


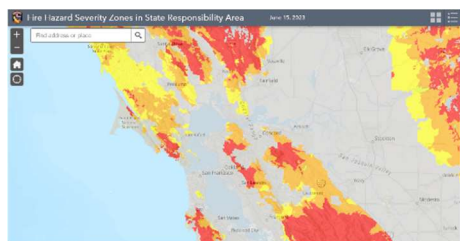
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### MAGAZINE OF THE CALIFORNIA SECTION, AMERICAN CHEMICAL SOCIETY

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Top: A Drink (flyer for Distillery) provided by Atefeh Taheri.

Middle: Fire Hazard Severity Zones (FHSZ)

<https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/>



If you have material you think is worthy, submit it to  
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## Upcoming Events

By Donald MacLean

1. Solano Stroll - Albany / Berkeley, Sunday September 10, 2023: all day. See box below.
2. "The Physics and Chemistry of the Atomic Nucleus", [Heather Crawford](#), PhD, Zoom, September 16, 2023: 10:30-12. See Flyer.
3. Distillery Tour & Spirit Tasting with Cal ACS - Delve into Distillation, St George Distillery, Alameda, Sunday September 24, 2023: 13:45 – 15:30. See Flyer.
4. Awards Luncheon, Lara's Fine Dining, Richmond, Sat. October 7, 2023: starting at 11:30. Contact [Julie Mason](#) at [office@calacs.org](mailto:office@calacs.org) for arrangements. See Flyer.
5. "Exploring Health and Environment: Navigating Chemicals in Our Everyday Lives", Emeryville, October 11, 2023: 17:00 – 19:30. See Flyer.
6. BACS 2023, UCSF Mission Bay - Robertson Auditorium, November 3, 2023. See [www.calacs.org](http://www.calacs.org) and flyer.

### Cal ACS At The Solano Stroll

By Alex Madonik

The Solano Stroll is BACK! Come join the fun on Sunday, September 10th (10 AM to 5 PM), and please let us know if you can help out at the Cal ACS booth. [Michael Cheng](#) will be there to set up at 9 AM, and extra helpers will be welcome throughout the day.



**All are welcome**  
**Saturday, September 16, 2023**

**Title**  
**The Physics and Chemistry of  
the Atomic Nucleus**

**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,  
September 14, 2023, 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!



Heather Crawford, PhD

Heather then returned to LBNL as a career-track and now career staff scientist in the nuclear structure group. She is a researcher into the structure of very neutron-rich exotic nuclei and served for 5 years as the chair of the Facility for Rare Isotope Beams (FRIB) Users executive committee, representing a user's group of 1400+ scientists.

Heather Crawford received her B.Sc. in Chemistry from Simon Fraser University, in Burnaby, British Columbia, Canada. She earned her Ph.D. in nuclear chemistry from Michigan State University, working with Prof. Paul Mantica and studying the beta-decay properties of neutron-rich isotopes of Ca, Sc and Ti at the National Superconducting Cyclotron Laboratory. She then worked as a postdoctoral researcher in the nuclear structure group at Lawrence Berkeley National Laboratory (LBNL), before moving to an Assistant Professor of Physics position at Ohio University in Athens, OH.

### **Abstract**

The atomic nucleus truly sits at the intersection of chemistry and physics – over the decades both scientific fields have laid claim to these uniquely mysterious quantum systems. I will talk in this presentation about the current state-of-the-art in nuclear science, including the new Facility for Rare Isotope Beams, which is opening a new era for studies of the nucleus. I'll also discuss what we are learning each day to advance our understanding of nuclei across the Segre chart, and through these studies, our knowledge of the origin of the elements and isotopes we find on Earth and across the cosmos.

### **Questions?**

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



## **Distillery Tour & Spirit Tasting with Cal ACS - Delve into Distillation**

Indulge in a truly exclusive experience with Cal ACS as we present the Encore Distillery Tour & Tasting. Join us for an intimate and immersive journey into the captivating world of spirits at the renowned St. George Distillery.

**This limited-capacity tour, with a maximum of 15 participants, ensures an up-close and personal exploration of the art and science of distillation.**

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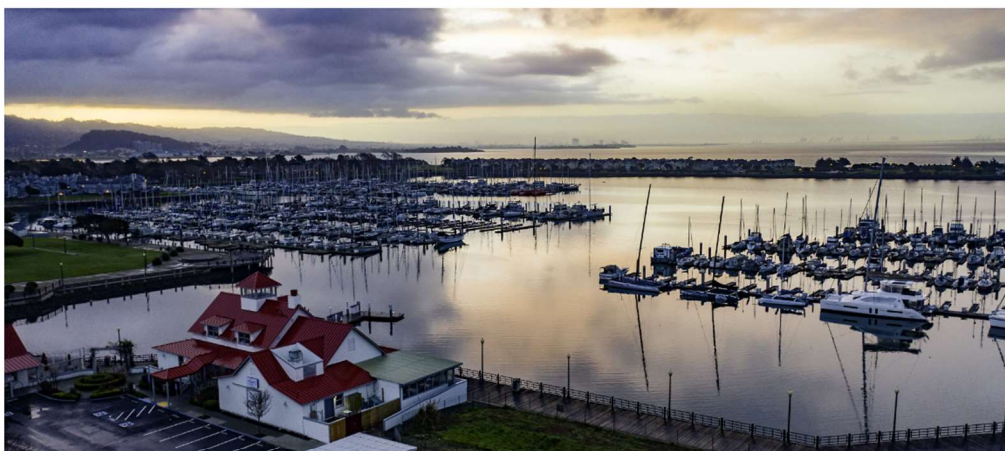
**St. George Distillery 2601 Monarch Street Alameda, CA 94501  
Sunday, September 24, 1:45 - 3:30 pm PDT**

---

**Register Now (\$40 regular, \$21 students & postdocs)**

**[calacsspirittasting.eventbrite.com](https://calacsspirittasting.eventbrite.com)**





# 2023 Cal ACS Awards Luncheon

Three-Course Menu  
\$60 Regular, \$30 students and postdocs  
Saturday, October 7th, 11:30 AM  
RSVP Required

## Appetizers

House salad  
**OR**  
Clam chowder

+

## Entrees

Grilled chicken  
**OR**  
Grilled salmon  
**OR**  
Homemade  
fettuccine pasta  
**OR**  
Rigatoni  
Short tube pasta

+

## Desserts

Tiramisu  
**OR**  
Cheesecake



Contact [office@calacs.org](mailto:office@calacs.org) to Reserve Your Spot

## Lara's Fine Dining

1900 Esplanade Dr, Richmond, CA 94804



# Exploring Health and Environment: Navigating Chemicals in Our Everyday Lives

A joint event between California section of American Chemical Society  
& Association of Women in Science, East Bay Chapter

OCTOBER 11, 2023 / 5:00 – 7:30 PM

5959 Horton St, #200 conference room, Emeryville, CA 94608

## ABOUT THE EVENT:

### Schedule:

- 5:00 - 5:30 PM: Sign-up and Networking
- 5:30 - 6:30 PM: Talk and Q&A
- 6:30 - 7:30 PM: Networking w/ Light Bites

### Abstract:

The presentation delves into the prevalent challenges of human infertility and congenital defects exacerbated by environmental toxins. Chemicals like bisphenol A (BPA) and phthalates, present in plastics, cosmetics, and personal care items, disrupt hormones and pathways as endocrine-disrupting compounds (EDCs). Despite efforts to replace BPA with alternatives labeled "BPA-Free," these substitutes carry similar risks. These findings emphasize the potential health risks, urging consumer awareness, policy reform, and sustainable alternatives.

