



ACS
Chemistry for Life™

SCALACS

September 2018

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

Southern California Section

**Luncheon Honoring our 50, 60, 70
and 75 Year Members**

**With a Special Presentation by Our
Project SEED Students**

Saturday, September 15, 2018

See Page 3



Nano Western Regional Meeting

Saturday, October 27, 2018

See Page 5

San Gorgonio Section

**Senior Chemistry Meeting, October 20 at
Eddie's Italian Eatery in Claremont**

Saturday, October 20, 2018

See Page 12

Mass-Vac Vacuum Inlet Traps

PROTECT your vacuum pump from particulate, water vapor, acids, and organic solvent vapors generated from freeze drying, gel drying, evaporation, aspirating, degassing, and vacuum drying.



Visi-Trap

Features a transparent sump, so you know when to change the filter, and a wide range of filter elements designed to protect the vacuum pump from the chemicals used in the laboratory.



Posi-Trap

Features positive sealing, completely eliminating blow-by, all stainless steel construction to resist corrosion, and a wide range of filter elements designed to protect the vacuum pump from the corrosive chemicals used in the laboratory.



PRODUCTS

Mass-Vac, Inc.
247 Rangeway Road
PO Box 359
North Billerica, MA 01862

A Division of Mass-Vac, Inc.

978 667 2393
sales@massvac.com
www.massvac.com





ACS
Chemistry for Life™

SCALACS

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

Volume LXXIII

September 2018

Number 5

**SOUTHERN CALIFORNIA
SECTION 2018 OFFICERS**

Chair: Bob de Groot

Chair Elect:

Secretary/Treasurer: Barbara
Belmont

Councilors: Brian Brady, Robert de
Groot, Virgil Lee, Sofia
Pappatheodorou, Eleanor Siebert,
Barbara Sitzman

**SAN GORGONIO SECTION
2018 OFFICERS**

Chair: Bruce Liu

Chair-Elect: Ernie Simpson

Secretary: David Srulevitch

Treasurer: Dennis Pederson

Councilors: Eileen DiMauro, Ernie
Simpson

TABLE OF CONTENTS

So. Cal. Chair's Message	2
So. Cal. Meetings & Information	3-6
This Month in Chemical History	8-9
IP Law	10
S. G. Chair's Message	11
Index to Advertisers	12
Chemists' Calendar	bc

SCALACS (ISSN) 0044-7595 is published monthly March through May, September and October; and Bi-monthly January/February and November/December along with a special ballot issue once a year. Published by the Southern California Section of the American Chemical Society at 14934 South Figueroa Street, Gardena CA 90248. Subscription price is \$12.00/year. Make checks payable to Southern California Section, ACS. Second Class postage paid at Gardena, CA 90247, email: 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, email: editor@scalacs.org.

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

Website address: www.scalacs.org



Chair's Message

Welcome back SCALACS members!

I hope you found some time for rest and relaxation over the summer because SCALACS has a hot line up of activities in Fall 2018!

On **Saturday October 27th**, SCALACS and the California Los Padres Section (CALPACS) are hosting a one-day **Western Regional Meeting at Caltech**. The theme of the meeting is aligned with the 2018 theme for National Chemistry Week – Chemistry is Out of This World. The day will include a keynote talk *Astronomical Alchemy: The Origin of the Elements* by Maria Drout (University of Toronto), poster sessions, several space chemistry breakout sessions, all capped off by the regional meeting banquet. Many thanks to CALPACS chair Phil Hampton and his team for getting the website and poster sessions organized. Learn more about the meeting including registration information in this issue of SCALACS newsletter.

Every once in a while I like to share a bit about the history of NCW (now nearly 31 years old) – it is a California original!

National Chemistry Day was the result of the vision of Dr. George C. Pimentel (1922–1989) who served as ACS president in 1986. Pimentel was born to French parents near Fresno and his family moved to Los Angeles during the Great Depression. As an undergraduate at UCLA his interests shifted from civil to chemical engineering and then to physical chemistry and undergraduate research with J. B. Ramsey. In 1946 he started graduate studies at UC Berkeley in infrared spectroscopy with Kenneth Pitzer. Upon earning his Ph.D. in 1949 he joined the Berkeley faculty as an instructor and became an assistant professor in 1951 and remained an active faculty member there until his death.

