

# SILICON VALLEY CHEMIST



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The ACS National Fall Meeting takes place in San Francisco this month with a Silicon Valley-centric theme: Harnessing the Power of Data. Generative AI plays a prominent role in programming. At-a-glance:

<a href="#">Schedule Overview</a>	<a href="#">Meeting Program</a>	<a href="#">Career Development Events</a>
<a href="#">Keynote Events</a>	<a href="#">Industry Recommended Program</a>	<a href="#">Career Navigator LIVE!</a>
<a href="#">ACS Presidential Events</a>	<a href="#">Student Focused Programming</a>	<a href="#">Governance Activities</a>
<a href="#">Exposition</a>	<a href="#">Networking   Sci-Mix</a>	<a href="#">Awards (in Schedule Overview)</a>

## The 2023 Ottenberg Award

**Matthew Greaney**

Matt Greaney fulfills the description of the Ottenberg Award recipient - a member who has rendered outstanding service to our Section - and then some. He is a dedicated, talented, and hard-working member of SVACS who has served in several leadership roles in the Silicon Valley Local Section. He has served as Chair-Elect (2019)/ Chair (2020)/ Past-Chair (2021) and as Councilor for five years. Prior to his election as Councilor, he was an Alternate Councilor. He has been active on several SVACS Committees: Executive Committee, Program Committee, Finance Committee, and the By-Laws Committee. He resurrected the section's long dormant YCC (Younger Chemists Committee) and went on to co-lead successful activities with robust turn-outs. In particular, the beer-brewing contests he organized at local breweries featured home-brewing chemists and satisfied 'tasting' attendees. A wide audience was reached with sponsorship by both the Younger Chemists and the Senior Chemists. Following that success, he championed beer tasting at our Annual Picnic & Awards event.



*continued on next page*

*The 2023 Ottenberg Award, continued from the front page*

In support of SVACS events, he spearheaded efforts to establish a platform for handling registration and payments. Matt also served on the ACS National Committee on Economic and Professional Affairs (2016-2021).

Matt is well-recognized as one of the two co-initiators of the now annual **Bay Area Chemistry Symposium** (BACS). Matt Greaney and colleague Patrick Lee brought together the two Bay area ACS sections in addressing the need for a Bay area-wide learning, networking, and employment event for the benefit of employers and job-seekers. Since BACS' inauguration in 2019, the BACS leadership group has expanded to include 20 members from academia and industry. BACS sponsorship and participation has expanded to include more than a dozen Bay area companies, all the major universities in the Bay area, and three Local Sections. The Silicon Valley Section and the California Section received a **ChemLuminary Award in 2020** for the Best Local Section Industry Event for BACS. BACS also won the **Partners for Progress and Prosperity (P3) Award** at the 2022 Western Regional Meeting in Las Vegas.

Matt is co-author on 17 articles and co-inventor on a patent granted to Clariant, his current employer. In graduate school at USC, he won the ACS Division of Inorganic Chemistry Young Investigator Award, Robert Bau Award for Excellence in Graduate Research, and a Chemistry Merit Scholarship.

The **Ottenberg Award** was presented to Matt Greaney at the Annual SVACS Picnic and Awards event on July 8, 2023.

## Chair's Message

Natalie McClure



According to the Farmers' Almanac, July 3 through August 11 are "the Dog Days of Summer". I'm not sure what gave rise to that saying, but I think it was in part due to the enervation due to heat stress. We are pretty lucky here in the Bay Area that our temperatures are moderated by the Pacific Ocean. But nonetheless, the pace of life does slow down a bit. Our section did take a short sabbatical during this period, after our very successful picnic.

The **ACS Fall National meeting** is here and will be held at the Moscone Center in San Francisco August 13-17. The theme of the meeting is "Harnessing the Power of Data" which is particularly relevant in the Bay Area. Registration is still open. Our section has been very involved in arranging the **Kids Zone**, a hands-on family event to be held on August 11 at the Children's Creativity Museum in Yerba Buena Gardens. See Page 5 in this newsletter for more info.

I am looking forward to the **ChemLuminary** reception and party which will be held on Tuesday August 15 at the Marriott Marquis Hotel Salon 8-9, 780 Mission Street. See page 3 in this newsletter. Our section is a finalist for Outstanding Section (Large) ChemLuminary. If you are attending the meeting in person, please come to the reception (8-9 PM) and awards ceremony and celebration afterwards to applaud the creativity of all the local sections. This is a great time to learn from the other local sections what they have done. We are encouraged to appropriate other sections' great ideas. If you can't attend in person, the awards ceremony will be **live streamed**.

After the excitement of the National meeting, we will return to our regular activities. A Chemistry of Wine event is being planned featuring Dr. Phil Crews, UC Santa Cruz. And we will be holding a series of outreach events for National Chemistry Week. Stay tuned to future newsletters for information on these events.

