

Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

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Unraveling the Past through Chemistry

Dr. Joseph B. Lambert, 2003 Mosher Award Recipient

Abstract

This lecture will explore four areas in which chemistry has become involved in archaeology. Methods that include analysis of isotopes, electron spins, elemental levels, and stereo forms of molecules can provide an absolute chronology. Finding sites and pinpointing features within sites may be assisted by measurement of electrical resistance, of magnetism, and of levels of certain elements. Chemical analysis of artifacts based on elemental levels, isotope ratios, and organic functional group identities can yield a wealth of information about the source of raw materials, artifact authenticity, and the technology of manufacture. Finally, chemical or biochemical analysis of the physical remains of people can provide information about their diet and genetic history.

Biography

Dr. Joseph B. Lambert is Clare Hamilton Hall Professor of Chemistry and Charles Deering McCormick Professor of Teaching Excellence in the Department of Chemistry at Northwestern University, Evanston, Illinois. He received his undergraduate education at Yale University (B.S., summa cum laude, 1962) and carried out his graduate studies at the California Institute of Technology (Ph.D., 1965). In 1965, he returned to



Illinois to begin his work at Northwestern. His research has been divided among the areas of organic reaction mechanisms, organosilicon and organotin chemistry, nuclear magnetic resonance, conformational analysis, and archaeological chemistry.

Dr. Lambert has been a Fellow for the Alfred P. Sloan Foundation (1968-1970), the Guggenheim Memorial Foundation (1973), the Japan Society for the Promotion of Science (1978), and a Sigma Xi Distinguished Lecturer (1997-1998). He has been a visiting lecturer in Argentina, Brazil, China, France, Germany, Great Britain, Italy, Japan, and Poland. Dr. Lambert has received numerous awards for excellence in teaching and for his many chemical contributions. He has been the author of eleven books, one ACS audio course, and over 300 publications in scientific journals. Dr. Lambert has served on the editorial boards of several well-acclaimed journals. He was the founder and continues as Editor-in-Chief of the Journal of Physical Organic Chemistry. He is past chairman of the ACS Subdivision of Archaeological Chemistry, past president of the Society of Archaeological Sciences, past chairman of his department, and past chairman of the ACS Division of History of Chemistry.



January Dinner Meeting

Date: Thursday, January 22, 2004

Time: 6:00 PM Social Hour

7:00 PM Dinner

8:00 PM Lecture

Location: Biltmore Hotel & Suites
2151 Laurelwood Road
Santa Clara, CA 95054
408-988-8411

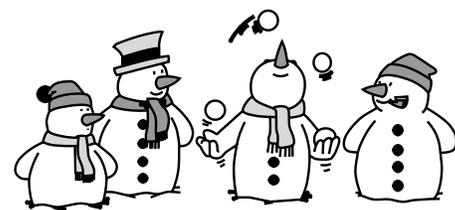
Speaker: Dr. Joseph Lambert, 2003 Mosher Award Recipient

Cost: \$28.00 with the choice of Salmon with a cilantro sauce or vegetarian lasagna. Wine included with dinner.

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

Reservations should be made by January 19th, stating your name, address, company affiliation, number of people in party, and menu selection.

If you are unable to honor your reservation and do not cancel by Wednesday, January 21st, you will be invoiced following the dinner meeting.



Chair's Message

As I reflect on this past year, our local section can be proud of its many accomplishments. We organized an awesome National Chemistry Week and a Chemistry Olympiad, as well as presented an exceptional dinner speaker program, the Mosher Award, the Radding Award and the Ottenberg Award. We celebrated our 50-year members at our annual summer picnic.

The glowstick outreach program was extremely successful. All those who brought the glowstick demonstration to schools in our section enjoyed this activity, but not as much as the students who conducted it! I hope our section will continue to bring the excitement of chemistry to area schools and support our teachers in their efforts to bring chemistry into their classrooms. The good news is

that the teacher preparation criterion is changing in California. All new K-8 teachers must demonstrate proficiency in science and pass exams before entering credential programs. The bad news is that it is currently an unfunded mandate, but with a little creativity, some of us will persevere to offer the needed curriculum in chemistry.

Since this is my last chair's message, I thank the many people who made the above programs and the other events possible. Their dedication to this section makes our section successful. I especially thank the members of the Executive Committee who assisted me in a variety of ways throughout the year. And, I thank you, the members of the local section, for giving me the opportunity to serve as your chair for 2003.

