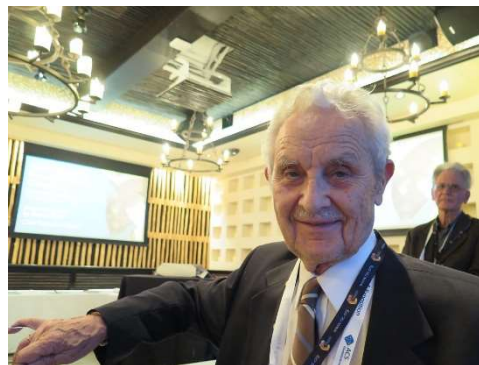


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### MAGAZINE OF THE CALIFORNIA SECTION, AMERICAN CHEMICAL SOCIETY

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Left Center: Wollemi Pine (*Wollemia Nobilis*) from Alex Madonik

Right Center: Karina K. Sand, WCC poster.

Left Bottom: Chemistry of Beer, Cheese, and Wine poster

Right Bottom: GWB poster

The December issue was not published as there was not enough material to warrant publication.



Since the last issue we lost two active members who drove Cal ACS activities. This issue covers both members. In upcoming issues, I have a commitment for 7 articles regarding Attila Pavlath's life (ACS and otherwise) that continues the previous articles emphasizing his scientific contributions.

## Cal ACS Chair's Message – January 2025 – Alex Madonik



With the turning of the year, the Chair's gavel passed from Patrick Lee to me. It's a time for looking forward and looking back.

First, my thanks to Patrick for his service to the Section over the past ten years, as a founder of the Bay Area Chemistry Symposium and most recently for his second stint as Chair. Cal ACS is fortunate to have so many talented volunteer leaders, supported by Julie Mason's methodical work behind the scenes. We look forward to seeing their work recognized in our annual report and at the 2025 ChemLuminary Awards at the National Meeting in Washington, DC.

Alas, we must say farewell to two distinguished leaders of the Section and the ACS, Neal Byington and Attila Pavlath. Most of our readers know Attila, ACS President in 2001 and a consistent advocate for change at every level in the ACS. By his own account, he held the record for the number of consecutive ACS Council meetings that he attended, at which he never failed to comment on the issues of the day. He always insisted that our members come first, and was an early advocate for the greater inclusion of women. Attila and Neal were each mentors for many of our

current volunteer leaders. Attila was also an untiring spokesperson for the essential role of science and technology in our daily lives. During the International Year of Chemistry 2011 he traveled widely to deliver his "World Without Chemistry" talk, often accompanied by an exhibition of the Chemical Technology Milestones posters that were developed in collaboration with the Hungarian Academy of Sciences.

Neal Byington was the California Section Chair in 2007, inviting speakers who addressed critical issues such as climate change and presenting his own decades-long analytical work on tracking the international trade in petroleum products. Neal encouraged many volunteers (including me) to take on roles in organizing Cal ACS events, notably the Western Regional Meetings he chaired in 1998 and 2000, hosted jointly with the Silicon Valley Section (then known as the Santa Clara Valley Section). Despite health challenges, he continued to participate in our Executive Committee meetings as recently the spring of 2024.

Looking ahead, Chair-Elect Jim Postma and I are planning programs that feature the ever-changing research and innovation landscape of Northern California, culminating in the 2025 ACS Western Regional Meeting in San Jose, October 25th - 28th. General Chair Vanessa Marx and her team will be calling on you for programming and other volunteer support.

The political landscape is also in flux, and it's more important than ever that we make our voices heard as scientists on key policy issues. The scientific community holds itself to a high standard of openness and honesty, and we must hold our political leaders to the same standard. The public needs to hear the scientific basis for our understanding of climate change, environmental degradation, infectious disease, resource depletion, and the solutions offered by new technologies. The ACS provides us with the resources and the policy framework we need to speak clearly and authoritatively: it's up to us to do our part. I look forward to hearing your priorities and suggestions for speakers and other programs that address the issues before us.

Alex Madonik

## Passing of Neal Byington



Neal Byington, California Section Chair, introduces the speaker at the March Section Meeting at the Berkeley Yacht Club

This is a partial reprint from

<https://www.dignitymemorial.com/obituaries/bloumington-ca/neal-byington-12101944>

Neal Dwain Byington passed away on Monday, November 18, 2024 at the age of 77 in Lodi, CA. The oldest child of Homer and Margaret (Dahnert) Byington, he was born in Wisconsin Rapids, WI on October 21, 1947. After completing his junior year of high school, he moved with his family to San Bernardino, CA. He received his B.A. in Chemistry from U.C. Berkeley in 1970. He met his wife, Janice, while attending graduate school and they were married in Lodi in 1973. In 1982 he received his Ph.D. in Analytical Chemistry from the University of the Pacific, completing the doctoral program simultaneously with his wife, both members of Phi Kappa Phi Honor Society. After graduating, Neal and Janice settled in Alameda and raised their daughter there before recently moving back to Lodi.