## CALENDAR OF EVENTS

<https://www.siliconvalleyacs.org/events/>

- August 2023 -

- Aug 10** **AI for Learning, Teaching, and Writing**  
Sponsored by ACS Webinars, ACS Education, and ACS Student Communities  
11am-Noon, Online via Zoom, Free, [Registration required](#)
- Aug 12** **Kids Zone: Hands on Chemistry for Kids**  
Hosted by ACS President Judith C. Giordan  
10am-1pm, [Children's Creativity Museum](#), 221 4th Street, San Francisco, Free  
[Learn more and register](#)
- Aug 13-17** **ACS Fall 2023 National Meeting (In-Person and Virtual)**  
Theme: Harnessing the Power of Data  
Moscone Center, San Francisco, [Learn more](#)
- Aug 14** **CACS 2023 Fall Banquet/Keynote at the ACS 2023 Fall National Meeting**  
Sponsored by Chinese American Chemical Society (CACS)  
6-9pm, R&G Lounge in San Francisco Chinatown, 631 Kearny Street, San Francisco, \$70/person  
10-Course Banquet, Open to All, View [Event Flyer & Ticket Info](#), View [Program Details](#)
- Aug 30** **ORCID Workshop for Researchers**  
Sponsored by ORCID Lyrasis US Community  
10-11am, Online via Zoom, Free, [Registration required](#)
- Aug 30** **CAS SciFinder-n Live: What's New and Upcoming**  
Sponsored by CAS (Chemical Abstracts Service)  
11:00-11:45 am, Online via Zoom, Free, [Registration required](#)

- September 2023 and Beyond -

- Sep 7** **Chemical Vapor Deposition Techniques for Design & Synthesis of Polymer Nanomaterials**  
Prof. Rong Yang, Chemical & Biomolecular Engineering, Cornell University  
Sponsored by the Golden Gate Polymer Forum, GGPF  
5PM Pacific time, Online via Zoom, [Registration required](#)  
(Registration deadline: Sept. 6th at 1pm)
- Sep 7** **Transforming Challenges into Opportunities: Mentors, Imposter Syndrome, and Diversity**  
Sponsored by ACS Webinars and ACS Office of Diversity, Equity, Inclusion and Respect  
11am-Noon, Online via Zoom, Free, [Registration required](#)
- Sep 16** **The Physics and Chemistry of the Atomic Nucleus**  
Heather Crawford, PhD, Lawrence Berkeley National Laboratory (LBNL)  
Sponsored by California ACS Section  
10:30am-Noon, Online via Zoom, Free, [Registration required](#)

Dear Dr. McClure, Chair of the Silicon Valley ACS,

I am pleased to inform you that the **Silicon Valley Local Section** has been selected as a *finalist* for the following ChemLuminary Award:

- Outstanding Performance by an ACS Local Section - Large Size Category

The winner will be announced in a ceremony at the ACS Fall 2023 meeting in San Francisco on the evening of Tuesday, August 15, at the San Francisco Marriott Marquis, Salon 8-9, located at 780 Mission Street.

The ceremony will feature a keynote address by Mamie Moy, University of Houston, recipient of the 2023 Award for Volunteer Service to the American Chemical Society. The presentation of awards given by 21 committees of the Society will follow. The theme of this year's ChemLuminary evening is "Harnessing the Power of Our Volunteers" to celebrate the work of volunteers to improve lives through the power of chemistry.

Prior to the ceremony, there will be a one-hour poster session. Your organization is invited to present a poster of its 2022 activities that led to its selection as a finalist. Your participation is encouraged so that other organizations may see examples of your outstanding activities and have the opportunity to ask questions about them.

The event schedule is as follows:

8:00 pm	Poster session & reception
8:45 pm	Doors open to the ChemLuminary Awards
9:00 pm - 10:00 pm	Presentation of awards
10:00 pm - 12:00 am	Celebration with dancing

Congratulations on your achievement, and we look forward to seeing you at the 25th Annual ChemLuminary Awards ceremony!

Sincerely,



Judith C. Giordan, Ph.D.  
President  
American Chemical Society

ChemLuminary Awards  
[chemluminary@acs.org](mailto:chemluminary@acs.org) | [www.acs.org/chemluminary](http://www.acs.org/chemluminary)



# Our 2023 Annual Picnic & Awards Photo Album



*Beer-tasting led by Matt Greaney, Ottenberg Awardee*

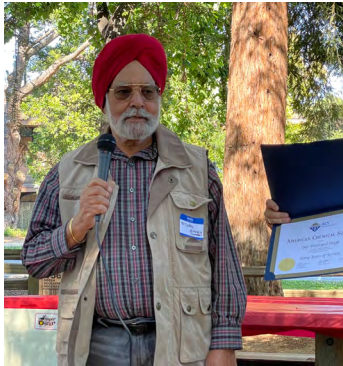


*Happy picnickers*

## Recipients of Long-time ACS Member Certificates



*Allan Hadad*



*Prithipal Singh*



*Sami Ibrahim*



*David Waterbury*



*Don Berger*



*Jim Collman*



*Happy picnickers Yan and Ihab*



*Sally and Karan greet guests*

## Teacher-Scholar Awards



*Recipients of two Teacher-Scholar Awards: Rushia Turner (left) of Monterey Peninsula College and Asmik Oganeyan (top) of Glendale Community College, and presenter Kathleen Armstrong of Foothill College*



## 2023 CAS Future Leaders Announced



“We are excited to announce the 2023 CAS Future Leaders! This group of elite Ph.D. students and postdoctoral scholars from around the world will blaze a trail toward science leadership this August in Columbus, Ohio, and San Francisco, California.” [Learn more](#)

## Silicon Valley ACS Members with 50+ Years of Membership in 2023

The following ACS Silicon Valley Members are receiving certificates of recognition issued on behalf of the ACS Board of Directors in grateful appreciation for fifty or more years of membership in the American Chemical Society.