## For Registration:



<https://exploringhealthandenvironment.eventbrite.com>

## Questions?



[taheri@ucdavis.edu](mailto:taheri@ucdavis.edu)

## OUR SPEAKER: Prof. Sonya M. Schuh



Dr. Sonya Schuh, originally from Southern California, developed a passion for nature and water activities. Her curiosity and upbringing by educator parents led her to a science career. She earned a B.S. in Marine Biology and Zoology from Humboldt State University and conducted marine research. Later, she completed her Ph.D. in Physiology and Biophysics at the University of Washington, focusing on chemical effects on sperm. At Stanford's Stem Cell Biology Institute, she delved into genes and environmental factors affecting human reproduction. Joining Saint Mary's College of California, she initiated a research program on endocrine disruptors' impact on stem cells and embryos. Dedicated to teaching and diverse collaborations, her most cherished accomplishment is her three children, inspiring her ongoing commitment to shaping a better future.



# BACS



BAY AREA CHEMISTRY SYMPOSIUM  
connecting industry + academia

an ACS  
sponsored  
event



Please join us for

The 4<sup>th</sup> annual **Bay Area Chemistry Symposium**, an ACS sponsored symposium for Synthesis and Design in Medicinal & Process Chemistry



WHEN

Friday, November 3<sup>rd</sup>, 2023

WHERE

Robertson Auditorium, UCSF

SUBMIT

Abstracts for talks & posters today!

This symposium, unique in the Bay, will provide an ideal forum for students, postdocs, and industrial chemists to meet and exchange ideas covering themes in chemical biology, synthesis, and computational chemistry. The 2023 symposium will feature keynote seminars from leading local academics & industrial chemists, as well as short talks from students, post-docs, and industry researchers. A lively poster session promises a much-anticipated return to networking with local chemists through this opportunity to learn about cutting-edge chemistry across the Bay Area's outstanding institutions. Visit our website for more details!

## OUR 2023 KEYNOTE ACADEMIC SPEAKERS



Prof. Kevan Shokat  
UC San Francisco



Prof. Carrie Partch  
UC Santa Cruz



Prof. John Hartwig  
UC Berkeley

Last year's BACS was  
generously supported by our

## INDUSTRY SPONSORS



For more information on sponsorship & registration, visit: [bayareachemistrsymposium.com](http://bayareachemistrsymposium.com)



# 25th Annual ChemLuminary Awards Ceremony

By Alex Madonik

The 25th Annual ChemLuminary Awards ceremony was held at the San Francisco Marriott Marquis, Salon 8-9, on Tuesday, August 15. The celebration began with a poster session and reception, followed by the presentations of awards given by 22 committees of the Society, and eventually continued with a dance party until midnight.



Alex Madonik with the ChemLuminary Awards poster (photo by Atefeh Taheri)

Sunny C. Tang, President of The *AllPeopleBeHappy* foundation, on behalf of Mamie W. Moy, University of Houston, recipient of the 2023 Award for Volunteer Service to the American Chemical Society, delivered the keynote address. This year's theme, "**Harnessing the Power of Our Volunteers**," honored our volunteers' work to continue improving all people's lives through the transforming power of chemistry.



Preston MacDougall (Committee on Public Relations Chair), Fanny Frausto, Patrick Lee, and Atefeh Taheri with ACS President Judy Giordan (photo by Alex Madonik)

## 2023 ChemLuminary Award Winners

The **California Section** was a finalist for eight awards:

- Local Section Partnership Award/Marinda Li Wu Award
- MAC Industry Engagement & Outreach
- Most Outstanding Local Section Women Chemists Committee
- **Outstanding Continuing Public Relations or Communications Program of a Local Section**
- **Outstanding Local Section Industry Event**
- Outstanding Ongoing CCEW Event
- **Outstanding Project SEED Program Award – Large Site**
- Outstanding Virtual Event for CCEW or NCW

The California Section won the Continuing Public Relations award and the Local Section Industry Event award for the Bay Area Chemistry Symposium. We shared the Project SEED award with the Midland Section. Congratulations to everyone in the California Section, and special thanks to Past-Chair Fanny Frausto for putting together an award-winning annual report. Here's the photo gallery:



Project SEED award: Seed Chair Don Warner, Fanny Frausto, Toni Miao, Atefeh Taheri, and Michael Cheng with ACS Past-President Angela Wilson (photo by Alex Madonik)



Don Wardius (Corporate Associates Chair), Patrick Lee, Vanessa Marx, Atefeh Taheri, and Fanny Frausto with ACS Past-President Angela Wilson (photo by Alex Madonik)

**How Sweet It Is!**  
**Part 5**  
by  
Bill Motzer



In Part 1 of this series (Motzer, 2023), I discussed some sweeteners that are currently included in many of our food products. One such sweetener is the so-called sugar-alcohol, erythritol. Although it's a complex carbohydrate, erythritol is so named because it has a structure similar to sugar (e.g., glucose) and alcohol. While it occurs naturally in many foods, erythritol is actually a manufactured product. Another naturally occurring, but manufactured sweetener, is *stevia* and I reviewed some of stevia's origins and chemistry in earlier columns (Motzer, 2017) and described its discovery in the South American plant *Stevia rebaudiana* (Asteraceae) whose leaves now contribute to many sweeteners now marketed under the generic name *stevia* and several trade names such as Truvia® and PureVia™.

*Stevia rebaudiana bertonii* is a small perennial shrub (**Figure 1**) native to South America growing in the region where the borders of Paraguay, Argentina, and Brazil meet. It's a member of one of the largest families of plants: the Asteraceae (chrysanthemum or sunflower family), with about 240 close relatives, all considered herbs or shrubs originating in tropical and semi-tropical regions of North, Central, and South America.



**Figure 1:** Leaves of *Stevia rebaudiana*.  
Photo source:

<https://pixabay.com/en/stevia-leaf-sugar-plant-sweetness-74187/>

Steviol glycosides are the nomenclature given to a distinctive class of glycosylated diterpenes having a steviol backbone and combinations of glucose or glucose and rhamnose or xylose attached by a linked ester. The diterpene known as steviol is the aglycone (nonsugar group) of Stevia's sweet glycosides. The two main steviol glycosides are stevioside and rebaudioside. The chemical formula for stevioside (CAS: 57817-89-7) is  $C_{38}H_{60}O_{18}$ , with a mole mass of 804.87, whereas the chemical formula for Rebaudioside A (CAS: 58543-16-1) is  $C_{44}H_{70}O_{23}$ , with a mole mass of 967.01, indicating that Rebaudioside A contains an



additional glucose molecule ( $C_6H_{12}O_6$ ) connected by an ester bond (with the loss of  $H_2O$  in the process).

