

newsletter

○ Fall/Winter | ○ 2012/2013

CALPACS PROVIDES A FORUM FOR NETWORKING, COLLABORATING, AND SUPPORTING EFFORTS TO EDUCATE OUR COMMUNITY ABOUT CHEMISTRY.

A Letter from the Chair

Dear California Los Padres Section ACS Members:

Most of you will receive your ballot electronically. Thank you for not only being green, but for saving the section money on mailing. We have literally saved hundreds of dollars on mail costs this year, and this money (and the rest of your dues) has been put to good use. If you do not get our mailings electronically and would like to, all you have to do is supply your e-mail address on your membership profile at ACS.org.

The Executive Committee has been working hard on your behalf this year, and lots of good things have happened. We sponsored a number of student activities:

- A talk by Rebecca Anderson on careers in the pharmaceutical industry at Cal Poly.
- The local Chemistry Olympiad competition followed by a talk on the periodic table by Eric Scerri.
- Travel awards for students at Cal Poly and UCSB who attended the National Meeting in Anaheim last spring.
- A pizza party for CSU Channel Island Chemistry Club's Student Section Ratification.
- Lunch for a session of the graduate student speaker series at UCSB.
- National Chemistry Week activities put on by Cal Poly and Westmont College Chemistry Clubs.

Members of the Executive Committee also organized great events and talks:

- A talk on the history of the local oil industry and tour of Oil Museum in Santa Paula.
- A wine social at Kunin Vineyards and talk on wine production by Seth Kunin.
- The annual Fifty Year Member banquet with a talk by Prof. Peter Ford on New Adventure in Biomass Conversion to Chemicals and Fuels.

We still have the Wine Tasting event on December 1 at Talley Vineyards, which is a great place to meet local members and make new contacts.

I invite you all to participate in our activities. You can find out more about the activities and us at www.lospadresacs.org.

You can also friend us on Facebook as [California Los Padres ACS](#) to catch up on all the happenings. If you have any ideas as to events you'd like us to sponsor, please let us know. Contact us through our web site.

I personally would like to thank all the members of the Executive committee for their hard work. Each and every one of them pitched in to carry the load. Many of them have been doing this for years. We can always use more help, so volunteer if you can.

Al Censullo, our Councilor, headed up our nominating again this year and put together an excellent slate of candidates. Please take a moment and vote. We need to receive all votes by December 1, 2012.

In closing, it has been a pleasure serving you. Nanine Van Draanen, who is already hard at work for next year, will be your new section Chair. I'm certain that it will be an exciting and action packed year.

Sincerely,
Curtis A Musser
2012 Section Chair



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50 Year Recognition Luncheon

By Payam Minoofar

The attendees of this year's 50-year recognition awards banquet were treated to a very insightful talk about the future of energy. Dr. Peter Ford, Professor of Chemistry and Director of the new NSF Center for the Sustainable Use of Renewable Feedstocks (CenSURF) at UCSB, provided the capacity crowd with good fodder about solving the world's energy problems. The talk capped a wonderful luncheon that brought ACS members from San Luis Obispo to Ventura together for an afternoon of networking, dining and learning.

Professor Ford talked extensively about advances in his lab towards catalyzing the breaking down of cellulosic plant material into liquid fuel. Efforts in his lab have resulted in the creation of a new class of catalysts that can break down cellulosic plant materials, especially lignocellulose and lignin of wood chips, into usable liquid hydrocarbons. This transformation is as yet not feasible, and it remains as the critical barrier to using inedible plant materials (such as switchgrass) as sustainable and renewable sources of carbon energy. Although the catalysts discussed in this lecture haven't yet succeeded in producing fuel from cellulosic plant materials, the effort in Ford's group has had remarkable success in breaking down these materials into compounds that can readily and easily be converted to fuels or other industrial chemicals.

A considerable portion of the lecture was dedicated to the diverse strategy that must be employed toward alleviating the inevitable exhaustion of the supplies of fossil fuels. Although no single source of energy is presently forecast to replace fossil fuels, Ford pointed out that the conversion of inedible biofeedstocks into fuels is a critical component of the solution because

these materials do not derive from commercial crops. Present conversion of corn into ethanol, for example, has resulted in dramatic reductions of the food supply. Consequently, industry and government have both recognized the importance of feedstocks that are not part of the food supply. Absent any established or economical means of "digesting" these materials, Ford pointed out that it is critical to encourage research that will provide innovative solutions to this very important problem.

