



# SCALACS

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May/June 2010

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



**Southern California Section  
Educational Awards Banquet  
Honoring our top students and  
Michael Morgan,  
Southern California  
Outstanding High School  
Teacher of the Year**

**Friday, June 4, 2010**

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**Orange County Section High School Awards  
Dinner Banquet**

**Thursday, May 20, 2010**

**“Atoms to Airplanes: The Impact of Materials Science on  
Everyday Life and Future Technological Advancements”**

**Daniel R. Mumm**

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**San Gorgonio Section Meeting  
Student Scholarship and Awards  
Recognition Banquet**

**Wednesday, May 19, 2010**

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# SCALACS

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

Volume LXIII      May/June 2010      Number 4

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SCALACS (ISSN) 0044-7595 is published monthly March through May, September and October; and Bi-monthly January/February and November/December. Published by the Southern California Section of the American Chemical Society at 14934 South Figueroa Street, Gardena CA 90248. Subscription price is \$10.00/Yr. Make checks payable to Southern California Section, ACS. Second Class postage paid at Gardena, CA 90247., e-mail: office@scalacs.org.

ADVERTISERS: Advertising rates on application. Mail COPY, CONTRACTS and CHECKS to Southern California Section, ACS, 14934 South Figueroa Street, Gardena, CA 90248.

CONTRIBUTORS: Send all copy to Editor, SCALACS, 14934 South Figueroa Street, Gardena, CA 90248, e-mail: editor@scalacs.org.

POSTMASTER: Send change of address to SCALACS, 14934 South Figueroa Street, Gardena, CA 90248.

## Southern California Section

### Chair's Message



The spring always seems to be the busiest time of year as we prepare for the many events of this wonderful season and for the upcoming summer festivities! There is an abundance of fun outreach events to volunteer for - just find one of interest listed in this issue of SCALACS or on our website, [www.scalacs.org](http://www.scalacs.org), and contact the organizer to see how you can participate - or even attend!

Also, in keeping with the recognition of this awards season, I would like to congratulate my former post-doctoral advisor, **Joan Selverstone Valentine** (UCLA) as the recipient of the **2010 ACS Alfred Bader Award in Bioinorganic or Bioorganic Chemistry** - sponsored by the Alfred R. Bader Fund, which recognizes outstanding contributions to bioorganic or bioinorganic chemistry. She joins such notable Southland Bader recipients as Peter Dervan and Harry Gray! Another fellow Bruin, **Kendall N. Houk** is the recipient of the **2010 ACS Arthur C. Cope Award** - sponsored by the Arthur C. Cope Fund, which recognizes outstanding achievement in the field of organic chemistry. He joins the likes of other notable Southland Cope recipients as Grubbs, Olah, Roberts, Dervan, Chapman and Cram! Lastly, congratulations to all the awardees that will be honored at the **Educational Awards Banquet** this June for their outstanding accomplishments and promise!

Some of us will be taking that big step in life and graduating from high school or college - moving onto the next phase in our lives. To you, congratulations on a job well done and I wish you all the best in whatever path you choose! Others will be working diligently to establish a strong standing in our careers and our ventures. Whatever you choose to do, remember that productivity is the key to morale and despite the many challenges we may face, moving forward and participating in endeavors that provide a sense of accomplishment can be both altruistic and self-fulfilling! I wish you safe travels and an enjoyable summer. Cheers!

- Paul Shin, Chair  
[alchemy@csun.edu](mailto:alchemy@csun.edu)

## **Southern California Section**

### **Educational Awards Banquet**

**Friday, June 4th, 2010**

**Mount St. Mary's College, Donahue Center**

10 Chester Place

Los Angeles, CA 90040

Awards will be presented to the top-placing students in the local High School Chemistry Olympiad, to their teachers, to local ACS scholars and to

**Michael Morgan**

**Southern California Outstanding High School  
Teacher of the Year**

6:00 p.m. Check-in

6:30 p.m. Dinner

7:30 p.m. Presentation of Awards

This year, we had almost 1,400 students representing 42 high schools throughout Los Angeles County take the Local ACS Exam in March. The top overall school for both first and second year students was Arcadia High School. From these students, 17 students representing 12 high schools were selected to take the National ACS Chemistry Exam on April 24th for a chance to be one of the 20 students nationwide who will be attending the Chemistry Camp in June. These students, as well as the top performers and teachers from each school of 10 or more participants, will be honored at our annual Educational Awards Banquet, along with the Outstanding High School Teacher of the Year, Michael Morgan. Please see Page 4 for a biography of Michael Morgan.