On a chemical structure basis, steviol molecules have a carboxyl hydrogen atom replaced by a glucose molecule to form an ester, and a hydroxyl hydrogen with combinations of glucose and rhamnose to form an acetal functional group (**Figure 2**). The INS (International Numbering System for food additives) number for steviol glycosides is 960. These sweet components consist of glucose molecules and in some instances, rhamnose and xylose molecules attached to the aglycone steviol (diterpene type). The two main components are Stevioside and Rebaudioside A. Other associated glycosides, such as Rebaudioside B, C, D, F, Dulcoside A, Rubusoside, Steviolbioside etc., may also be included. Based on extraction techniques, the steviol glycosides in *Stevia rebaudiana* leaves in weight percentage, include:

Stevioside: 5% to 10%

Rebaudioside A: 2% to 4%

Rebaudioside C: 1% to 2%

Dulcoside A: 0.5% to 1%

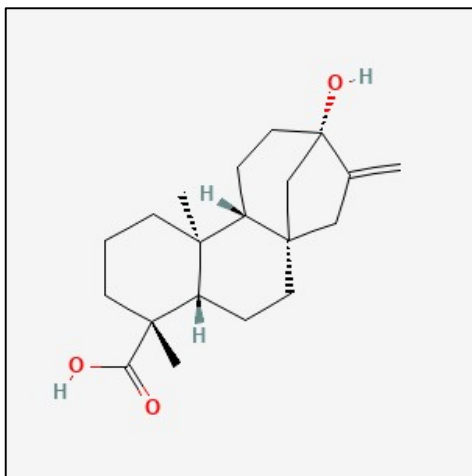
Rebaudioside B: trace

Rebaudioside D: trace

Rebaudioside E: trace

Rebaudioside B, D, and E generally occur in trace amounts; however, rebaudioside B may be a byproduct of extraction techniques. In other extractions, a commercial steviol glycoside mixture extracted from the plant was found to have about 80% stevioside, 8% rebaudioside A, and 0.6% rebaudioside C.

The structural formula of the Steviol backbone and the types of additional sugar moieties for each of the Steviol glycosides is shown below as groups in **Table 1**.



**Figure 2:** Molecular structure of steviol, showing substituted hydrogens on the carboxyl group (bottom) and the hydroxyl group (top). Diagram in the public domain at: <https://pubchem.ncbi.nlm.nih.gov/compound/Steviol#section=Top>

**Table 1: Steviol Glycoside Functional Groups**

Name	Group 1	Group 2
Stevioside	Glcβ1	Glcβ1-2 Glcβ1-
Rebaudioside A	Glcβ1-	Glcβ1-2(Glcβ1-3)Glcβ1
Rebaudioside B	H-	Glcβ1-2(Glcβ1-3)Glcβ1-
Rebaudioside C	Glcβ1-	Rhaα1-2(Glcβ1-3)Glcβ1-
Rebaudioside D	Glcβ1-2Glcβ1-	Rhaα1-2(Glcβ1-3)Glcβ1-
Rebaudioside E	Glcβ1-2Glcβ1-	Glcβ1-2Glcβ1-
Rebaudioside F	Glcβ1-	Xylβ1-2(Glcβ1-3)Glcβ1
Dulcoside A	Glcβ1	Rhaα1-2Glcβ1-
Rubusoside	Glcβ1-	Glcβ1-
Steviolbioside	H-	Glcβ1-2Glcβ1-

**Notes:**

Glc = glucose moiety

Rha = rhamnose moiety

Xyl = xylose sugar moiety

**Source:** Ohta, et al. (2010)

In the next part, I'll discuss extraction/manufacturing methods, possible allergic reactions, and toxicity.

**References**

Motzer, W.E., *Studying Stevia – Parts 1,2, and 3* (2017), The VORTEX, v. LXXIX, n. 8,9, and 10, pp. 6 - 7 and 6 & 9.

Motzer, W.E. *Erythritol, et al. – Part 2:* (2018) The VORTEX, v. LXXX, n. 8, pp. 6 &10. [www.calacs.org](http://www.calacs.org).

Motzer, W.E., *How Sweet It Is – Part 1:* (2023) The VORTEX, v. 85, issue 2, pp. 6-8. [www.calacs.org](http://www.calacs.org).

Ohta, et al., *Characterization of Novel Steviol Glycosides from Leaves of Stevia rebaudiana Morita*, (2010) Journal of Applied Glycoscience, (2010), v. 57, n. 3, pp.199-209

# Agriculture Segment: Fire Hazard Tiers and Defensible Space

By Donald MacLean



In July 2017 I replaced a damaged fence line created by my neighbor's nighttime picking operations. The vineyard originally agreed to pay for the fix created by their tractors as they traverse each row then turn around at the row's end then go in the other direction in the next row. Sometimes they overshot the turn and went through my fence. By the time I got to fixing the fence, the vineyard management changed, and the new manager refused to contribute resources. The replacement involved removing the existing fence, mowing the grass, using a string line to keep the fence in a straight line, placing in posts, and then adding and tensioning wires. During the second step, the mower started a fire, which the fire department refused to put out by going through my field. They had to go on a hard pack road the vineyard had, which meant a simple fire became a bigger fire. The fire was extinguished at the redwood tree line that marked the end of my property and the beginning of the vineyard. I thought the vineyard was going to sue me for the damage done to the redwood trees. A month later you could still smell the remains of the fire.

Then the wind driven fires came in October 2017, the best known being the Tubbs Fire. A series of fires went through the Sonoma / Napa / Lake counties. What was interesting about night evacuation is that with all the light from the embers you were blind driving down the road due to smoke. The only way you knew you were on the road was to drive over the center Bott's dots where the vibrating and audible rumbling meant you were still on the road.

A few years later, fire insurance rates have skyrocketed, and policies are being cancelled. The news is now focusing on a new trend, insurance cancellation, even after performing fire hazard remediation and installing 2500 gal water tanks. The only option is the California FAIR plan (Fair Access to Insurance) which is expensive and only covers fire, lightning, smoke and internal explosions damages, not the additional wind, water, and liability that a traditional home policy has. For fire remediation you cannot just remove vegetation willy-nilly. The reason has to do with erosion and endangered species that rely on vegetation. What I noticed is that each area has different rules for how much grass to leave behind and how much safe zone is needed.

Sonoma County originally designated 4 fire tiers, 0, 1, 2, and 3. The higher the tier the worse the prognostic if there is a fire. Most people live in tier 0 zone. Tier 1 could mean that you live in a windy area but do not have the big trees that people associate with the wildland fires in Coastal California. This affects your insurance rates. In 2017 a \$150 / habitable structure fire prevention fee for state responsible areas was suspended only to be replaced by a \$300 per parcel tax in 2018 (Sonoma County Measure W). This 4-tier system has been reduced to 3. Today a fire hazard map can be found but a bit of background needs to be stated. Firstly, there are 3 responsible zones: local, state, and federal. The local zone is a city or town responsibility. The state responsibility is most non-urban areas. Federal responsibility is places like Point Reyes National Shoreline and the Eastern Sierras. A model was created based on



whether the area is a wildland (grass / forest) or non-wildland (urban, wetland, water, agriculture) for spread and intensity.

Figure 1 shows the state responsible areas with three severity classifications (example Bay Area). The grey areas are local and federal responsible areas. Unfortunately, the grey area makes it appear that local and federal areas are safe, but that is not the case. Figure 2 shows how some of that grey area is actually local and federal responsibility (example: Marin County). When looking at local responsibility, places like the Oakland Hills are very fire hazardous. Table 1 lists some places that are in the local responsibility area that have very high fire hazards (Think 1991 Oakland Hills Fire).