For nearly 40 years, he was the National Petroleum Chemist at the San Francisco Laboratory, Department of Homeland Security, Bureau of Customs and Border Protection (formerly U.S. Customs Service).

Chemistry may have been his passion but he had no shortage of hobbies. He spent years on various sailing crews racing in the San Francisco Bay and Pacific Ocean. Neal was very active in numerous professional societies including the American Petroleum Institute and the American Chemical Society. Over the years, he held numerous positions within ACS and was named an ACS Fellow in 2024.

He is survived by his wife of 51 years, Janice (Imada) Byington of Lodi; daughter, Laura Byington of Melbourne, FL; brother Lester Byington of Albuquerque, NM; brother, Carl Byington of Littleton, CO; sister, Diane Byington of Reedsport, OR. He was preceded in death by his

father Homer Byington, mother Margaret (Dahnert) Byington, and brother Loren Byington.

The following is from the application for ACS fellows submitted this year and provided by Bryan Balazs.

Dear ACS Fellows Selection Committee:

On behalf of the California Local Section, I enthusiastically submit this primary nomination for Dr. Neal Byington as an ACS Fellow. Dr. Byington has had four decades of technical, professional, and ACS volunteer contributions that I have detailed below and in the online submission package. I'd like to make a couple explanatory comments in advance. First, Dr. Byington was involved with the Petroleum Division of the ACS which merged in the early 2010s with the Fuel Division to form the current Energy and Fuels Division; this is why you may notice references to these former ACS divisions. Second, Dr. Byington has struggled through serious health complications in recent years, an unfortunate situation which limited his recent involvement in divisional activities although he was still active in local section, regional meetings, and work-related activities throughout.

#### Technical and Professional Contributions

As an employee of the U.S. Bureau of Customs and Border Protection for over four decades, Dr. Byington is one of three U.S. National Petroleum Chemists whose work has led to proprietary analytical methods for the oversight and monitoring of petroleum imports and exports into and out of the U.S. His work is critical for national security, conforming to treaty and tariff negotiations, avoiding the importation of petroleum products from embargoed countries (e.g., Iran, Iraq, Libya), and expertise regarding evidence submitted in U.S. and international courts. His unique skills and knowledge have provided technical advice to the Commissioner of Customs, senior executives of the Bureau of Customs and Border Protection, Customs Officers, and other governmental officials. Assisting the U.S. State Department, Dr. Byington facilitated a nation-state development program with the country of Georgia, aiding in the selection of a new laboratory site and petroleum consultations with Georgian chemists.

Dr. Byington's forensics and "chain of custody" work has also included drug enforcement activities. An example: Columbian drug cartels use small "Go Fast" boats to smuggle illicit drugs

into the U.S from larger "Mother Ships". He developed methods of analysis to connect the fuel from the smaller boats to the fuel in the Mother Ships and facilitate the arrest and conviction of a large part of the illicit drug supply chain. His work led to the first conviction using gasoline comparison under an international treaty with Columbia concerning a seizure on the high seas outside U.S. territorial waters, obtained in federal court in the U.S Southern District of California in 2001.

Earlier forensic work by Dr. Byington involved the tracing of opium distribution routes. He analyzed cocaine on currency and helped obtain the first conviction using the method in a federal court in the U.S Eastern District of California. Other analyses led to convictions in the U.S. Court of International Trade, such as for bombing residue, the establishment of the country of origin of sugar products (Cuba or Mexico), and the country of origin of saffron (Iran or other areas).

Dr. Byington retired in 2020 but still does advisory work with CBP employees, more recently in the area of fentanyl detection and interdiction.

#### Some Personal Reflections.

Neal was section chair in 2007, the year before I did my 3 year succession term. I liked the evening programs he came up with, as he did a lot of mass spectroscopy-oriented topics. 15 years later I asked why the mass spec society does not have meetings anymore, and he told me that too many pharmaceutical speakers killed the society's popularity as people wanted more basic stuff. A few things stuck out about Neal. At the time he was chair, the section was going through several years where our executive committee members were quitting faster than they were being replaced. Neal slowed down the losses, and I stopped the loss trend. A second thing that I remember is his repurposing of the Scientific meeting bags that used to be given away during registration. He gave them a second life by using them to hold tools and parts for his rentals business. He grabbed a prepacked bag when he needed. I started doing the same thing my bags.

Donald MacLean

Neal's middle name was "service" (like Mark Frishberg). As Lee and Marinda said, it's

fortunate that he was finally recognized as an ACS Fellow for his many contributions to the Society and for his professional expertise.