2004 ACS - SCVS Election Results

Chair-Elect: **Jack Riley**

Secretary: **Karl Marbenke**

Treasurer: **Hong Gao**

Councilors (2004-2006):

Linda Brunauer

Sally Peters

Peter Rusch

Alternate Councilors (2004-2006):

George Lechner

Carol Mosher

Erest Gargas

100 Years of Ford

continued from August Newsletter

- Ford used so much wood that he convinced James Kingsford (who had married a cousin of Ford) in Upper Peninsula of Michigan to start a sawmill and provide specialty wood parts. A lot of wood waste was generated, so Ford and Kingsford started making charcoal. Until 1955, you could only buy Kingsford charcoal from your local Ford dealer. (The mascot for the Kingsford High School was and still is "the Flivvers.")
- Kingsford Charcoal was eventually sold off, and around 1970, was acquired by our local Clorox Co. of Oakland. In June, Clorox announced that the dismal weather throughout the US had caused dismal sales of charcoal in the spring and profits would be off. The Clorox stock price sank 6% in a few hours.
- The current Ford president and CEO, Bill Ford, is a great grandson of Henry Ford (and also a great grandson of Harvey Firestone). Ford used his charcoal on his annual camping trips with Firestone, Luther Burbank, Edward Burroughs, and on occasion Thomas Edison. I wonder what the conversations around that campfire would have included.
- Ford and his wife were invited in the late 1930s to the White House by President and Mrs. Roosevelt. I believe it was to meet the King and Queen of England, at a reception. Ford declined saying that his wife had already scheduled a garden party in Detroit for that day.
- While on a visit to Ireland (probably looking for new plant sites), the local vicar convinced Ford to contribute \$500 to the repair of his church. The newspapers reported that Ford would donate \$5,000 to the church. The red-faced vicar appeared to apologize to Ford for the error. Ford said he had no problem writing the check for the full \$5,000, but he would insist that a stone marker be placed by the church door with the biblical inscription, "I WAS A STRANGER AND YE TOOK ME IN." The vicar took the \$5,000 and the stone was placed.
- Ford was interested and involved in the peace efforts. War was wasteful. When The Great War was looming in Europe, he made a special tour of European countries trying to stave off the conflict. The trip was a failure. In 1919, a Chicago newspaper columnist printed that Ford was "an ignorant pacifist."
Ford sued for libel. On the stand, the opposing lawyer tried to show that while Ford was well versed in certain subjects that he was in the main – ignorant. In response to a particular offensive series of questions, Ford finally said, "Look, on my desk I have a series of electric buttons connected to the offices of my staff. When I have a question, I push one of those buttons to summon someone who has the answers or who can get the answers. Why should I clutter up my mind with the type of general information you have been asking about?"
Ford won the lawsuit (remember this was in Chicago) and the newspaper was fined – six cents. And who got all the money involved – the lawyers on both sides. And I still love a story with a happy ending.

Successful National Chemistry Week 2003

This year's NCW turned out to be a real success! It could not have been accomplished without the team effort and I am thankful to all my Executive Committee team members for "making it so" (to paraphrase Captain Jean-Luc Picard). In celebration of this year's 100th anniversary of the Wright brothers' first successful powered flight, this year's theme was "Earth's Atmosphere and Beyond". The Santa Clara Valley section encompasses members from San Mateo, Santa Clara, Santa Cruz, San Benito and Monterey counties. The activities that were held in our community this year included visibility of the section at the Hiller Aviation Museum in San Carlos during Eagle Flight on Saturday October 18th. During this event, pilots took kids up in small planes for free, and we had the opportunity to distribute "ChemMatters" and "Celebrating Chemistry" publications to the kids. We are hopeful that we can set up long-term exhibits with the cooperation of the Hiller Museum staff at their facilities there.

On October 22nd, Cañada College held a career event at their cafeteria and distributed career-related



NCW Hiller Museum adult participants



SCV and CHAL displays of inventors and patents related to aeronautics



NCW Hiller Museum parent and children participants

brochures, the publications mentioned above, fuzzy moles (it was Mole Day on October 23), pencils, tattoos, balloons, periodic tables, etc. The feedback I received from Dr. Anu Pattanayak, a full-time Cañada College chemistry instructor there, was that it was a success. Also, Notre Dame de Namur University held a career event during NCW that went well.

October 24th saw a light dinner and a show "Clouds of Fire" being held at the Minolta Planetarium at DeAnza College in Cupertino. Our projectionist, Andy Kretchie, thrilled the audience with his skills. We were also privileged to see a 10-minute presentation of the Mars Rover that has been launched and will land on Mars in January 2004. This was a simulated video of how NASA expects the Rover to behave and it was very well received. Andy then told us a bit about the night sky and what we could expect to see, before bringing out a telescope and giving us the opportunity to take a look at Mars and the stars through the lens.

