

Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

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DECEMBER 2007 NEWSLETTER TOPICS

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Professional Chemists Talk About Their Careers at Chemistry Week Panel

Four professional chemists talked to students at Cañada College about their careers and what to expect in the job market as part of a special Chemistry Week Panel held on Thursday, October 25.

Participants included Anne Barry,



patent attorney for Genentech, biophysical chemist Yung-Tsai Yen, CEO & founder of Micro Lithography Inc., physical chemist Sophia Yen, pediatrician and adolescent health specialist at Stanford School of Medicine, and

continued on next page

Chair's Message

Remember last month when I talked about my chemistry beginnings? Well, I received an email from a member, Dr. Joseph Castellano, who relayed his story. See the article in this newsletter. I wonder how many chemists were spawned by chemistry sets made by Gilbert? Even our November dinner meeting speaker, Dr. Andy Sae, had one. By the way, and for those who missed him, Dr. Sae gave a great talk, with live demonstrations about chemicals and chemical reactions from products available from the grocery store. For all you teachers out there, parents included, Dr. Sae

referred us to a website he uses to describe his experiments. Here is the URL (case sensitive):

<http://seco.glendale.edu/~asae/ACS/demos.htm>. Give it a look.

Watch the mail in January for your ballot and remember to vote on the proposed bylaws revisions to allow electronic voting. As I stated before, elections are costly and time consuming. The intent here is to streamline the process and make our funds go farther in supporting section activities.

Well, here it is, December, and

continued on next page

Chair's Message, continued from front page
the final month of 2007. The holidays are upon us and this message will be my last one as Chair of the Santa Clara Valley Section. Mark Kent will be assuming the responsibilities as Chair on January 1 and you will be hearing from him in 2008. It has been my pleasure to serve and represent you all. I appreciate and give great thanks to everyone on the Executive Committee for their continuing support in helping to govern our Section. Special thanks go to Cinzia Muzzi (Editor of SV Chemist Newsletter), Abby Kennedy (National Chemistry Week), Sally Peters (Dinner meeting arrangements and Reminder of things I forgot), Linda Brunauer (Student Affiliates at SCU), Bonnie Charpentier (ACS Director and promoter of member-involvement activities), Howard Peters (ACS Director and 2007 candidate for President of ACS), Lois Durham (Event Picture Taker),

Ferenc Makra (Roche contact for monthly meetings), Karl Marhenke and Ean Warren (Keeping the website alive), and Shirley Radding and Jack Riley (Undying support of ACS and our Section).

Our next dinner meeting will be on January 7, 2008. We will be honoring the recipient of the Harry and Carol Mosher Award, Dennis Curran, who will address us with his thoughts on Cascade Radical Annulations: From Curiosity to the Clinic. Be sure to sign up on our website: www.scvacs.org. If you can't dine with us, come to hear the talk.

George Lechner

**Happy
Holidays!**



Professional, continued from front page

Sophia Mah, chemical engineer and freelance technical writer.

The panel discussion was part of National Chemistry Week 2007, Oct. 21-27. This year's theme was "Celebrate the Many Faces of Chemistry." The panel discussion was sponsored by Cañada College's Chemistry Department and the Mathematics, Engineering, Science, Achievement (MESA) Program.

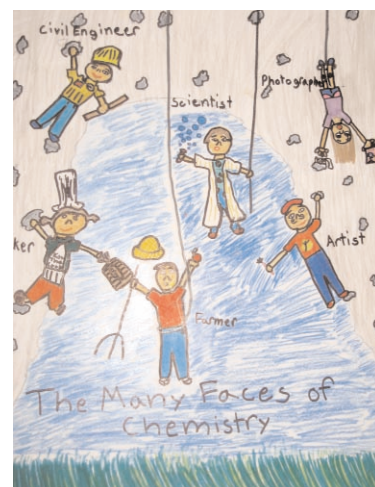
In addition to the panel discussion, the college hosted a chemistry

display in the Library and Learning Center and a Chemistry Olympiad event.



National Chemistry Week Poster Contest

One of the many activities that ACS offers to support National Chemistry Week is a poster contest for students in Kindergarten through Grade 12. Students were invited to create a poster that celebrates this year's National Chemistry Week theme, "The Many Faces of Chemistry". These posters are then submitted to the local section. The section picks a local winner for the different grades and the winner's poster is then sent to National for consideration toward the grand prize. The posters are judged on artistic merit, poster message, originality and creativity, and neatness. The National first place winner receives a \$250 Amazon.com gift certificate and their teacher gets a Periodic Table of the Elements poster for use in the classroom.