Neal was the general chair of the 1998 and 2000 Western Regional Meetings in SF, and he was eager to recruit new volunteers to help with these meetings. This was my first look at all of the planning and work that goes on behind the scenes to make these meetings happen. He was tireless in bringing our volunteer team together and giving us responsibility and credit for our contributions.

Alex Madonik

I am also saddened with this news. Neal always encouraged me as I started to be associated with the local section. For me this is also very personal as Neal was my Lab TA for my first semester of Chemistry a long time ago.

Steve Bachofer

Very sad news. I am grateful for his service to the California Section.

Nicki Davis

This is sad news, indeed. I always appreciated Neal's contributions and input to our CalACS Section.

Greti Sequin

I am so very sad to hear this news about the loss of Neal Byington. Neal was certainly a big contributor to CALACS over the years, so I was so happy that he finally received recognition as an ACS Fellow last year. I also recall greeting him in person at the Lafayette Library at one of our Ex Comm meetings when he shared with us that he had retired to live in Lodi. I will send a note to his wife Janice. Neal will be sorely missed by many.

Marinda Wu

## Passing of Attila E. Pavlath



Attila Pavlath, born on March 11, 1930, passed away on November 22, 2024, at 94. He was a distinguished figure in the scientific community, having served as a past president of the American Chemical Society (ACS) in 2001. He was awarded ACS fellow in 2010, the 2013 Kenneth A. Spencer Award for contributing to agricultural and food chemistry and was recognized with the prestigious Charles Lathrop Parsons Award in 2018 for outstanding public service. He served on numerous national committees at the ACS and was active on the international committee. He was the local section chair in 1978, 1995, and 2006 after initially serving as assistant treasurer for the section in 1969.

Outside of ACS, he received his education in Budapest, Hungary, was an assistant professor at the Technical University of Budapest until 1956, and joined McGill University as a research fellow. He joined USDA western regional lab in 1967 and was there for 45 years. From Attila's recognition symposium in 2014, he contributed to "the shrink proofing and soil proofing of wool, the utilization of agricultural products and bio-products for energy, the protection of produce from moisture loss, discoloration and loss of flavor and new biodegradable food packaging materials." He had >130 papers, authored over 10 books and numerous chapters, and held >25 patents.

Many of us have personal stories of our interactions with ACS - many of joining through interactions with him and enabling the organization of numerous events, some being annual like the Bay Area Chemistry Symposium. This is on top of ongoing annual events held by the CalACS like Chemistry Olympiad, Project Seed, and events via WCC. Attila was a champion of WCC as early as the 70s, and with the help of others and increasing number of women in chemistry in the area, became a reality in 80s. These are just a few of the accomplishments by Attila through the years.

In a quote from one of the many awards Attila has received, he mentioned that his legacy will be that he has made the world a better place for others because of his activities on behalf of all chemists and "If I feel that I did something for others, that is worth more than anything". He was a spirited chemistry advocate and left a mark on all of us.

Note: The section intends to write 3 separate parts for his life for The Vortex.

## 2025 Chemistry Olympiad



**All students wishing to participate in the 2025 Olympiad must be registered with ACS. Parents/Guardians must register their child using the following link:**

[USNCO website](#).

**Registration opens November 15, 2024 and closes on January 17, 2025; registration will not be extended past January 17.**

The California Section encourages all high school chemistry teachers to have their students participate in the US National Chemistry Olympiad. The goals of this program are to stimulate interest and achievement in high school chemistry students throughout the United States and to provide recognition of outstanding young chemistry students, teachers, and schools.

Competition in the Local exam is open to all high school students in the California Section. Competition in the National exam is limited to US Citizens and Green Card holders based on performance in the Local exam with a limit of no more than two students per high school.

Please see the list of counties in our Section [here](#).

Check out the Cal ACS Olympiad page [here](#).



## Upcoming Events

- **Topic:** Investigating Plant Terpenoid Metabolism and Bioproduct Applications  
**Date:** Sunday January 19, 2025  
**Time:** Lunch at 12:00, Zoom at 13:00  
**Location:** UC Davis or Zoom  
**Cost:** Free
- **Topic:** DNA-mineral interactions at the molecular level: implications for bacterial evolution and ecological inference  
**Date:** Saturday February 8, 2025  
**Time:** 10:30 – 12:00  
**Location:** Zoom  
**Cost:** Free
- **Topic:** Chemistry of Beer, Cheese, and Wine  
**Date:** Saturday February 8, 2025  
**Time:** 14:00 to 16:00  
**Location:** Cal State University Chico, Colusa Hall 100 A/B  
**Cost:** Free
- **Topic:** “CALACS Partners Networking Event on February 11, 2025”  
**Date:** Tuesday February 11, 2025  
**Time:** 17:00 – 20:00  
**Location:** Zoom, followed by Emeryville Public Market  
**Cost:** Free

## Chemistry in Action



Busy chemist in our kitchen email from Alex Madonik. – 2024-12-14.