**Reservations:** We have an Enchilada Buffet featuring chicken and cheese enchiladas with all the fixings. The cost of the dinner is \$20 per person or \$15 for students, cash or check at the door. Please call Nancy Paradiso in the Section Office at 310 327-1216 or email [office@scalacs.org](mailto:office@scalacs.org) by Monday, May 31, 2010 for reservations. *Note: Please honor your reservation. If you make a reservation and do not attend, you will be liable for the cost of the dinner.*

**Directions:** From the Santa Monica Freeway (10), exit at Hoover and travel south about 3/4 mile. Turn left on Adams Blvd. and travel 3 blocks. Turn left on St. James Place and then right on St. James Park. From the Harbor (110) Freeway, exit at Adams Blvd. Travel 1/2 mile west on Adams. Turn right onto St. James Place and right on St. James Park. The Donahue Conference Center is on the northwest corner of St. James Park and Chester Place. Parking will be in the AAA Lot on the corner of St. James Place and St. James Park.

## Southern California Section

### Michael Morgan 2010 High School Teacher of the Year “Stamp of Approval”

Have you ever thought of your “chemical pedigree”? Who influenced you most in your choice to study chemistry? Chances are good that if you were to determine which chemist was the greatest influence to that person and so on and so on, you’d be able to find your chemical grandfather and his/her father, etc...

When I first began teaching way back in 1983, it was under the guidance of Frank Andrews at UC Santa Cruz as part of the undergraduate teaching program in the Department of Chemistry and Biochemistry there. As a chemical educator, Frank was my “academic father” so to speak and it turns out that he has many other “academic progeny” - my “chemical educator brothers and sisters”. I am incredibly honored and pleased to announce that Michael Morgan of Francisco Bravo Medical Magnet High School (Bravo) is the 2010 SCALACS Outstanding High School Chemistry Teacher - a fellow Banana Slug (UCSC alumnus)! Because of his longstanding dedication to high school chemical education in the greater LA area, Michael has already established a legacy in the LAUSD! Like the late Jaime Escalante, several of Michael’s former students now teach at Bravo! Furthermore, in a recent poll of potential teachers earning their credential at UCLA, a majority of them credited Mr. Morgan as their inspiration to become a teacher! He has produced one of the consistently highest averages for students on the annual high school Chemistry Olympiad exams. The list of science teams he has coached, professional activities (local, regional and national) and diverse areas of interest (from bridge building to chemical philately - stamps) is long, distinguished and dates back over two decades! This level of achievement by Michael is an obvious inspiration to his students to accomplish more with their lives. What greater tribute by them is there than “paying it forward” by becoming a teacher - one of Michael’s own “academic progeny”?!

I have often said that a measure of a person’s greatness can be measured in the number of lives positively touched. According to a nominating letter, “Michael Morgan deserves to be honored as the 2010 High School Chemistry Teacher of the Year for all that he has done for students, fellow teachers, and the field of chemistry education.” Congratulations Michael Morgan on your accomplishments and the legacy that you are already building toward a better chemically educated world!

- Paul Shin,  
Education Chair

## Southern California Section

### Call for Nominations:

#### 2010 Agnes Ann Green Award for Distinguished Service

Each year the Southern California Section solicits nominations for an award to recognize outstanding service to the Section. The award, named in honor of its first recipient, is based on the following criteria:

- The recipient shall have an outstanding record of major service to the Southern California Section.
- The recipient shall have made one or more identifiable major contributions to the Section, or to the National ACS through work at the Section level.
- It is preferable that the recipient be or have been an officer of the Section.

