

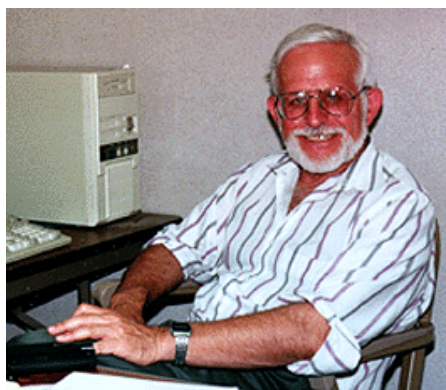


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January/February 2010

A Joint Publication of the Southern California, Orange County and San Gorgonio Sections of the American Chemical Society



**Southern California
Section Meeting
Science Café**
"Brews for the Masses:
The Carlsberg Story"
with Dr. Henry Abrash
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"Engaging Colleagues in Dialogue"
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Southern California Section Chair's Message



Hello and welcome! I hope you had a wonderful and joyous holiday season!

Looking over this past year and the many accomplishments of my predecessor, Bob de Groot, I come to appreciate the level of service SCALACS members, including you, provide for others. Our outreach programs, including Project SEED (where underrepresented high school students are given an opportunity to experience chemical research in an academic or industrial lab), are thriving and even growing through the many efforts of dedicated volunteers, like yourselves. "Outreach" is the act of reaching out through volunteerism to help others, but have you ever really thought about why this is important—or to even ask, "what's in it for me?" This "selfish" thought can actually be selfless if viewed through the eyes of the former great Bruin basketball coach John Wooden who once said, "*You can't live a perfect day without doing something for someone who will never be able to repay you.*" Living a *perfect* day should be your daily goal whether it be through small random acts of kindness or long-term projects. Whatever you do, volunteering should be beneficial and fun for you in some way, or why do it at all?

A major goal I have for this coming year is to increase the active membership. To do so, I want to help you reach your daily quota of being selfish/selfless, I would like to challenge you to send me ideas of what we all can do to improve the lives of others as well as our own. One way is to show others how rewarding it is to be a SCALACS volunteer! Ask your coworker, colleague or friend if they are an active member. Don't forget to inform the folks you recruit to join SCALACS to include Section dues so we can fund worthwhile local activities. Become involved with the world's largest scientific organization—especially here at the local level where your impact can be as big as you want to make it!

Another major goal is to increase the accessibility of science to the public. My detailed thoughts on this can be read in the November 2009 edition of the COPUS Clarion on-line newsletter (<http://copusproject.org/resources/COPUS-Clarion-2009-11.pdf>). To this end, I would appreciate your help by becoming a chemist/scientist who participates in Science Cafes. These events can be started with a brief presentation on a topic of general public interest that you happen to know about—say 10-15 minutes or so. Then, it's Q&A time with the audience. Oh, did I mention that this can be done at a local bar, coffee shop, bookstore or almost any venue that suites your comfort? And did I say how much fun these can be? If you'd like to participate as a subject matter expert, then just let me know and let's see just how many Science Cafes we can put on! It would be great to spread the vast wealth of your knowledge and experience all across the Southland!

Just ask around and find out who wants to help themselves by helping others? By sharing your experience and passion for what you do in a Science Café, for example, you can potentially make a huge impact on someone's life! So, I ask, *Got Chemistry?*

- Paul Shin, Chair
alchemy@csun.edu

Southern California Section

January Meeting: A Science Café

"Brews for the Masses: The Carlsberg Story" Introductory Talk by: Dr. Henry Abrash

Saturday, January 16th, 2010
At 4:00 p.m.

Laurel Tavern
11938 Ventura Blvd
Studio City, CA 91604

SCALACS' first monthly meeting of 2010 will also be the Section's first Science Café. Science Cafes are informal meetings which usually include a short presentation on a particular scientific theme. In addition to our members, we invite the public at large to come share a drink and/or meal while all have a chance to participate in open discussions. A central goal of these gatherings is to bring scientists and nonscientists together to listen to one another, so as to get a better sense of how we each see the scientific issues that affect all of our lives.

