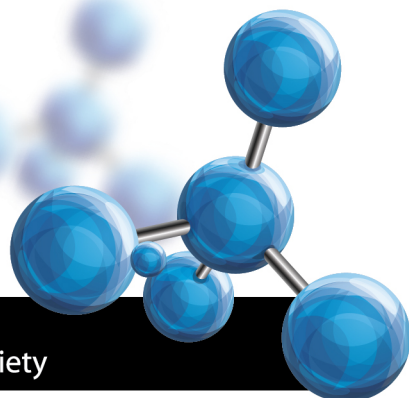




ACS

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SCALACS



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

VOLUME LXXVII/No. 6

OCTOBER 2022

SOUTHERN CALIFORNIA Section

**The Red Planet and The Blue Planet: Past, Present and Future
A Research Symposium for Undergraduates and Graduates**

Saturday, November 5 at

California Institute of Technology, Pasadena

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National Chemistry Week, October 16-22

See Page 1

2022 Western Regional ACS Meeting

Flamingo Hotel & Casino Convention Center, Las Vegas, Nevada

October 19-22

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SCALACS Election

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**Tour of the new Southern California headquarters
for the California Air Resources Board on October 19**

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Annual Meeting & Luncheon to recognize the 50- & 60-Year ACS Members

October 29, 11 am at the Alumni Center, UC Riverside

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SOUTHERN CALIFORNIA SECTION



*"A person who never made a mistake
never tried anything new." – Albert Einstein*

CHAIR'S MESSAGE



ACS Local Section
Southern California

Dear SCALACS members,

Greetings! We have many exciting events planned for the last quarter of 2022. The ACS Western Regional Meeting is scheduled to take place in Las Vegas, NV from October 19-22. I am glad to know that many of our members are planning to attend this meeting.

As noted in the September 2022 Newsletter, National Chemistry Week (NCW) is the major event in October (October 16-22). This year, we will celebrate with a special one-day Research Symposium "The Red Planet and The Blue Planet: Past, Present and Future" on Saturday, November 5 at the California Institute of Technology (See Page 3). The meeting will take place at the Beckman Institute Auditorium beside the Gene Pool and the ACS Landmark honoring Arnold Beckman. The morning session will feature inspiring talks highlighting many recent fascinating discoveries by distinguished scientists from different institutions in our section. The afternoon session will be dedicated for graduate and undergraduate students' poster presentations of their recent research findings. Details of the symposium and the link for registration are sent to all members by e-mail and posted on the SCALACS website (scalacs.org). Please do not miss this signature scientific event of our section during 2022.

Ballots with candidates' statements for the election of section officers will be mailed out by end of this month. Those who are interested to volunteer their participation in the governance of our sectional activities as Member-at-Large (in the Executive Committee), Councilors, and Alternative Councilors, please inform Brian Brady (bbbrady1618@gmail.com) and Jenneva Guzman by e-mail (office@scalacs.org). Please cast your vote and support the section through the ballot. My sincere appreciation to all the volunteers in advance, who are willing to put their name on the ballot and serve the section.

Thanking you all for your continued support,

With best regards,

Thomas Mathew
Chair, SCALACS
(tmathew@usc.edu)

SOUTHERN CALIFORNIA SECTION

Call for Nominations **2022 Richard C. Tolman Medal**

The Tolman Medal is awarded each year by the Southern California Section of the American Chemical Society in recognition of outstanding contributions to chemistry. These contributions may include achievements in fundamental studies, achievements in chemical technology, significant contributions to chemical education, or outstanding leadership in science on a national level. The nominee need not be a Southern California resident; however, most of the award-related accomplishments must have been made in this area. The Southern California Section and the Tolman Award Committee are now seeking nominations for the 2022 award.

There is no official nominating form for this award and nominations are accepted from any member of this section or of neighboring sections. The nomination package should include:

- an up-to-date curriculum vitae or resume of the candidate
- letters of support from colleagues in the profession describing the candidate's major achievements
- if the candidate is being considered for outstanding teaching, letters of support from former students should be included.