Professor Philipp Zerbe, UC Davis

## Investigating Plant Terpenoid Metabolism and Bioproduct Applications



Wollemi Pine (Wollemia Nobilis) at the UC Botanical Garden - photo © Alex Madonik 2024



**Join us on Sunday, January 19, 2025 at the North Berkeley Senior Center for networking, a buffet lunch, and a chance to explore the exotic chemistry of plants.** Professor Philipp Zerbe will present new results from his laboratory at UC Davis, including their studies of the scent compounds from the Wollemi Pine (shown above). This ancient species dates to the era of the dinosaurs, and was thought to be extinct until its discovery in the remote mountains of New South Wales, Australia in 1994. Its survival in the wild is threatened, and the UCB Botanical Garden is one of many centers working to preserve the species. [Professor Zerbe is working with researchers at the Botanical Garden](#) to study the unique chemistry of this mysterious plant.

Location: North Berkeley Senior Center, 1901 Hearst Ave, Berkeley CA 94709

Cost: \$20 / \$10 for students and unemployed ACS members

[Lunch Reservations \(12:00 PM\) - Please Click Here](#)

If you can't join us in-person, you can still join us online!

[Register for the free Zoom Meeting at 1:00 PM - Click Here](#)

We look forward to seeing you on January 19th!

You can see the Wollemi Pine for yourself in bed 508 at the [UC Botanical Garden](#), open 10 AM to 5 PM every day except Tuesday and holidays.

## Abstract

**Plants are nature's master chemists;** they deploy complex networks of specialized metabolites to interact with other organisms and adapt to their environment. Among these metabolites, terpenoids encompass the largest class with critical functions in plant development, chemical ecology and stress adaptation. Terpenoid chemical diversity also offers a rich source for bioproducts, including flavors, fragrances, pharmaceuticals and more. A deeper understanding of the mechanisms underlying the diversity of plant terpenoid metabolism can offer innovative avenues toward agricultural and other industrial applications. Toward this vision, the Zerbe Lab integrates functional genomics, metabolomics and various protein biochemical and genetic approaches to investigate the biosynthesis and physiological function of terpenoids in food, bioenergy, and medicinal plants. We will discuss the discovery of common and species-specific terpenoid pathways across different plant species that provide new insights into the evolutionary divergence of terpenoid metabolism, its role in plant-environment interactions, and how this knowledge can be applied toward crop improvement and bioproduct engineering.

## About the Speaker

**Philipp Zerbe is a Professor at the Department of Plant Biology, University of California at Davis.** His research group focuses on the discovery and engineering of specialized terpenoid metabolism in food, bioenergy and medicinal plants. For his research, Dr. Zerbe received the 2015 Arthur Neish Young Investigator Award, a 2016/17 Hellman Fellowship, and 2018 Elsevier Young Investigator Award. Prior to his position at UC Davis, Dr. Zerbe received his PhD from the Ruhr-University Bochum, Germany (2007) with emphasis on structure-function studies plant hormone metabolism, followed by positions as a Postdoctoral Fellow and Research Associate at the University of British Columbia (Vancouver, Canada) where he focused his research on the discovery of terpenoid metabolism with relevance for bioproducts and stress tolerance in food crops and forest trees.

California Section  
American Chemical



Society

All are welcome  
Saturday, February 8, 2025

**Title**  
**DNA-mineral interactions  
at the molecular level:  
implications for bacterial  
evolution and ecological  
inference**

**Time**  
10:30 – 11:00 am Chatting  
11:00 am Talk and  
Discussion

**Reservation**  
Please visit the CalACS  
website  
[www.calacs.org](http://www.calacs.org) to register  
for this meeting or use Brown  
Paper Tickets

[RSVP here!](#)

Please register before  
Thursday, February 6, 2025,  
12 noon. Your email address  
is needed to send the ZOOM  
link, which will be shared with  
attendees on or before the  
day of the event via Brown  
Paper Tickets.

**Cost**  
Free!

About the Speaker



Karina K. Sand, PhD.

Karina Krarup Sand, PhD, is an Associate Professor at the Globe Institute,

Faculty of Health and Medical Sciences, University of Copenhagen, specializing in interdisciplinary research. Her work embodies a unique integration of geochemistry, microbiology, and evolutionary biology to understand and address pressing global health and environmental challenges. Sand's pioneering research in these fields has established her as a leader in the study of processes at the intersection of environmental surfaces and life. Dr. Sand also serves as Chair for Globe's Diversity

Programme.

interactions at the molecular level has recently provided insight into parameters important for DNA preservation in sediments, and how sediments can be considered spatiotemporal gene archives for bacteria. Her work on studying the mechanisms driving bacterial uptake of genetic material stored on mineral surfaces link sedimentary processes to bacterial evolution. The work also provides an explanation for the observed extensive dissemination of antibiotic resistance genes in our environment and is directly relevant for mitigation strategies.