The first National Chemistry Day was celebrated on November 6th 1987, it became NCW in 1989, and NCW became an annual event in 1993. In a 1986 message to the ACS Board Pimentel said:

“National Chemistry Day is a bold and exciting undertaking for us. Its success will be measured, in the short term, by the number of people reached by our efforts. Over the long term, we will measure our success by the continued use of chemistry to solve societal problems and to improve the quality of life for us all.”

(Continued on Page 6)

Southern California Section

September Luncheon Meeting

Saturday, September 15, 2018

Honoring our 50, 60, 70 and 75 Year Members With a Special Presentation by Our Project SEED Students

at

Stevens Steakhouse

5332 Stevens Place
Los Angeles, CA 90040

11:30 a.m. Check-in and Students' Presentations

12:15 p.m. Luncheon

Presentation of Certificates immediately following luncheon

We are celebrating our 50, 60, 70 and 75 year members and having our Project SEED students give a brief presentation of the research they completed this summer. Project SEED takes high school students and places them in a laboratory environment to provide them an opportunity to engage in an authentic research experience. We hope our veteran members will enjoy hearing about their research.

Our 50 Year Members are:

Jesse L. Beauchamp
Byron Burros
Larry R. Byrd
Eleanor Bressey Dent
David L. Dull
James Donald Haug
L. Louis Hegedus
Thio E. Hogen Esch

Syed M. Husaini
Eric Jung Chi Lien
William S. Linn
Geoffrey Margolis
James A. Rynd
Michael D. Wiley
Ching Chieh Yu
Andrew T. Zander

(Continued on Page 4)

Southern California Section

50/60/70/75 Year Member Luncheon (Continued from Page 3)

Our 60 Year Members are:

Henry J. Bremer
Clifford J. Daly
Lumir J. Ehernberger, Jr.
Anthony Fratiello
Howard E. Green
Harold B. Igdaloff
John D. MacKenzie

Our 70 Year Members are:

James W. Bolger
Barrett S. Duff
Robert B. Roessler
Gordon G. Shields

Our 75 Year Member is:

Richard D. Oppenheim

The students who took part in our Project SEED Program this summer are **Yasmine Cisneros, Kevin Gutierrez, Ruby Navarro and Stephany Perez**. There will be a presentation of their research prior to lunch.

Reservations: There is a choice of King Salmon or Prime Rib Sandwich for luncheon. The cost of the luncheon is \$25 per person including tax and tip; cash or check at the door. Please call Nancy Paradiso in the Section Office at 310 327-1216 or email office@scalacs.org by **Monday, September 10, 2018** for reservations.

Directions: To access Google maps from their website, go to <http://stevenssteakhouse.com/>. There is a location button on their home page. There is parking in the rear of the building.



**Join us for the 2018 Nano Western Regional Meeting
October 27, 2018**

California Institute of Technology, Pasadena, CA

<http://acswrm.org/wrm2018/registration.html>

Poster Abstract Deadline: October 5; Abstracts will be reviewed as they are received starting September 14. Abstracts can be submitted to: <http://acswrm.org/wrm2018/posters.html>

Registration Deadlines: October 7 (early), October 19 (regular)

This nWRM is designed around the National Chemistry Week Theme of "Chemistry is Out of This World!", however, abstracts do not have to be space related. Our goal is to engage students and provide a place for undergraduate and graduate students to display their research. We also will focus on chemical education for High School teachers. We have three exciting speakers:

Dr. Brian Brady, Aerospace Corporation
Propellant Chemistry

Dr. Lawrence Wade, JPL
The Mars 2020 mission and the micro-XRF instrument PIXL

Dr. Maria Drout, University of Toronto
Astronomical Alchemy: The Origin of the Elements

Morning breakout sessions will include **Tom Traeger** of Duarte High School on Solar Chemistry, **Sarah Marcotte** from JPL on the Amazing Chemistry of Planets, and **Michael Morgan** of Francisco Bravo Medical Magnet High School on ACS Resources for Chemical Teaching, **with more to come!**