Nominations should be submitted by **June 1, 2010** to:

Service Award Chair  
c/o SCALACS Office  
14934 S. Figueroa St.  
Gardena, CA 90248  
Or via email to [office@scalacs.org](mailto:office@scalacs.org)

#### Previous Award Winners:

1988 Agnes Ann Green	1999 Peter Baine
1989 Arthur Adamson	2000 Henry Abrash
1990 Stanley Pine	2001 Thomas Payne
1991 Yoshie Kadota	2002 Heather Kinney
1992 Rita Boggs	2003 Michael Geis
1993 Sandra Lamb	2004 Harold Goldwhite
1994 Eleanor Siebert	2005 Gerald Delker
1995 Norman Juster	2006 Sofia Papatheodorou
1996 Eugene Kleber	2007 No Awardee
1997 Herbert Kaesz	2008 Thomas LeBon
1998 Barbara Belmont	2009 Gil Mislant

### Second Call for Nominations

The Nominations, Elections and Awards Committee of the Southern California Section is soliciting nominations for the election of 2011 Section officers (Chair-Elect and Secretary), members of the Executive Committee, and Councilors. If you wish to propose names (including your own) for consideration, email the Section Office at [office@scalacs.org](mailto:office@scalacs.org) or call Nancy Paradiso at 310 327-1216.

## Southern California Section

### Outreach Activities

**Saturday, May 1st, 2010—Science Café with Rebecca Skloot, Author of “The Immortal Life of Henrietta Lacks”, Barnes & Noble, Americana at Brand in Glendale, 3:00 pm.** Join us for a fascinating presentation and discussion. There is a book signing to follow.

**Saturday, May 22nd 2010, All Day (shifts available) Boy Scouts of America Merit Badge Midway, Frank G. Bonelli Park, San Dimas.** We will once again be putting on the Chemistry Merit Badge for the Boy Scouts. This year the event is changing from an Expo to a Jamboree so it is moving to a larger location. Due to this change we will be able to have more space and help out more scouts over a longer period of time. Please contact Dr. Gerald Delker at [delker@earthlink.net](mailto:delker@earthlink.net) for more information or to volunteer.

### Congratulations National Award Winners!

Following are the Southern California recipients of awards administered by ACS for 2010. These recipients were honored at the Awards Ceremony on Tuesday, March 23, 2010, in conjunction with the 239<sup>th</sup> ACS National Meeting in San Francisco, CA.

**Alfred Bader Award in Bioinorganic or Bioorganic Chemistry**  
- Winner: **Joan Selverstone Valentine** (University of California, Los Angeles)  
- Sponsor: Alfred R. Bader Fund.

**Herbert C. Brown Award for Creative Research in Synthetic Methods**  
- Winner: **Larry E. Overman** (University of California, Irvine) - Sponsor: Purdue Borane Research Fund and the Herbert C. Brown Award Endowment

**Arthur C. Cope Award** - Winner: **Kendall N. Houk** (University of California, Los Angeles) - Sponsor: Arthur C. Cope Fund.



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## Councilor Talking Points Highlights Spring National Meeting in San Francisco

By electronic ballot, the Council selected Luis A. Echegoyen and Bassam Z. Shakhashiri as candidates for **2011 President-Elect**. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.

The Committee on Nominations and Elections announced the selection of the following candidates for **Directors-at-Large** for a 2011-2013 term: Janan M. Hayes, Robert L. Lichter, Kathleen M. Schulz, and Kent J. Voorhees. The election of two Directors-at-Large will be conducted in the fall. Ballots will be mailed to the Council on or before October 10.

The Council received three amendments to the ACS Constitution and Bylaws for action: The Petition on Admissions Committee, the Petition on Candidate Selection by Member Petition, and the Petition on Election Timelines 2009.

The Council VOTED to approve the **Petition on Admissions Committee**. This petition removes the Admission Committee from the Bylaws and transfers its functions to the Council Committee on Membership Affairs. The Board of Directors will vote within 90 days on whether to ratify the Petition on Admissions Committee.