She is an advocate for collecting knowledge that is stored and curated in distinct research silos and co-founded the evolutionary geobiology consortium to drive knowledge collection aiming to address oncoming global threats to human and ecosystem health. Dr. Sand earned her MSc in Geology and her PhD in Chemistry from the University of Copenhagen. She has held various research and academic positions in Denmark, the United States, and the United Kingdom. Her career includes prestigious research fellowships. Her international experience has equipped her with a global perspective and an expansive network within the scientific community.

**Abstract**

Extracellular DNA (eDNA) in the environment degrades rapidly unless adsorbed onto minerals, which enhances its stability. Currently there are vast amounts of DNA molecules preserved in our sediments. This mineral-bound DNA, although widely used to study past ecosystems, also poses significant implications for bacterial gene acquisition. By utilizing interfacial geochemistry, molecular level and bacterial approaches, this study explores (1) the role of mineral surfaces in DNA preservation in sediments and (2) the potential of soil bacteria to acquire mineral-adsorbed DNA through horizontal gene transfer (HGT).

The findings demonstrate that mineral surface properties substantially impact DNA stability, offering new insights into sedimentary DNA taphonomy. Understanding these interactions can enhance environmental DNA (eDNA) applications for ecosystem. Moreover, our data show that bacterial transformation of mineral-adsorbed DNA can lead to genetic diversity, and is influenced by mineral surface properties. These insights suggest that mineral-facilitated HGT could serve as a pathway for bacterial evolution, potentially affecting gene dispersal over extended temporal and spatial scales. In such an evolutionary scenario mineralogy and interfacial geochemical processes become central to the evolutionary process of maintaining fitness.

**Questions?**

Please contact Elaine Yamaguchi at [eyamaguchi08@gmail.com](mailto:eyamaguchi08@gmail.com)

Presented by the CSU Chico Department of Chemistry and Biochemistry

Together with CSU Chico Women in STEM and the California Section of the American Chemical Society

Saturday, February 8th, 2025, 2 PM to 4 PM  
Cal State University Chico, Colusa Hall 100 A/B  
Space is limited; [Register HERE](#) for this FREE event.

Join us for **"Beer, Cheese & Wine"**\* – an exciting collaboration between CSU, Chico Chemistry and Biochemistry Department, CSU, Chico Women in STEM and the California Section of the American Chemical Society! Discover how chemistry plays a fascinating role in crafting the food and beverages we love. This event offers a unique opportunity to taste, learn, and connect over hors d'oeuvres, wine, and beer.


Our speakers are top experts in their fields: Aimee Sunseri of New Clairvaux Winery, Dr. Glen P. Fox, and Dr. Moshe Rosenberg from UC Davis. They'll dive into the science and chemistry behind brewing, winemaking, and cheesemaking, sharing insights that will deepen your appreciation for each craft.

CSU, CHICO CHEMISTRY & BIOCHEMISTRY DEPARTMENT  
CSU, CHICO WOMEN IN STEM & THE NORTHERN CHAPTER OF THE AMERICAN CHEMICAL SOCIETY

PRESENTS

# CHEMISTRY OF BEER, CHEESE, & WINE

LEARN MORE,  
& RSVP



LOCATION: CSU CHICO COLUSA 100  
DATE: FEBRUARY 8TH, 2024  
2:00 PM TO 4:00 PM

CONTACT: [AMARQUEZ2@CSUCHICO.EDU](mailto:AMARQUEZ2@CSUCHICO.EDU)

# MEET OUR PANELISTS

 AIMEE SUNSERI New Clairvaux Vineyard	 DR. GLEN PATRICK UC Davis	 DR. MOSHE ROSENBERG UC Davis
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CSU, Chico Colusa Hall 100 A/B  
February 8th, 2:00 PM

CHEMISTRY OF BEER, CHEESE,  
& WINE

# CALACS Partners Networking Event

## *Accelerating Equity in Science\**

**When:** Tuesday, February 11, 2025, 5-8 pm

- 5:00 – 6:00 pm – *Zoom Virtual Networking*
- 6:30 – 8:00 pm – *In-Person Get Together*

**What:** Join CALACS and partners for a free virtual networking event (followed by an in-person get together for locals at the Emeryville Public Market)

**Where:** via Zoom, followed by in-person for locals

**Details:** see <https://calacs.org/> for additional info & registration

**Primary Sponsor:**



\* The goal of the GWB series is to establish an active network of people of all genders to overcome the barriers to gender equality in science.

