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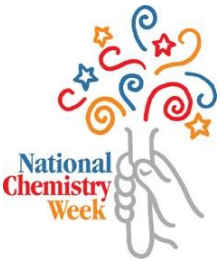
SCALACS

October 2015

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

Southern California Section Meetings



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ACS Chemistry for Life™

SCALACS

A Joint Publication of the
Southern **Cal**ifornia and San Gorgonio Sections of the
American **C**hemical **S**ociety

Volume LXX October 2015 Number 6

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Chair's Message

October is one of my favorite months. As a child I was always very excited by Halloween and now I enjoy seeing this excitement in my child. Furthermore, as a chemist, we get to celebrate our love for chemistry with National Chemistry Week (October 18-24). As I mentioned in my last letter the theme this year is "Chemistry Colors Our World." In planning for this week, I have contemplated this idea of color.

Color plays a vitally important role in the world in which we live. Different colors exist in nature and can evoke different emotions. In chemistry color is used in many different ways. So during this week I ask that you share your love for chemistry by doing outreach in your community, giving a lecture at a local Community College, or posting on our Southern California Section of the American Chemical Society Facebook page about how you use color in your chemistry. If you are planning to do outreach, the ACS website has great ideas; here is the link: (http://www.acs.org/content/dam/acsorg/education/outreach/ncw/celebratingchemistry/ncw-2015-celebrating-chemistry.pdf).

Also this month to celebrate National Chemistry Week, we have arranged a special tour at the Norton Simon Museum of their astounding exhibit: A Revolution of the Palette: The First Synthetic Blues and their Impact on French Artists. At the conclusion of the tour we will get our stickers for a special lecture on the nomenclature of color. If you are interested please see page 3 for more details and to reserve your spot quickly as the tour is limited to 25 people. Hope to see you all there.

A few other events: we will be hosting NCW outreach at the California Science Center. Please contact Dr. Henry Abrash at abrash8@aol.com if you would like to volunteer. We also have a special presentation at the California Institute of Technology by Eric Parker on October 29th. Please see page 4 for more details. I encourage you all attend and especially invite our student associates to come to this event.

Best-
Veronica Jaramillo
vijaramillo@pasadena.edu

Private Tour and Talk at the Norton Simon Museum of Art 411 W. Colorado Blvd., Pasadena, CA 91105

Saturday, October 17, 2015
Tour 1:30-3:00 pm
Talk 4:00-5:00 pm

"The Shade of Things: Color Dictionaries over the Centuries"
Daniel Lewis, Dibner Senior Curator, Huntington Library

In honor of the National Chemistry Week theme of "Chemistry Colors Our World", we are pleased to arrange a private tour of the Norton Simon and their Special Exhibit, "A Revolution of the Palette: The First Synthetic Blues and their Impact on French Artists".

Abstract of the Exhibit: The accidental discovery of Prussian blue in an alchemist's laboratory around 1704 helped to open up new possibilities for artistic expression at the dawn of the Enlightenment. *A Revolution of the Palette* explores the use of this pigment, followed by the introduction of cobalt blue and synthetic ultramarine, by French artists from the Rococo period to the threshold of Impressionism.

Abstract of the Talk: Color dictionaries and the nomenclature of colors, especially in the 19th and 20th centuries, provide an arresting view of the ways in which people have tried to quantify a very slippery concept—the name and exact shade of a specific color. What was the logic behind these color choices and these names? As revealed in the lecture, many of the terms used for colors are in wide use today, but their origins are obscure—and many of them came from color dictionaries, for a strikingly wide variety of reasons.

Cost: $20 includes admission to the museum plus the tour and talk. The tour is **limited to 25 people on a first-come, first-served basis.** Please RSVP to Nancy Paradiso at office@scalacs.org by October 9th. **After the tour concludes at 3:00 pm, please pick up your sticker for the talk at the Main Entrance Gallery**.