We had three groups who participated in the contest. These included:

- Burlingame's 4th grade Girl Scout Troop, Troop 2562 of the San Francisco Bay Area Council.
- An 8th grade student from a middle school in Fremont, CA
- And several posters from Palma High School's chemistry classes courtesy of John Chipley.

We have included the poster of the local section winner, Amelia Milne. Her poster was also selected as a national ACS 3-4th grade category winner. We have a creative group of younger chemists in the area. Let's all encourage their efforts.

Science Fair

The East Side Union High School District will hold its science fair, called Sciencepalooza, on March 1, 2008. The coordinator is Heidi Black and she will be delighted for some of our members to mentor and judge. She can be contacted at: blackh@esuhsd.org or 408-347-6563

Reminder: January Dinner Meeting, Mosher Award Cascade Radical Annulations: From Curiosity to the Clinic

Dennis P. Curran

Abstract:

The road to drug discovery and development in an academic setting is a long and tortuous one, especially if you don't even set out to discover a drug in the first place. Having developed many 3-atom + 2-atom radical annulations during the 1980's, we became curious around 1990 whether we could develop a 4-atom + 1-atom radical annulation. The reaction that we discovered was not entirely the one that we planned, but in many ways it proved even more interesting. One thing led to another, and soon we were making the anti-cancer agent camptothecin, and later new analogs. One unusual class of new camptothecins bearing a silicon substituent, "silatecans", was especially exciting, and the chemistry and biology results eventually lead to the preclinical and now clinical development of the silatecan "DB-67". This lecture recounts the DB-67 story from curiosity to the clinic.



University of Pittsburgh in 1981. He now holds the ranks of Distinguished Service Professor and Bayer Professor of Chemistry, and is the founder of Fluorous Technologies, Inc. (www.fluorous.com). Among other awards, Dr. Curran has received the Blaise Pascal International Research Chair, Préfecture de la Région D'Ile-de-France Paris (2007-2008), the Pittsburgh Award, Pittsburgh Section, American Chemical Society (2006), the Morley Medal, Cleveland Section, American Chemical Society (2006), the Pittsburgh Magazine Innovators Award (2003), American Chemical Society Award for Creativity in Organic Synthesis (2000) and the Cope Scholar Award (1988), and the Janssen Prize for Creativity in Organic Synthesis (1998). He is currently an ISI "Highly Cited Researcher" (www.isihighlycited.com). Dr. Curran has authored over 350 papers, thirty patents and two books, and is well known for his work in at the interface of radical chemistry and organic synthesis. More recently he

has made significant contributions to the emerging discipline of fluorine chemistry. Additional information is at <http://radical.chem.pitt.edu>.

January Dinner Meeting

Date: Monday, January 7, 2008

Time: 6:00 Social Hour

7:00 Dinner

8:00 Presentation

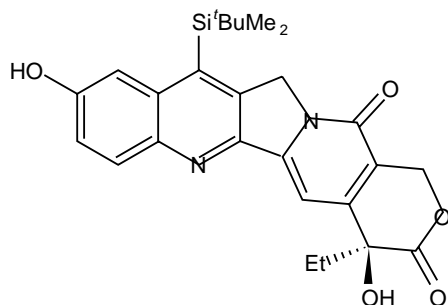
Location: Biltmore Hotel & Suites
2151 Laurelwood Blvd.
Santa Clara, CA 95054

Speaker: Dr. Dennis P. Curran
University of Pittsburgh
Cascade Radical
Annulations

Cost: \$27.00 with the choice of
Grilled Salmon or
Vegetarian Crepes
Includes wine with dinner.

Reservations: www.scvacs.org
Shirley Radding
408-246-2564
408-296-8625 Fax

Reservations should be made by January 3rd stating your name, address, company affiliation, number of people in party, and menu selection.



Biography:

Dennis P. Curran received his B.S. in 1975 from Boston College. His Ph.D. was granted from the University of Rochester in 1979 where he worked under Professor Andrew S. Kende. After a two-year postdoctoral stay with Professor Barry M. Trost at the University of Wisconsin, Dr. Curran joined the faculty of the Chemistry Department at the

Great Education Financing Solutions for ACS

ACS and Chase Education Finance can help alleviate the stresses of financing higher education. Explore private education and Federal student consolidation loan options, as well as grant and scholarship opportunities.

For more information, please visit www.ACS.ed-loans.com or call (866) 908-2206.

Here are a few services this program offers to ACS members and their families:

- Access to competitive student loans for funding undergraduate and graduate school education for both parents and students.
- Federal and Private Education Loan information and applications.
- The Ed-Loans Wizard® Cost Calculator—find out what to expect and outline a financing plan.
- The BrokeScholar scholarship search engine—connect with over 650,000 available awards and have your profile matched to the ones that are right for you.
- The Student Loan Consolidation Program for postgraduate education debt management options.

