 Shirley B. Radding Award Recipient

### Connie Murphy

Connie Murphy retired in 2008 after working for more than 28 years at The Dow Chemical Company in Midland, MI. She spent the first 25 years of her career in research and development in roles including research technologist, team leader, group leader and project portfolio manager. She holds five patents in monomer/polymer synthesis and processing. The last three years of her career at Dow she was a supervisor of IT professionals in information systems. Since retirement, Connie and her husband, Karl, have traveled the world.



Chemical Society Award from the Midland Section of the ACS in 2008, Distinguished Service Award from the ACS Division of Chemical Technicians in 2006, Outstanding Chemical Technician Award from the Midland Section of the ACS in 1997, Petersen Award for Service (2010), the Rochester Section Award

(1991), and Outstanding Technologist Achievement Award from the Dow Central R&D Scientists Organization in 1994. She received seven Special Recognition Awards from The Dow Chemical Company between 1988 and 2002 for technical and professional contributions. She was the 2012 commencement speaker for Milwaukee Area Technical College, the first alumna ever invited to give the keynote address at a graduation ceremony there.



## SCVACS Annual Wine Tasting, Family Picnic and Awards Ceremony

**Date:** Saturday, July 11, 2015

4:00 p.m. Wine Tasting

5:30 p.m. Dinner

7:00 p.m. Awards

**Deadline for Reservations:**

Wednesday, July 8, 2015

**Location:** Stanford University  
Mudd Chemistry Building  
(<https://goo.gl/maps/gTsaM>)

Registration Online at: [http://www.scvacs.org/Local\\_Folder/din\\_mtg.html](http://www.scvacs.org/Local_Folder/din_mtg.html)

Adults: \$20.00

Children under age 12: \$5.00

Student: \$10.00

Connie has been a member of the ACS since 1992. Since joining ACS, she served as a member of the Committee on Committees, the Committee on Membership Affairs, the Committee on Technician Affairs and the Chemical Technology Program Approval Service. She is currently a member and was the 2011-13 chair of the Committee on Chemistry and Public Affairs. She was the 2013 chair of the Division of Industrial & Engineering Chemistry. She served in the leadership of the Division of Chemical Technicians for several years, serving as chair-elect, chair, past chair, councilor, webmaster, membership chair and member-at-large. In the Midland Section of the ACS, she served as a director, membership chair, government affairs committee chair and alternate councilor. She facilitates workshops in both the ACS Leadership Development System and in the ACS Career Pathways series. She is also an ACS career consultant.

Connie was honored by her selection as an ACS Fellow in 2011. She received the K. Michael Shea Award from the ACS Committee on Technician Affairs in 2014, the Outstanding Service to the American

network!

You may be wondering what the responsibilities of a local section are. Our purpose is to administrate many programs by using funds primarily from local section dues and the National ACS organization. In addition to hosting monthly dinner meetings and communicating through our monthly newsletters, our local section participates in National Chemistry Week, the Chemistry Olympiad, the Tech Trek, and many other outreach events. In addition, we present several awards throughout the year to acknowledge service

and excellence in the field of Chemistry such as the Mosher award, the Radding Award, and the Teacher Scholar Award.

However, these activities and services could not be done without a strong and committed executive committee. Our executive committee consists of a Chair, Chair-Elect, Past Chair, Secretary, Treasurer, seven Councilors, and seven Alternate Councilors. Many of our executive members have served your section for many years. They actively volunteer their time to ensure these on-going activities and outreach to our community are still active

and growing as the needs of our members and community changes.

We are running elections soon for 2016. Would you like to serve on the executive committee and provide input for the types of activities you would like to see done in our local section? In addition, we are always looking for volunteers to help out with projects! To learn more, please contact me: [ashley@scvacs.org](mailto:ashley@scvacs.org). Also, the July picnic I talked about in the last Chair's message will be a great way to meet the executive committee in person and ask us questions! We hope to see you there!

## It Is a Small World

by Howard Peters

In late April, I visited the UPS store in the Sharon Heights Shopping Center (Menlo Park) to telefax the confirmation for Armadillo Willy's for our annual SCVACS Awards Picnic at Stanford in July. A young man came in to send two boxes, took a second look at me and said, "You look very familiar. Do I know you? What is your name?"

I replied, "Howard Peters."