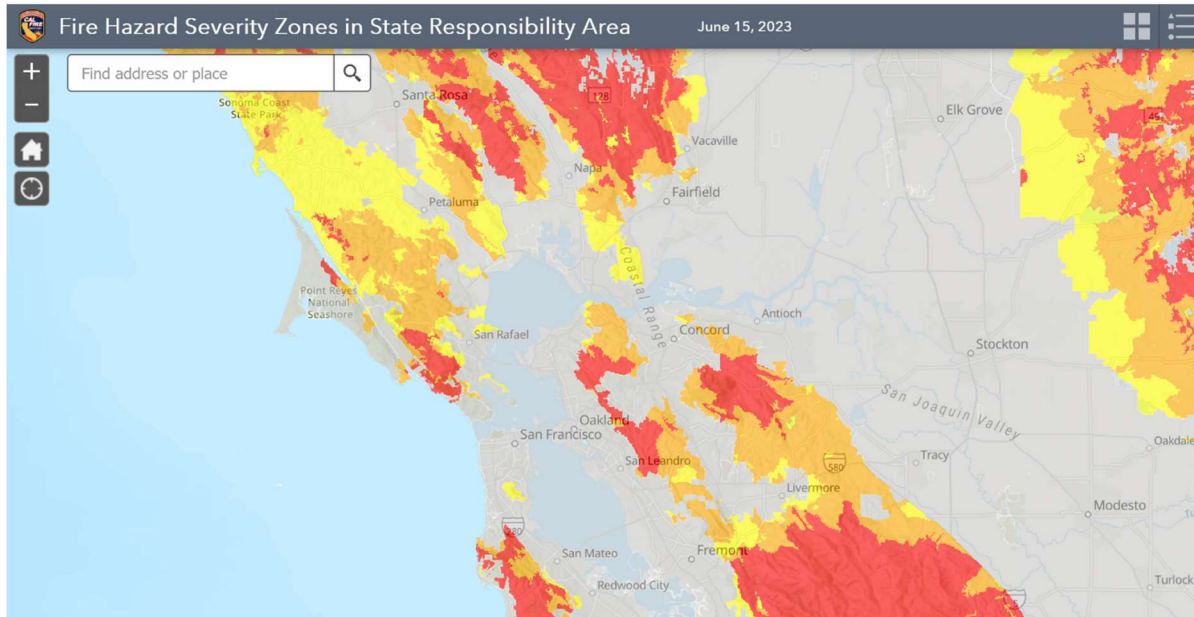


Figure 1. Fire Hazard Severity Zones in State Responsibility Area.<sup>1</sup> Note that all Bay Area counties except San Francisco have a hazard in the state responsibility zones. Grey = Local or Federal Responsibility Area which is not further categorized into risk areas. Yellow = Moderate, Orange = High, Red = Very High.

### Wildfire Risk Index (WRI) Example (Sonoma County)<sup>3</sup>:

Wildfire Risk Index (WRI) is a model that predicts relative wildfire risk. Higher index values represent a higher relative risk of wildfire. For the Wildfire Risk Analysis, Sonoma county's landmass was divided into 100-acre hexagons. Conditions will vary significantly across the area of each hexagon - it is entirely possible that areas of relatively low risk could exist within a hexagon whose overall risk is high. For parcel level analysis, "ground truthing" to verify data and conditions was necessary. The value of the WRI was to identify overall trends, which then was used to suggest the need for and nature of measures that can be taken to reduce risk. The WRI should be viewed as a high-level analysis and is not appropriate for parcel level detail.

## Calculating Wildfire Risk Index (WRI)

Relative wildfire risk was calculated by simply adding up all seven ~~nine~~ inputs where each input went from one to five except for structure density which went from zero (no structures) to five.

1. **Wildfire Hazard Index** - took into consideration predicted flame length, transmission line location, suppression difficulty, and fire weather potential.
2. **Wildfire Hazard Index within 1 Mile Buffer.**
3. **Ember Load Index** - based on surface and canopy fuel characteristics, climate, and topography and incorporates downwind ember travel. The index also incorporates burn probability.
4. **Ember Load Index within 1 Mile.**
5. **Structure Density (count)** - The structure density is a count of all structures found within each 100-acre hexagon. The counts were then classed into five quantiles and assigned a number from 1 through 5. Hexagons with no structures were assigned 0 (zero).
6. **Structure Density within 1 Mile.**
7. **Road Network Rank** - These values are based on road density, number of roads into and out of a community, and speed limits.

The description from the county has some errors in their explanation. The highest ranking was 32.

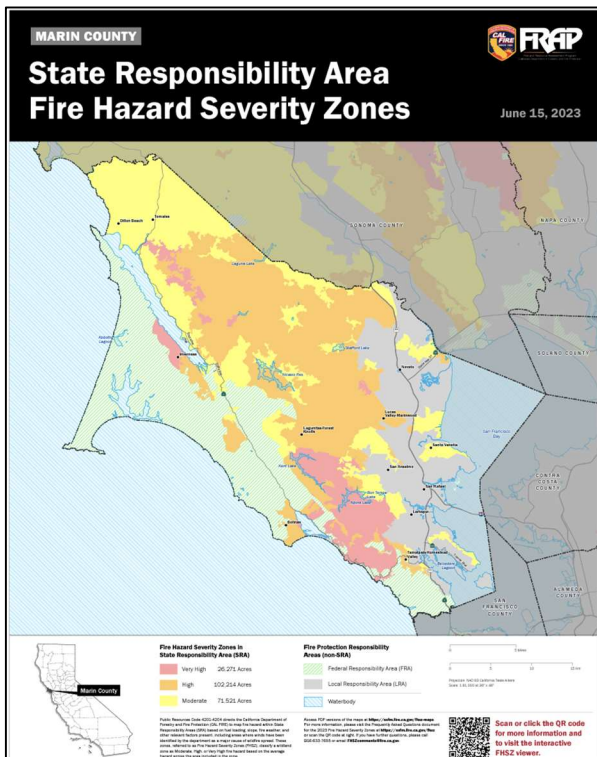


Figure 2. Marin County Map showing Federal (green), State (3 levels) and Local (gray) Responsibility Areas.<sup>2</sup>

One thing you may notice is the proliferation of 2500 gal water containers in the countryside. This is a requirement for new permitted properties and in some cases for fire insurance for existing properties. Note these maps are different than what an insurance company would use since they do not account for things like building construction material, mitigation, etc. in determining your wildfire risk score.

## Preparing Your Home and Property for Wildfire

Preparing starts with hardening your home and maintaining adequate Defensible Space around your home and property. Home Hardening means using ignition-resistant materials on and around your home to help it withstand flying embers and radiant heat. Defensible Space is the buffer created by removing dead plants, grass, and weeds to help keep wildfire away from your home.

- Here are things you can do (From Sonoma County<sup>6</sup> and Morgan Hill<sup>7</sup>) for improved parcels.
1. **Defensible space:** Clear at least 30 feet around your structure. Cut trees branches below 6 feet. The grass needs to be cut six inches (6")

or less. Do not cut to bare mineral soil. Climbing vines must be maintained and clear of dead and dying material or removed from trees and structures. Within 10 feet from roadway do the same but cut grass at 4 inches or less, but not to the bare soil. Trees need to be cut ten feet (10') away from the chimney in any direction. Install a spark arrester on chimney and/or stovepipe outlets. The spark arrester must be constructed of heavy wire mesh with openings not to exceed one-half inch (1/2").

2. Trees: Have branches cut away from power lines.
3. Address: The address numbers should be posted on the house. If the house sits back from the street, post the address at the beginning of the driveway and on the house. The address numbers should be reflective in a contrasting color for visibility minimum height four inches (4").
4. Gutters: Unclutter. Note that vinyl rain gutters will melt and drop into flower beds, igniting plants next to the house and maybe even combustible siding. Plug it with a tennis ball and fill with water if a fire is approaching.
5. Wood piles: move to at least 30 feet from house and other wood structures, do not put under a tree.
6. Decks: Keep the gaps between deck boards free of pine needles, leaves and other debris. This tip also applies to the intersection between your deck and your house. Embers can become lodged in the gaps and ignite the deck. The area underneath the deck is particularly susceptible to ember attack. Don't store firewood, gas cans, lawn mowers, cardboard or other combustible materials under the deck and keep it free of weeds, pine needles and leaves. Rotted or otherwise poor condition wood is more easily ignited by embers than wood in good condition. Replace deteriorated wooden deck boards and posts with new ones.
7. Protect vulnerable vents: the vent for waste water flow is not a concern, rather it is the vents to the attic and under the house used for removing moisture.
8. Windows: Install windows that are least dual-paned with tempered glass to inhibit breakage. Before leaving close the windows.
9. Remove dead/dying vegetation from property. Create non combustible ring within 3 -5 feet around the house.