### 50-Year Members

Mr. Donald Berger, Jr.  
Mr. Theodore Brown  
Mr. Frank Chambers  
Mr. Allan Hadad  
Dr. Ronald Hodges  
Dr. Michael Hunkapiller  
Mr. Sami Ibrahim  
Dr. James Lewis  
Mr. Gilbert Mintz  
Dr. Babu Rao Nott

Ms. Theresa Presser  
Mr. Daniel Roberts  
Dr. Hans Siebeneick  
Dr. L. David Waterbury  
Mr. Jeremy Wright  
Mr. Daniel Yansura  
Mr. Wendell Yee

### 60-Year Members

Mrs. Yvonne Aronowitz  
Mr. John Gannon, Jr.

Dr. George Gray  
Dr. Robert Miller  
Dr. Gerald Selter  
Mr. Prithipal Singh  
Dr. James Smith  
Mr. Dennis Yasuda

### 70-Year Members

Dr. Robert Baldwin  
Dr. James Collman  
Dr. Edwin Ullman

## ACS Kids Zone Invites Families to Hands-on Science Activity in San Francisco

This article is a *reprint of an ACS Press Release* that was published on July 25, 2023).

“Embark on a fantastic journey through the magical world of chemistry at the American Chemical Society Kids Zone. This free family science event is open to the public outside the [Children’s Creativity Museum](#) beside the Moscone Center in San Francisco Saturday, August 12, 10AM - 1PM.

Registration is required to participate in the Kids Zone, being held in

conjunction with the ACS Fall 2023 meeting. [To register, click here.](#)

Learn about this year’s Kid Zone theme, “The Healing Power of Chemistry,” with hands-on activities, including:

- **Cloudy with a Chance of Clear Color (PDF):** Add an acid-base indicator to milk of magnesia. Then add citric acid for dramatic color changes that cycle through a few times until the cloudiness disappears!
- **Make-and-Take Lotion (PDF):** It’s a mixture; it’s a suspension, it’s an emulsion; it’s lotion! Science has the solution to DIY lotion.
- **Connect with Slime (PDF):** Your body makes a viscous liquid like slime to get the germs out of your nose. Make a model of slime to take home!
- **Fruit Juice Sleuth (PDF):** Add drops of juice to a solution of starch and iodine to find out which beverage contains more vitamin C.
- **Secret Science of Self-Inflating Balloons (PDF):** Self-inflating balloons contain the same ingredients that make fizzy medicines fizz. Feel and hear this cool chemical reaction!



Saturday, August 12 | 10 AM - 1 PM PDT

#ACSKidsZone



Learn more about Kids Zone from the [Facebook page](#) and share your experience on social media using #ACSKidsZone.

For health and safety information about this event and the ACS Fall 2023 meeting, see the [FAQ webpage](#). For more information about this event, email [outreach@acs.org](mailto:outreach@acs.org).



華美化學與化工學會  
Chinese American Chemical Society

Please join us for the  
**CACCS 2023 Fall Banquet**

in conjunction with the ACS National Meeting, 6-9 pm, Monday, August 14, 2023

10-Course Banquet at the famous R&G Lounge in San Francisco Chinatown

631 Kearny Street, San Francisco, CA 94108

(Attendees eligible for 50% discount on annual CACS membership)

**Open to all!**

Only \$70/person. Purchase tickets at ACS Registration, or from CACS directly via:

1. PayPal:

<https://paypal.me/cacshq>

(Link to PayPal website or scan  
the QR code →)



2. Zelle: [cacshq.org@gmail.com](mailto:cacshq.org@gmail.com)

(Account name to use)

**Evening Program**

6:00 - 6:45 pm

Registration and Social Hour

6:45 - 9:00 pm

Banquet Dinner/Award Ceremony/Keynotes (Two Speakers)

Hosted by: Dr. Marinda Li Wu, CACS Board Chair and Dr. J. Louise Liu, CACS 2023 President



**Reuben Jih-Ru Hwu**  
Distinguished Chair Professor  
National Tsing Hua University

*“Green Chemical Methods in Organic  
Synthesis  
Involving New Domino Reactions”*

[\(Click Here for Abstract\)](#)



**Liang-Shih (L.-S.) Fan**  
Distinguished University Professor  
The Ohio State University

*“Multiscale Approach for Redox  
Chemical Looping  
– a technology for clean energy future”*

[\(Click Here for Abstract\)](#)