Abstract: In 1875, J. C. Jacobsen, founder of the Carlsberg Brewery, established the Carlsberg Laboratory to develop "as fully a scientific basis as possible for the operation of malting, brewing and fermentation." Believing that scientific advances were for the general good rather than for personal gain, he specified that none of the results of the laboratory were to be kept secret. This meant the brewery derived no financial advantage from some of its major discoveries, in particular the development of a pure yeast strain from a single cell, and the large scale production of laundry enzymes by bacterial fermentation. Other important discoveries were the Kjeldahl nitrogen analysis, the pH scale and the demonstration that pH affects enzyme activity, and micro techniques for following biochemical reactions. The loose restrictions on the specifics of the research allowed for studies of eel migration and oceanographic studies.

Biography: Henry Abrash received his bachelor's degree in chemistry from Harvard University in 1956 and his doctorate in chemistry and mathematics from the California Institute of Technology in 1961. He spent a year at the University of Wisconsin and was on the faculty of California State University Northridge from 1961 to 1998. Two of his sabbaticals (1968-9 and 1975-6) were spent at the Carlsberg Laboratory in Copenhagen. His research and teaching interests included the mechanisms of action of enzymes, physical chemistry of proteins, the mechanism of air oxidation of polyphenols, and information retrieval in chemistry.

Southern California Section

Outreach Activities

Sunday, February 21, 2010 (9:30 am - 3:30 pm) Sustainable Sundays - "Waste Not, Want Not": Reducing, Reusing, Recycling at the Natural History Museum of Los Angeles County, 900 Exposition Boulevard Los Angeles, CA 90007. SCALACS will host a polymers activity table in the main hall of the museum. Contact Bob de Groot at: rdegroot@oxy.edu for questions or if you would like to volunteer.

Local competition for the ACS High School Chemistry Olympiad—March 17th and 18th. Winners of the local exam will be invited to participate in the National Exam on **April 24th** for a chance to be part of the International Olympiad in July in Tokyo, Japan. The High School Awards Banquet is June 4th at Mount St. Mary's College. Ask your local high school to participate. Contact the office for registration forms or visit our website at www.scalacs.org.

The Expanding Your Horizons Conference for middle school girls will take place on April 10, 2010 from 8:45 a.m. to 2:45 p.m. at Mount St. Mary's College Doheny Campus, Los Angeles.

Expanding Your Horizons is a career day organized by MATH/SCIENCE INTERCHANGE to inform young women about careers in math- and science-related fields. The conference is intended for girls in grades 5-8. Girls participate in hands-on workshops such as dissecting pig hearts, isolating DNA, and making colors with chemistry. There are also workshops for parents, teachers and counselors about making math and science a career option for girls. There is a \$10 fee for each participant to cover lunch and materials. For more information and to register, please go to www.expandingyourhorizonsla.org. Registration opens in January and is limited to the first 200 participants.

Since this is a conference for girls, women volunteers to help out for the day are very welcome. If you would like to volunteer, please contact Dr. Eleanor Siebert at esiebert@msmc.la.edu.

Orange County Section

Chair's Message



It is hard to believe that it is already 2010! The Orange County Section has already started planning a packed program for 2010. Our January Dinner Meeting will be the first of a four part series we are putting together this year entitled: "OCACS Series on Practical Information for Chemical Industry Professionals". Whether you are a new chemist, changing jobs, starting a new chemical business or running a chemical business - there will be information in each of these four presentations that will help you. Part 1 addresses "Employment Agreements, Contracts and Related Employment Issues for Chemical Industry Professionals and Businesses". Later presentations will cover resume drafting and job interviews (February), intellectual property and trade secret issues (September) and finally networking (October) - all directed specifically to the chemical industry professional and related businesses. Along with our High School and College Awards Dinners in April and May, we will be adding Dinner Meetings in March and November directed to science-related content.

One thing I would encourage everyone in the Section to do as we start 2010 is to mentor - either a college student, a graduate student, a young professional or someone who is between jobs. Mentoring is something that doesn't take a lot of concentrated time but means the world to the "mentee". Bring someone you know (including your mentee) to one of the four "Practical Information" dinner meetings, go to lunch or meet for coffee, or just get together to talk. It does make a difference, especially for those who are trying to determine that next step in their professional careers.

Finally, if you want to get more involved in the local section - please feel free to E-mail me at sthompson@buchalter.com. Have a happy, safe and prosperous 2010.