Then he said to my bewilderment, "You judged my high school project in a science fair. I'm Arun Thottumkara. I just received my Ph.D. in chemistry at Stanford with Dr. Justin DuBois." Then it all clicked...and I remembered. I have been an INTEL ISEF groupie judging those amazing high school science projects for the past 14 years.

Arun was an ACS finalist/award winner at the INTEL International Science and Engineering Fair (ISEF) in San Jose in May 2001. He was then a high school freshman. My wife, Sally, was the Chair of the Santa Clara Valley Local Section. She presented those ACS awards. The June 2001 article in the Silicon Valley Chemist includes a photo of the ACS winners and Arun is standing next to Sally. See page 3 of <http://www.scvacs.org/newsletter/news0106.pdf>

Actually, I remembered that I judged Arun at three different annual ISEF competitions. In May, 2002, he returned to the ISEF competition held in Louisville KY and won awards. He also had a coauthored paper (at age 15) published in Tetrahedron Letters with his father, Dr. T-K Vinod, a Professor of Chemistry at Western Illinois University in Macomb IL. In May of 2004, Arun was again at ISEF

in Portland OR, this time (and at age 17 with a preliminary US patent publication, US Patent 6,933,405, issued August 23, 2005). He later received the top ISEF category award in chemistry and an ACS special award. There I learned that he planned to go on to Harvard as a chemistry major.

He did well at Harvard, received his bachelor's degree in chemistry, and has been for the past years in the Stanford Chemistry Department doing his Ph.D. chemistry research with Dr. Dubois. He received his Ph.D. in December and is now with Relypsa, Inc. in Redwood City.

I later remembered that I had also judged the science projects of his younger brother, Prem Thottumkara, at later ISEF events. Prem is currently an undergraduate at Stanford majoring in bioengineering. What is this family doing right?

Needless to say we had a spirited conversation.

The Society for Science and the Public of Washington DC [www.societyforscience.org](http://www.societyforscience.org) has organized the ISEF competitions for years. About 1500 high school students from around the world compete for a week. ISEF 2015 is in Pittsburgh, PA on May 10-15. Four+ Nobel prize winners will be present to inspire the students. About \$5,000,000.00 in awards (grants, tours, trips, internships, etc.) will change hands. And, if history is any guide, about 25% of these high school students will have filed a patent application on their project. As a retired patent attorney, I love a story with a happy ending.



## Befriend a Teacher of Science

The ACS launched the AACT (American Association of Chemistry Teachers) last year and our Santa Clara Valley section jumped in with a local teacher subsidy to encourage participation. See the June 2015 SCVACS newsletter for details.

A growing group of engaged teachers responded to our membership subsidy offer. In the spirit of continuing to support these educators in science, we would like to match them, one-on-one, with a practicing chemist. The partnership of a teacher and a chemist can take on whatever form the two choose: a classroom visit, referrals to technical resources, a work site visit, or just conversation.

Our 2015 campaign to enroll teachers in the AACT is on-going with budgeted funds expected to last through the end of the year. We anticipate a boost in participation at the end of the summer when teachers prepare for the new school year. The offer is not limited to chemistry teachers. It is suitable for all K-12 teachers who present science in their classrooms.

Befriend a teacher of science! Chemists from all areas are invited - industrial, academic, research, engineering, start-ups, even grad students. If you would like to participate, contact us at [aact@scvacs.org](mailto:aact@scvacs.org) and let us know if you have pairing preferences, for example, grade level or location.

There are many teachers out there eager to make your acquaintance. Who will your lucky one be?



## Chemistry Quiz

Nuclei of masses greater than 56 cannot be formed by direct nuclear fusion. Instead they are formed by this pathway which has two named processes. What are they?

### Last Month's Question:

Who came up with the name "atom" as a fundamental, indestructible, indivisible unit of chemistry?

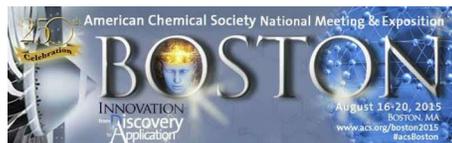
-- Around 440 BC, Leucippus of Miletus coined the term atom from the Greek word, ατομος which means indivisible.