More information about the exhibit, the speaker and directions to the museum are available at: http://www.nortonsimon.org/. Parking is free.

Pizza Night at Caltech!

Thursday, October 29th, 2015
7:00 p.m.

California Institute of Technology, Building Noyes 47
1200 East California Boulevard, Pasadena CA 91125

"Spark of Life: The Miller-Urey Experiment and how Old Miller Samples Continue to Provide New Insights into the Origin of Life"
Eric Parker, Georgia Tech

Abstract: The nature of the origins of life is one of the most intrinsically fascinating scientific questions remaining. In 1871 Charles Darwin envisioned a "warm little pond" where organic compounds important for life may have originated. Later, researchers in the 1920s proposed the concept of a "primordial soup", describing primitive terrestrial oceans that contained organic compounds that may have facilitated chemical evolution. However, these two early hypotheses were not supported by experimental evidence until 1953 when Stanley Miller reported the formation of the building blocks of life using simulated primordial Earth conditions. Miller's ground-breaking study used a custom-built glass apparatus to mimic the atmosphere-ocean system of the early Earth and produced amino acids by sparking a mixture of water, ammonia, methane, and hydrogen.

This talk will revisit Miller's classic experiment, highlight the recent discovery of archived Miller samples that were previously unreported, and their analyses using state-of-the-art techniques, and discuss how his old work has provided new insights into prebiotic chemistry. Miller's pioneering work ushered in the era of experimental studies on, and brought legitimacy to, origin of life research. After more than six decades, Miller's work continues to push forward the origins of life research field.

Biography: Eric Parker is a Ph.D. candidate in the School of Chemistry and Biochemistry at Georgia Tech, where he conducts early Earth and origin of life research within the Center for Chemical Evolution. He earned a B.S. in Environmental Chemistry from UC San Diego and a M.S. in Earth System Science from UC Irvine. Eric's research background also includes such topics as waste water treatment, the search for life on Mars, and atmospheric chemistry.

Cost: Pizza and soda are available for $5 per person. Please RSVP to Nancy Paradiso at office@scalacs.org by Monday, October 26th so we know how many people to plan for.

Directions: Directions and parking information are available at http://www.caltech.edu/content/directions. Parking is free in any of the lots or structures on Wilson Ave after 5pm. Street parking is also available then.

National Chemistry Week Activities

Saturday, October 31st and Sunday, November 1st, 2015 National Chemistry Week Activities at the California Science Center, 700 Exposition Park Drive, Los Angeles, CA 90037. **The 2015 theme is: "Chemistry Colors Our World".** Join volunteers for NCW activities. For more information, or if you would like to volunteer, please contact Henry Abrash at: abrash8@aol.com.

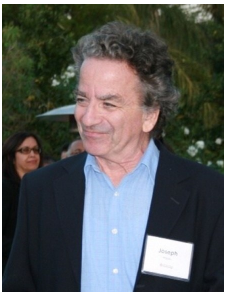
National Chemistry Week Illustrated Poem Contest

As part of upcoming National Chemistry Week activities, the American Chemical Society is sponsoring an illustrated poem contest for students in Kindergarten - 12th grade. Entries will be judged at the local section level and then advance to the National contest for a chance at prizes there.

All poems must be no more than 40 words, and in one of the following styles to be considered: Haiku, limerick, ode, ABC poem, free verse, end rhyme or blank verse. Entries are judged based upon relevance and incorporation of the NCW theme (Chemistry Colors our World), word choice and imagery, colorful artwork, adherence to poem style, originality and creativity, and overall presentation.

All entries must be original works without aid from others. Each poem must be submitted and illustrated on an unlined sheet of paper (of any type) not larger than 11" x 14". The illustration must be created by hand using crayons, watercolors, other types of paint, colored pencils, or markers. The text of the poem should be easy to read and may be printed with a computer, before the hand-drawn illustration is added, or the poem may be written on lined paper which is cut out and pasted onto the unlined paper with the illustration. Only one entry per student will be accepted.