### **New Requirement for Every Real Estate Seller and Buyer:**

As of July 1, 2021 when you sell property that is located in a high or very high fire hazard severity zone (Table 1 lists very high fire hazard), you'll need documentation of a compliant Defensible Space Inspection. For more information about requesting an Assembly Bill 38 Defensible Space Inspection: <https://www.fire.ca.gov/dspace/>. The seller must provide the buyer with documentation stating the property is in compliance with defensible space requirements. The inspection documentation is good for 6 months. The inspection ends at the property line. See reference 5 to determine if this applies to you (see all three responsible areas).

Table 1 lists selected counties with towns/ cities in the Local Responsibility Area (LRA) which the state has deemed very high fire hazards. Note towns can be in the State Responsibility Area (SRA). Note the town of Paradise in Butte County is an LRA surrounded by very high hazard in SRA.



Table 1. Bay Area Cities for which CAL FIRE has made recommendations on Very High Fire Hazard Severity Zones (VHFHSZ) <sup>5</sup> . The High Fire Hazard Severity Zones are not included.		
County	LRA : Town / City	SRA : Example Town / City
Alameda	Berkeley, Oakland, Piedmont, Pleasanton, San Leandro	None
Contra Costa	Danville, El Cerrito, Lafayette, Martinez, Orinda, Pinole, Richmond	Canyon
Marin	Larkspur, Mill Valley, Novato	Inverness, Muir Beach, Stinson Beach
Napa	Calistoga, Yountville	Deer Park
San Francisco	None	None
San Mateo	Belmont, Half Moon Bay, Hillsborough, Portola Valley, Redwood City, San Carlos, San Mateo, Woodside	Montara, El Granada
Santa Clara	Cupertino, Los Gatos, Monte Sereno, Morgan Hill, San Jose, Saratoga	None
Santa Cruz	None	None
Solano	None	None
Sonoma	Santa Rosa, Cloverdale	Kenwood

**References:**

1. Fire Hazard Severity Zones (FHSZ)  
<https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/>
2. Fire Hazard Severity Zones in State Responsibility Area – Marin County  
[https://osfm.fire.ca.gov/media/gelmq4jt/fhsz\\_county\\_sra\\_e\\_2022\\_marin\\_2.pdf](https://osfm.fire.ca.gov/media/gelmq4jt/fhsz_county_sra_e_2022_marin_2.pdf)
3. Sonoma County Wildfire Risk Index  
<https://storymaps.arcgis.com/stories/c0783237c4244ac49838f8b7e9f54691>
4. Fire Hazard Severity Zones Maps (State Responsibility Area, select by county)  
<https://osfm.fire.ca.gov/fire-hazard-severity-zones-maps-2022/>
5. Cities for which CAL FIRE has made recommendations on Very High Fire Hazard Severity Zones (VHFHSZ) (select by local responsibility area cities that have VHFHSZ under county or by state responsibility area under county)  
<https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/fire-hazard-severity-zones-map/>
6. Vegetation Management Requirements & Recommendations  
<https://permitsonoma.org/divisions/firepreventionandhazmat/servicesandfees/vegetationmanagementservices/hazardousvegetation/vegetationmanagementrequirements>
7. Be Ember Aware! 10 Tips to Help You Prepare  
<https://www.morganhill.ca.gov/1596/Be-Ember-Aware>
8. Real Estate Inspections (AB-38)  
<https://www.fire.ca.gov/dspace/>

# The UC Davis Coastal and Marine Sciences Institute

## Bodega Bay, CA (Sonoma County)

By Donald MacLean

This month's science location recommendation is the 362-acre UC Davis Bodega Marine Laboratory (BLM) at Bodega Bay, CA (Sonoma County). The site has public tours on Fridays but has been closed for 3 years due to the Covid 19 outbreak. It just reopened to Friday tours in May. On site tours requires preregistration for Fridays between 2 and 4 pm.

The site is unique in that it is on the San Andreas fault line and is part of one of only 4 world upwellings (these are Central California to mid Oregon, Chile, South Africa, west coast of north Africa). The small site has 8 habitat zones. The site was established by UC Berkeley in the 1960 with the first building built in 1966 by joint UC Davis and UC Berkeley. It is now run by UC Davis. The costal marine site has 9 habitat zones.<sup>2</sup>

1. **Rocky Intertidal Coast**
2. **Sandy Beach**
3. **Mudflats and Sandflats**
4. **Saltmarsh**
5. **Coastal Bluffs**
6. **Coastal Prairie/Coastal Scrub**
7. **Sand Dunes**
8. **Freshwater Wetlands**
9. **Costal Ocean**

The reserve is part of the UC system of reserves, a map can be shown as Figure 1. The link also will connect to the other campus reserves.

Upon entering the building complex, there is a big fish tank representing the rocky reef, then a middle tank representing the rocky shore (Figure 2). Behind the building is what looks like tv antennae, but are radar used to detect creatures above and just below the ocean surface.

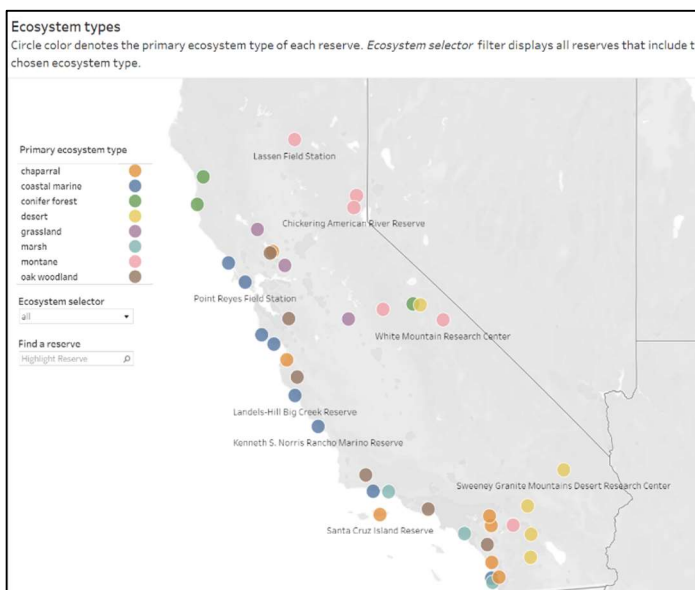


Figure 1. University of California Nature Reserve

The tour begins at the lecture room, where there are models, bones, and other information that is provided about the site and the work that is done. Surprisingly they do not study mammals.

The lecture room has shells of lobster, clams, scallops, mussels, and abalone. The interesting part about the site is the captive breeding program. Comparing the red (*Haliotis rufescens*) and white abalone (*Haliotis sorenseni*) shell, the red is domed in shape to deal with the waves as it is



Figure 2. Anemone Closed and Open located in the middle tank.



Figure 3. Wet Lab Display.



Figure 4. White Abalone Breeding.

found at shallower levels, between 20 and 130 feet depth though can be found deeper, whereas the white abalone is more oval as it is found at depths of 50 to 180 feet, making them the deepest living abalone species

Laboratory work at BML addresses hormone regulation of lobster and crabs.