- Sandra Thompson,
2009 Chair

Orange County Section

January Dinner Meeting

Thursday, January 28, 2010

The DoubleTree Club Hotel

7 Hutton Centre Drive, Santa Ana

Phone: 714-751-2400

"Employment Agreements, Contracts and Related Employment Issues for Chemical Industry Professionals and Businesses"

**Part 1 of the OCACS Series on Practical Information for
Chemical Industry Professionals**

Peter D. Holbrook, Esq., Buchalter Nemer

Social: 5:30 p.m.

Dinner: 6:00 p.m.

Presentation: 6:45 p.m.

Abstract: With many chemical industry professionals changing jobs, starting new jobs and starting new companies, it is important to understand the basics of employment agreements, contracts and related employment issues. Peter Holbrook will be discussing some of these agreements and contracts followed by a Q&A session with attendees.

Biography: Peter D. Holbrook is a Shareholder in the Labor and Employment Practice Group in the Orange County office of Buchalter Nemer. Mr. Holbrook's practice includes the representation of employers in both the private and public sectors in matters pertaining to employment discrimination and harassment, wrongful termination and arbitrations. He advises and represents clients on the enforceability of non-competition agreements, breach of employment contract, misappropriation of trade secrets and unfair competition matters. In addition, Mr. Holbrook has extensive experience litigating wage-and-hour cases, including class-action suits. Mr. Holbrook represents clients in both federal and state court litigation, as well as administrative proceedings before such agencies as the Department of Fair Employment and Housing, the Equal Employment Opportunities Commission, the National Labor Relations Board and others. Mr. Holbrook also has substantial experience litigating cases involving ADA issues, including both employment and public accommodation. Mr. Holbrook earned his J.D. at Villanova University School of Law in 1982 where he served as the editor of the Villanova Law Review. He earned his B.S. at Boston College in 1978.

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Orange County Section

Dinner Meeting (Continued from Page 6)

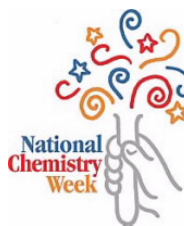
All Reservations: Please contact us no later than 12 noon Friday, January 22, 2010. Email: OCACS@sbcglobal.net. Please indicate if you will be attending dinner or program only! Please list the names of all attendees!

Host: OCACS pays the hotel on the basis of the number of dinner reservations made. Please help our efforts to keep the Dinner Program going by honoring your reservations.

Dinner Cost: \$25 for members; \$25 for member's spouses; \$30 for non-members or those without reservations.

Program: Members and guests are invited to attend the program at 6:45 p.m. There is no charge for the program but reservations are requested. Space may be limited.

Directions: Take the Costa Mesa freeway (55). Exit at MacArthur Blvd. and go west (towards South Coast Plaza). Turn left at MacArthur Place. DoubleTree Club Hotel is straight ahead slightly to the left. Use parking lot in front of hotel or follow signs to nearby parking. If in error you turn right at Hutton Centre Drive, you will find the DoubleTree Hotel, which is not the DoubleTree Club Hotel. Please be aware of the similar hotel names. Our dinner is at the DoubleTree Club Hotel.



National Chemistry Week Report

Once again, students and advisors from all over Southern California converged on the Santa Ana Zoo on Sunday, October 11, 2009, for our National Chemistry Week Celebration. A total of thirteen college groups (about 250 volunteers in all!) offered hands-on science activities for children. Our total attendance this year was almost 1,442 people, including 528 children between the ages of 3 and 12!

Bilingual flyers (English and Spanish) went home with all students in the five Santa Ana schools from which we attracted the most attendees in previous years, and to the two Tustin schools closest to the zoo. These flyers also advised residents that they could get free admission to the zoo for the NCW event (provided this year by our local section funds). Flyers went out to Boy Scout Roundtable meetings, and the Girl Scouts circulated electronic flyers. Additionally, we invited the city council, the Santa Ana school board, our County Supervisor, and the local assemblyman.

Of our attendees, 616 (of whom 342 were children) requested free admission, so we knew that our flyers had a big effect. Children and college students alike had a great time doing experiments, and Rudy Gonzalez presented "Rudy's Radical Science Show" as well. Everyone agreed at the end of the day that science is, indeed, fun!



