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SCALACS

January/February 2021

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

Southern California Section



**Welcome Incoming Chair
Thomas Mathew**

See Page 2

**Online High School Olympiad Exam
March 27, 2021**

See Page 3

Mentoring Program for Title I Students

See Page 4

San Gorgonio Section



**Welcome Continuing Chair
Ralph Rigg**

See Page 7

High School Olympiad Exam

See Page 9

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**SOUTHERN CALIFORNIA
SECTION 2021 OFFICERS**

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Chair Elect: Ralf Haiges
Secretary/Treasurer: Barbara Belmont
Councilors: Brian Brady, Robert de Groot, Veronica Jaramillo, Alex Oxyzolou, Eleanor Siebert, Barbara Sitzman

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2021 OFFICERS**

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Chair-Elect: Jenifer Nalbandian
Secretary: David Srulovitch
Treasurer: Dennis Pederson
Councilors: Eileen DiMauro, Emily Viggers

TABLE OF CONTENTS

So. Cal. Chair's Message	2
So. Cal. Information	3-4
This Month in Chemical History	5
Insights Into IP Law	6
S. G. Chair's Message	7
Index to Advertisers	8
S. G. Meeting Notice	9
Chemists' Calendar	bc

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Southern California Section

Chair's Message



Greetings and welcome to the Year 2021. Our hearts go to the family and friends of all who lost their lives due to COVID-19 pandemic. We salute the heroes- the volunteers, healthcare professionals, scientists and public servants, whose hard work really made a difference in our struggle at this challenging time.

I am also very grateful to the executive committee and all of the officers who have served the section this past year, especially Dr. Brian Brady for his commitment and leadership as Chair of the year 2020, Secretary-Treasurer Ms. Barbara Belmont and Office Manager Ms. Nancy Paradiso, for their sincere dedication and hard work all these years. Congratulations to all newly elected officers and members of the executive committee.

Our section has always spearheaded many new events and activities during the previous years. In the coming years, as we continue these activities, we plan to identify and work with schools and colleges in our community, which need support in setting up programs to help achieve greater academic excellence. Also, section volunteers will take lead in various "Chemistry & Community" activities to make people aware of new scientific developments in various areas of Chemistry, especially in protecting the environment and our planet. These include meetings and seminars on new developments in sustainable "green" methods, regenerative and renewable fuels for the future, developments in diagnostics, therapeutics as well as preventives in the pharmaceutical arena as we are witnessing lately in the development of COVID-19 vaccine. This can be done through town hall meetings with the help of members in the respective area and participation of city and other local authorities.

Indeed, I really appreciate your support for our section all these years. The commitment and hard work of my fellow members in translating our goal into transforming people's lives through good chemistry make me more humble and determined. Please let me know if you have any new innovative ideas or vision for the coming years so that we can discuss and plan the events accordingly. You may also refer to the SCALACS website, www.scalacs.org, and monthly newsletter for our activities and opportunities in the upcoming months. I can be reached at tmathew@usc.edu. Looking forward to working with you soon.

Sincerely,
Thomas

Southern California Section

High School Chemistry Olympiad

Due to the Covid 19 pandemic, ACS will be hosting the local section High School Olympiad online again this year. National ACS is using the ACS Learning Center (hosted by Moodle) to host the Local Section Exam as well as Part I of the National Exam. **All students who intend to take the National Exam must be registered by February 1, 2021 in order to take the Local Section and National exams.** Interested students should have their teachers email the students' names, school and email addresses to Nancy Paradiso **by January 27, 2021** so we can register them with National ACS by February 1st. Details will be emailed to registered students.

The process will require students to enroll in a "course" in the ACS Learning Center. They will receive an enrollment key from us that will link them to our Section cohort. Students will login to the ACS Learning Center using the code. There will be a demographics survey and practice test to get used to the testing environment, and they will take the test online. Both the Local Section Exam and the National Exam will be proctored so students will need a web cam and a stable internet connection, as well as a smart phone, smart pad, lap top or desktop to participate. We need volunteers to help proctor the Local Section Exam. If you'd like to volunteer to proctor online, please email Nancy Paradiso at office@scalacs.org.

On January 6, 2021, ACS is offering a webinar for students entitled "How to Learn Chemistry". To register for this webinar, students should go to:

https://american-chemical-society.zoom.us/webinar/register/WN_aJRN8pjPQemAeyUD16iDLg

The Local Section exam will take place online on Saturday, March 27, 2021. The National Exam will be in two parts. There will not be a lab portion again this year. All the students who qualify from the Local Section Exam will take **Part I of the National Exam on Saturday, April 17, 2021.** **The top 200 students nationally will take Part II of the National Exam on Saturday, April 24, 2021.** Participating students for the National Study Camp will be notified by May 3, 2021. *(Continued on Page 4)*

Southern California Section

High School Olympiad (Continued from Page 3)

The good news is that we are not charging for the test this year. Because of that, we cannot offer cash prizes for our highest scoring students, but we will still recognize our top students with certificates at our Educational Awards Program in May.