After considerable debate, a motion to approve the **Petition on Candidate Selection by Member Petition** FAILED. The Petition on Candidate Selection by Member Petition would have amended the Constitution to emphasize that candidates selected by a petition process from members will have no further screening.

The Council also thoroughly debated the merits of the **Petition on Election Timelines 2009**. The motion to approve this petition FAILED. The Petition on Election Timelines 2009 would have shortened certain national election timelines.

**The Council received three petitions for consideration:** The Petition on International Chemical Sciences Chapters, Petition on President-Elect Eligibility, and Petition on Recorded Votes. The Petition on International Chemical Sciences Chapters provides for travel funds for either the Chair or Chair-Elect of International Chemical Sciences Chapters to attend governance meetings at twice the amount allotted for a Councilor. The Petition on President-Elect Eligibility requires that nominees or candidates for President-Elect come from an academic background every other election, and that only those from non-academic backgrounds would be eligible in the alternate years. The Petition on Recorded Votes provides for additional voting methods, e.g., clickers that have been recently used at Council meetings, when conducting recorded votes. Action is expected on these petitions at the fall Council meeting. *(Continued on Page 8)*

## Councilor Talking Points Highlights (Continued from Page 7)

**The Society's Finances:** The Council and Board of Directors learned that the Society's total 2009 revenue (\$460 million) was up +1% from 2008, but fell short of the 2009 approved budget by \$19.5 million or 4.1%. Fortunately, the revenue shortfall was fully anticipated in early 2009. Therefore, contingency planning actions and cost containment initiatives were implemented across the Society, resulting in expense savings totaling \$22.5 million. Significant reductions were realized in salaries and fringe benefits, and in discretionary accounts such as travel, training, and professional services. As a result, the Society's Net Return from Operations was \$13.7 million, or \$3.0 million greater than anticipated in the 2009 Approved Budget.

**2011 Member Dues:** The Council VOTED to set the member dues for 2011 at the fully escalated rate of \$146, an increase of \$1 over 2010 dues. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws.

**Local Section Allotment Calculator:** The Council VOTED to continue for three years the current formula for determining allotments to local sections.

**Member Statistics:** At the close of 2009, Society membership totaled 161,783 compared to 154,024 for year-end 2008. The number of new membership applications received last year was the highest ever. The 2009 number also reflects the transition of 6,658 former Student Affiliates to the new student member category in June 2009 and the recruitment of 6,341 new student member undergraduates.

**Presidential Task Force on Diversity:** The Board received a report from the President's Task Force on Diversity Reports. The task force was charged with assessing the recommendations from the diversity workshop reports in the context of current efforts and committees of the Society, and developing a road map for the implementation of the recommendations. The task force also urged that the ACS move into a leadership role in promoting the education, professional development, and inclusion and equity of present and future generations of chemical professionals that reflect the diversity of America. The Presidential succession and the full Board VOTED to refer the task force report to the Board Standing Committee on Professional and Member Relations for prioritization, assignment of accountability, and development of implementation timelines. It discharged the task force with sincere thanks for its excellent work.

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## Orange County Section

### Chair's Message



As we move into the summer months, our Section starts planning for Fall activities and for 2011. We have mentioned before that 2011 is an important year for our Section. Both the International Year of Chemistry and the Anaheim ACS National Meeting take place in 2011, and so we are busy planning both of those events now. All of our activities will be listed on our website at [www.ocacs.org](http://www.ocacs.org) and also posted on our Facebook page (American Chemical Society - Orange County Section). Please become a fan of the section and stay in touch!

Our "Practical Information for Scientists" series is halfway done, and so far, the information has been very useful for both employed and unemployed scientists in the area. This year, the Section has covered employment agreements and other contracts scientists sign when starting a new job and we also discussed how to go about getting that new job—from resume preparation to interviewing and networking. Our fall topics will cover topics related to intellectual property, research and development issues and starting a business or new venture. Our Section invites you to attend.

We are also planning a tour and/or a Science Cafe event for later this summer. There are some exciting ideas on the table for this event, so please keep an eye on our website and Facebook page for the final event.

