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SCALACS

March 2017

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

Southern California Section



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Restaurant
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Chair's Message

Greetings!



We're excited to share with you some of the events we are planning. The 2017 theme for National Chemistry Week is "Chemistry Rocks." It is also the 30th anniversary of NCW! To celebrate this anniversary we have launched our "Chemistry Rocks" series with a new and exciting event every two months culminating with our NCW gala event in October. The series kicked off on February 17th at the Natural History Museum of Los Angeles County with a tour of the Gem and Mineral Hall led by curator Alyssa Morgan. The next installment of the series will be on April 30th with a visit to the UCLA Meteorite Gallery (the largest collection on the West Coast) featuring a tour and an out of this world talk about the geochemistry of these fantastic objects from space. Please join us!

This month, our section's Women Chemists Committee led by Veronica Jaramillo will be celebrating Women's History Month with a private visit to the factory of the *chocolatier* MAST in downtown Los Angeles on Friday **March 24th**. Make sure to sign-on soon, as spaces are limited! Also on **March 7th**, we have another brewery tour set up by Heather Mott, our social media guru. We hope to see you there!

Then on **April 2nd–6th**, we will be celebrating the National Meeting in San Francisco: Advanced Materials, Technologies, Systems & Processes... hope to see you there! Later on Saturday, **April 22nd**, SCALACS will be celebrating Earth Day by joining the Los Angeles March for Science, in which scientists will gather to voice support of publicly funded research and opposition to policies that would hinder the dissemination of scientific findings. Henry Abrash will also be leading Chemists Celebrate Earth Day activities at the California Science Center. Please visit our website at www.scalacs.org and look for email announcements for more information.

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Southern California Section



Beer Chemistry – Brewery Tour Meetup

**March 7, 2017
5:30 pm—9:00 pm**

Firestone Walker Restaurant and Brewery

3205 Washington Blvd.
Marina de Rey, CA 90292
310-439-8264

Join us at the Venice Beach Firestone Walker restaurant and brewery. The tour will start promptly at 6:00 p.m., so please arrive early! Learn a little about beer, the chemistry behind it, tour the brew house, and network with fellow Los Angeles based chemists! This event is open to members, students, and significant others. Food and drinks are available for purchase. You can see the menu on their website: www.firestonebeer.com - choose the Venice location.

Please RSVP to Nancy in the Section Office at office@scalacs.org by Wednesday, March 1st.

Chair's Message (Continued from Page 2)

We are also working on creating a master list of experts in different areas of the chemical sciences which we can use to refer the community to when in search of a speaker, a mentor, etc. We continue to work in other activities and events... please reach out if you have any ideas and/or suggestions for us to bring the SCALCS community closer!

- Armando Rivera, Chair
- Bob de Groot, Chair Elect

Southern California Section



The Women Chemists Committee Presents

A Private Tour and Tasting of the Chocolate Factory at

MAST Los Angeles

816 S. Santa Fe Avenue
Los Angeles, CA 90021

**Friday, March 24, 2017
3:00 p.m.**

The Southern California Section Women Chemists Committee has arranged a tour of MAST, a chocolate factory in Los Angeles. The tour includes tastings! We will also include a pamphlet with chemistry facts about chocolate.

RSVP: The cost is \$10 per person. The tour is limited to 24 people, based on first-come, first-served basis. Please email Nancy Paradiso in the Section Office at office@scalacs.org to attend by March 17th.

Undergraduate Research Conference

The 2017 Undergraduate Research Conference in Chemistry and Biochemistry will be held at the **University of California, Los Angeles on Saturday, April 29, 2017**. The Second Call for Abstracts will be on March 8th and the deadline for submissions of abstracts is **Friday, March 31, 2017**. For more information, please visit the conference website <http://www.chemistry.ucla.edu/southern-california-undergraduate-research-conference-scurc> or contact Prof. Tom Calhoun at tcahoun@chem.ucla.edu.