The [Bodega Ocean Acidification Research \(BOAR\) Group](#) studies ocean acidification, which has an affect on shell stability due to whether the calcium carbonate is calcite or aragonite.

The site performs aquaculture for the nonnative Pacific oysters (pacific coast of Asia, 8 to 40 cm long). US Fish and Game requires that the oysters are made sterile by heat or chemical mean (triploid = sterility). These sterilized oysters are made available to Hog Island Oyster Co and Tomales Bay Oyster Co. Olympia oysters (*Ostrea*) (6 to 8 cm long) are the native oyster of the pacific Northwest Coast.

*Another breeding program deals with the White Abalone Captive Breeding program (Haliotis sorenseni). Here the specimens are collected in the wild if they are not found in groups of threes. Abalone reproduce by broadcast spawning —releasing their eggs and sperm into the water. This means fertilization succeeds more often when*

groups of adult male and female abalone are close to each other when they spawn.

At this point the wet lab tour takes place where you can see and touch a variety of creatures. The sea squirt is the eye catcher as the boys cannot stop playing with it (Figure 3). There are sea cucumber, sea sterns, etc. The only thing missing is the green anemone due its neurotoxin spines. You can see the sea stern (formerly known as star fish) eating by ejecting its stomach. The back of the lab has the abalone cell culture reagent making and culture growing facilities (Figure 4).

References:

1. <https://ucnrs.org/find-a-reserve/ecosystems/>
2. <https://marinescience.ucdavis.edu/bml/bmr/habitats>
3. <https://ucnrs.org/by-campus/>
4. <https://www.marinebio.net/marinescience/06future/abspdiv.htm>

Location: Bodega Bay (Sonoma County)

Time: 2 to 4 pm on Fridays only.

Fee: Free but they ask for donation at the time get ticket.

<https://marinescience.ucdavis.edu/bml/about>

Parking: free

Note: bring a jacket as Bodega Head can be windy.



# WCC Meeting Held on 05/13/2023: Speaker: Dr. Sudip Das

By Abigail Gyamfi

## **Building a competitive and multi-faceted research portfolio: an outsider's perspective.**

Dr. Sudip Das is an expert in infection biology who enjoys bridging the fields of molecular biology, immunology, and classical microbiology. He trained as a biologist and later moved into the application of computational approaches to his research, a man of many talents. Growing up in Kolkata, India exposed him to diverse cultures, multiple languages, and different perspectives. He received his Bachelor's at Utkal University and Master's degrees at KIIT University in India. He has received several prominent awards including the Swiss Academy of Sciences Fellowship, DAAD and Biocenter Science Award. Plus, he is an evaluator for European Union Horizon research grants and reviewer for prestigious publication firms like Springer-Nature, Elsevier, American Society of Microbiology, PLoS etc. He was introduced to our WCC network through Dr. Mina Mozafari, co-chair of our WCC.

He shared his perspective, life, and research journey in Europe. At ETH Zürich, Switzerland, he investigated salmonella infections and host gut interactions to ascertain the behavior of the bacteria in immunocompromised and healthy individuals using mice. He later moved to one of the oldest universities in Germany; University of Würzburg for his PhD where he explored human bacterial infection of the lung and blood advised by Prof. Dr. Thomas Rudel. In

2017, he joined the Engel lab as a Postdoctoral researcher at the University of Lausanne, Switzerland.

He started his independent research in June 2022 at the University Hospital Bern, Switzerland, where he is laying foundation for the first national lab. He is committed to comprehensive research of human respiratory microbiota research, a new frontier in health and disease and its influence on the immune system. Sources of respiratory tract microbiota include mode of birth, seeding during birth, age, vaccination, infection, diet, and smoking. He highlighted one of major problems in medicine, lung inflammatory respiratory disease such as pneumonia (bacterial/viral/fungal), chronic obstructive pulmonary disease (COPD) and asthma. He emphasized that pneumonia is the most prevalent inflammatory lung disease related to microorganisms. Infectious diseases such as COVID-19 are a global concern which has placed a huge burden on humanity, and there is still ongoing research to combat respiratory diseases.

He told an inspiring story of a Fathiah Zakham, a Yemeni scientist (born in Saudi Arabia) who navigated challenges in her career as a woman and is currently excelling in her field of work. He shared how he garnered multiple expertise, travelled around the world, climbed the academic ladder and is still building his career. This talk created an

opportunity for chemists to holistically learn from an outsider scientist with an infection biology background. His talk is particularly beneficial to graduate students, postdoctoral researchers transitioning into the world of work. He has been dedicated to collaborative research and creating an environment that

supports diverse cultures, different abilities of students from different continents to contribute their skills and expertise to science. He is an advocate of women in STEM and has mentored many young talented scientists throughout his career.

# WCC 5/20/23 Meeting: Experience on a Journey Without a Map

By Linda Wraxall

Dr. Rajan Singh gave his audience of interested scientists from the Women Chemists Committee (WCC) a Zoom lesson explaining how biomedical scientists can make their mark in clinical research. He provided a highly detailed report on his work in the pathology of gastroparesis using RNA therapeutics.

An important reference Dr. Singh made as to how he got to where he is today was that after taken his Ph.D. in India, he took a postdoc at the University of Nevada. Having a good publication record, he was able to get more funding and that lead to supervising his own lab at the UNV medical school! He also highlighted many new collaborations with other university scientists that have been established since his arrival to the U.S.

His research centered around gastroparesis which is caused by a delay in emptying the contents of the stomach into the intestines, causing symptoms like nausea, constipation, bloating, diarrhea, heartburn, chest pain, etc., all of which have a significant impact on the quality of life. These symptoms can also be part of a diabetes prognosis, which is a common ailment worldwide, and it is a known fact that 1 in 3 people have prediabetes. Research shows that micro-RNAs (miRNA) are important to one's gut health. These are small non-coding RNA molecules that are thought to be involved in gut motility disorders, such as irritable bowel syndrome (IBS), ulcerative colitis, and Crohn's disease.

Dr. Singh's research used mice to study this degeneration in the gut which leads to diabetic gastroparesis. He also discovered that muscular macrophages (aka certain

bacteria) are necessary for gut health. The mice had an impaired intestinal function resulting in gaps between the cell walls of the intestines which allow other macrophages to enter and destroy the bacteria with the good RNA. In humans, this is known as leaky gut syndrome or IBS. It is also known that the kind of foods eaten are significant for gut health.

Dr. Singh's research group found that a molecule known as "miR-10b-5p" can repopulate the affected mice guts with the missing gut macrophages (cytokines) and so restore movement in the gut. This molecule is a miRNA that mediates post-transcriptional regulation of gene expression. This therapeutic approach is critical in fixing the cells, rather than merely alleviating symptoms. It can be translated to human patients via clinical trials.

Dr. Singh's take-away to this universal problem was to listen to how the patients described their symptoms and then listen some more. He touched briefly on the connection between the brain and the gut, which is also very important. During question time, he emphasized that the food we eat affects the gut biota, both good and bad, and the Western diet, which is mainly carbohydrates, is a disaster because it significantly reduces the diversity of good gut biota. That would explain why there is such emphasis these days on eating more fruit and vegetables which are known to be more beneficial. Newer probiotic products are aimed at this restoration of balance.

About 18 folks attended; however, the customary seminar end attendee Q and A contest was thwarted by a technical Zoom glitch.