Finally, this Chair's message is the last one for the Orange County Section in SCALACS, and the Section would like to thank Nancy Paradiso for her work on our behalf in putting together and editing the newsletter. SCALACS has been a very important part of the development of our local Section for several years, however, as we try to increase our impact in the community, we must look at additional ways to reach our members. Please don't hesitate to contact me at [sthompson@Buchalter.com](mailto:sthompson@Buchalter.com) if you have any questions or require hard copies of meeting announcements.

- Sandra Thompson, 2010 Chair

## Orange County Section

### High School Awards Dinner Banquet

Thursday, May 20, 2010

### Concordia University, Irvine

Grimm Student Union (see directions on next page)

### “Atoms to Airplanes: The Impact of Materials Science on Everyday Life and Future Technological Advancements”

#### Daniel R. Mumm

Chemical Engineering and Materials Science, University of California - Irvine, CA 92697-2575

5:45 Registration

6:15 Dinner (Italian Buffet)

7:15 Program

8:00 Awards Presentations

For more than 40 years the American Chemical Society has recognized the outstanding chemistry students who have participated in the ACS testing program. Again we will be hosting a banquet honoring the top first year and advanced chemistry students from each high school, the top 11 Orange County “Olympiad Team,” and two Science Fair winners.

**Abstract:** The development of enabling materials is at the root of all technological advances. Advanced materials - and the processes by which we make advanced materials - are the building blocks upon which technological advancements are based, and are critical to quality of life, economic strength and security. In the field of Materials Science and Engineering we seek to understand the links between composition, structure, processing and properties that need to be understood and controlled in order to develop enabling materials for advancing technologies. In this talk, I will briefly touch on examples where materials science has fundamentally impacted our lives: (1) the development of semiconductors, which are at the core of the digital and telecommunications age; (2) the development of high temperature structural materials that facilitated the development of jet engines and changed the way we travel long distances; (3) the development of high efficiency batteries and electroactive materials that facilitate mobile communications and mobile computing; and (4) the creation of superconducting materials that are transforming electromagnetic systems and the way we transmit electricity. I will discuss how lessons learned from nature are leading us to design materials with remarkable properties, and how materials scientists are now able to manipulate individual atoms, and design materials from the “bottom up” to have unique properties. The remainder of the talk will explore current research on  
(Continued on Page 11)

## Orange County Section

### Abstract (Continued from Page 10)

materials being developed for use in extreme environments such as those intrinsic in aircraft engines and power generation systems. I will give specific examples of our current research on alternative energy technologies focusing on solid oxide fuel cells for electricity production and, more broadly, discuss how materials science will play a critical role in addressing one of the most formidable challenges for the 21st century – achieving energy sustainability.

**Biography:** Daniel R. Mumm is an Associate Professor of Materials Science & Engineering at the University of California, Irvine. He earned his B.S. in Materials Science & Engineering from the University of Minnesota (1988). He received his PhD in Materials Science & Engineering from Northwestern University in 1994, with his thesis research focusing on interfacial effects in toughening brittle materials through fiber reinforcement. He then held post-doctoral appointments at the Rockwell Science Center (1994-1996) and Harvard University (1996-1999), where he performed research on a wide variety of thermo-structural materials including polymer, metal and ceramic-matrix composites, lightweight metallic structures and thermal barrier coatings. From 1999-2002, he was a research scientist and lecturer at the Princeton University Materials Institute, continuing studies on thermal barrier coating systems, lightweight metallic structures, and morphing systems. In 2003, he joined the Department of Chemical Engineering and Materials Science at UC Irvine, holding additional affiliations with the National Fuel Cell Research Center (NFCRC) and the Advanced Power and Energy Program (APEP). His research efforts focus on structure-property relationships in ceramic, metal and metal/ceramic systems utilized in aggressive environments.