At the Menlo Park USGS on Saturday October 25th, we were privileged to have 6 scientists from NASA Ames Research Center tell us a bit about their research. Their talks were very informative, interesting, and fascinating. Some comments that we heard after the sessions were that each of them could have been an invited speaker at our monthly dinner meetings! What a pleasure it has been to have the opportunity to hear about research that we wouldn't normally hear about, at a level that was understandable to all! So a heartfelt THANK

YOU to Lou Allamandola, Laura Iraci, Chris Dateo, Friedemann Freund, Brad Sutter, and Azadeh Tabazadeh for their patience and volunteering their time on a Saturday afternoon to talk about chemistry! Also, on Saturday, the SJSU Student Affiliates Club performed demonstrations at the new SJSU library as part of NCW.



Presenters preparing for the NASA

L to R: Asfia Qureshi (NCW Coordinator), Brad Sutter, Laura Iraci, Friedemann Freund, Azadeh Tabazadeh and Chris Dateo.

Finally, on November 1st, the SCV-ACS Section in cooperation with Roche Bioscience in Palo Alto held our annual teacher's workshop, made possible by a generous grant from Roche. These workshops are always a huge success. Activities in the workshop are easily duplicated in any classroom. Background information, complete instructions, hands-on experience and materials were provided. Each participant received materials to carry out experiments in the classroom, including handheld microscopes. In addition, there was a free raffle of numerous items that were of general use in the classroom. The workshop presenters were Juanita Ryan from Toyon Elementary School and Julie Shultz from Redwood Middle School who provided practical tips as well as a wonderful sense of fun in doing science. Tours of Roche laboratories were provided by volunteers and were enjoyed by the teachers, who came from about 18 different cities in the Bay Area, and from as far away as Sacramento, Napa, and Carmel. Thank you to all our volunteers as well as Ferenc Makra, Dave Swinney, and Brenda Price from Roche for their work in organizing the workshop. Our local section

volunteers included Lois Durham, Sally Peters, Howard Peters, Marjorie Balazs, Jack Riley, George Lechner, Hong Gao, and Bonnie Charpentier. Thank you all!

NCW also included cooperation between the Santa Clara Valley Local Section and the ACS Division of Chemistry and the Law. Posters were jointly assembled describing the 17 men inducted into the National Inventors Hall of Fame in 2003 to Celebrate the First 100 Years of Flight (see www.invent.org). These posters included a photo, biography, and a copy of the issued U.S. patent associated with their contribution to aviation.

The posters were exhibited at the chemistry Teacher's Workshop at Roche on November 1st and later

were exhibited by Dr. John Riley and Dr. Howard Peters at the Hiller Aviation Museum at the San Carlos Airport on November 15th. That Saturday was the Young Eagles Day (grade and high school students get a chance to fly as a passenger in a small plane at no cost), and many children and their families viewed the posters and receive a copy of the drawing of the Wright Brothers U.S. Patent No. 821,393 for their classrooms. It has been planned that these patent posters celebrating flight will circulate within local college chemistry libraries and company libraries over the next few months.

NCW 2004 will be held October 17-23 and the theme is "Chemistry and Health". I encourage everyone to start thinking about ways in which you may be able to participate in

your community. It takes a lot for all of us to find the time and perhaps overcome the inertia of lack of participation in the local section, but I urge you to think about doing something at least during National Chemistry Week. This week is aimed at not only reaching the public and school children with positive messages about chemistry but also towards mobilizing our members in public outreach programs. Please think about volunteering your time, energy or expertise next year to bring engaging science-based programs and activities to our local community. We would particularly like to get the Santa Cruz, San Benito and Monterey counties more involved. So, I look forward to seeing a lot more new faces and meeting many new members next year.

Thanks to everyone who participated this year and for all your time, effort and hard work.

Asfia Qureshi
NCW Coordinator

2003 National Chemistry Week Teacher's Workshop



Happy Holidays!



2003

In Perspective What Does Our Membership Want?

Have you ever prepared for a party and worried until the doorbell rang, that no one would show up? It is a discouraging feeling. In my mind, the two main events of October 19 to 25, National Chemistry Week, turned out that way in Silicon Valley. The special evening at the Minolta Planetarium at DeAnza College was lightly attended.