Southern California Section



Expanding Your Horizons Conference

Saturday, March 11, 2017
8:45 am — 2:30 pm

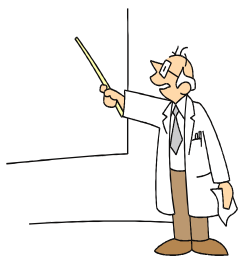
Mount Saint Mary's University Chalon Campus

12001 Chalon Road
Los Angeles, CA 90049

Expanding Your Horizons is a career day organized by the Math/Science Interchange that is intended to inform young women about careers in math- and science-related fields. The conference is for girls in grades 5-8. Girls participate in hands-on workshops such as dissecting pig hearts, isolating DNA, and making colors with chemistry. There are also workshops for parents, teachers and counselors about making math and science a career option for girls.

There is a \$15 fee for each participant to cover lunch and materials. Note that only paid registered participants may attend the conference. Registration is open now. Please register online at www.expandingyourhorizonsla.org. Please note that there is no on-site registration.

We are in need of volunteers to help with the conference. Since this is a conference for girls, women volunteers to help out for the day are very welcome. **If you would like to volunteer, please contact Dr. Eleanor Siebert at esiebert@msmu.edu.**



High School Olympiad

The Southern California Section of the American Chemical Society has been offering the Chemistry Contest since 1914, at which time Nordhoff High School was the top scoring school. It became the High School Chemistry Olympiad in 1968 when National ACS began sponsoring it. In 2008, the Section won a National award for 25 years of continuous support of the Chemistry Olympiad. In 2014, we celebrated 100 years of offering the High School Contest. The Southern California Section has the longest running contest in American Chemical Society history.

This year, the Southern California Section will hold the High School Chemistry Olympiad on **March 22nd and 23rd, 2017** at over 35 schools in the Los Angeles area. The test is designed to test a student's knowledge of a wide variety of topics in chemistry. If you know of a school or student that would like to participate, please direct them to our website, www.scalacs.org/?page_id=236 to download the letter and participation form. We now offer the option to pay with a credit card online. The top scorers on the local exam are nominated to compete in the National Exam which will take place on **April 22nd, 2017**. The top 20 national winners are invited to attend an all expense paid two-week study camp at the U. S. Air Force Academy in Colorado Springs, Colorado. The top four finalists are then selected to represent the United States at the International Chemistry Olympiad which will be held in Nakhon Pathom, Thailand in July.

We will recognize the top local students at our Educational Awards Banquet to be held on **May 19th, 2017** with monetary awards and certificates. The Banquet will take place at the Mount Saint Mary's University Doheny campus. For more information, please contact Dr. Jerry Delker at delker@earthlink.net or Nancy Paradiso in the Section Office at office@scalacs.org.



Insights Into IP Law

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

In patent law, the term “prior art” essentially describes the 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 transition from a first-to-invent to a first-to-file patent system in the United States changed the definition of “prior art” for certain U.S. patent applications and issued patents. Before exploring the new definition of “prior art,” it is helpful to understand when that new definition applies.

The new definition of prior art applies to any patent application that contains—or contained at any time—a claim to an invention having an effective filing date on or after March 16, 2013. What is the effective filing date? It is basically the filing date of the patent application in which the claim appears, or, if that application properly declares priority to one or more earlier patent applications, the earliest of those applications in which the claimed invention is described.

Sometimes long chains of applications precede the issuance of a patent. After a first patent application is filed, the applicants can file a related patent application called a “continuing” application. If the “continuing” application has all of the same substantive disclosure as the original application, then it is called a “continuation” and it is effectively treated as if it were filed on the same day as the original application.

A “continuing” application may include all of the substantive disclosure of the original application plus new subject matter that was not found in the original application. In that case, the “continuing” application is called a “continuation-in-part” (abbreviated CIP) and only the parts of the disclosure that overlap with the original application are treated as if they were filed as of the date of the original application. The new subject matter in the application is deemed filed as of the filing date of the CIP.

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Insights Into IP Law

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Patent applicants can file continuations of continuations of an original application, for example. Or they can file CIPs of CIPs of an original application, or any other combination of continuing applications—including continuations of CIPs of continuations of an original application, and so on. The effective filing date of a claimed invention in a continuation application that is part of a series of only continuation applications is generally the filing date of the original application. The effective filing date of a claimed invention that was first disclosed in a CIP application is generally the filing date of that CIP application. Stay tuned for more on prior art, including a discussion of other applications to which the new definition of prior art applies, in the next edition of this column.