# ACS Fall 2023 Meeting

## AUGUST 13-16 • SAN FRANCISCO, CA

*Harnessing the Power of Data*

### WOMEN CHEMISTS COMMITTEE EVENTS SCHEDULE

WCC Chair: Amy M. Balija • Programming Chair: Danniebelle Haase

#### SUNDAY, AUGUST 13, 2023

##### WCC Merck Research Awards Symposium

8:00 am – 12:00 pm

Hilton Parc 55, Cyril Magnin II  
Hybrid



##### Advancing Gender Equity in Science Symposium

2:00 pm – 4:40 pm

Hilton Parc 55, Cyril Magnin II  
Hybrid



#### MONDAY, AUGUST 14, 2023

##### Women Chemists in the Chemical Enterprise Networking Breakfast (Ticketed Event)

Keynote Speaker – Atefeh Taheri, Reliability and  
Maintenance Team Lead at Chevron

7:30 am – 9:00 am

Hilton San Francisco Union Square Hotel,  
Continental Ballroom 5  
In-Person



##### Advancing Gender Equity in Science Symposium

8:00 am – 11:40 am

Hilton Parc 55, Cyril Magnin II  
Hybrid

#### TUESDAY, AUGUST 15, 2023

##### WCC Eli Lilly Travel Award Poster Session

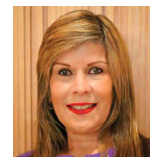
11:00 am – 12:00 pm

Hilton San Francisco Union Square Hotel,  
East Lounge  
In-Person



##### Women Chemists Committee Luncheon – “Diversity and the Progression of Women Chemists” (Ticketed Event)

KEYNOTE SPEAKER



12:00 – 1:30 pm

Hilton San Francisco Union Square Hotel,  
Continental Ballroom 5  
In-Person

**Ingrid Montes**  
Professor of Organic Chemistry,  
University of Puerto Rico,  
Rio Piedras Campus

##### WCC ‘Just Cocktails’ Reception – Open Meeting

5:00 pm – 6:00 pm

Hilton San Francisco Union Square Hotel, Imperial A  
In-Person

##### Fentanyl and the Devastating Effects on Students and Young Adults: Dangers, Statistics and Current Status Symposium

Sponsored by the ACS Division on Chemical Health & Safety  
Co-Sponsored by the ACS Women Chemists Committee

August 14 – 16, 2023

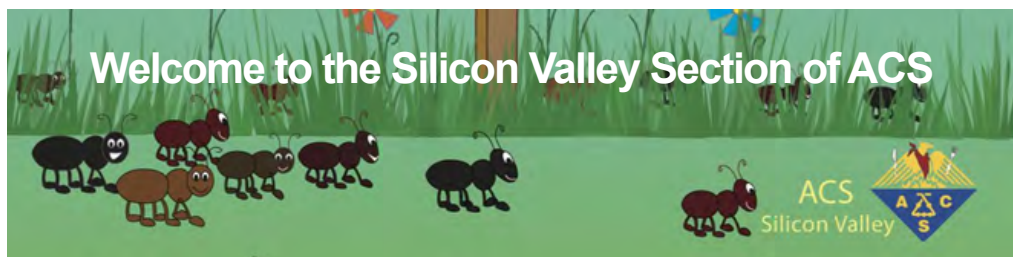
Hilton Parc 55, Cyril Magnin I  
Hybrid

All meeting times are noted in the Pacific Time Zone.

Please be sure to check the ACS Meeting Mobile App for the most updated information.  
Send an email to [WCC@acs.org](mailto:WCC@acs.org) for further information.



## Welcome to the Silicon Valley Section of ACS



Each month, our Silicon Valley local ACS section receives a spreadsheet from national ACS with the names of members new to our section. The members are either new to ACS, have transferred in from other areas, or are the newest members - students. As a welcoming gesture, the SVACS Executive Committee offers new members a free dinner at a catered SVACS event. To register as our guest for an in-person event, [contact us](#) directly to receive complimentary admission for you and a friend.

We hope you will also join us for an outreach event, like judging a science fair, proctoring the high school Chemistry Olympiad or participating in a National Chemistry Week hands-on experiment event. The local section is a volunteer organization. Attend an event, volunteer to help, and get to know your local fellow chemists. Welcome!

### NEW ACS MEMBERS

Frank Abild-Pedersen	Prof. R. Scott Lokey
Alexandra Adams	John Edward Madden
Lakshmi B. Akella	Benjamin Madej
Alma De Jesus Antonio Martinez	Rimsha Mehmood
Zahuindanda Aventura	Michael Musumeci
Nahal Bagheri	Dije Ndreu
Sharon Bone	Jenny Nelson
Hanna Budayeva	Adam Nielander
Michael Burroughs	Efrey Noten
Lucas Cantwell	Michael Okeefe
Sara Capponi	Maaike Parajes
Dave Chau	Astrid Marisol Parsons
Fang Chen	Saugat Pokhrel
Yaoyao Chen	Tian Qiu
Yilan Chen	Jadyn Reed
Xinxin Cheng	William Richards
Carlos Cienfuegos Garcia	Minxing Shen
Thomas Colburn	Devleena Shivakumar
Monty Cosby	Anthony Vincent Sica Jr.
Duy-Khoi Dang	Jayden Stahl
Matthew Del Bel	James Stiltner
Dustin Dimas	Steven Sullivan
Fuhar Dixit	Daniel P. Sutherlin
Steven Do	Christopher A. Teske
Jordan Dotson	Jack Tinsley
Vincent John Esposito	Duayne Tokushige
Katherine Ferrara	Linh Tram
Darren Finkelstein	Scott Tran
Emma Guiberson	Lily Truong
Charlene Alexandra Guimpier	Vickie Tsui
Avid Hassanpour	Nicole Vita
Michael Hayes	Breana Walton
Kanaka Hettiarachchi	Hui Wang
Sophia Hollow	Jun Wang
Md Delowar Hossain	Tong Wang
Abigail Kaplan	Zhong Wang
Madeleine Kieffer	Barry F. Wolf
Michael Koehler	Jordyn Wolfand
Matthew B. Kraft	Haibin Wu
Alissa Lance-Byrne	Kingsley Wu
Gregory J. Lewis	Xiangyu Xing