If you have any questions, please email Nancy Paradiso at office@scalacs.org or Dr. Gerald Delker at delker@earthlink.net. We look forward to your schools participating again in our Local Section High School Olympiad.

Mentoring/Tutoring Program for Title I Students

The Southern California Section is forming a Committee to offer mentoring/tutoring to students in Title I schools that are interested in taking the ACS **High School Olympiad on March 27, 2021**. While this workshop will be geared to the High School Olympiad, the goal is to reach students who have an interest or aptitude for science and help it grow.

The first meeting will be held via Zoom on **Saturday, January 16th from 10:30 am - 12:30 pm**. The continuing Zoom meetings are planned for each succeeding Saturday until the Olympiad. They will focus on different areas of chemistry. Depending on interest, we will continue after that.

Please see the announcement on Page 3 with further details about the Olympiad. **If you have students interested in the Mentoring Program, please ask them to email Nancy Paradiso at office@scalacs.org by January 14, 2021 to RSVP.** The Zoom link will be sent to registered students.

If you have any questions about mentoring or tutoring (including to volunteer to tutor), please email Dr. Edye Udell at EUDell@westridge.org. We look forward to having your students take advantage of this special tutoring opportunity.



This Month in Chemical History

Harold Goldwhite, California State University,
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In my previous column I continued my “Great Books in Chemistry” series with an examination of 16th. Century works relating to mining and metallurgy that contained a good deal of early chemistry. The first publication that can really be called a textbook of chemistry is, in my opinion, “Alchemia” by Libavius.

Libavius (Libau) born in Saxony in 1540; died in Coburg in 1616; was the son of a weaver. He somehow gained entrance to the university at Jena where he earned an M.D. He became a teacher, including a stint as Professor of history and poetry (!) at Jena. For the rest of his career he alternated between medicine and teaching, developing an interest in chemistry. In his medical practice he used chemical medications including, following Paracelsus, potable gold. He gave credence to transmutation in his writings, but warned against fraudulent practices by pseudo-alchemists. The general tone of his writings, which were voluminous, is that of a careful academic.

“Alchemia” was published in 1597 at Frankfurt and is in Latin, the scholarly language at that time in Western Europe. It is a very long large-format lavishly illustrated book that must have been very expensive. Oddly enough it was printed on rather poor paper, in several parts, some of which are now extremely rare. Part I has plans for Libavius’ ideal chemical house that includes laboratories, a museum, a wine cellar (no doubt conducive to chemical thinking), and gardens.

As Partington, in Volume 2 of his “History of chemistry” states: “Libavius’ Alchemia is an excellent practical text-book ... a clear, concise and sensible style, entirely different from the rambling, bombastic, and obscure verbosity of Paracelsus or the alchemical authors.” Alchemy is carefully defined and generally supported, but without overly enthusiastic claims.

“Alchemia” includes some initial attempts at qualitative analysis especially of mineral waters. At the time they were widely used in medicine. Libavius shows that most natural mineral waters contain a variety of dissolved minerals including, depending on the source, common salt, nitre, vitriol, and alum. He does not distinguish between inorganic and organic compounds. There is a clear description of the preparation of nearly pure ethanol, vinum ardens, from wine or beer. When litharge (lead oxide) is dissolved in vinegar the crystalline sugar of lead is produced (so-called because lead acetate allegedly tastes sweet). (Safety note to readers: do NOT try this!) Heating lead acetate yields a “quintessence” – volatile and flammable (acetone).

Complete copies of this foundational textbook, “Alchemia”, are rare. I have never seen or held one. Authoritative sources denote it as the first real chemical text, and so it finds its place among the Great Books of Chemistry.



Insights Into IP Law

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

The previous installment of this column discussed how the on-sale bar doctrine bars patentability of an invention that the inventor sold more than a year before applying for a patent—even if the earlier sale did not disclose the details of the invention to the public—and queried whether the same rule might apply to a secret sale by someone else who came up with the same invention independently. There is precedent holding that the same rule does not apply.

The precedent traces back to an old opinion by a famous judge with a memorable name: Judge Learned Hand. Judge Hand wrote that where one person used a machine secretly and sold a product openly, the process implemented by the machine did not constitute prior art as against another person who conceived the invention independently.

More recently, there was a case involving a patent to processes for stretching highly crystalline, un-sintered, polytetrafluoroethylene (PTFE). Conventional wisdom had taught that breakage during stretching could be avoided by slowing the stretch rate or by decreasing the crystallinity. The inventor discovered that, to the contrary, stretching the PTFE very quickly enabled stretching to more than ten times the original length with no breakage. Several years before the inventor filed the patent application, another person developed and made a machine for stretching PTFE thread seal tape. The person sold the machine to a company under an agreement that required the company to keep the workings of the machine secret. The company told its employees that the machine was confidential and required them to sign confidentiality agreements. Although the machine was at one point shown to a third party, there was no evidence that a viewer of the machine could discern details of the implemented process. Nor was there evidence that the company's use of the machine made knowledge of the process accessible to the public.