## Contra Costa County Library – Exploration Stations – Summer 2023

by Alex Madonik with contributors Michael Cheng, and Greti Séquin



In June and July, 2023, the Contra Costa County Libraries invited Cal ACS to participate in four Exploration Station events across the eastern part of the county:

- Brentwood Library - June 14 | 11:00am - 1:00pm
- Bay Point Library - June 15 | 2:30 - 4:30pm
- Pinole Library - June 29 | 11:00am - 1:00pm
- Danville Library - July 11 | 1:00 - 3:00pm

I took on the first two events myself (a couple of other volunteers had to drop out at the last minute) and I reprised our Earth Week 2023 activities, making alginate gels and making oxygen using solar-powered electrolysis.



Photos: Cal ACS Exploration Station at the Brentwood Public Library, 14 June 2023

Kids were eager to collect their colorful alginate gels, which they created as worms, salamanders, and beads by adding 2% sodium alginate solution to a 10% solution of calcium lactate. Since the materials are food grade products, there was no need for protective equipment.



Older friends and parents were ready to accept copies of Celebrating Chemistry, Periodic Table wallet cards, and other souvenirs.



**Michael Cheng** led the team at the Pinole Public library, assisted by **Vanessa Marx** and **Elaine Yamaguchi**. As he reported, several other community organizations were present, and about 75 visitors stopped by the Cal ACS booth to make slime (with polyvinyl alcohol and borax) and create UV-detecting bracelets with color-changing beads.

**Greti Séquin** joined me at the Danville Public Library, and she prepared this report: On a hot, sunny afternoon, children of all ages, together with their adult companions, visited the Cal ACS booth on the lawn in front of the Danville Library. They were invited to shake vials with small samples of plant materials in water and had fun observing the formation of bubbles in the samples containing soapy saponins. A model of a soap molecule and a complete, four foot long California soap root plant (*Chlorogalum pomeridianum*) decorated the exhibit.



Photos: Cal ACS Exploration Station at the Bay Point Public Library, 15 June 2023

identity of the extracts. They could then build molecules of some fragrance compounds, such as geraniol or vanillin, using our molecular model kits. While older children patiently built the models according to the illustrated structures, most younger children had fun building their own "fantasy" molecules.

UV-detecting beads were popular with children (and adults), who craft their own bracelets and observe the changes of the beads (colorless in the dark but brilliantly colored in sunlight). They could also observe the power of sunlight, as electricity from two small solar panels split water into its chemical elements.

Our guest then compared fragrant plant leaves with small samples of plant extracts in vials, trying to guess the

Here's the Danville photo gallery:



Photos: Cal ACS Exploration Station at the Danville.



# American Chemical Society ACS Fall 2023 Meeting San Francisco, California

**August 13-17, 2023**

Compiled by Jim Postma

Contributors: Jim Postma, Bryan Balaz, Marinda Wu, Eileen Nottoli, Alex Madonik, Sheila Kanodia, Michael Cheng

The Fall 2023 meeting in San Francisco was held from August 13-17. There were 15,019 registrations (13,363 in-person and 1,656 online).

The spring National Meeting is scheduled for March 17-21 in New Orleans; the fall 2024 meeting is planned for August 18-22 in Denver.

## **Actions of the Council**

### Election Results: Elected Committees of Council

The Council elected five members to the Council Policy Committee (CPC), five members to the Committee on Committees (ConC), and six members to the Committee on Nominations and Elections (N&E).

### Highlights from Reports and Key Actions

- Chief Executive Officer Albert Horvath honored the memory of our newly-appointed Editor-in-Chief of C&EN, Mohammed Yahia, who passed away on the way to the San Francisco meeting. Our thoughts go out to his wife Ola and their two young children.
- Horvath also shared ACS's efforts to engage more members while recruiting and retaining talented staff as we continue to adapt to the post-pandemic workplace. He shared an update on the ACS Strategic Initiatives and the Society's continued strong financial performance.
- On the recommendation of the Council Policy Committee, the Council approved the Petition to Amend the Council Executive Function. This amendment codifies the current practice in the Standing Rules, removing the oral reporting requirement for non-elected Society Committees. CPC welcomes oral reports from all Society Committees including those without action before Council.
- CPC voted to discontinue the Councilor Travel Expense Program and replace it with the Councilor Attendance Incentive Allotment. This new approach will provide a single payment of \$2,000 per Councilor, per meeting, directly to Local Sections and Divisions that opt into the program.
- CPC also voted to move oversight for the Non-Councilor Reimbursement Program to the Committee on Committees with the recommendation that it be renamed the "Volunteer Committee Reimbursement Program."

- On the recommendation of the Committee on Committees, and with the concurrence of the Council Policy Committee, Council approved the Petition to Amend the Duties of the Committee on International Activities (IAC), providing the committee with the same authority permitted to its unit counterparts to assist International Chemical Sciences Chapters with issues arising from officer turnover and other administrative difficulties.
- On the recommendation of the Committee on Nominations and Elections, and with the concurrence of the Council Policy Committee, Council approved the Petition to Add International Representation to the Board of Directors, decreasing the total number of Directors-at-Large from six to five and creating an International District Director. Following approval by the Board of Directors, the amendment to the ACS Constitution will require the support of two-thirds (2/3) majority of voting members.
- On the recommendation of the Committee on International Activities, Council approved the creation of the Singapore International Chemical Sciences Chapter.
- The Committee on Constitution and Bylaws (C&B) reported the certification of bylaws for six Local Sections in 2023: Cornell, East Tennessee, Idaho, Puerto Rico, Tennessee-Virginia Highlands, and Wooster.

### Council Special Discussion

ACS President Judith Giordan introduced and led a special discussion on "ACS Council: Equitable Governance for the Future." She sought Councilor input on ideas to improve representation, broadly defined, on Council and across ACS governance.

### Resolutions

The Council passed several resolutions:

- In memory of deceased Past President Ned D. Heindel
- In memory of deceased Past President Paul H.L. Walter
- In memory of deceased Councilors
- In appreciation of the California and Silicon Valley Sections, host Sections for the fall 2023 ACS meeting, the Divisional program chairs, symposium organizers, and ACS staff for the planning and execution of the meeting
- In appreciation of the outgoing Chair of Council, Judith C. Giordan

### **Actions of the Board of Directors -Executive Session**

The ACS Board of Directors met in Executive Session on August 11-12, 2023, in San Francisco, California, considered several key strategic issues, and responded with numerous actions. They opened the session with a reflection on Diversity, Equity, Inclusion, and Respect (DEIR).

### Chief Executive Officer's Report



Chief Executive Officer Albert Horvath reported on issues relating to ACS strategic activities; enterprise risk management (ERM); environmental, social, and governance (ESG); an Orlando 2028 meeting update; and ACS's web presence.

### Board Committees and Working Groups

- Upon recommendation of the Society Committee on Publications, the Board voted to approve the reappointment of six ACS journal editors. The reappointments will be announced once the individuals have been notified and appropriate arrangements for their continued service have been made.
- Upon recommendation of the Editor Search Committees, the Board voted to approve the appointment of three ACS Journal editors. The appointments will also be announced once the individuals have been notified and appropriate arrangements for their continued service have been made.
- Upon recommendation of the Committee on Professional and Member Relations, the Board approved the ACS Prism Award to recognize a public figure or prominent leader in their field who has a background in chemistry but is working in a different field or is not a practicing chemist.
- Upon recommendation of the Committee on Professional and Member Relations, the Board approved an ACS nominee for the 2024 Perkin Medal, an award given annually by the Society of Chemical Industry to a scientist residing in the United States for an "innovation in applied chemistry resulting in outstanding commercial development."
- The Board Working Group on Structure and Representation provided an update on their efforts to add an International District Director to the Board of Directors in the form of the Petition to Add International Representation on the Board of Directors. The Board unanimously supported the petition, which would amend the ACS Constitution and Standing Rules.