This Month in Chemical History

Harold Goldwhite, California State University,
Los Angeles
hgoldwh@calstatela.edu

In my previous column I discussed the discoveries of the first two transuranium elements neptunium and plutonium, elements number 93 and 94, by McMillan, Seaborg and their colleagues at U.C. Berkeley. The source material came from a pamphlet "Nuclear Milestones" which includes speeches given by Seaborg while he was Chairman of the U.S. Atomic Energy Commission from 1961 – 1971. In this column I continue the transuranium story with the next two elements, numbers 95 and 96, as presented in a speech given in 1969 – at the Mendeleev Centennial at the Robert A. Welch Foundation Conference in Houston, Texas.

The discoveries of these elements came from experiments at the Metallurgical Laboratory in the New Chemistry Building at the University of Chicago, a key laboratory in the work that led to the first atomic bombs. (By the way, if you want to read a comprehensive and absorbing account of the Manhattan Project, I strongly recommend Richard Rhodes' "The Making of the Atomic Bomb" published in New York by Simon & Schuster in 1987 and available in paperback). By 1944 Seaborg had moved to Chicago and his co-workers included Albert Ghiorso, Ralph A. James, and Leon O. Morgan. They began their work by bombarding plutonium 239 with deuterons; plutonium was now available in quantity – that is to say milligrams rather than the micrograms on which its original discovery was based – from the Clinton Laboratories in Tennessee. These experiments did not yield positive results. Similarly bombarding plutonium 239 with neutrons, though giving valuable experience to the team, did not yield new transuranium isotopes.

By now the chemistry of neptunium and plutonium had suggested to the team that the new elements they sought should be regarded as a group, the actinides, with affinities to the lanthanides, the rare-earth elements. The first positive indications came in early 1944 as a result of bombarding plutonium 239 with high energy alpha particles (helium ions). The target material was dissolved, oxidized, and co-precipitated with insoluble lanthanum fluoride. Alpha decay was recorded from this material distinct from plutonium's known alpha decay. Both the
(Continued on Page 9)

This Month in Chemical History

(Continued from Page 8)

chemistry and the alpha decay indicated production of element 95 or 96. While re-reading the notebooks of the group, Seaborg came across the entry by Ralph James dated June 15, 1944: "Time out to get married"! James was back at work on June 19. As the work progressed it became more and more likely that the new activity was due to the isotope of mass 242 of element 96. In September, after receiving 200 milligrams of plutonium 239, deuteron bombardment of this "macro" sample was undertaken and eventually yielded definitive evidence of the production of an isotope of element number 95. Then long-term bombardment of plutonium 239 with neutrons gave clear evidence of the production of isotopes of both elements 95 and 96.

Workers at Los Alamos carried out mass spectrographic examinations of irradiated plutonium samples from Chicago and identified an isotope of element 95 of mass 241. This turned out to have a half-life of 13 years. Further irradiation of plutonium at Berkeley with higher energy alpha particles produced two isotopes of element 96, of masses 240 and 242.

The announcement to the world of the production of two new elements, planned for presentation at an ACS symposium at Northwestern University in November 1945, was actually anticipated on a "Quiz Kids" radio broadcast a little earlier in the same month! Seaborg was a guest on the program and was asked by a participant if any new elements had been discovered? Seaborg replied: "...Recently there have been two new elements discovered – elements with atomic numbers 95 and 96 – out at the Metallurgical Laboratory here in Chicago. So now you'll have to tell your teachers to change the 92 elements in your schoolbook to 96 elements."

There remained the question of naming the new elements. Morgan referred to them as "pandemonium" and "delirium" but those names were not deemed acceptable to the community of science. At a talk given at the ACS meeting in April 1946, the group presented the names. Element 95 was called "americium" following the model of the lanthanide europium. To honor the great pioneers of radioactivity element 96 was called "curium" again following the lanthanide example of gadolinium named for its discoverer Johan Gadolin.

San Gorgonio Section

Chair's Message



For those of you who may not have heard, ACS National has decided that all student affiliate members of ACS are now full-fledged members of the Society (with appropriate dues)--except that they are not eligible to hold national offices. We welcome these "new" members! We hope that we will be able to soon have a vibrant "Younger Chemists" group within the section. If you know any of these student members, please encourage them to volunteer to become involved in networking with others in the Society.