The trial court invalidated the patent claims but the court of appeal reversed because there was no evidence that the public could learn the claimed process by examining the PTFE tape produced by the earlier-sold machine. The court emphasized that early public disclosure is the linchpin of the patent system, and stated that as between a prior inventor who benefits from a process by selling its product but suppresses, conceals, or otherwise keeps the process from the public, and a later inventor who promptly files a patent application from which the public will gain disclosure of the process, the law favors the latter.

* 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.

San Gorgonio Section

Chair's Message



As I reviewed my Chair's message from last January it was a stark reminder of how much changed during the year, if only temporarily, from our normal flow of activities.

Nonetheless I believe we had a very successful year, even with the virtual nature of our activities. In summary the National Chemistry Olympiad testing was conducted successfully due to the leadership of the National ACS organization and the tireless actions of our Section's coordinators, Eileen DiMauro and Dennis Pederson. In October we had a virtual event honoring our 50, 60, and 70 year ACS members and recognizing the Chemistry Clubs in our section. David Schiessel from Babcock Laboratories and Emily Viggers, from Biosense Webster (Johnson and Johnson subsidiary) discussed the nature of their careers in the Environmental Testing and Healthcare Industries, respectively.

The Section's annual meeting was held in November, and was highlighted by a very informative and well received presentation given by Dr. Richard Schrock, Professor at UC Riverside and Nobel Laureate, entitled "Recent Advances in Alkene Metathesis Reaction by Mo and W Catalysts". The Section leadership is most grateful for UC Riverside Chemistry Department's support for the Section's activities.

Section officer elections were held by electronic ballot in November. We are pleased to welcome our newest Councilor, Emily Viggers, and newly elected Alternate Councilor, David Schiessel to the Section leadership. The other section leaders in addition to myself are: Chair-Elect, Jenifer Nalbandian; Secretary, David Srulevitch; Treasurer, Dennis Pederson; and Councilor, Eileen DiMauro.

Hopefully by mid-2021 we can anticipate a return to more normal operations, i.e., in-person events. Until then activities will remain virtual. Of most immediate importance is the National Chemistry Olympiad Exam. The local exam will be administered March 27th. More complete details will be provided via email notice from Eileen DiMauro and will be posted to the Section Website.

(Continued on Page 8)

San Gorgonio Section

Chair's Message (Continued from Page 7)

In addition to the Section's normal activities we expect to have a tribute event for our late leader and Chemistry of Wine Expert, Dr. Ernie Simpson who passed away in September. Details will be posted to the Section Website once timing and content of the event has been determined.

As a reminder you can access the local section information on the websites shown below--a link to the National ACS website is provided therein:

---ACS San Gorgonio Local Section website: <http://www.sgacs.org>

---ACS San Gorgonio Local Section Instagram:
<https://www.instagram.com/sangorgonioacs/>

As always, I welcome any questions, suggestions or comments from members of the section or other interested parties. My email is: rm.riggin@yahoo.com.

- Ralph Riggin
Chair

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San Gorgonio Section

San Gorgonio Section National Chemistry Olympiad Exam

We are pleased to announce that the San Gorgonio Section will again be participating in the 2021 U.S. National Chemistry Olympiad (USNCO) program. The results of Local Section exam will be used to identify ten students to advance to the National exam and to select five students to receive San Gorgonio Section scholarships of up to \$1200 that can be used when they enter college.

The National Chemistry Olympiad examination will be held entirely online this year. More details regarding the registration and examination procedures as well as the detailed schedule will be emailed to Section members and posted on the San Gorgonio Section Website: <http://www.sgacs.org>.

If additional information is required teachers, parents and students can also contact the San Gorgonio Section's National Chemistry Olympiad Exam Coordinator, Dennis Pederson at dennis.pederson@gmail.com.

Important Dates:

February 1—Deadline for Coordinator to Register Students

February 2—ACS will send Assigned Login Code to Registered Students

February 8—Deadline for Students to Login to the ACS Learning Center using their Assigned Code

March 27--Online Local Exam

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Bi-Section Chemists' Calendar

January

- 6 National ACS webinar on "How to Learn Chemistry—see page 3

February

- 1 Deadline to register students for High School Olympiad Exams - See page 3 for SC and page 9 for SG

March

- 27 Online Local Section High School Olympiad Exam—see pages 3 & 9

April

- 17 Part I of the National High School Olympiad Exam—see page 3
24 Part II Of the National High School Olympiad Exam—see page 3

**For more information or to find virtual events,
please see our websites:**

www.scalacs.org

www.sgacs.org