After a perfect, light dinner of sandwiches, chips and ice cream, we lounged back in the special reclining chairs and were treated to a wonderful sky show entitled "Clouds of Fire, the Origin of Stars." That was followed by a video of the very recent Mars exploration vehicle that was launched that month! The old folks, as well as the youngsters, then were able to view Mars from a telescope outside! It was a great evening and only cost \$8.00 each! There were about 30 people there.

Saturday at the USGS in Menlo Park, the turnout was less encouraging. The six NASA scientists that spoke were wonderful! They were leaders in the fields of studying the ozone layer, weather, meteorites, mineralogy, Mars, earthquakes, and more! Their enthusiasm for their work was contagious! This event was FREE. It was a beautiful Saturday afternoon, and we spent it indoors in a lecture hall, but it was well worth it. The hall held 200 and about 25 ACS members attended.

Asfia Qureshi, the NCW chair, spent enumerable hours putting together these and other NCW programs. She has the greatest admiration and thanks of the SCV executive committee.

The Santa Clara Valley section has 3600+ members. Where were you last month? We cannot expect to draw from the general public if we cannot get our own members interested. What do you want from your local section of the American Chemical Society? Our dinner meeting attendance has fallen off in recent months. Keeping the cost below \$30.00 is impossible, so each dinner is subsidized if you attend. In addition to

a good meal, you can network with colleagues, and hear an outstanding speaker. If the \$28.00 that we charge is too expensive each month, we made up for it by planning the recent NCW events to be low cost. You can't get much cheaper than free!

What do you want? Let us know what interests you. Contact any board member or councilor by regular mail

at P.O. Box 395, Palo Alto, or by email at the addresses in this newsletter. We usually meet one evening during the first week of the month. Call for time and place, and join us to help plan for the section's future!

The events of NCW were extremely well planned for all levels of interest, but we failed somewhere, because you did not come! Why?

Sally Peters

Councilor and Past Chair

Editor's Corner

During the third weekend in November, I was fortunate to attend the Southeast Regional Meeting of the ACS in Atlanta, GA. The highlight and my reason for attending the meeting was for the Younger Chemists Committee (YCC) Leadership Development Workshop which was held on Sunday, November 16th. This travel award sponsored by National ACS allows younger chemists to attend this half-day, interactive workshop, to learn some concepts of leadership, and how to apply them. Furthermore, the attendees can meet other industrial and academic chemists from around the country. After learning about leadership in the workshop, we received an excellent book to take home by two Bay Area locals, Jim Kouzes and Barry Posner, *The Leadership Challenge* (John Wiley & Sons, 2002 edition). Jim Kouzes is chairman emeritus of the Tom Peters Company and an Executive Fellow at Leavey School of Business at Santa Clara University. Dr. Posner is the Dean and a professor at the Leavey School of Business at Santa Clara.

Though downtown Atlanta is somewhat scarce in activities, meeting the other chemists definitely led to a positive opportunity to expand my networking scope and the enjoyment of hearing their individual professional stories. If you're interested in learning more about this YCC opportunity, please feel free to contact me directly or visit the YCC website for application deadlines and current information (<http://membership.acs.org/y/ycc/default.htm>).

CHEMPLOYMENT ABSTRACTS DECEMBER 2003

CHEMPLOYMENT ABSTRACT 3729

Position Title: Lecturer

Job Description: Part time University teaching in Chemistry for Spring and/or Fall semesters

QUALIFICATIONS DESIRED

Education: PhD Preferred

Experience: Inorganic, General, Physical or Biochemistry background. Teaching experience highly preferred.

LOCATION, SALARY, MAIL ADDRESS

Location: San Jose State University

Salary: Dependent upon education level and experience.

Description of Employer: EE/AA Employer. Women and minorities encouraged to apply.

Application Instructions: Send Curriculum Vitae to:

San Jose State University
Department of Chemistry
One Washington Square
San Jose, CA 95192-0101



Relaxing after dinner at McCormick & Schmick's Seafood Restaurant at the CNN Center in Atlanta



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Newsletter

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ChemPloyment Abstracts

Director: **Shirley B. Radding** 408-246-2564 sradding@att.net

FUTURE MEETINGS

Jan 22	Dr. Joseph Lambert Mosher Awardee Santa Clara, CA
Jan 25-28	Organic Thin Film Electronics Miami, FL
Feb 19	Dr. Howard Peters Chocolate Santa Clara, CA
Mar (TBD)	Local ChemOlympiad Test
Mar 18	Biotechnology Joint Dinner Meeting San Francisco, CA
Mar 28 to Apr 1	National Meeting Anaheim, CA
Apr 17	Regional ChemOlympiad Test Livermore, CA

For the latest information, please visit
SCV/ACS web site: www.scvacs.org



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