**Menu & Cost:** Italian Buffet. \$20 per person. Please pay on arrival (cash or check to OCACS).

**Reservations:** Must be placed by noon on Tuesday, May 11th. Respond by e-mail [pvo369@yahoo.com](mailto:pvo369@yahoo.com) with the number in your party and their names. If you have any questions, contact: Phuong Vo [pvo369@yahoo.com](mailto:pvo369@yahoo.com) or Judy Bechtold at [bechtoldjudy@gmail.com](mailto:bechtoldjudy@gmail.com) (or 714-225-8957)

**Directions:** From the 5 or 405 Freeway take Jeffrey-University exit, then drive west toward UC Irvine. Turn left (south) from University onto Ridgeline, then immediately right onto Concordia. Gate attendant will direct you to free parking and OCACS Awards Dinner.

## Orange County Section

### OCACS Environmental Program

Kennedy/Jenks Consultants  
2355 Main St, Suite 140  
Irvine, CA - 92614

**May 27, 2010 at 7:30 p.m.**

### **Constituents of Emerging Concern: The California Recycled Water Policy Science Advisory Panel**

**Keith Maruya, Ph.D., Principal Scientist**  
Southern California Coastal Water Research Project (SCCWRP)

The paucity of information on the occurrence and potential impacts of constituents of emerging concern (CECs) in natural and treated waters currently limits our ability to define and thus manage risks associated with CECs. In response, the State of California has tasked SCCWRP to convene an expert panel to provide recommendations for effective monitoring of CECs in recycled water. Through an open and transparent process, SCCWRP convened a panel of highly qualified scientists and engineers who accepted this charge. At their inaugural meeting, the Panel considered a wide range of CECs and identified real world applications that pose the greatest risk to human and ecological health. They will meet in a series of public meetings to synthesize existing knowledge and draft a report by Spring 2010. After consideration of public comments, the Panel is scheduled to deliver their final recommendations to the State in June of 2010.

**Biography:** Dr. Keith Maruya specializes in the analysis, fate and effects of trace organic contaminants in coastal aquatic systems. He earned his degrees in chemical and environmental engineering from the University of Southern California (BS, MS) and UC Berkeley (PhD). His current research as Department Head of Chemistry at SCCWRP focuses on relevant, cost-effective measurements of emerging and legacy organic contaminants in natural waters and sediments, their fate, bioavailability, accumulation and trophic transfer, and prioritization of emerging contaminants for future monitoring and research.

**Reservations:** Limited to first 25 with reservations. E-mail reservations to Ganesh Rajagopalan [RGanesh@KennedyJenks.com] by May 25th.

#### **Summer Environmental Programs:**

**June 24, 2010**—Mercury Immobilization Using an Innovative Nano-Scale Material, Dr. Zhong (John) Xiong, Project Engineer, AMEC Geomatrix.

**July 22, 2010**—The ART of In-Well Groundwater Remediation, Philip Mihopoulos, MACTEC Engineering and Consulting, Inc.

See the website, [www.ocacs.org](http://www.ocacs.org) for more information.



## This Month in Chemical History

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

The "Annual Reports on the Progress of Chemistry" issued by the Chemical Society (of London: predecessor of the Royal Society of Chemistry) give a fascinating glimpse into the areas of chemistry of current interest in the period covered. In this column I begin a two-part survey of Volume VII, published in 1911, which deals with chemistry in 1910, just a century ago.

The lengths of the various sections give an indication of the relative importance of different areas of chemistry at the time. General and physical chemistry are allocated 25 pages; inorganic chemistry 30 pages; organic chemistry 99 pages; analytical chemistry 28 pages; physiological chemistry (part of what we would term biochemistry) 21 pages; agricultural chemistry and vegetable physiology 16 pages; mineralogical chemistry 30 pages; and radioactivity 31 pages. The chemistry that is deemed worthy of abstraction and presentation for one whole year is covered in a mere 286 pages. How times have changed in the past century.