An **Awards Banquet** will be held following the meeting to honor recipients of the E. Ann Nalley Volunteer Award, the Stan Israel Award for Advancing Diversity and the DivCHED Award for Excellence in High School Teaching

Sponsored by California Los Padres and Southern California Sections

Southern California Section

Chair's Message (Continued from Page 2)

As a local section I think we have embodied the NCW motto: **Solutions for the Future**. Being chair of SCALACS is very rewarding because I have colleagues who in addition to advancing chemistry they are empowering others to join the effort.

For example, our Project SEED program led by Frank Gomez hosted a fine group of high school students who spent most of the summer doing research at Cal State Los Angeles. I invite you to join us when they present their work on September 15th while we also honor our most seasoned members of the ACS during our 50-60-70 year luncheon at Steven's Steakhouse. Education Committee chair Michael Morgan is planning a High School Chemistry Teachers Meeting at Occidental College on Saturday, November 3rd. This event will feature presenters who are among the finest secondary chemistry educators in Southern California.

Our future is bright and it is time to elect the next group of SCALACS leaders. Be on the lookout for your ballot (online or hard copy) soon. Your vote in local section elections is a very important part of your commitment as an ACS member.

Read on or visit us online and find out ways to get involved with the section.

Ad astra!

Bob de Groot



micron inc.

ANALYTICAL SERVICES

Morphology Chemistry Structure

SEM / EDXA
MFTIR, DSC
TGA, XRD, XRR
ESCA, AUGER

3815 LANCASTER PIKE WILMINGTON DE 19805

PHONE 302 998 1184, FAX 302 998 1836

Registered with FDA & DEA, GMP/GLP Compliant
Memberships: ACS, ASM, ASTM, MSA/MAS, SAS, TMS

Southern California Section

Congratulations to the Southern California Section 2018 Fellows

We would like to congratulate our local section members who were awarded fellowships at the ACS National Meeting in Boston in August. The following awards were presented:

**Neil K. Garg,
University of California, Los Angeles**

Contribution to the science/profession: Recognized for breakthroughs in methods development, achievements in natural product total synthesis, and transformative chemical educational initiatives.

Contribution to the ACS community: For impacting the chemical community through local outreach activities, active service to journals and chemical organizations, and participation in globally impactful initiatives.

San Geronio Section

**Kerry Kathleen Karukstis,
Harvey Mudd College**

Contribution to the science/profession: Recognized for her leadership in collaborative research with undergraduates, in externally funded initiatives promoting undergraduate research at the national level, and in strategies advancing women STEM faculty at liberal arts institutions.

Contribution to the ACS community: Recognized for service as Vice Chair and member of the Committee on Professional Training; *Journal of Chemical Education* feature editor; contributor to symposia mentoring younger chemists and women STEM faculty.



This Month in Chemical History

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

I cannot resist the urge to purchase mid-19th. Century chemistry textbooks for a lower price than I would have to pay for a quality paperback. The reason is not hard to discern. It was stated clearly by Thomas Kuhn in his "The Structure of Scientific Revolutions", an influential book on the history of science published in the middle of the twentieth century. Kuhn's thesis is that most scientists engage in what he called "normal science" based on the accepted views, the paradigms, of their times. And paradigms are firmly ensconced in textbooks which are therefore a reliable guide to mainstream scientific thinking of the period in which they are published.

All this is prelude to the subject of this month's column, "Kane's Chemistry edited by Draper" published in 1845. Kane and Draper are so significant in the history of chemistry that much of this column will be about these two scientists, leaving the examination of their textbook to a subsequent essay. Robert John Kane was born in Dublin in 1809. His father had participated in the Irish rebellion of 1798 and had left for France where he began the study of chemistry. Returning to Ireland he established a factory making sulfuric acid. Like father, like son. Robert Kane learned his early chemistry at his father's factory and attended lectures at the Royal Dublin Society, publishing his first paper at the age of 19. Entering Trinity College, Dublin to study medicine he graduated with an M.D. in 1834, meanwhile working at a local hospital. He was appointed Professor ("The Boy Professor") at Apothecaries Hall in Dublin in 1831, at age 22!