### Other Society Business

There were two additional discussions; one focused on raising items of strategic concern from members of the Board, and the second was dedicated to sharing feedback so Board members can hear from ACS members, elevating their voices to all Board members.

Finally, the Board adopted a resolution in memory of ACS Past President Ned D. Heindel.

### **Reports from CalACS Councilors and Attendees**

From Bryan Balaz: Highlights of (Membership Affairs Committee (MAC))

- MAC continued to assess the trends in Members, Student Members, Society Affiliates, and Community Associates, given that this latter category of no-cost dues package introduced in 2022 is an increasing percentage of the overall ACS global community.
- MAC also continues to analyze which benefits to our members are most valued, and the trends associated with these in terms of increasing or decreasing use over time.
- MAC remains concerned about the decline in industrial members, noting that this total is now less than 20,000 (and continuing to decrease), and held discussions on how we might reverse this trend.
- MAC has several new initiatives in the pipeline: 1) a revamped Schedule of Membership for 2025 (up for a vote at the Spring 2024 meeting in New Orleans), 2) different dues and meeting registration pricing strategies that we might adopt to encourage post-doctoral involvement in the ACS, and 3) different ways to accurately assess membership engagement. One other bit of good news is that dues for the premium package of membership are proposed to continue at the current rate of \$160 per year.

#### From Marinda Wu

It was an amazing week for CALACS! The Hospitality Booth for the Silicon Valley and California Sections drew much attention. Thanks to Vanessa and Atefeh for getting the souvenirs and CALACS bags, magnets and brochures, etc. The fortune cookies were enjoyed by many attendees.

Also "yay" for all those who represented CALACS at the ChemLuminary Awards! Yay, Fanny, for the great Annual Report which is needed to even qualify as a semifinalist and to all those who contributed like Elaine Yamaguchi and Michael Cheng for the Award for "Outstanding Project SEED Program Award for a Large Site." Thanks to Alex Madonik and all those who helped to win the Award for "Outstanding Continuing Public Relations or Communications Program of a Local Section" and also a great poster highlighting CalACS Activities this past year! Thanks to Patrick Lee and others who contributed to winning the Award for "Outstanding Local Section Industry Event."

I attended the CEPA Dinner in Appreciation of the many ACS Career Consultants helping at the Career Navigator Live and the ACS Career Fair in the Moscone Center. I worked as a veteran ACS Career Consultant every day for 2-4 hours whenever I had a bit of spare time, even after the ACS Council meeting. It was very rewarding to be able to help many graduate students, postdocs and even mid-career members in transition.

I also want to thank CalACS for wonderful partnering by helping to spread the news on the Chinese American Chemical Society (CACS) Banquet which was super successful! We had over 100 attending and many more wished to attend. I introduced Past ACS President Attila Pavlath, CALACS Chair Atefeh Taheri, and Alex Madonik as well as other ACS friends.

Another highlight was attending the Open ACS Board meeting and speaking with Carolyn Bertozzi. Carolyn gave an inspiring talk on the importance of supporting DEIR and her career journey and how it was difficult for her as a young organic chemist at Harvard years ago. Wonderful that she now has a great platform to speak out and spread awareness of the

importance for diversity, equity, inclusivity and respect to enhance the global chemistry enterprise!

Thanks also to Attila Pavath for including me in providing a surprise for the ACS Board dinner with a professional opera singer surrounded by two ACS Past Presidents from the California Section! Attila provided the script and the wonderful opera singer Diana Pray entertained with familiar renditions of four famous songs including "Consider Yourself at Home," "Climb Every Mountain," "The Impossible Dream," and the legendary late Tony Bennett's song "I Left My Heart in San Francisco." Many Board members told me how much they enjoyed this entertainment.

There was a wonderful International Panel Discussion on "ACS Around the World" at the ACS Theatre at the Expo. It featured 4 speakers:

1. An ACS Chapter leader from Saudi Arabia,
2. A young, enthusiastic student leader from an ACS international student chapter in Ecuador,
3. An ACS Career Services manager talking about new ACS Career Consultants now for members in Nigeria, India and China,
4. An ACS Pubs staff with new benefits to help international members with writing papers!

From Eileen Nottoli (Local Section Activities Committee (LSAC))

The LSAC reviewed and approved several grant proposals from a number of sections and announced its new website (<https://www.acs.org/local-sections.html>) that better lays out resources for members and section officers including links (from the Local Section Officer Toolkit) to grants and awards.

From Alex Madonik (Associate of the Committee on Meetings and Expositions (M&E))

M&E held a one-day Strategic Planning Meeting. Here's the M&E meeting summary:

### **Vision**

Meetings that advance the global chemistry enterprise.

### **Mission**

Provide premiere meeting venues and platforms to amplify interdisciplinary chemical sciences and networking that are accessible and inclusive for all.

**Core Values:** Passion for chemistry, Focus on members, Professionalism, Safety, Ethics, DEIR

Goal 1: Increase participation and interaction on the Expo floor.

Goal 2: Optimize the attendee experience to broaden participation in meetings.

Goal 3: Provide guidance and support to regional meeting local organizing committees and region boards to enhance the participant experience.

**Key Discussion** – how to insure that host venues support ACS Core Values of Diversity, Equity, Inclusion, and Respect. E&M will draft a letter to venues and host cities stating that ACS values must be adhered to by hosts; meeting contracts will be contingent on explicit

agreement to these conditions, including non-gendered bathrooms, accessible facilities, etc. Orlando – 2028 is a test case.

From Jim Postma (Committee on Constitution and Bylaws (C&B))

C&B keeps the gears of ACS governance turning smoothly by reviewing its rules for issues of consistency and clarity. We approved the bylaws of six local sections and reviewed updated model bylaws for Sections and Divisions. We also reviewed the three petitions that were up for a vote by Council.

From Sheila Kanodia (Committee on Ethics (ETHX))

The progress of the four core subcommittees was discussed and their plans for the fall. The subcommittees are Programming, History, ChemLuminary, and the ETHX/CHAS undergraduate Awards.

1. The **Programming** subcommittee co-organized or co-sponsored three symposia for the fall meeting.  
The committee plans to host a symposium with the CINF on chemical information literacy at the spring meeting. They plan to offer a workshop on ethics using a gamification approach developed by one of its members at the spring meeting. Plans are also underway to develop an ACS webinar.
2. **History** just completed a report on the history of the ETHX Committee that will be published in the CINF newsletter.
3. The **ChemLuminary** subcommittee shared the rubric that was developed in spring for evaluating nominees for the ChemLuminary award for Ethics Programming to be presented at the ChemLuminary ceremony. The committee plans to work on more widespread distribution of information on this award to local sections this fall.
4. The ETHX/CHAS Undergraduate **Award** subcommittee reported on their success in awarding 22 students for the first time this year. The committee plans to work to promote the award this fall. The committee also expressed interest in developing a graduate student award and perhaps an award recognizing faculty for work in this area in the near future.

ETHX is committed to ‘leading a culture of ethics in chemistry.’

From Michael Cheng (ACS Project SEED Committee)

1. Statistics for the 2023 program – 333 students (13 virtual); 62 participating Sites; 70 Coordinators; 319 Mentors; 264 Projects; fewer than 10 industrial sites.
2. Wanting to start the international program again.
3. Task force to recommend changing the family income threshold for applicant to 300% of the Federal Poverty Level. Preference given to families with lower income.
4. Personal Protective Equipment will now be offered to students; the process to be worked out with other ACS offices.
5. Include Students’ Teachers contact information on the application process. Parents to be included in the e-mails to students.
6. Language in application to be amended to include “remote/hybrid” options.