The poster is a vibrant graphic with a blue and orange color scheme. It features a central photograph of three young women smiling. To the right of the photo is a yellow box with the text "ACCELERATING EQUITY IN SCIENCE". Below the photo, the text "FEBRUARY 11" is written in white, and "GWB2025" is written in large, bold, white and orange letters. At the bottom, the website "iupac.org/gwb" and the hashtag "#GWB2025" are displayed. The IUPAC logo is in the top right corner.

## “CALACS Partners Networking Event on February 11, 2025” by Marinda Wu, 2013 ACS President, 2001 California Section Chair

The California Local Section of ACS (CALACS) invites all students and professionals to join our annual “**CALACS Partners Networking Event**” as part of the global IUPAC GWB2025 on February 11, 2025. Feedback from prior years indicates that this is a wonderful event to promote personal and professional networking.

Please circle the date on your calendar because February 11 also celebrates the “*International Day of Women and Girls in Science*”. The theme this year for GWB2025 is “**Accelerating Equity in Science.**”

This is a global event organized by IUPAC that was initiated during the International Year of Chemistry (IYC) when chemistry was celebrated in 2011. That year, roughly 100 breakfasts were organized involving almost 5,000 scientists (both men and women) from academia, industry, and government around the world.

The second IUPAC GWB, with the theme of “Empowering Women in Chemistry,” was held in February 2019 during the centennial celebration of IUPAC. A global map was created showing all

the breakfasts or events held around the world. This second GWB was almost double the size of the first event. It involved approximately 200 events with an estimated attendance of roughly 10,000 participants worldwide. Since then, the GWB has been hosted annually by IUPAC, attracting more participants from different nations each year. Most participants are members of ACS (American Chemical Society), RSC (Royal Society of Chemistry), and many other international chemical societies around the world. Please visit <https://iupac.org/gwb> for more details.

Our local California Section of ACS joined the IUPAC GWB in 2021 during the pandemic with a successful virtual event for networking under the leadership of the California Section Chair Alicia Taylor, Councilor Alex Bruefach, and myself. Alicia had contacts with several other professional organizations she belonged to and invited these organizations to partner with our local CALACS Section. This was a successful event in which both students and experienced professionals, mostly from chemical industry and academia, networked together.

Using the model of networking in small breakout rooms to facilitate good discussion between university or college students and experienced working chemical professionals, the CALACS Partners virtual networking event has been successfully held every year in February since 2021.

From the start, I explained to the IUPAC organizers that our ACS local section prefers an after-work event to a breakfast, which is fine. Each year that we celebrated GWB, our CALACS event is opened by either our California Section Chair or myself, along with other officers and leaders participating. CALACS has successfully partnered with many other organizations and groups over the years. These include the WCC (Women Chemists Committee), EWOC (Empowering Women of Organic Chemistry), the CACS (Chinese American Chemical Society) NCC (Northern California Chapter) and similar minded organizations and other local ACS sections.

Last year was the first time that we held not only a virtual networking event via Zoom, which attracted participants from across the USA (including the ACS President Mary Carroll), but also included breakout rooms to facilitate small group networking and conversation. This virtual networking was then followed by an optional in-person get together for local attendees to continue networking and casual conversations with refreshments at the Emeryville Public Market. We plan to have a similar format this coming February.

Please see the following publicity flyer from which you can register to attend this CALACS Partners Networking Event on February 11, 2025. Our 2025

CALACS Section Chair is Dr. Alex Madonik, who has run many of the public outreach events for CALACS. Alex, along with Dr. Elaine Yamaguchi, Chair of our WCC (Women Chemists Committee) and Project SEED, will help with this year's event. Also assisting will be Mariana Alves from Novartis, who helped last year along with Dr. Vanessa Marx, also from Novartis.

We especially hope that our Past CALACS Chairs, ACS Councilors, and other CALACS officers will consider participating this year. Most of you, even if retired, can help young students – both undergrad and graduate students – with some good career tips. Elaine Yamaguchi will be running the Breakout Rooms this year, so she will try to place at least one senior ACS member in each Breakout Room with students. Our CALACS Chair, Alex Madonik, is well connected with his own students as well as UC Berkeley students and AXE, which we will also invite to join this global CALACS Networking event.

Please email me at [marindawu@gmail.com](mailto:marindawu@gmail.com) with any questions. I do hope you will consider participating in our GWB2025. If you are local, we would love to have you join us in person after the virtual session.

Please also consider participating in any of the many other CALACS events this year. A similar event to celebrate International Women in Science will be held on March 8, organized by Dr. Sheila Kanodia, Past CALACS Chair and current member of the national ACS Ethics Committee. Stay tuned and please visit [www.calacs.org](http://www.calacs.org) for more information.