General and physical chemistry, summarized by T.M.Lowry, examines initially the complexities of the phase diagram of ice. Four forms have been detected and may possibly be accounted for by the existence of not only  $\text{H}_2\text{O}$  but polymeric species like  $(\text{H}_2\text{O})_2$  and  $(\text{H}_2\text{O})_3$ . New compounds that can exist as liquid crystals have been examined, and their optical properties have been quantified. Cholesteryl propionate is a rare example of a material that exhibits negative double-refraction, the same phenomenon that makes calcite crystals show two images of subjects observed through them. Low temperature heat capacities of elements and compounds have been measured. Nernst and his colleagues have done measurements on samples at temperatures as low as  $-210^\circ\text{C}$ . Among reports of measurements of electrical properties of pure solvents, two reports on the ionization constant of pure water stand out. Heydweiller gives a value of  $1.04 \times 10^{-14}$  at  $25^\circ\text{C}$ ; the value reported by Noyes and his colleagues at the same temperature is  $0.83 \times 10^{-14}$ ; and Lorenz and Bohi report  $1.21 \times 10^{-14}$ . These slightly differing values show the challenge of preparing extremely pure water and measuring its conductivity. Heydweiller's value is closest to the one accepted today.

Inorganic chemistry is summarized by H.B.Baker. He writes in his introduction "A tendency which becomes more and more marked year by year is the study of reactions in inorganic chemistry by physico-chemical methods. So much is this the case that the inorganic chemist pure and simple has almost ceased to exist." T.W. Richards and his group have published refined values for the  
**(Continued on Page 14)**

## **This Month in Chemical History** *(Continued from Page 13)*

atomic weights of lithium, chlorine, and silver. Other groups report new values for strontium, mercury, tantalum, tellurium, neon, and helium. A number of pure metals have been prepared for the first time in crystalline condition including 99.4% pure strontium; Madame Curie and her colleagues have prepared metallic radium in milligram quantities via its amalgam. The work of the late Ludwig Mond on the preparation of new metal carbonyls including those of cobalt, molybdenum, and possibly ruthenium has been published. Raschig has described the preparation of pure anhydrous hydrazine.

The reporters for organic chemistry were Cecil H. Desch and Arthur Lapworth; the latter is one of the pioneers of physical organic chemistry. I quote from their introduction: "A study of the investigations dealing with organic chemistry ... during the last few years produces a vivid impression of the perfection that has been obtained by the doctrines of structural chemistry. The constitution of even the most complex compounds may be attacked with the confidence that the solution is dependent chiefly on experimental skill..." I remind my readers that this is long before spectroscopic methods were widely used in establishing structure. To quote further: "...the recent development of organic chemistry has been largely determined by the influence of biology on the one hand and of physics on the other."

The influence of Lapworth's interests in physical organic chemistry permeates the early pages of this report. The work of Michael on "An Outline of a Theory of Organic Chemistry founded on the Law of Entropy" is featured though comments suggest that the typical student may be "...imperfectly grounded in the principles of thermodynamics, for the familiar terms of the latter science are here put to unorthodox uses." The catalytic effects of acids and bases on the rates of many organic reactions have been widely studied during 1910, and have led to the opinion "that such nitrogenous compounds may be effective as "catalysts" in certain processes occurring in the living cell". Despite Gomberg's attempts to retain the field for himself (!) other groups have published on analogs of the triphenylmethyl free radical including tri-diphenylmethyl which forms deep violet solutions. Ultraviolet spectroscopy and refractivity measurements have been applied to the equilibrium between ketonic and enolic forms of ethyl acetoacetate – a relatively rare case of the use of physical methods at this period. New studies have confirmed the Hantzsch – Werner hypothesis on stereoisomerism in oximes and related compounds.

In my next column I will conclude this brief survey of Annual Reports for 1910.



## San Gorgonio Section



### Chair's Message

#### Meet the Chemistry Olympiad Winners!

**Please join us this month to celebrate the wonderful Chemistry Olympiad winners from our section!** In order to “win”, the students take a chemistry examination – on a Saturday! – at either Cal Poly Pomona or Cal State San Bernardino. This year, we had over 250 high school students take the examination. The top scoring students receive small college scholarships from the San Gorgonio Section.