## Safety Information in Journal Articles



"In this three-part series, ACS Publications reviews the importance of disclosing safety information in journal articles, provides tips and best practices for authors to formulate a well-written safety summary statement, and shares additional resources that will help authors as they prepare their manuscripts for submission."

- **Part 1: The Necessity of Communication** (ACS Axial, October 10, 2022; updated July 26, 2023)
- **Part 2: Tips for a Well-Written Safety Statement** (ACS Axial, October 17, 2022)
- **Part 3: FAQs and Additional Resources** (ACS Axial, October 24, 2022)



### ACS Fall 2023 Meeting San Francisco, CA

#### Social

<b>Sunday, August 13</b>	7:00 – 10:00 p.m.	YCC Social at Black Hammer Brewing Co. 544 Bryant St
<b>Monday, August 14</b>	7:00 – 9:00 a.m.	YCC Fun Run (guided tour). Moscone Center, (747 Howard Street)

#### Symposium

<b>Sunday, August 13</b>	2:00 – 4:40 p.m	Generating Big Data through High-Throughput Robotics
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#### Career Development

<b>Sunday, August 13</b>	8:00 – 11:30 a.m.	Industry Jobs 101
<b>Monday, August 14</b>	8:00 – 12:20 p.m.	How to Get Your First Federal Government Job

Symposium & Career Development Location:  
Room 205, South Bldg. (Moscone Center)



# Interesting and Cool Science in the News

**ACS to designate Science History Institute as a landmark** (ACS News Release, June 6, 2023)

**Advanced electrode to help remediate stubborn new 'forever chemicals'** (NSF Research News, July 18, 2023)

**AI search of Neanderthal proteins resurrects 'extinct' antibiotics** (Nature news, July 28, 2023)

**Alzheimer's drug trials plagued by lack of racial diversity** (Nature news, August 2, 2023)

**Bibliotoxicology** (Indiana University Bloomington Libraries Blog, July 25, 2023)

**Bio-inspired device captures images by mimicking human eye** (NSF Research News, July 18, 2023)

**Can we use plastic waste to build roads, buildings, and more?** (Stanford news, July 18, 2023)

**Cancer's origin story features predictable plot line, Stanford Medicine researchers find** (Stanford Medicine News, July 7, 2023)

**ChatGPT-like AIs are coming to major science search engines** (Nature news, August 2, 2023)

**Chemical reaction used in cooking may have helped complex life evolve** (New Scientist, August 2, 2023)

**Chemistry and artificial intelligence will be discussed at ACS Fall 2023** (ACS News Release, August 1, 2023)

**Droughts in Western states drive up emissions and threaten human health** (Stanford news, July 17, 2023)

**Earth's early warmth may be explained by methane-making reaction** (New Scientist, August 1, 2023)

**Elsevier Releases Latest Industry Study Revealing Surprising Growth Trends from the Global South Among G20 Nations** (Elsevier Press Release, July 12, 2023)

**Energy-storing concrete could form foundations for solar-powered homes** (New Scientist, July 31, 2023)

**Espresso can prevent Alzheimer's protein clumping in lab tests** (ACS Press Release, July 19, 2023)

**Experimental insulin implant uses electricity to control genes** (Nature news, August 1, 2023)

**Flipping a Switch and Making Cancers Self-Destruct** (New York Times, July 26, 2023)

**A floating sponge could help remove harmful algal blooms** (ACS Press Release, August 1, 2023)

**A foundation that fits just right gives superconducting nickelates a boost** (SLAC News, July 12, 2023)

**The future of antibiotic synthesis (video)** (Stanford Engineering News, July 14, 2023)

**Gene linked to long COVID found in analysis of thousands of patients** (Nature news, July 11, 2023)

**Geoscientists probe geochemistry, microbial diversity of Peruvian hot springs** (NSF Research News, July 27, 2023)

**How a cystic fibrosis drug given prenatally changed the lives of one Stanford Medicine family** (Stanford Medicine News, July 5, 2023)

**How heat treatment affects a milk alternative made from rice and coconut water** (ACS Press Release, July 31, 2023)

**Humidity – not just light – causes color degradation in historical paintings, researchers discover** (SLAC News, July 6, 2023)