## December Social

Bonnie Carpenter, Lee Latimer,  
and Jim Postma  
Geti Sequin, ... and his Jusso.



Linda Wraxall, Elaine  
Yamaguchi. Backshot of  
Michael Cheng, and Peter  
Olds.



Norm Wu, Marinda Wu, Eve  
Sweetser, Greti Sequin, and  
Charlie Gluchowski.





Fanny Frausto, Bryan Balazs,  
Patrick Lee



Handing off the Chair Gavel,  
Patrick Lee and Alex Madonik

Marinda Wu and Julie Mason

Atefeh Taheri with new member  
Jusso, Vanessa Marx, and Charlie  
Gluchowski



Photos provided by Alex Madonik  
Collage by Donald MacLean

## 2024 Volume 86 The Vortex Index – Donald MacLean

<b>2024 Meetings and Events</b>		
<b>Month</b>	<b>Topic</b>	<b>Author (s) / Organizer / Presenter</b>
Jan / Feb	Toxic Beauty: The Effects of Phthalates and Bisphenols on Human Stem Cells and Embryo Development	Sonya M. Schuh, PhD
Jan / Feb	“CALACS Partners Networking Event: GWB2024 Catalyzing Diversity in Science”	Marinda Wu
Jan / Feb / Mar	North Bay Science Discovery	Alex Madonik
February	Twists in the Tale: 2D Superlattices for Electrochemistry and Magnetism	Daniel Kwabena Bidiako
Feb / Mar	Science Night 5-7 pm- Loyaltton Elementary School (K-6), Sierra County.	Greti Sequin
Feb / Mar / Apr	How Bacteria Taught Us to Cure Genetic Disease	Dr Jennifer Doudna
Mar / Apr	Earth Day at the John Muir Historical Site	Alex Madonik
March	Molecular Scale Engineering of Polymer Membranes for Environment, Energy and Health	Assistant Professor Hee Jeung Oh
April / May	Got Fakes? Paper Microfluidics and the Hunt for Bad Quality Medicines	Dr. Marya Lieberman
	Sonoma / Marin Mosquito and Vector Control Open house	Donald MacLean
	LBNL's Advanced Biofuels and Bioproducts Process Development Unit Tour May 14th	James Gardner
May	May 18th- Awards Luncheon @ Skates on the Bay, Berkeley	Julie Mason
June	Exploration Stations Are Back and Cal ACS Will Be There:	
	June 11: Second Annual Pride-Juneteenth event	Atefeh Taheri

<b>2024 Meetings and Events</b>		
<b>Month</b>	<b>Topic</b>	<b>Author (s) / Organizer / Presenter</b>
June	“The Wonders of a 400 MHz HTS Magnet System, How it Works and Our Results at Amgen”	Maria Silva Elipe, PhD
September	Solano Avenue Stroll	Alex Madonik
September	“Designing Tomorrow”	Julie Beth Zimmerman, PhD
September / October	Cal ACS and AWIS East Bay Joint Event – AIDS Quilt	Dr. Christoph Carter
September	Lunch, Bocce, and Electrochemical Systems for Large - Scale Energy Storage	Nicholas Cross, PhD
September	National Chemistry Week, “Picture Perfect Chemistry – Fotografía Perfecta de la Química.”	Alex Madonik
October	Reducing Risk and Uncertainty Associated with Nuclear Waste Processing and Disposal: A Hanford Tank Waste Case Study	Carolyn Pearce

<b>2023 News</b>		
<b>Month</b>	<b>Topic</b>	<b>Author (s) / Organizer / Presenter</b>
February	Donald MacLean Replaces Attila Pavlath as Director-at-Large	Donald MacLean
	California ACS Executive Committee Members	Vanessa Marx
April / May	Position Open	Paul Vartanian
May	Section Dues	Paul Vartanian
	2024 Lloyd Ryland Outstanding High School Chemistry Teacher	Eileen Nottoli
June	Directors Select Charles Gluchowski as New Trustee	Paul Vartanian

	2 Receive Honors and 1 Receives High Honors from the Section Olympiad Exam	Eileen Nottoli
	Anniversary and Service Awards	Organizer Julie Mason, Photographer Alex Madonik, Editor Donald MacLean
	The Walter B. Petersen Award for 2024, Robert "Bob" Bussey	
	The 2024 Lloyd Ryland Outstanding Teacher Award, Rochelle Morris, PhD of Foothill High School, Pleasanton CA	
	The 2024 Outreach Volunteer of the Year, Vanessa Marx	
Sept	Neal Byington - ACS 2024 Fellow	
	Seeking Candidates for Cal ACS 2025 Governance	Michael Cheng