Kane's first book, "Elements of Practical Pharmacy" was published at this time and earned him election to the Royal Irish Academy. His research at this time, in the mainstream of current chemistry, involved radical theory in organic chemistry, and he proposed the novel ethyl radical. He moved to Giessen in Germany to work with Liebig, the originator with Woehler of radical theory. In 1841 – 1843 the three volumes of his "Elements of Chemistry", the basis of the book I purchased, were published. He also wrote a comprehensive report on the industrial resources of Ireland. His prestige by now was such that he was appointed one of the Commissioners who studied and reported on the Great Irish Famine. He became director of the Museum of Irish Industry in Dublin, and was appointed as the first President of Queen's College, Cork. He was knighted by Queen Victoria in
(Continued on Page 9)

This Month in Chemical History

(Continued from Page 8)

1846. His further honors included National Commissioner for education; President of the Royal Irish Academy; and first Chancellor of the new Royal University of Ireland. He died in 1890.

And what about John William Draper, Kane's American editor. He is among the most distinguished American scientists of the 19th. Century. He was born in Lancashire, England in 1811 and his father was a Wesleyan Methodist clergyman. Draper studied chemistry at University College, London with Edward Turner. When his father died in 1831 Draper's family all moved to Virginia where he hoped to get a teaching position. Although that did not happen Draper still set up a research laboratory and published 8 papers before entering medical school. He graduated from the School of Medicine of the University of Pennsylvania and then began teaching at Hampden-Sydney College in Virginia. He was a founder of the Medical School of New York University and was both Professor and President of that school. He was Professor of chemistry there from 1840 to 1881. In 1876 to 1877 Draper was the first President of the ACS.

Draper was an early pioneer in the chemistry of photography and made some of the earliest portrait photographs. His photograph of the moon, the second one made, was a sensation at the time. His writings were especially influential. In addition to the edited textbook mentioned above he wrote "The Intellectual Development of Europe" published in 1862; a 3 volume "History of the American Civil War" published from 1867 – 1870; and his most famous and controversial book: "A History of the Conflict between Religion and Science" published in 1874. This book was translated into ten languages and was reprinted 50 times in its American edition. Draper was elected to the National Academy of Sciences in 1877. He died in 1882.

As I forecast above, the accomplishments of the two authors have filled this column. The examination of the textbook must wait to a subsequent column.

American Research and Testing Inc.

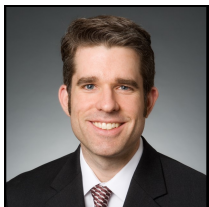
Problem Solving Experts

Chemical consulting and investigation for failure analysis,
quality issues, competitive analysis, and litigation support

Rita R. Boggs, Ph.D.
CEO

Barbara Belmont, M.S.
President

800.538.1655 www.americanresearch.com



Insights Into IP Law

Keith Orso*, Irell & Manella LLP
KOrso@irell.com

Last year, this column began addressing what constitutes “prior art” in the United States. Generally, “prior art” is publicly-accessible information against which the subject matter of a patent claim is compared in order to determine whether that subject matter is patentable. The Patent Office makes such comparisons in determining whether a patent should issue--or should have issued--in the first instance, and judges and juries make such comparisons when the claims of an issued patent are challenged in court. We began the discussion with patents and so-called “printed publications,” which are documents that have been disseminated or otherwise made publicly available to the extent that persons ordinarily skilled in the subject matter of the art, exercising reasonable diligence, can locate them.

Over the past 12 months, we have explored various potential types of printed publications. We saw that a poster displayed at two scientific conferences for a total of three days could qualify as a printed publication. We observed one court stating that a paper delivered orally, without slides or handouts, would not to be a printed publication, but noted that a paper presented at a conference and distributed, upon request, to as few as six people without any restrictions had been found to be a printed publication.