* 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.

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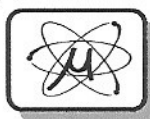
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This Month in Chemical History

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

In this column and the next I will look at the careers of two extraordinary women who made fundamental contributions to our understanding of surface chemistry. This month I focus on Agnes Pockels, a self-taught German experimenter, whose work was resoundingly supported and publicized by Lord Rayleigh (John William Strutt). In this column I have drawn heavily from an article “Agnes Pockels: Life, Letters and Papers” by Christiane A. Helm, available on the Internet.

Ms. Pockels was born in Venice in February 1862. Her father was an officer in the Austrian army but was invalided out when Agnes was nine and the family relocated to Brunswick in Germany. Agnes attended the local high school for girls but the curriculum was light on science and included only two natural science classes a week in the final two years. As Agnes later wrote “ I had a passionate interest in natural science, especially physics, and would have liked to study.” Instead she had to stay at home to care for two sick parents. Her younger brother Fritz was not similarly burdened and majored in physics and mathematics at the Brunswick Technical University. Together Agnes and Fritz began to undertake scientific observations – in the kitchen! As a descendant later wrote “ ... what millions of women see every day without pleasure and are anxious to get rid of, i.e. the greasy washing-up water, encouraged this girl to make observations and eventually ... do scientific investigations.”

In England in 1890 Rayleigh published some observations on the influence of films of oil or grease on the surface tension of water. He speculated that such films can extend until they are only one molecule thick. Rayleigh's papers came to Agnes' attention through a report in a popular science journal to which her brother subscribed. She decided to write to Rayleigh describing her own work. “My lord ...having heard of the fruitful researches carried on by you on the hitherto little-understood properties of water surfaces ..it might interest you to know of my own observations...”
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This Month in Chemical History

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For various reasons [namely that she was a woman, and had no formal academic qualifications HG] I am not in a position to publish them..." Rayleigh had a translation of the letter published in the journal *Nature* fully supporting Pockels' work and her suggestions for further study.

Pockels had invented a novel piece of equipment for her experiments: a trough (very similar to one used later by Irving Langmuir) that had an adjustable barrier to vary the surface area, and a ring balance to measure surface tension. In 1891 *Nature* published her article "Surface Tension" which summarized ten years of her research. She drew over 10 major conclusions from her observations; I have room for only a couple. "I. The surface tension of a "contaminated" water surface varies if the surface is compressed or expanded. On compression the surface tension decreases up to a factor of two. On expansion it increases until a maximum value is reached, then remains constant." "VI. All solid bodies, no matter how clean, contaminate a water surface that is in normal state."

From the late 1870s until 1914 members of the Pockels family were often ill, sometimes gravely, and much of Agnes' time was spent in nursing duties. After 1902 she carried out very few experiments, though she continued to translate articles and contribute notes to a publication that her brother (now a Professor of Physics at Heidelberg) edited. She did do some original work on contact angles and fluid flow. Her brother died in 1913, and her avenue for publication was consequently lost. Her own health was also deteriorating. She led a quiet life in Brunswick; became known as "Auntie Agnes"; and her scientific work was almost forgotten. Almost – but not quite. In 1931 she was awarded the annual Laura-R.-Leonard prize of the German Colloid Society. To quote Ostwald: "She taught us not only cleanness in our work, she also taught us how to measure it." In the prize listing among the bevy of distinguished previous chemists and physicists who had won before her (including Pauli, Zsigmondy, and Liesegang) she is simply described as Agnes Pockels, Housewife. She died in 1935.



Chair's Message

March brings several things to mind. For our Section as well as for many others in the country March marks the beginning of the annual Chemistry Olympiad. Again this year we have a goal of increasing the number of high schools that participate. Information concerning the San Gorgonio Chemistry Olympiad can be found elsewhere in this issue.