Please submit nomination packages electronically to the Chair of the Tolman Committee at **office@scalacs.org**. Rather than submitting copies of publications, a list of representative publications would suffice.

The deadline for receipt of nominations is **December 15, 2022**. Inquiries should be directed to the Chairperson via email at **office@scalacs.org**. A list of winners appended here demonstrates the caliber of awardee sought by the committee.

1960 William G. Young	1981 Paul D. Boyer	2002 Robert H. Grubbs
1961 Anton B. Burg	1982 Donald T. Sawyer	2003 Arieh Warshel
1962 Ernest H. Swift	1983 James N. Pitts	2004 Christopher Reed
1963 W. Conway Pierce	1984 Donald C. Cram	2005 Fred Wudl
1964 A.J. Haagen-Schmidt	1985 Arnold O. Beckman	2006 G. K. Surya Prakash
1965 Thomas Doumani	1986 M. Frederick Hawthorne	2007 Barbara Finlayson-Pitts
1966 Arthur W. Adamson	1987 Clifford A. Bunton	2008 Joan S. Valentine
1967 Ulric B. Bray	1988 John D. Baldeschwieler	2009 Richard B. Kaner
1968 Francis E. Blacet	1989 Mustafa A. El-Sayed	2010 Dennis Dougherty
1969 Robert Vold	1990 Linus Pauling	2011 Karl O. Christie
1970 Robert L. Pecsok	1991 George A. Olah	2012 John E. Bercaw
1971 Roland C. Hansford	1992 Peter C. Ford	2013 Mark E. Thompson
1972 James Bonner	1993 Charles L. Wilkins	2014 William J. Evans
1973 Howard Reiss	1994 Jacqueline K. Barton	2015 Michael E. Jung
1974 John D. Roberts	1995 Christopher S. Foote	2016 Paul S. Weiss
1975 Corwin Hansch	1996 Larry R. Dalton	2017 Jeffrey I. Zink
1976 F. Sherwood Rowland	1997 Ahmed H. Zewail	2018 Clifford P. Kubiak
1977 Sidney W. Benson	1998 Kendall N. Houk	2019 Andrew S. Borovik
1978 Thomas C. Bruice	1999 Peter Dervan	2020 Pingyun Feng
1979 Harry B. Gray	2000 William A. Goddard III	2021 Donald R. Blake
1980 Herbert D. Kaesz	2001 Peter M. Rentzepis	

SOUTHERN CALIFORNIA SECTION

The Red Planet and The Blue Planet: Past, Present and Future

**November 5th, 2022
8:30 AM - 4:30 PM**

Beckman Institute Auditorium
California Institute of Technology
400 S Wilson Ave, Pasadena

TICKETS

In-Person Event:

\$30, \$10 (students)

Virtual Event via Zoom:

\$10, Free (students)

Join us for an in-person full-day Research Symposium for Graduate and Undergraduate students featuring five stimulating talks presented by distinguished speakers from Caltech, USC, and JPL. There will be Poster Board Presentations from graduate and undergraduate students. Breakfast and lunch will be included.



ACS Local Section
Southern California

To RSVP, visit:
www.scalacs.org
Or call: 310.327.1216

**MORE INFORMATION IS AVAILABLE AT
WWW.SCALACS.ORG**

SOUTHERN CALIFORNIA SECTION

Call for Nominations **Paul Shin Memorial High School** **Chemistry Teacher of the Year Award**

If you know of a local high school chemistry teacher who is making a difference, please consider nominating them for the Paul Shin Memorial Award. The award recognizes high school teachers in the greater Southern California area for their dedication to their students and the Chemical Education Community. It is teachers like the recipients of this award who make learning chemistry rewarding. This honor includes a \$500 grant that is an unrestricted award directly to the teacher. The Section Award winner will also be entered for the Western Regional High School Teacher of the Year Award and, at the National ACS level, for the ACS James Conant Bryant Award. Having won a previous award does not necessarily exclude a nominee; however, the nomination would need to be based on different criteria than the first award.