National Chemistry Week 2007—It's a Wrap!

Thank you for celebrating National Chemistry Week 2007! This year's theme was "The Many Faces of Chemistry"—especially chosen because this was the 20th anniversary of NCW celebrations for the ACS. It was a great chance to celebrate our expanding careers, opportunities and colleagues in chemistry!

On Saturday, October 6th, 2007 we celebrated NCW at the Children's Discovery Museum of San Jose. The ever-popular Wheel of Chemistry Fortune was spinning for all children to win a prize, dozens of kids made jewelry out of UV-beads, decorated shrinky dinks, discovered acid-base properties of goldenrod paper and had their fortunes told by polymer fish. The NCW Committee would like to thank the Children's Discovery Museum for hosting our event and Linda Brunauer's enthusiastic crew of 25 student volunteers from Santa Clara University. With such a great turn-out of both volunteers and participants, this was our most interactive and energetic public outreach booth yet!

Our highlight for NCW this year was an interactive panel discussion on "Drugs, Bombs and CSI: Your Future Careers in Chemistry" aimed at high school and college students and held at De Anza College on Saturday, October 27th, 2007. The NCW



Committee would like to extend a special thanks to our panel of distinguished chemists for enlightening these students to the gamut of careers that are available starting from a degree in chemistry: Marjorie Balazs, James Chesko, Katherine Lara, George Lechner, Natalie McClure, Dave Parker, Howard Peters, Bruce Raby and Cordelia Willis. We would also like to thank De Anza College for hosting this great event. Students and their parents were able to socialize, network and ask their most probing questions about chemistry educations, careers, and passions. Finally, I would like to thank Cinzia Muzzi for her dedication in co-organizing this successful event with me this year, and we would like to thank De Anza College administration and staff members, Dean Jerry Rosenberg, Anne Leskinen, Javier Rueda, Linda Wolf, Al Guevara and Carmen Pereida for their assistance in the event as well.

The NCW Committee is proud to hear that Cañada College celebrated National Chemistry Week this year, thanks to the dedication and hard work of professor Anu Pattanayak and her Cañada colleagues. Furthermore, NCW celebrations, including a titration competition, took place down south of the Bay Area thanks to volunteer organizer Kristy

Morris from UC Santa Cruz.

This year I received several requests from local chemists desiring to take a NCW celebration into their child's classroom. I am eager for opportunities to work with local parents and to help them organize NCW events for their community, so if you are interested in activities like this for 2008, please contact me next spring as I begin to plan for NCW 2008.

Finally, I would like to thank Natalie McClure for facilitating our NCW poster contests this year and acknowledge Lois Durham for her fearless photography skills at both of our NCW events, as well as the other SCV-ACS members that turned out to set up, celebrate and clean up our events. As always, YOU make National Chemistry Week happen! If you would like to volunteer for NCW 2008, please contact Abby Kennedy (akennedy@exelixis.com).



How I Became a Chemist – A Continuing Series

My interest in science began in 1950 when watching the television show “Mr. Wizard”, which was hosted by Donald Herbert, who unfortunately passed away recently. Herbert did all kinds of experiments that intrigued me, so I asked for and received a Gilbert chemistry set as a Christmas gift. Unlike today, a chemistry set in those days contained a wide variety of inorganic compounds. Centered around this set, I went on to create a “lab” in the basement of our house in Brooklyn, New York. This basement had bare concrete walls and floor, so it was always damp and cool. I set up an old table and even found a small blackboard that I mounted near the “lab bench.” In those days, labs of scientists in the movies always had a blackboard with equations and formulas (see photo taken in April 1952).

My first experiments were with pyrotechnics, of course; kids always like to see things that flare up. Later,



I did other things to produce fascinating color changes, but I had little idea of the chemistry involved. I would save my allowance money and sometimes ride the subway to Manhattan to visit the Gilbert Hall of Science, where one could buy chemistry sets, electric trains (Gilbert also made American Flyer trains), and chemical lab supplies. I bought a few flasks and beakers there to supplement my lab. On one of these trips, I bought an old copy of the Journal of Organic Chemistry at a used book store, probably for less than one dollar. I was

intensely fascinated by the chemical formulas, but did not understand a word of it. Little did I know that I would later write papers published in this very journal.

Another television science program that I watched regularly in the early 1950s was filmed at John Hopkins University. Dr. Werner von Braun, the noted rocket scientist, was a guest on one of these shows. I was fascinated by his predictions of trips to the moon and planets. He also showed how rocket engines work using models and other demonstrations. Again, I was very fascinated by this subject at the time, but had no idea that 12 years later I myself would actually be performing rocket propellant research. In the early 1970s, I had an opportunity to visit NASA's Huntsville, Alabama facility and toured the office and lab of Dr. von Braun who had recently retired.