March is also the month of the Vernal Equinox (First Day of Spring) and I think of being in the garden and as a retired biochemistry professor, of a couple of very interesting aspects of plant biochemistry. I like to start many plants from seed and as the new sprouts appear I am reminded of what I often told my biochemistry students "plants can turn fat into sugar or sugar into fat, but we can only do the latter". This is crucial during germination as the stored lipids are converted to carbohydrate to produce biomass until photosynthesis becomes possible. The second aspect relates to one problem faced by all gardeners, that of weeds. Some of these, termed C4 plants, such as nut grass, crabgrass, and pigweed along with some more useful plants such as corn and sugar cane, are able to make carbohydrate from carbon dioxide more effectively than most other, termed C3, plants. C4 plants are very efficient in hot, dry climates as those of us who garden in Southern California and battle these weeds can attest. I wanted to share this with you as additional examples that can be used to demonstrate the role of chemistry in our lives.

Now looking forward, April will be particularly busy with three events on tap. First will be the annual Goldstein Lecture at Cal. Poly Pomona scheduled for **April 7th**. Second is the second round of the Chemistry Olympiad scheduled for **April 22**, and third will be a dinner meeting with a focus on psychiatry and chemistry the last week of the month. April will be an exciting month for the San Gorgonio Section, so watch for the April SCALACS as well as your email for further details.

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San Gorgonio Section

High School Olympiad

It is the responsibility of the San Gorgonio local section to nominate ten students from our area to take part in the National Chemistry Olympiad exam. This exam is tentatively scheduled to take place at Riverside City College on **Saturday, April 22, 2017**.

In order to identify these ten students, we will conduct a local section exam during the week of **March 13-18**. Schools who register five or more students may choose to administer the exam on their campus. **The exam will also be available at Mt. San Antonio College on Saturday, March 18, 2017** for students who are not able to take the exam at their school. The results of this exam will also be used to select five students who will receive San Gorgonio Section scholarships of up to \$1000 that can be used when they enter college. Registration forms have been sent to all area high schools and are also available at our website <http://www.sangorgonio.sites.acs.org>.

Students who are selected as participants in the U. S. National Chemistry Olympiad and as San Gorgonio Section scholarship winners will be honored at an awards banquet in May, along with their teachers. The student from each participating school who attains the highest score on the local section exam together with his or her teacher will also be honored.

Chair's Message (Continued from Page 11)

As usual I continue to welcome suggestions of possible topics for our meetings as well as suggestions for speakers. You can always contact me via e-mail at dpedersn@csusb.edu.

- Dennis Pederson, Chair

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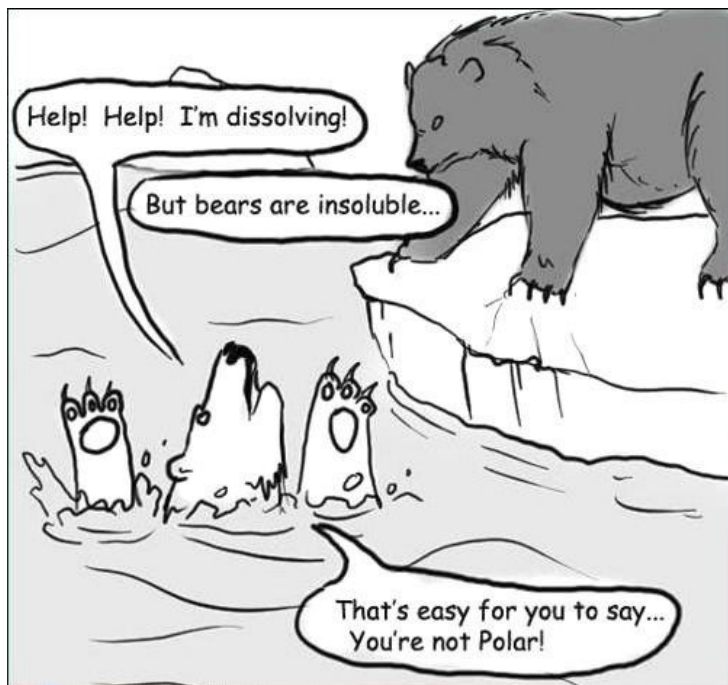
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PERIODICAL

Bi-Section Chemists' Calendar

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

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