<b>2023 Profiles and Obituary</b>		
<b>Month</b>	<b>Topic</b>	<b>Author (s) / Organizer / Presenter</b>
May	Member Profile in Industry Matters Newsletter, Atefeh Taheri	NA
Nov	Passing of Bruce Ames	NA

<b>2023 Agriculture / Aquaculture and Pharmaceutical</b>		
<b>Month</b>	<b>Topic</b>	<b>Author (s) / Organizer / Presenter</b>
April	Chemistry in Action - "Bee Beard"	Donald MacLean
May	California Has An Unusually High Rate of Infant Botulism While Alaska Has High Rate of Foodborne Botulism	Donald MacLean
September	Your Food and Relay Toxicity	Donald MacLean

<b>2023 History and Education</b>		
<b>Month</b>	<b>Topic</b>	<b>Author / Compiler</b>
January	Chair Message - Transition	Patrick Lee
	Recommended Activity – Ice Skating on Real, Fake, and Synthetic Ice	Donald MacLean
February	Celebrating Black Excellence: The Evolution and Impact of Black History Month	Atefeh Taheri
	Science Experience: Alternative Food Makeup is not Just Protein Based	Donald MacLean
March	Empowering Women in Chemistry: Celebrating International Women's Month	Atefeh Taheri
	Recommended Activity – California Raptor Center at UC Davis	Donald MacLean
April	Recommended Science - Visit Waterfalls Seasonal and Year Round	Donald MacLean
May	Fair Science Entries	Donald MacLean
June	Chemistry in Action – Wine Label	Donald MacLean
	Science Activity Recommendation, Collecting Rocks from the Russian River (Sonoma and Mendocino Counties)	Donald MacLean
September	Editorial for Local Membership Decline – Award Focus	Donald MacLean
October	Our SEED Program Focus Is the Central Valley and Where Some Students Have Gone	Elaine Yamaguchi
	Trunk or Tweet and Other Science Activities	Donald MacLean
	Ruth Bancroft Garden and Nursery (Walnut Creek, Contra Costa County)	Donald MacLean

<b>2023 Reviews</b>		
<b>Month</b>	<b>Topic</b>	<b>Author (s) / Complier</b>
January	WCC Report The Physics and Chemistry of the Atomic Nucleus Saturday, September 16, 2023 Online Zoom Meeting	Nicki Davis
	Report of the December Social	Atefeh Taheri
March	Talk by Sonya Schuh, Ph. D., on “Toxic Beauty: The Effects of Phthalates and Bisphenols on Human Stem Cells and Embryo Development”, presented at our Women Chemists Committee Meeting on Feb. 10, 2024	Greti Sequin
March	Review: Introduction to Responsible Conduct of Research (RCR) at Academic Institutions by Philip DeShong	Alex Madonik
April	Molecular Scale Engineering of Polymer Membranes for Environment, Energy and Health	Alex Madonik
	American Chemical Society ACS Spring 2024 Meeting New Orleans, Louisiana March 17 – 21, 2024 – Council and Committee Report	Jim Postma, Lee Latimer, Vanessa Marx, Patrick Lee, Bryan Balazs, Marinda Wu, Alex Madonik, Sushila Kanodia, Atefeh Taheri
May	2020 Nobel Prize Winner, Dr. Jennifer Doudna, Zooms Into Chico	Jim Postma
June	Women Chemists Join Expanding Your Horizons (EYH) Conference at Santa Rosa Junior College	Elaine Yamaguchi
	Review of Marin / Sonoma Mosquito and Vector Control District Open House	Donald MacLean
	Cal ACS Tour of the Advanced Biofuels and Bioproducts Process Development Unit (ABPDU-LBNL) in Emeryville	Alex Madonik
Sept	Review of Dr. Marya Lieberman’s “Got Fakes? Paper Microfluidics and the Hunt for Bad Quality Medicines”	Laurel Ward

<b>2023 Reviews</b>		
<b>Month</b>	<b>Topic</b>	<b>Author (s) / Complier</b>
	American Chemical Society ACS Fall 2024 Meeting in Denver, Colorado, August 18 – 22, 2024	Jim Postma, Bryan Balazs, Marinda Wu, Atefeh Taheri, Michael Cheng, Patrick Lee, Alex Madonik, Sheila Kanodia, Donald MacLean Proof: Linda Wraxall
Nov	Review of Talk on “Designing Tomorrow” by Dr. Julie Beth Zimmerman, presented at WCC meeting on 9/14/24	Abigail O. Gyamfi
	Lunch, Bocce, and Electrochemical Systems for Large-Scale Energy Storage	Alex Madonik
	Cal ACS at Science in the Park – 05 October 2024	Alex Madonik
	Dr. Carolyn Pearce on “Reducing Risk and Uncertainty Associated with Nuclear Waste Processing and Disposal: A Hanford Tank Waste Case Study”	Kathryn Louie