We saw that a single copy of a doctoral dissertation in one university library can be sufficiently accessible to those interested in the art to constitute a printed publication. But the fact that a graduate student’s thesis, which was unofficially available in a university library before being shelved, was accessible to three members of the student’s graduate committee was not sufficient to qualify the thesis as a printed publication because the thesis could have been located only by someone having been informed of its existence by the graduate committee, and not by means of the customary research aids available in the library. Similarly, three theses in a chemistry department library did not count as printed publications because they were not catalogued or indexed in any meaningful way, but rather were simply listed on three cards, among 447 other cards, filed alphabetically by author in a shoebox.

We also saw that a newsgroup post could count as a printed publication, but a report available via hyperlink on a personal webpage had been found not to be a printed publication because there was insufficient evidence that the interested public would have been able to locate it.

Patents and printed publications are not the only types of prior art that can render subject matter unpatentable, as we will see in future columns.

* 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.

Chair's Message



This summer has been unusually hot and California was hit by more wild fires. I recently went camping with my family in Sequoia National Park. We had opportunities to feel large scale chemistry reactions in nature – wild fire marks/sequoia survival and formation of Crystal Cave.

In May, our section had a great Chemistry Olympiad Award dinner. Three chemists talked about their interesting work in chemical fields. I wish to acknowledge and express my thanks to Paulette Sanchez (Criminalist II, Scientific Investigations Division, San Bernardino County Sheriff Department), Emily Viggers (New Product Development Engineer, Johnson and Johnson), and Larry Chrystal (retired Laboratory Director, Babcock Laboratories). We also learned three award winners will attend Caltech, UC Berkeley, and UC San Diego and further study chemistry.

I am happy to take this opportunity to share several exciting news in our section:

- Professor Richard Schrock, a Nobel Prize-winning chemist and UC Riverside alumnus, will join the faculty in UCR in September 2018.
- Provost and Executive Vice Chancellor Cynthia K. Larive is the recipient of the 2018 Award for Distinguished Service in the Advancement of Analytical Chemistry.
- Pomona native Victor Glover, a Navy commander, aviator and test pilot, will be taking his first spaceflight as a Crew Dragon First Mission astronaut.

Welcome Professor Schrock to join our section and congratulations to Cynthia and Victor!

(Continued on Page 12)

San Gorgonio Section

Chair's Message (Continued from Page 11)

Below are several important up-coming events:

- Senior Chemistry Meeting, October 20 at Eddie's Italian Eatery in Claremont
- National Chemistry Week, October 21-27
- ACS Nano Western Regional Meeting, October 27 at Caltech

Please mark your calendar and register in time. We will update these events on our social media sites.

- LinkedIn Group: <https://www.linkedin.com/groups/13509132>
- Facebook Page: <https://www.facebook.com/SGSACS/>
- Facebook Group: <https://www.facebook.com/groups/306580863196707/>

If you have any ideas or would like to volunteer in our section, please feel free to contact me (cell: 515-306-6855, email: bruce@acbscitech.com).

- Bruce Liu, Chair

INDEX TO ADVERTISERS

American Research & Testing ___9

Mass-Vac, Inc. _____ ifc

Micron Inc. _____6

Spectrum Chemical _____13

Please support our Advertisers!
They support us!



In stock in Gardena, CA



Spectrum has your lab covered

- Chemicals
- Laboratory Equipment & Supplies
- Glassware & Plasticware
- Gloves & More!

spectrum®
CHEMICAL MFG CORP
Trusted Since 1971

800.772.8786
SpectrumChemical.com



**SOUTHERN CALIFORNIA SECTION
AMERICAN CHEMICAL SOCIETY**

14934 S. FIGUEROA STREET
GARDENA, CA 90248

***IMPORTANT
Do Not Delay!***

Contains Dated Meeting Announcement

PERIODICAL

Bi-Section Chemists' Calendar

For more information on these events, please check our website at
www.scalacs.org

September

15 SC 50/60/70/75 Year Member Luncheon—see page 3

October

20 SG Senior Chemistry Meeting at Eddies Italian Eatery—see page 12

27 **Nano Western Regional Meeting at Caltech hosted by SC and
CALPACS—see page 5**

21-27 National Chemistry Week Theme: "Chemistry is Out of This
World!"