The gravity of the problem was made more bearable by the delicious fare at Le Café Stella in Santa Barbara. The quiche and cheese ravioli lunch were good preparation for the rich talk, and the very rich chocolate cake dessert fueled a long and lively discussion of the overwhelming subjects of catalysis, sustainable energy and the profits of having been a member of the ACS for 50 years. On the last subject, there was very little argument about the benefits.

The luncheon also honored 50-year ACS member, Donald Graves, and 60-year ACS member Eugene Burns.



50-Year honoree Don Graves and section chair Curtis Musser at the CALPACS Fall Luncheon.

50-Year continued on next page...

50 Year Luncheon continued...

Dr. Graves received his Ph.D. in Biochemistry from the University of Washington in 1959. He joined the faculty of Iowa State University in 1961 and retired in 2001 as a Distinguished Professor of Biochemistry. He is currently an Adjunct Professor in the UC Santa Barbara Department of Molecular, Cellular, and Developmental Biology.



Attendees enjoy conversation at the annual CALPACS Fall Luncheon in Santa Barbara.



CALPACS Elections 2012

The California Los Padres Section of the American Chemical Society is holding its annual election, and your ballot is available online this year. You should have received a postcard asking to verify your email address or opting to receive a paper ballot.

Electronic-friendly voters should have received their ballots via email from election@lospadresacs.org. The link provided in this email takes you straight to the ballot and is unique to your email address. You may only vote once.

VOTE!

Polls will be open
through
December 1, 2012

To read the statements and bios of the candidates, please follow this link:

<http://lospadresacs.org/statements2012>

The Executive Committee thanks you for your participation.

Dr. James G. Pavlovich (UC Santa Barbara) Receives Sandra Lamb Award

By Richard W. Hurst



Richard Hurst and Sandra Lamb winner James Pavlovich at the Fall Luncheon

Dr. James G. Pavlovich, Director of the Mass Spectrometry Labs in the Department of Chemistry and Biochemistry, University of California, Santa Barbara was awarded the prestigious Sandra Lamb Award on 20 October 2012. The presentation was made at the Annual 50 Year ACS Membership Luncheon hosted by the California Los Padres Section of the American Chemical Society (CALPACS) which was held at Le Café Stella in Santa Barbara.

The Sandra Lamb Award honors Dr. Sandra I. Lamb who had exceptional teaching careers in organic chemistry at both UCLA and UCSB. In 1994, she laid the groundwork necessary to charter an ACS section in the Tri-Counties region---her dedication led to CALPACS being chartered by ACS National in 1996.

Dr. Pavlovich is one of the original organizers of CALPACS, having been involved with the section since 1994, when informal meetings began with the objective of creating a local ACS section that would serve Ventura, Santa Barbara, and San Luis Obispo ACS members. Along the way, James has served as the

Chair and the Treasurer of CALPACS. However, he has served as the section's Secretary for the vast majority of time since CALPACS was chartered. The task of recording accurate minutes of each Executive Committee meeting given discussions that are, at times, confusing, can be formidable yet James has done this time and time again. He also insures that announcements as well as voting materials are distributed in a timely manner to all local section members. These tasks are no small job, yet he has never faltered.

James is an exceptionally talented, dedicated individual who has gone well beyond what would be expected of an Executive Committee member. It would be very difficult for this section to have functioned over the years at the level it has without individuals like James. Hence, Dr. Pavlovich was certainly an obvious choice for this award; the recognition was overdue given his selfless dedication to the local section and all of its members.



National Chemistry Week 2012

Westmont College's chemistry club represented the Los Padres Section of the ACS at two community outreach events during National Chemistry Week. The first event was held on Sunday, October 21, at La Cumbre Mall, and the second event was held on Saturday, October 27, at Paseo Nuevo Mall, both in Santa Barbara. ACS member, Kristi Lazar Cantrell, led this event and was assisted by Westmont chemistry students. The student volunteers led children through a slime-making activity.



Pictured Above at La Cumbre Mall: Ellen Brudi, Carrie Hill, Kristi Lazar Cantrell, Nicki Birkholz, Sarah Clark Pierson, Shane Rowan



NCW Continued on next page...