After completing an ACS paper and pencil examination, the top eight students (who must be from at least 4 different schools) then compete in a hands-on laboratory practicum. Again, this event is held on a Saturday; this year it was at Cal Poly Pomona. The highest scoring students on this laboratory examination throughout the country are asked to join the US National Chemistry Olympiad team. The US team then competes against other national teams. This year the International Chemistry Olympiad takes place in Tokyo, Japan. For more information see <http://www.icho2010.org/en/home.html>.

This event does not just happen without a lot of planning, organizing, talking to students, parents, teachers, etc. We are grateful to Dr. Michael Page at Cal Poly Pomona for his efforts in organizing and coordinating both the Chemistry Olympiad examination and the laboratory practicum. The section also thanks Dr. Dennis Pederson at Cal State San Bernardino for hosting some of the high school students for the examination. Thanks also to Cal Poly Pomona and Cal State San Bernardino and the members of the Chemistry Departments for their assistance.

The San Gorgonio Section has been sponsoring a Chemistry Olympiad event for high school students for over 25 years. If you have ever wondered where your section dues go, this is one of the largest items in the budget! The scholarships provided by the section range from \$400 up to \$1000, and we host the winning students as well as their parents and teachers at the May meeting. **Please join us to meet and congratulate these wonderful young chemists!**

- Jodye Selco, Chair, San Gorgonio Section

## San Gorgonio Section

### May Student Scholarship and Awards Recognition Banquet

Wednesday, May 19, 2010

#### Spaghetti Eddie's

8153 Aspen Avenue  
Rancho Cucamonga, CA 91730  
Phone: 909-476-8400

Social and Check-in: 5:45 PM

Dinner: 6:30 PM

Awards/Recognition Program: 7:15 PM

In March, high school students in the San Gorgonio Section region took an exam to qualify for the National Chemistry Olympiad. Our section also uses this exam to choose the recipients of section-sponsored college scholarships. Please join us in honoring these truly remarkable students and their teachers at this meeting. The evening will also be an opportunity to hear a presentation by several graduates of our local universities answering the question "**Where can chemistry take you?**". Career opportunities abound for those excited by chemistry and this presentation will highlight a few of the many possibilities.

**Dinner:** Spaghetti with marinara sauce, bread and butter, dinner salad, choice of drink: coffee, iced tea or soda.

**Cost:** ACS Members: \$13.00, Non-members: \$15.00, Seniors and Retirees \$10.00, Students: \$8.00. (Cash or check at the door.) No charge for student honorees and their teachers.

**Reservations:** Please make your reservations no later than Wednesday May 12<sup>th</sup> noon by contacting Dennis Pederson, [dpedersn@csusb.edu](mailto:dpedersn@csusb.edu), phone 909-537-5477 or David Srulevitch at [srulev@charter.net](mailto:srulev@charter.net), phone 909-594-3070. Include names and number of persons. Please be certain to honor your reservations.

**Directions:** Traveling East or West on the **210 Fwy**, exit on Haven Avenue, travel south to Foothill Blvd (Hwy 66) turn left, go to Aspen Avenue turn right. Traveling East or West on the **10 Fwy**, exit on Haven Avenue, travel north to Foothill Blvd (Hwy 66) turn right, go to Aspen Avenue turn right. The restaurant will be on the left side.

**Attention Chemistry Professors:** Please bring any extra science or chemistry textbooks that you may have to this SGS Dinner Meeting so that we may donate them to the students and high school libraries.

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Contains Dated Meeting  
Announcement

## PERIODICAL

### Tri-Section Chemists' Calendar

#### May

- 1 SC Science Café at Barnes & Noble, Glendale—see page 6
- 11 SC Tolman Dinner honoring Prof. Richard Kaner —see April issue
- 19 SG Student Scholarship & Awards Recognition Banquet—see page 16
- 20 OC High School Awards Dinner Banquet—see page 10
- 22 SC Boy Scouts Merit Badge Midway—see page 6
- 27 OC Environmental Program—see page 12

#### June

- 1 Deadline for nominations for Agnes Ann Green Award—see page 5
- 4 SC Educational Awards Banquet—see page 3
- 24 OC Environmental Program—see page 12

#### July

- 22 OC Environmental Program—see page 12

**Have a great summer!**