The deadline for entries is **October 30, 2015**. Please mail entries to: SCALACS, 14934 S. Figueroa Street, Gardena, CA 90248 or email to office@scalacs.org. Winners will receive a $25 prize. For more information, contact the Section office at office@scalacs.org.



In Memoriam
Dr. Joseph Hajdu

Dr. Joseph Hajdu, Professor of Chemistry at California Sate University Northridge, passed away on September 3, 2015.

Dr. Hajdu was born in in 1941 in Budapest, Hungary and immigrated to Israel with his family in 1956. He earned his B.Sc. Chemistry and M.Sc. Biochemistry degrees from Hebrew University, Jerusalem in 1965 and 1967, respectively, and received his Ph.D. in Physical Organic Chemistry from the State University of New York, Stony Brook. After a postdoctoral appointment in Bio-organic Chemistry at the University of California, Los Angeles from 1973 to 1976, Dr. Hajdu began his academic career at Boston College as an Assistant Professor. In 1984, Dr. Hajdu joined the faculty in the Department of Chemistry (now the Department of Chemistry and Biochemistry) at California State University, Northridge where he passionately taught, researched, and published.

Dr. Hajdu's research interests included the catalytic details of lipolytic enzymes particularly that of phospholipase A2, total synthesis of antitumor-active ether phosopholipid derivatives, and the mechanistic investigation of metal complex activity in streptonigrin. A memorial service will be held for Dr. Hajdu on October 7, 2015 at 5:30 P.M. at the Orange Grove Bistro on the California State University, Northridge campus.

Don't forget to make your plans to attend the ACS 45th Western Regional Meeting (WRM2015) November 6-8, 2015

The Orange County Section is hosting the 45th Western Regional Meeting on the campus of the California State University, San Marcos campus which is located in North San Diego County. Please visit http://www.acswrm/org/ for information on submitting abstracts, becoming an exhibitor or sponsor, or to register for hotels.

Insights Into IP Law

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

In response to a reader question, the last edition of this column began addressing what constitutes patent eligible subject matter, using Section 101 of the Patent Act as the starting point. As a general matter, laws of nature, natural phenomena, and abstract ideas cannot be patented. Thus, the Supreme Court has written, a new mineral discovered in the earth or a new plant found in the wild is not itself patentable. Albert Einstein, it is explained, could not patent his celebrated law of $E = mc^2$, and Isaac Newton could not have patented the law of gravity. Such discoveries, the Court points out, are described as manifestations of nature, free to all men and reserved exclusively to none.

But an invention is not unpatentable simply because it contains a law of nature. The application of a law of nature or mathematical formula, such as a novel and useful structure created with the aid of knowledge of scientific truth, may be patentable.

Still, an inventor must do more than simply state the law of nature and add the words "apply it". A patentable idea cannot be so abstract. Thus, when Samuel Morse, an inventor of a telegraph system, sought to patent the use of the motive power of the electric or galvanic current, however developed, for making or printing intelligible characters, letters, or signs, at any distances, the Supreme Court in 1853 concluded that such subject matter is unpatentable. The Court explained: "For aught that we now know some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff's [Morse's] specification." The Court noted that the future inventor's invention may be less complicated, more robust, and less expensive in its construction and operation, "[b]ut yet if it is covered by this patent the inventor could not use it, nor the public have the benefit of it without the permission of this patentee."

In a more recent case, the Supreme Court found that a mathematical process for converting binary-coded decimal numerals into pure binary numbers on a general purpose digital computer was not patentable, explaining that the subject matter was "so abstract and sweeping as to cover both known and unknown uses" of the formula. More on patentable subject matter next month. Feel free to email me with topics for the future.