Pictured Above at Paseo Nuevo mall: Jeremy Kubiak, Nicole Grabe, Kristi Lazar Cantrell, Anneka Rienstra



CSU Channel Islands Science Carnival

ACS member Stephen Contakes along with three members of the ACS student affiliates and seven other students participated in the fourth [Annual CSU Channel Islands Science Carnival](#) organized by ACS member Phil Hampton, which was partially supported by our local chapter. At the November 3rd carnival, they hosted water electrolysis, element properties, cathode ray, and atomic emission spectra demonstrations and ran a slime making/Gak activity. Together these events served about 500 local K-8 age students.



“Nanotechnology: The Smallest BIG Idea in Science”

As part of National Chemistry Week activities, the American Chemical Society sponsored an illustrated poem contest for students K-12. All poems were to be no more than 40 words in various styles: haiku, limerick, ode, ABC poem, free verse, end rhyme, or blank verse. Entries were judged based upon relevance to and incorporation of the NCW theme, word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.

Our NCW section coordinator and poetry contest judge, Lara Baxley, reached out to local schools, inviting their students to submit poems. She received entries for the 3rd-5th grade and the 6th-8th grade categories.

The Poetry Contest winners, with links to the winning poems, are as follows:

[6th-8th grade poetry contest—1st place winner, Isaac Epstein of Cayucos](#)

[6th-8th grade poetry contest—2nd place winner, Victoria Friedrich of Santa Maria](#)

[3rd-5th grade poetry contest—1st place winner, Valerie Best of Creston](#)

Thank you to all of the students who submitted poems, and congratulations to our local winners!

Cal Poly Celebrates NCW

Cal Poly also participated in National Chemistry Week. The ACS Cal Poly Chemistry club organized an outreach event in the University Union. There were two demonstrations to increase the awareness for the club and promote the NCW theme, nanotechnology.



In the first demo, they made liquid nitrogen clouds by mixing liquid nitrogen and warm water. The white color is a result in the change of the water’s nanostructure. Light no longer refracts in the same manner as with liquid water.

The second demo brought to light nanoparticles present in some sunscreens. Students took cotton swabs and rubbed sunscreen and zinc oxide ointment into separate sections of black construction paper. The sunscreen rubs

into the paper easier than the ointment because it contains zinc oxide nanoparticles. The ointment creates a visible film since the larger zinc oxide particles reflect light better than the nanoparticles present in sunscreen.



In addition, bottles of bubbles with the “National Chemistry Week 2012” logo were given away to visitors. Students especially loved the liquid nitrogen clouds and about 160 people stopped by the demo booths.

Cayucos Elementary School Celebrates Mole Day

By Kerry Friend

I teach Introductory Chemistry at Cal Poly and Cuesta College. I am also a member of the [National Mole Day Foundation](#) and the American Chemical Society.

Thanks to funding provided by the Los Padres Section of the American Chemical Society, Cayucos Education Foundation, and the Cayucos PTA, I celebrated Mole Day at Cayucos Elementary School on October 23. Mole Day commemorates Avogadro's Number, which is a basic measuring unit in chemistry. One mole of anything contains 6.02×10^{23} pieces of that thing. This relationship was first discovered by Amadeo Avogadro (1776-1858) and he received credit for this after his death. Just like one dozen represents the number 12, a mole represents the number 6.02×10^{23} . A mole is often referred to as the chemists dozen. A chemist cannot weigh 12 atoms or molecules but a chemist can weigh one mole of atoms or molecules. For example, one mole of table salt, NaCl, has a mass of 58.44 grams. One mole of water, H₂O, has a mass of 18.02 grams. Each compound has a different molar mass, yet they each have the same number of molecules, 6.02×10^{23} . Mole Day was created by chemistry teachers as a way to foster interest in chemistry. Since this concept is covered early in the school year, it is celebrated annually on October 23 (10^{23}), instead of June 2 (6.02). The celebration lasts from 6:02am to 6:02pm. Mole Day occurs during National Chemistry Week.



Mole Day was celebrated with the 4th and 5th grade classes, a total of 46 students. There is a theme each year, and this year's theme is Molar Eclipse. I started by introducing Mole Day. I talked briefly about chemistry, gave each student a periodic table, and showed them jars of moles of different compounds so they could visually see the different amounts. Students were put into 5 groups and were off to stations for fun activities.

Station 1 was Avogadro's Relay where students competed in their groups. The relay consisted of running 6 times around a bat, performing 2 somersaults on a mat, crawling like a mole for ten feet, and doing 23 jumping jacks. This was hilarious to watch! Each student received a Mole Day magnet.