The Nomination Package should include: Biographical sketch of nominee with date of birth, list of any publications, statement (no more than 1,000 words) of nominee's achievements as a high school chemistry teacher including quality of teaching, effective methods, nominee's ability to challenge and inspire students, extracurricular work (science fairs, clubs, etc.) and contributions to the Chemical Education Community at large. Two nominating letters are required, but up to five may be included. Nominating documents should be submitted via email to office@scalacs.org. Note that signed documents that have been scanned are acceptable. Nominations from current students at the nominee's institution will not be considered.

The deadline for nominations is January 31, 2023. Feel free to contact Michael Morgan of the Educational Affairs Committee at mmorgan@lausd.net if you have any questions.



Western Regional Meeting
American Chemical Society

October 19 – 22, 2022
Flamingo Hotel &
Casino Convention Center
Las Vegas, NV

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TO *Fabulous*
LAS VEGAS
NEVADA

WRM-2022

*For additional information,
visit www.wrm2022.com*

Empower The Chemist For A Better Tomorrow

BY

KEITH ORSO
Irell & Manella LLP
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The previous edition of this column explained that copyrights attach automatically to original works of authorship fixed in a tangible medium, and that the copyright can be described as falling upon the work like lightning from the sky. So what is a copyright registration with the U.S. Copyright Office, and why would anyone go to the trouble of getting one?

A request for copyright registration with the U.S. government contains three key elements:

1. a written application that includes basic facts about the work, including the author and title, the name of the copyright owner, the year of creation, whether the work has previously been registered, and whether the work includes pre-existing material;
2. payment of a non-refundable filing fee; and
3. at least one non-returnable copy of the work being registered, to be kept on deposit by the Copyright Office.

The deposit requirement varies by the type of copyrighted work. For example, a complete copy of a work that was published electronically and is available only online must be submitted, preferably by digital upload through the Office's electronic registration system, though it can also be submitted on a

flash drive, CD, or other storage device. On the other hand, instead of depositing with the Copyright Office a computer program or a copy of a marble sculpture, for example, an author can submit "identifying material"—such as photographs or a representative portion of the source code for a computer program—that adequately represents the authorship claimed in the application.

Both the application for registration and the deposit copy of the work become part of the public record and can be viewed by anyone upon request, so the Copyright Office permits certain redactions for trade secrets, for example.

But if a copyright attaches automatically, why register a copyright in the first place? Aside from establishing a public record of the copyright, registration of a copyright permits the owner to file a lawsuit for infringement of the copyright. And, among other benefits, when the registration is made before the infringement begins or within three months of publication, additional infringement damages may be available and the owner may be entitled to recover attorney's fees and costs.

The author earned engineering and chemical engineering undergraduate and graduate degrees, and is a patent attorney and partner at the law firm of Irell & Manella LLP. This column does not constitute legal advice and does not necessarily reflect the views of the firm or its clients.

THIS MONTH IN CHEMICAL HISTORY

BY

HAROLD GOLDWHITE
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I did warn you, in my last column, that you could look forward to an examination of some physical organic chemistry texts in the series on "Great Books of Chemistry in the 20th Century" and I present the first of these in this column. It is "Physical Organic Chemistry: Reaction Rates, Equilibria, and Mechanisms" by Louis P. Hammett, Professor of Chemistry at Columbia University, published by Mc-Graw-Hill in 1940. Hammett (1894-1987) was educated at Columbia and was a pioneer investigator in physical organic chemistry. He also worked on superacids and devised a function to quantify their acidity known as the Hammett function. But he is best known for the Hammett equation relating rates and equilibria in organic reactions; a function that is explored in depth in his text. His many awards and recognitions included the Priestley Medal of the ACS; the Willard Gibbs Award; the National Medal of Science; and the Barnard Medal.

Now to the text. My copy is the Fifth Impression of the First Edition, indicating its appeal to chemists of the 1940s. I quote from the Preface: "in the last two decades on the borderline between physical chemistry and organic Chemistry . . . there has grown up a body of fact, generalization, and theory that may properly be called 'physical organic chemistry' . . . the study by quantitative methods of the mechanism of reactions and of the related problem of the effect of structure and environment on reactivity."