We encourage all section members--new student members too--to participate in the upcoming ACS Leadership Development short course that had been postponed from last September. See the announcement on the following page for details. The San Gorgonio Section applied for and received a grant that enables it to offer this short course at greatly reduced prices for quick-acting section members and a few non-ACS members as well. If you know of others who are not section or ACS members, but are interested in attending the course, tell them that they are most welcome but will need to pay a higher price for the course as will slower-acting section members. The full cost for the course is \$150 for ACS members and \$300 for non-ACS members.

The Executive Board has been hard at work planning the events and activities for 2010. If you have any suggestions, please let us know! The section continues to sponsor the local Chemistry Olympiad competition. The winners of the local Chemistry Olympiad receive scholarships from the section as well as the opportunity to qualify and participate in the world-wide Chemistry Olympiad competition. At the Fall 2009 ACS meeting in Washington DC, the San Gorgonio Section was recognized for its participation in this event for the past 25 years. Thanks to all of the section members who have supported the section's efforts over the years! We also wish to thank Dr. Michael Page at Cal Poly Pomona who has volunteered to coordinate the Chemistry Olympiad for the San Gorgonio section for 2010.

We will soon have a new website for the section. It will have pages for various groups that should be of interest to you. Besides the usual divisional areas of chemistry, we are planning to include pages for Younger Chemists, Chemical Technicians, Retired Chemists, Industrial Chemists, and Women Chemists. There will be a way for you to sign up to receive messages about newly posted information from any or all of the pages. Please stay tuned to this space for more information.

We hope that you had a restful and wonderful winter holiday.

- Jodye Selco, Chair

San Gorgonio Section

An ACS Leadership Development Short Course

“Engaging Colleagues in Dialogue”

Saturday, February 20, 2010

10 am-3 pm

California State University, San Bernardino

Palm Desert Campus

Mary Stuart Rogers Gateway Building

Room RG 311

Kathleen Schulz, facilitator

Course description: Have you ever had a project go awry only to learn that miscommunication was the cause? Good communication skills can make all the difference in your success. Yet, in today's communications we rarely take the time to check our understanding and that of those we are talking with. One of our greatest tools is our ability to engage others in meaningful conversations. This course helps participants improve their one-to-one communication skills from both sides of the communication exchange--as sender and receiver. Participants will:

1. learn that good communication is truly a two-way street. Without solid understanding and practice, your communications can lead to misunderstandings.
2. Track your own communication skills prior to the course, and examine how you performed on the six dimensions of the communications model.
3. Learn three skills that help you to understand the other person's intended message better versus relying on your own interpretation.
4. Learn three skills to help you be better understood.
5. Gain real-life practice and individual advice on things to focus on in your conversations.

(Continued on Page 12)

San Geronio Section

January Meeting (Continued from Page 11)

In your everyday life, you will observe that engaging colleagues, volunteers and others in effective dialogue is central to your ability to complete key projects, lead committees and achieve success for your group/team, your employer, the ACS and yourself. Don't underestimate the value of strong two-way communications.

Cost: \$20 for section members (including student members), up to the first 12 persons. \$60 for non-ACS members, up to the first 4 persons. Beyond that, \$150 for ACS members and \$300 for non-ACS members. Note that an ACS grant to the section has enabled it to offer the short course at a discount to the first few registrants.

Food: Lunch will be included with a break from 12 noon to 1 pm.

Registration: Please submit the needed information to Dennis Pederson, section treasurer, via email, dpedersn@csusb.edu or phone, (909) 537-5477 no later than Monday, February 1, 2010. The necessary information includes registrant's name, email address, phone number, mailing address and ACS member number, if appropriate. Dr. Pederson will contact each participant with detailed instructions regarding ACS registration procedures.

Directions: Take the Interstate 10 to the Cook Street exit in Palm Desert. Go right (south) onto Cook Street to the second stop light. Turn left onto Berger Circle Drive and proceed to the stop sign. Turn right again. The Mary Stuart Rogers Gateway Building will be on the left and parking will be on the left (Lot A) or the right (Lot B). Parking is free.

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Do Not Delay!***

Contains Dated Meeting
Announcement

PERIODICAL

Tri-Section Chemists' Calendar

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March

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