* 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

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

When you next walk into your/any chemical laboratory, give a thought to how it came to look that way. I don't mean the clutter on the benches and in the hoods, the overflowing waste baskets, the careless disarray of papers and notebooks! I mean the design, the basic layout, the "bones" of the laboratory space. I have just been reading a marvelous new book entitled "The Matter Factory" by Peter T. J. Morris (Reaktion Books, London, 2015 - in association with the Science Museum, London). The author is Keeper of Research Projects at the Science Museum, London, and is an authority on the history of science. His new book is, I believe, the first book-length examination of the history of the chemical laboratory.

Morris uses exemplary laboratories from the 1590s to the 2000s as pegs on which to hang his story of laboratory development. To quote from his Introduction: "As a historian and curator I believe that the history of chemistry has to be more than just the history of chemical theories; it has to include the history of chemical practice and chemical culture." The prototypes of the chemical laboratory are reflected in a reconstruction of an alchemical laboratory based on contemporary documentation of the sixteenth century at Schloss Weikersheim in Germany. This laboratory of Wolfgang von Hohenlohe looks quite different from the engravings and paintings of alchemical laboratories of the sixteenth and seventeenth centuries. Those works of art, Morris argues, were mostly propaganda from the opponents of alchemy. Comparing them with illustrations in the metallurgical handbooks of Agricola and Ercker indicates how artists exaggerated the clutter and confusion of the alleged alchemical laboratories. The correct picture was probably a good deal more orderly.

We know a lot about the laboratory of Antoine Lavoisier in the 1780s from the detailed pictures drawn by Madame Lavoisier to illustrate her husband's articles and books. Lavoisier was a wealthy member of the French upper classes, though not a

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This Month in Chemical History

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nobleman. He engaged in chemistry because it was his passion, and he could afford to purchase and have built some of the best chemical apparatus and instruments available in his day. His stress on quantitative measurement led him to order the best available balances. After Lavoisier's arrest, during the reign of terror after the French Revolution, his equipment was confiscated by the Republic. After his execution the persistent and effective representations of his widow eventually led to the restoration of most of Lavoisier's personal belongings to her. You can see a reconstruction of Lavoisier's laboratory with much original equipment in Paris at the Musee des Arts et Metiers.

One of the strongest features of this book is the excellent collection of over 130 illustrations of laboratories through the ages. In an upcoming column I will be saying more about this instructive monograph.

San Gorgonio Section

Chair's Message

Looking for an Opportunity to Share Your Love of Chemistry?

Now that I have your attention, I would like to share some of the exciting and meaningful activities that the San Gorgonio Section held this year.

US National Chemistry Olympiad: 300 high school students from 14 schools participated in the local competition. Ten students advanced to the National competition.

Recognitions: 50-year and 60-year ACS members were honored for their service; 18 high school students were recognized for outstanding achievement; 5 high school students were awarded scholarships.

Project SEED: Two high school students spent their summer working in university research labs.

National Chemistry Week: Section chemists and chemistry students shared hands-on experiences with over 400 members of the community at four locations.

Local Section operations and activities are carried out by volunteers. In order to continue activities such as those listed above, the San Gorgonio Section is in need of help! Any level of support is appreciated; from volunteering to help with a single event to running for an elected position. An added benefit is the opportunity to meet and work with some amazing, enthusiastic people!

Elected Positions Available for 2016 (Election in November):

Chair Elect – three years (one year as Chair Elect, one year as Chair, one year as Past Chair)
Secretary –serves for two years.
Alternate Councilor – serves for three years.

Committee Positions:
Program Committee – organizes meetings, including selecting speakers and venues.
Education Committee –organizes the Chemistry Olympiad and Annual Awards Banquet.
Website Coordinator – updates and posts information on the Section website.

I strongly encourage Section members to experience the satisfaction I have received from volunteering for our Local Section these last several years. If you would like the chance to share your love of chemistry, please contact Eileen DiMauro (edimauro@mtsac.edu).