**Insights from a laboratory fire** (Nature Chemistry comment, July 5, 2023)

**It's not 'just cannabis,' Stanford Medicine expert warns** (Scope blog, Stanford Medicine, July 12, 2023)

**Layers of self-healing electronic skin realign autonomously when cut** (NSF Research News, July 13, 2023)

**Low-cost, waterproof sensors may create new possibilities for monitoring health** (NSF Research News, July 20, 2023)

**Masters of acclimation: Octopuses adjust to cold by editing their RNA** (NSF Research News, July 25, 2023)

**Microbiome Could Be Key in Preventing HIV Progression** (Genetic & Engineering News, July 24, 2023)

**Mimicking the body's own defenses to destroy enveloped viruses** (ACS Press Release, August 2, 2023)

**Mission to understand Arctic carbon uptake and 'jewels of the sea'** (Stanford Earth Matters,

July 25, 2023)

**New catalyst could dramatically cut methane pollution from millions of engines** (SLAC News, July 20, 2023)

**A new tactic to take on leprosy** (ACS Press Release, July 12, 2023)

**NIH launches trials for long-COVID treatments: what scientists think** (Nature news, August 1, 2023)

**Octopus-inspired ink changes colour when exposed to light** (New Scientist, May 17, 2023)

**Ohio train derailment, clean-up resulted in high levels of some gases, study shows** (ACS Press Release, July 12, 2023)

**A protein mines and sorts rare earths, paving way for green tech** (NSF Research News, July 6, 2023)

**A quick and inexpensive test for osteoporosis risk** (ACS Press Release, July 19, 2023)

**Recent advances in research to identify sources of nano- and microplastics** (ACS Press Release, July 26, 2023)

**Regeneration might be a whole-body affair** (Stanford News, July 21, 2023)

**Researchers show how to increase X-ray laser brightness and power using a crystal cavity and diamond mirrors** (SLAC News, August 2, 2023)

**Robo-dogs unleash joy at Stanford hospital** (Stanford Report, August 1, 2023)

**Scale of illegal trade in chemicals reveals million of tonnes are exported every year** (Chemistry World, July 24, 2023)

**Special delivery: mRNA moves past COVID-19** (Stanford Medicine Magazine, June 2, 2023)

**The spice seller's secret** (Stanford Medicine Magazine, June 2, 2023)

**Stanford Medicine researchers take part in HuBMAP, showing what healthy human tissue looks like** (Stanford Medicine News, July 19, 2023)

**A step toward treating chemotherapy-resistant prostate cancer** (ACS Press Release, July 12, 2023)

**These lollipops could 'sweeten' diagnostic testing for kids and adults alike** (ACS Press Release, July 10, 2023)

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**A vegan way to stop damage from excessive ice build-up and freezer burn** (ACS Press Release, July 19, 2023)

**What Benjamin Franklin Learned While Fighting Counterfeiters** (New York Times, July 17, 2023)

**What the Stanford president's resignation can teach lab leaders** (Nature news, July 27, 2023)

**Widely used chemicals can now be made without using toxic gas** (New Scientist, July 20, 2023)

**World's declared stockpiles of chemical weapons destroyed as US finishes the job** (Chemistry World, July 13, 2023)



# EVERGREEN VALLEY COLLEGE

[Evergreen Valley Community College](#)

Open position  
Materials Science Instructor

Evergreen Valley College in San Jose is seeking an instructor for the introductory Materials Science course in the Fall 2023 semester.

Details:

- Fall 2023, 8/28/2023-12/14/2023
- ENGR-066-201 (117823) Properties of Materials
- Lecture: F 12:30-2:20 PM
- Lab: F 2:30-5:35 PM
- minimum qualifications:
  - Master's in any field of engineering  
OR
  - Bachelor's in any field of engineering  
AND
  - Master's in mathematics, physics, computer science, chemistry or geology  
OR the equivalent

NOTE: A bachelor's in any field of engineering with a professional engineer's license is an alternative qualification for this discipline

- Contact: Dr. Melissa Hornstein at [hornstein@alum.mit.edu](mailto:hornstein@alum.mit.edu)

Access [the application](#)

Applicants should also contact Dr. Hornstein [\[hornstein@alum.mit.edu\]](mailto:hornstein@alum.mit.edu) to familiarize themselves with the application process.

Course description:

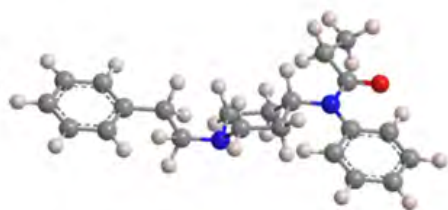
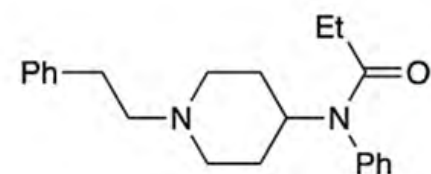
ENGR 066 Properties of Materials 3 Units

Mechanical, thermal, electrical, magnetic and chemical properties of materials are studied. The effect of atomic and crystal structure and various bonding mechanisms on the above properties are discussed. Diffusion and phase analysis in various materials, defects, and failure in materials including the effect of heat treatment on the strength of materials are also investigated. Various laboratory experiments such as impact, tensile and compression, torsion, fatigue, corrosion, thermal conduction and expansion, electrical conduction, magnetic strength, composite structure, rubber and polymer resilience, and photomicrograph are conducted to provide enhanced knowledge of material properties.