Joseph A. Castellano, Ph.D.

Titration Competition on the Central Coast

The Science Club of California State University Monterey Bay hosted the 1st Annual Central Coast Titration Competition to celebrate National Chemistry Week on Saturday, October 27th. Over 50 participants from local high schools and universities took the challenge to be the first team to most accurately determine the amount of acetic acid in vinegar. The Alisal High School team of Miguel Zauala, Pedro Ramirez, Karina Garcia lead by teacher Paul Quiggle were first to complete the challenge followed by the CSUMB team of Scott Winner, Joseph Platko and Roberto Garcia. All participants and volunteers had a lot



of fun during the event followed by lunch and a raffle including prizes such as an iPod, a periodic table beach towel and other fun items donated by the American Chemical Society. The Science Club would like



to thank the ACS and the faculty and staff of the Division of Science and Environmental Policy for their donations as well as the participants and volunteers for their support.



ACS Launches Social News and Bookmarking Site

In June 2007, the American Chemical Society launched a new social news and bookmarking site called chemistry.org/exchange. The site allows members and those interested in science news and research to share articles with a larger community.

Registered users can vote on submitted, previously-published articles which will promote the articles to the site's front page. They can also save articles to their favorites; this may be especially useful to those who want

to create their own library of published articles or of articles that may further their research. Users can find other community members with similar interests through "tags": metadata one applies to one's own profile.

The site enables two-way communication between registered users via an internal messaging system. It also allows the community to add comments to the submitted articles.

Since its launch in June 2007, chemistry.org/exchange has averaged nearly 1,700 visitors each month.

ACS Podcasting Science for Members and Public

ACS members now have the opportunity to share exciting, cutting-edge scientific discoveries with their children, local science teachers, museums, libraries, and other venues through a new podcast launched this summer by the ACS Office of Communications. The science podcast, unveiled in July, reports on the latest studies published in the ACS journals to a broad public audience at no charge.

The podcasts are available at <http://tiny.cc/acs259>.

Highlights of the October Dinner Meeting with Helen Free



CAS Exceeds All Previous Records

In its 100th anniversary year, Chemical Abstracts Service (CAS) logged the largest number of records added to the CAPLUSSM database in a single week: 24,623 records were added the week of July 30, 2007, referencing chemical and related scientific research in the world's journals and patents. Researchers worldwide using CAS products such as SciFinder[®], SciFinder Scholar[™] and STN[®] now have access to a greater quantity of daily updated scientific information than with any other source. CAS announced this and other database content developments at the American Chemical Society National Meeting in Boston, August 20, 2007.

By the end of July 2007, CAS' weekly input had reached an average of 20,924 records, compared to 19,551

per week in the record analysis year 2006, an increase of 7%.

"CAS has always reflected the growth and scope of chemistry-related literature," said Matthew J. Toussant, Ph.D., CAS Senior Vice President of Editorial Operations. "The sheer volume of new records entering the CAPLUS database each day indicates the magnitude and diversity of research now occurring worldwide. It also speaks well of CAS' editorial operations and the hundreds of scientists who make it work."

CAS made many other enhancements to its literature and substance databases this year, including the addition of U.S. patent records from 1870-1889 to enhance the oldest segment of the CASM/CAPLUS databases. CAS also continued to build upon its

strength in making patents from Asian countries accessible. Recently added to CAS databases were utility model patents issued from January 1, 2007 from the State Intellectual Property Office of the People's Republic of China (SIPO). CAS also continued to improve the timeliness of its Korean patent records and now makes records for patent applications from the Indian Patent Office available online within 14 days of publication.

"Patents are a special focus of recent enhancements," said Toussant. "Patents are now the leading source of new substance information in the CAS REGISTRYSM database and accounted for 63% of new substance records by CAS in 2006."

More information about CAS database content is available at www.cas.org.

Highlights of the November Dinner Meeting with Andy Sae





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FUTURE MEETINGS

- Dec 13** AWIS: "Get the Perfect Job"
Palo Alto, CA
www.pa-awis.org
- Jan 7** Mosher Award Dinner and
Presentation
Dr. Dennis P. Curran
Santa Clara, CA
- Jan 16** Dr. William Robinson
Bayhill Therapeutics,
co-founder
BioScience Forum
www.biosf.org/programs.btm
- Mar 2-4** Pittcon
New Orleans, LA
www.pittcon.org
- Mar 9-14** DNA Damage, Mutation & Cancer
Gordon Research Conference
Ventura Beach, CA
www.grc.org
- Apr 6-10** National ACS Meeting
Joint with AIChE
New Orleans, LA



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