- Eileen DiMauro, Chair

San Gorgonio Section October Luncheon Meeting Saturday, Oct. 31, 2015

Recognition of 50-Year and 60-Year ACS Members College and University Chemistry Clubs

Pine Haven Café and Catering

1191 E. Foothill Blvd.
Upland, CA 91786

Check-in and Social: 11:30 am
Luncheon: 12:00 pm
Program: 12:30 pm

This gathering showcases American Chemical Society members with the longest and shortest tenures in the organization. The San Gorgonio Section currently has fifty-one chemists with fifty or more years of ACS membership. This year, six Section members have achieved the major milestones of 50 years or 60 years of ACS membership. Please join us in celebrating these remarkable accomplishments!

60 Year Members	**50 Year Members**
Dr. Alvin Lester Beilby	Mr. Oscar Paul Hellrich
Dr. Donald T. Sawyer	Dr. Michael Francis Rettig
Dr. Alfred Celiano	Dr. George Gutnikov

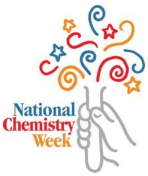
At the other end of the spectrum, many newer members of ACS have taken advantage of undergraduate and graduate student plans, sometimes through Student ACS clubs. We have invited representatives from Section college and university Chemistry Clubs to share their activities. Please help us welcome our newer members!

This is the perfect gathering to share information and experiences. Speed networking will be used to maximize interactions. Information will available for anyone interested in starting a club, whether for students or more seasoned chemists.

Lunch: served buffet style. Caesar Salad with Homemade Croutons and Parmesan Cheese; Smothered Italian Style Grilled Chicken with Mushrooms, Peppers, and Onions; Pasta with Marinara Sauce; Seasonal Vegetables; Rolls and Butter; and Chef's Specialty Dessert. Coffee, Iced tea, Soda, and water are included. Wine and beer are available for purchase.

San Gorgonio Section

The Mt. San Antonio College Chemistry Department
Invites you to



A FAMILY SCIENCE FESTIVAL
Celebrating

SATURDAY, November 14, 2015
10:00am- 2:00pm
At
Mount San Antonio College, Natural Science Complex (Bldg. 7, 60, 61)
1100 N. Grand Avenue
Walnut, CA 91789

Science activities, games and crafts for children & adults
Hands-on Experiments
Chemistry Demonstrations
Meek Animal Collection
Fossil and Mineral Exhibits

Cost: Free public event

Parking: Park in Lot D. Purchase a daily permit ($4) from the dispenser.

Directions: For directions and a map, visit: http://www.mtsac.edu/about/location.html

Questions: Contact Jenny Leung, jleung@mtsac.edu, 909-274-6311

Sponsored by Mt. SAC Chemistry Department, Mt. SAC Chemistry Club, Association of Pre-Pharmacy Learners and Educators (APPLE) Club, and the San Gorgonio Section of the American Chemical Society.

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Luncheon Meeting (Continued from Page 11)

Cost and Reservations: The cost (meal, tax and tip**)** is $20.00 members, $25.00 non-members, $15 seniors and retirees, $10 students, free for ACS members receiving their 50-year and 60-year certificates. Cash or checks only please, at the door. Please make your reservations no later than **Saturday, October 24 by 12:00 noon** by contacting Eileen DiMauro (edimauro@mtsac.edu) or Dennis Pederson (dpedersn@csusb.edu). Include your contact information (phone number and email address) and names of persons attending. Please be certain to honor your reservation.

Directions: Pine Haven Cafe and Catering can be accessed from either the 210 or the 10 Freeway.
From the 10 Freeway: Exit Euclid Ave., Exit #51. Go north to Foothill Blvd., turn right (East). Café is on the left (~1 mile).
From the 210 Freeway: Exit on Campus Ave. Exit #56 Go south, turn left on to N. Campus Ave., turn left on to Foothill Blvd. Café is on the left (~1 mile). **Parking is free in the adjoining parking lot.**

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

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