Hammett's "Physical Organic Chemistry" is not a tome; after all the subject, while not in its infancy, was still in its childhood. It measures just under

400 small pages. The first two chapters discuss quantum views of structures of non-electrolytes and electrolytes. They sketch, rather than explore in depth, such topics as atomic structures, valence bond theory, and Pauling's resonance theory. At that time hydrogen-bonding was a challenge to current theories.

Chapter III, on equilibrium and energy of reaction, explores the significance of Boltzmann's equations in understanding the connection between these parameters. Chapter IV, on reaction rates and mechanisms, seems to me to be one central part of this text, and develops the basis of what later became known as the Hammett equation – perhaps you encountered this in your organic chemistry courses. Another key to Hammett's original thinking is in Chapter VII, "The Effect of Structure on Reactivity" that explores quantitative relationships between systems of reactions, looking, for example, at correlations between hydrolysis rates of esters and the ionization constants of their respective acids. This chapter includes the explicit statement of Hammett's equation.

Hammett ranges far and wide in his exploration of organic reactions and includes displacement reactions and their stereochemistry, enolization, carbonium ions, carbonyl additions, and atomic, radical, and redox reactions. I believe that this 80-year-old classic text, surely one of the great books of chemistry in the 20th century, still has something to teach chemists of the 21st century.

SAN GORGONIO SECTION



CHAIR'S MESSAGE



Hello!

The Executive Board of the San Gorgonio Section is excited to announce the events we have planned for the remainder of 2022. We hope you can attend one or more of these events and invite someone who might be interested also.

National Chemistry Week Celebrations



National Chemistry Week (October 16-22) is upon us! The theme for NCW this year is "Fabulous Fibers: The Chemistry of Fabrics". Are you (or do you know) a local professor or K-12 teacher planning to celebrate National Chemistry Week on your campus this year? The San Gorgonio Section would love to partner with you by providing some fun giveaway items for your students. Email me for more information.

We have two events celebrating National Chemistry Week this month. On **October 19**, we will be hosting a **tour of the new Southern California headquarters for the California Air Resources Board** in Riverside. We will get the opportunity to tour their beautiful new building and hear about the work they are doing to improve our air quality in California. The tour will begin at 1 pm on Wednesday, October 19. There is limited space on the tour, so you will need to register to reserve your spot (see our Instagram page for the registration link). Thank you to Dr. Ralph Riggins for coordinating this tour!

Our second event for National Chemistry Week will be held at **Mt. SAC** on **October 22**. This is their annual event, celebrating chemistry and science in general. We will have more information about this fun event for all ages on our Instagram page (@sangorgonioacs) soon!

SAN GORGONIO SECTION

WCC Roundtable: Women in Chemistry

The Section's Women Chemists Committee, headed by Dr. Ana Bahamonde, has planned an event for Saturday, October 22nd in the afternoon at UC Riverside. This event will feature a roundtable discussion with four women who will speak about their experiences working in the field of chemistry. Lunch will be provided and there will be time to interact with the speakers one-on-one. The event is targeted toward undergraduate and graduate students, but all are welcome to attend this exciting event! We will have more info soon about this event on our Instagram page.

Annual Meeting and 50- and 60-Year Member Recognition

Our Senior Chemists Committee, headed by Dr. Ralph Riggan, is hosting a luncheon to recognize the 50- and 60-year ACS Members in our Section. The event will take place on Saturday, October 29 at 11 am at the Alumni Center at UC Riverside. This year we will be recognizing the following chemists:

50-Year Members

James F. Gaines
Dr. Harry C. Lord, III

60-Year Members

Dr. Mark M. Cliath
Myung K. Hong (In memoriam)
Dr. William H. Okamura
Dr. Gerald R. Van Hecke
Mr. Jamil M. Wakim

Plan to attend this event to hear some fascinating stories of the amazing lives and careers of the chemists in our area. Register at <https://forms.gle/38FADB2v22crHUS59>. The cost to attend (including lunch) is \$10, but the event is free for students!

Community College Event (Postponed!)