CHEMISTRY

## Quiz

I'm a great painkiller, but I can also kill you.  
What molecule am I?



Answer

## Simple, Clear, and Easy Access for Readers: Changes Coming to ACS Journals



*We're making it easier for readers to know what content they can access, and what they can do with that access.*

“Changes are coming to all ACS journals over the next few months that make it easier to identify content to which readers have access and what they are permitted to do with that content. Readers who visit [pubs.acs.org](http://pubs.acs.org) to consume journal, book, and news content will notice a variety of new icons in headers that will help them identify content that is available to them in full text and what permissions govern their use of that content.” [Read the full text.](#) (Source: ACS Axial, July 14, 2023)



# FAIRly New Chemistry Videos from IUPAC



## What is Digital IUPAC?

### Watch on YouTube

“Fast forward not so far into the future where electronic laboratory notebooks are used widely and research data are published with your work and where artificial intelligence and machine learning applications like chatGPT can suck up that data into new discoveries. Join us for a conversation among experts in the chemical data management field with younger chemists about:

- Managing and sharing research data in the cloud (or “as digital data”)
- Standards, identifiers, and metadata in a FAIR world
- Emerging resources to help manage/clean/prep/check your data
- ChemVoices is a joint project from the IYCN and IUPAC, and a legacy of IUPAC100’

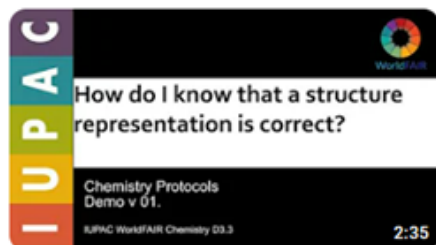


## Where can I get help to manage chemical data FAIRly?

### Watch on YouTube

“To answer this question, a group of chemists at the [WorldFAIR Chemistry](#) project are developing an online community resource of practical and reusable online training materials that demonstrate how to use standards to manage digital data files and content FAIRly. The task group is engaging with members of active data initiatives in chemistry and related fields to contribute web-based recipes for handling data from their projects and develop these into a digital cookbook that will form the basis of D3.2, a “Chemistry Training Package”. The cookbook will also provide supporting materials for implementing D3.1 guidance and D3.3 services based on early applications of these deliverables with key stakeholders. A GitHub repository to host project files based on Python and using

the Jupyter book package has been created. Interactive sample recipes are now available in the [IUPAC FAIR Chemistry Cookbook](#) more are under development. Chemical data communities are invited to visit the Cookbook Website, navigate the recipes and share their thoughts via the [Questionnaire](#).”



## How do I know that a structure representation is correct?

### Watch on YouTube

“To answer this question, a group of chemists at the [WorldFAIR Chemistry](#) project are working

on developing a structure validator web-based tool. This tool is based on IUPAC and community standards to provide real-time feedback on the machine-readability of chemical data and metadata representation. These API protocols will enable toolkit and application developers and database providers to exchange information across platforms and systems. A prototype for validating machine-readable chemical representations based on the early protocol has been implemented within two different chemical toolkit rule-sets for testing and comparison and a [Structure Validator Demo](#) is now available. It allows users to upload three common chemical representations (InChI, SMILES, MOLfile) and to submit for immediate feedback on basic chemical parameters. The [Protocol Services](#) are under development and are expected to expand. All chemical data communities are invited to [provide feedback via a Questionnaire](#).”

## Reactions Videos on Bio-Concrete and Amorphous Ice



### The Rise of Bio-Concrete (video)

#### Watch on YouTube (8:21 minutes)

“Concrete is the most important building material on Earth, but its production causes a MASSIVE amount of global carbon emissions. Join George as he discovers how a surprising discovery in 1973 could dramatically change how we make concrete forever.” [Learn more](#)



### What is Amorphous Ice?

#### Watch on YouTube (9:38 minutes)

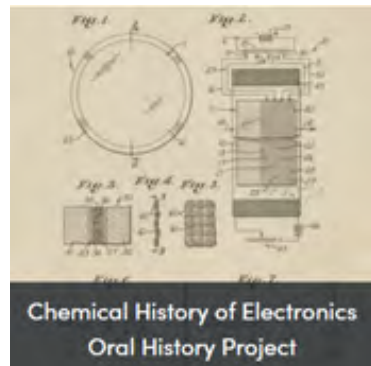
“This episode of Reactions dives into something truly out-of-this-world: amorphous ice. While ice here on Earth is typically regular and crystalline, ice out in space is a whole lot more interesting. The amorphous ice found on distant moons and comets can tell us about the history of our solar system and shed light on how to make new electronics. It’s also, literally, cool.”

Reactions is a video series produced by the American Chemical Society and PBS Digital Studios. Subscribe to Reactions at <http://bit.ly/ACSReactions> and follow us on Twitter [@ACSReactions](#).

# Science History Institute Digital Collections: Center for Oral History

“The *Center for Oral History* at the Science History Institute is dedicated to creating a collection of comprehensive, professionally edited interviews with remarkable figures in chemistry, chemical engineering, life sciences, and related fields. With interviews dating back to 1979, their oral histories offer unique insights into the history of science.”