Station 2 was to Make a Mole out of a Mole. Students received a mole of aluminum foil (they actually received about 14 g which is half a mole of aluminum) and created animal moles. Each student received a Mole Day 2012 themed postcard.



Mole Day Continued on next page...

Mole Day Continued...



Station 3 was Basket Mole. Students had access to small brown moles and had to count how many moles they could throw into a container in 23 seconds. Each student received a small brown mole, complete with chemistry goggles.



Station 4 was Pin the Mole on the Nose. I created a large poster of the Mole Day logo. Students were blindfolded and given a small brown mole to stick on the nose of the poster. Each student received an ACS National Chemistry pencil with a mole eraser.

Station 5 was Molesical Goggles. Playing chemistry songs, students went around a circle. Instead of having chairs for students to sit in, there were goggles. When the chemistry music stopped, students had to grab goggles and put them on. Each student received a Mole Day tattoo and a National Chemistry Week tattoo.



After completing all stations, we came together one more time as a group. I did a demonstration called Elephant Toothpaste and each student made a version of silly putty. They made this in plastic Erlenmeyer flasks with the National Chemistry Week logo. I also passed out Mole Day cookies I made with a Mole cookie cutter and decorated with Avogadro's number.



It was an extremely successful day thanks to the enthusiasm of all involved. I had help from a Cal Poly student in my chemistry class, parent help, and support from Cuesta College in donating supplies and making solutions for the silly putty.



UCSB Graduate Student Seminar Series

The UCSB *Grad Student Chemistry Seminar Series* is designed to familiarize chemistry graduate students and postdocs with each other's research. During the first half of 2012, the group successfully presented 16 seminars spanning from biochemistry and soft-materials all the way to physical chemistry. Every Thursday during lunch for 8 weeks, two student speakers delivered professional 20-minute general-audience presentations about their research projects in front of an average audience of 60 people including graduate students, postdocs, faculty, staff, and undergraduates, making it one of the best regularly attended seminars on the entire UCSB campus. CALPACS proudly sponsored a seminar in the most recent installation of the series led by Ph.D. candidate Peter Burks.



Organizer Peter Burks and speakers Sam Helmy and Sunyia Hussain at the UCSB Graduate Student Speaker series, sponsored by CALPACS.

*Congratulations to Jen Carroll
and the ACS Student Group at Cal Poly.*

**They have been recognized as
1 of 46 chapters designated as
OUTSTANDING for 2011-12.**



Annual CALPACS Wine Tasting Event 2012

Talley Vineyards—Arroyo Grande

DETAILS

WHEN: SATURDAY, DECEMBER 1, 2012

11:00 AM—2:00 PM

WHERE: TALLEY VINEYARDS

3031 LOPEZ DRIVE

ARROYO GRANDE, CA 93420 ([MAP](#))

COST: \$20 PER PERSON

Grande Valley. Guided by this legacy and a commitment to long term sustainability, Talley Vineyards focuses on attention to detail in all aspects of farming and winemaking operations. The goal is to produce distinctive wines of consistently high quality that best express the unique character of each of the Talley family's six vineyard sites in the two valleys.

RSVP

Please make your reservations for
this event by

Tuesday November 27th, 2012

online at www.lospadresacs.org

The annual holiday winery tour and tasting will be held at Talley Vineyards in Arroyo Grande. A tour of the facility will begin promptly at 11 am. The tour will last about 1 hour and will be followed by the wine tasting. A social hour featuring a variety of international cheeses and homemade soups will follow the wine tasting. The cost of the event will be \$20 per person.

Led by Guest Services Coordinator, Andy McDaniel and a member of the Talley Vineyards winemaking team, the tour and tasting is a fun and informative way to experience our wine country. The extended tour takes you through the vineyard, winery, and barrel room with a focus on the aspects that make Talley Vineyards wines unique. Tastings of wines during and after the tour will focus on our signature chardonnays and pinot noirs and will include releases and barrel samples of future releases.

Talley Vineyards is a family owned and operated winery that specializes in estate grown chardonnay and pinot noir ideally suited for the climate and soils of the Arroyo Grande and Edna Valleys. The Talley's farming history in the area dates back to 1948 when Oliver Talley began growing vegetables in the Arroyo

CALPACS
Contact Us!



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