We had to postpone our Community College event at Norco College until March 2023. We will still be hosting a talk from Dr. Robert Blackledge on "Glitter as Forensic Evidence," to show the students an exciting career path for chemists. If you would like to take part in the planning process for this event with the Community College & University Engagement Committee, we would love to have your help! Go to <https://forms.gle/swTa7XWpLYAb7GD96> to indicate your interest and availability.

Project SEED

This summer, two high school students participated in Project SEED through the San Gorgonio Section. Project SEED is an ACS program that provides an 8-week, hands-on summer research experience for economically disadvantaged high school students. The students are able to work in the lab at a local university alongside undergrad and grad students, as well as post-docs. This year, Alexia Chhin (West Covina High) and Karla Villanueva (Etiwanda High) participated. Alexia was mentored by Dr. Ana Bahamonde on a project dealing with phosphate-assisted carbamate alkylation. Karla was mentored by Dr. Jingsong Zhang on projects dealing with air monitoring and heavy metal pollution. We thank the UCR Chemistry Department for once again serving as a Project SEED site. These students will be giving a summary of their work from the summer during our Annual Meeting on October 29 (see above), so please show up to this event to show your support for the next generation of chemists.

SAN GORGONIO SECTION

Section Elections

We will be holding our election soon for the Section. Currently, there are three positions open for election: Secretary, Alternate Councilor, and Chair-Elect. If you are interested in running for one of these volunteer positions for 2023, please email me by Oct. 15. We have a great team of individuals on the executive board, but we are always looking for new people to help steer this Section and help us accomplish amazing things for our members.

Volunteers Needed for 2023!



Can you find 6 hours in the year that you could commit to volunteering with the San Gorgonio Section? We are looking for some new committee and executive board members as we begin to look toward 2023. We have committees that meet for a few months out of the year for 1-2 hours a month. We welcome undergrad and grad students, professionals, retirees, and anyone else who loves chemistry to join our team. If you are interested in helping out with one or more of our committees, please fill out the form at <https://forms.gle/swTa7XWpLYAb7GD96>, where you can include information about your preferred availability.

Feel free to email me if you have questions or suggestions for the Section. Have a great month!

Dr. Jenifer N. Nalbandian
Chair of the San Gorgonio Local Section
jnalbandian@calbaptist.edu

SCALACS SEEKING CANDIDATES FOR ELECTION

SCALACS is seeking candidates for Member-at-Large, Councilors, and Alternative Councilors. What does a Member-at-Large do? This is a 3-year term, beginning January 1, 2023. A Member-at-Large attends most of our monthly business meetings, held on the first Wednesday of the month at 7:30 pm, September through May, via Zoom. Most Members-at-Large participate on one of our committees – first as a helper, and later as a leader. For an idea of what those committees do, please visit the website here http://scalacs.org/?page_id=4. In the third year, the Member-at-Large is also a member of our Board of Directors, which is responsible for setting and approving the budget for the following year.

The Section Councilors represent us at the national ACS Council meetings, and the Alternates serve as backup in case a Councilor can't attend. A portion of Council meeting travel and accommodations are paid for by ACS. This is also a 3-year term, beginning January 1. As ex officio members of the Southern California Section Executive Committee, Councilors and Alternates attend many of our monthly business meetings (virtually).

We feel it is very important to engage all interested members in Southern California Section leadership. If you're interested in participating in your Section's governance, please email us soon. We look forward to hearing from you.

Thanks!

Brian Brady
Nominations and Elections
Southern California Section ACS
Email: bbbrady1618@gmail.com

**SOUTHERN CALIFORNIA SECTION
AMERICAN CHEMICAL SOCIETY**

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**IMPORTANT
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Contains Dated Meeting Announcement

PERIODICALS



Bi-Section Chemists' Calendar

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— see page 1 & 7

19-22 ACS 2022 Western Regional Meeting
— see page 4

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NOVEMBER

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A Research Symposium for Undergraduates and Graduates at Caltech
— see page 3

For more information or to find events, please see our websites:
www.scalacs.org • www.sgacs.org