## ACS Boston Meeting

Join the thousands of chemical professionals at the 250th ACS National Meeting & Exposition in Boston, MA, from August 16 - 20, 2015, to explore the overarching multidisciplinary theme of Innovation from Discovery to Application. The preliminary program is now available online at: <http://www.acs.org/content/acs/en/meetings/fall-2015/program-overview.html>

Early registration discounted rates have been extended until July 13. Social Event registration is now open. If you have already registered for the meeting, you can visit the meeting page at <http://www.acs.org/content/acs/en/meetings/fall-2015.html> to update your record, print a receipt, invite a colleague, print a registration confirmation and purchase social events or an Abstract USB. In order to receive your ticket(s) with your badge, you must update your record by June 30th. Tickets purchased after June 30th can be picked up onsite.

Don't forget that an ACS ID is required when registering for the meeting. Save time and sign up to get your ACS ID now. Creation of an ACS ID is FREE and you are not required to be an ACS member to create an ID. An ACS ID also provides many additional benefits.



## June Seminar Dinner Meeting Held Jointly with the Golden Gate Polymer Forum

The June 22nd dinner meeting brought together the polymer and chemistry communities in a joint meeting of the Golden Gate Polymer Forum (GGPF) and the Santa Clara Valley ACS.

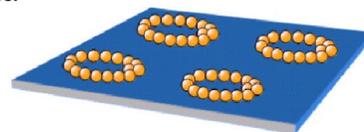
Speaker Dr. Al Nelson presented studies on the chemistry of polymers in the self-assembly of nanostructures in the context of materials for enabling nanomanufacturing. Featured was his IBM Almaden Research Center group's work on directing assembly of magnetic nanoparticles. Initial results on creation of 3D structures from block copolymers for biomedical applications were also



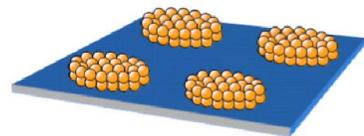
Joint Meeting with GGPF

presented, to be continued in his new position on the chemistry faculty of the University of Washington in Seattle this autumn.

Nearly 60 attendees enjoyed the setting of June's meeting at Michael's Restaurant located in the Shoreline Recreational Area and Wildlife Sanctuary. Judging by the lively mingling between the two communities of chemists and polymer scientists, future joint meetings of the GGPF and SCVACS are in store.



self-assembled  
core-shell  
ferrimagnetic  
nanoparticles



Materials for Enabling Nanomanufacturing

## David Wang International Chemistry Olympiad Finalist

David Wang, a senior from Monta Vista High School in Cupertino, was chosen to represent the U. S. at the 47th International Chemistry Olympiad in Baku, Azerbaijan, July 20-29, 2015. To prepare for this adventure, David scored among the top 20 students nationally on the national chemistry Olympiad qualifying exam and then attended the study camp at the Air Force Academy in early June. This is second time David attended the study camp. Last summer he was chosen as the first alternate, but this year he will travel to Azerbaijan with three other finalists.

The other exciting event in David's life, besides being an Olympiad finalist, is his decision to attend MIT next year. And, yes, he is going to major in chemistry!

David – Good luck in Baku, Azerbaijan in July. Also, good luck at MIT in the Fall!



The California Section of the ACS is hosting a joint event with the AIChE

### Engineering Brandy

*A high level walk through of the brandy making process, from receiving grapes to distillation.*

Speaker: Konrad Miller, PE

Process Engineer  
E&J Gallo

Date: July 20, 2015

Time: Social hour: 6:30

Presentation: 7:30

Social hour: 8:30

RSVP: Two Mile Wines

477 25th Street

Oakland, CA 94612

We will provide light appetizers. A cash bar will be provided by our host, Two Mile Wines. The event is a few blocks north of the 19th Street BART station, and there is street parking available. The closest parking garage is located at 2323 Webster.



SANTA CLARA VALLEY SECTION  
AMERICAN CHEMICAL SOCIETY  
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## FUTURE EVENTS

**Jul 11** SCVACS Annual Wine Tasting, Family Picnic,  
and Awards Ceremony  
Stanford Chemistry Department

**Jul 20** Engineering Brandy: Hosted by AIChE and  
CalACS Younger Chemists Committee  
Oakland, CA  
[www.eventbrite.com/e/engineering-brandy-hosted-by-aiche-and-acis-registration-17515550483](http://www.eventbrite.com/e/engineering-brandy-hosted-by-aiche-and-acis-registration-17515550483)

**Aug 16-20** 250th ACS National Meeting & Exposition  
Boston, MA

**Sep 12** ACS Wine, Cheese, and Chocolate  
Mondavi Institute  
University of California Davis