Digitized items in the Digital Collections make up a selection of all *Science History Institute materials*. Some of the Institute’s Oral History Collections with digitized content are below.



The descriptions below are from the Science History Institute’s website.

## ***Chemical History of Electronics Oral History Project*** (30 items)

These oral histories document and explore the contributions of chemists, chemical engineers, metallurgists, and materials scientists to the development of modern electronics.

## ***Mass Spectrometry Oral History Project*** (28 items)

These oral histories record the human dimensions related to the growth of mass spectrometry in academic, industrial, and governmental laboratories during the 20th century.

## ***Nanotechnology Oral History Project*** (11 items)

This oral history series is an important resource for the history of nanotechnology, documenting the lives and careers of key scientists and engineers who shaped and contributed to the contemporary practice of science and technology.

## ***Oral Histories of Immigration and Innovation*** (70 items)

Oral histories of 70 eminent scientists and engineers who immigrated to the United States in the 20th century. The oral histories provide moving testimony and insights into the nature of immigrant scientists’ scientific work and enterprise, as well as their struggles and successes in weaving themselves into the cultural fabric of American life. Many of these stories highlight historical events and social conditions that led individuals and families to flee their home countries. Other interviews shed light on the educational and professional opportunities that aspiring and experienced scientists sought out in the United States.

## ***Oral History of the Toxic Substances Control Act*** (14 items)

Through oral history interviews with individuals involved in the process of writing and negotiating the Toxic Substances Control Act (TSCA), we gain their

perspective on the law, its impact, and whether or not it will continue to be effective in the 21st century.

## ***President’s Council of Advisors on Science and Technology Oral History Project*** (8 items)

This oral history collection features interviews with former members of the President’s Council of Advisors on Science and Technology (PCAST), a federal advisory committee of preeminent scientists and engineers appointed by and serving the President. The collection documents the lives, careers, and contributions to White House policymaking of PCAST members, as well as their perspectives on PCAST and US federal science and technology policy.

## ***Science and Disability Oral History Project*** (31 items)

What makes a person “disabled”? Is it a physical, cognitive, or emotional impairment that is manifested in that person’s body, or is it the presence of barriers and the absence of accommodations in society and the environment in which that person must live and work? Some categories of disability are contested, such as pregnancy, which may be viewed as disabling by some but not by others. Deciding what is and is not a disability is a historically and politically meaningful act. Many of the interviews included in the project are with individuals who might not self-identify as disabled, but each interview includes some discussion that sheds light on what disability, or the perception of disability, can mean and how it can affect a person’s life, education, and career in STEM.

## ***Scientific and Technical Information Systems Oral History Project*** (19 items)

These oral histories focus on those who contributed to the advancement of the classification, manipulation, dissemination, storage, and retrieval of information and who developed new information systems in the twentieth century, especially those who focused on scientific knowledge.

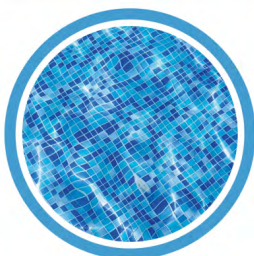


# The Chemistry of Swimming Pools



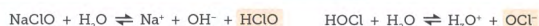
## Chlorinating agents

Due to the hazards associated with its storage and use, chlorine gas is rarely used for chlorination of pools. Instead, hypochlorite salts tend to be used. Calcium chloride is also often added to pool water; this prevents calcium sulfate, which is a slightly soluble component of the grouting between tiles in pools, from dissolving. Ozone and UV light are sometimes also used to disinfect pools.



## The chemical reactions involved in chlorination

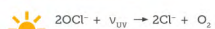
Chlorine and hypochlorite salts both react with water to produce the strong oxidant hypochlorous acid, the major bactericidal agent in pool water. In water, hypochlorous acid exists in equilibrium with the weaker oxidant, the hypochlorite ion. The combined concentration of these chemicals in pool water is referred to as 'free available chlorine' (FAC).



### Hypochlorous acid

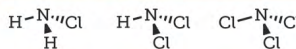
Hypochlorite ions are quickly broken down by the UV light present in sunlight and this causes 90% of the FAC loss from outdoor pools. This means that outdoor pools require more frequent chlorination - or the addition of other chemicals to stabilise the FAC levels.

### Hypochlorite ion



UV light photolysis  
Hypochlorite breaks down faster than hypochlorous acid

## Pee in the pool and chloramines



### Monochloramine

### Dichloramine

### Trichloramine

Ammonia and ammonia-like compounds found in human sweat and urine react with hypochlorous acid, producing chloramines. It is these, not chlorine, that cause the characteristic smell of swimming pools. They can cause wheeziness and sore eyes for some swimmers.



### Pool smell



### Respiratory effects



### Sore eyes

Peeing in the pool produces more trichloramine, as the uric acid present in urine helps to create it. It also produces small amounts of cyanogen chloride. Chlorine contained in these by-products of chlorination is referred to as 'combined chlorine' (CC).

KEY: ● Carbon ● Oxygen ● Nitrogen ● Chlorine ● Hydrogen



www.compoundchem.com

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