

SILICON VALLEY CHEMIST

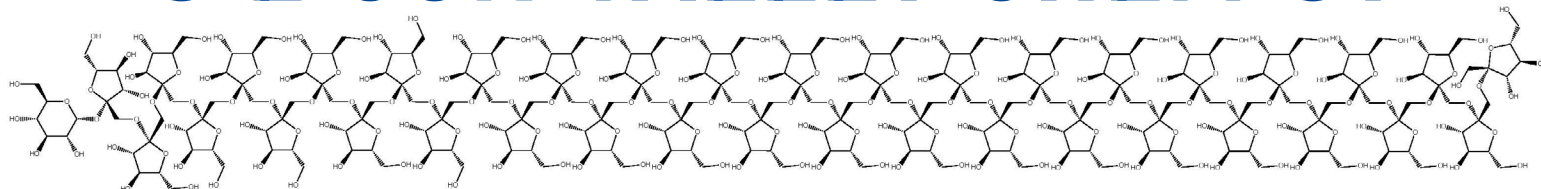


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Featured Event: ChemHIST Talks

from the ACS History of Chemistry Division

May 15, 2024 Noon-1:00 pm Pacific Time, Online, Free, [Registration required](#)

This is an invitation to the inaugural ChemHIST Talks, a new WebSeries bringing two talks from each National ACS meeting to you. The first ChemHIST Talks will be on Wednesday, May 15, 2024, from Noon-1:00pm Pacific Time, from the Spring 2024 National ACS Meeting in New Orleans, LA.



Stamps are Planar, Carbon is Not: A Philatelic History of Stereochemistry

[Assoc. Dean and Prof. Daniel Rabinovich, Dan.Rabinovich@uncg.edu](#). Dept of Nanoscience, University of North Carolina at Greensboro.

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Featured Event: Meet the Heroes of Chemistry

Meet The Heroes of Chemistry: Featuring the Scientists behind Paxlovid™, RelyX™, and Trikafta®

Jisun Lee, Pfizer; Christoph Thalacker, Solvatum Dental Solutions; and Mark Miller, Vertex Pharmaceuticals. Moderated by Judith C. Giordan, Co-founder of the Chemical Angels Network, Managing Director of ecosVC, Inc., and ACS President 2023

Sponsored by ACS Webinars, ACS Industry Member Programs, and ACS Committee on Corporation Associates

May 16, 2024, 11:00 am-Noon, Online, Free, [Registration required](#)

Not all heroes wear capes...some wear lab coats, safety goggles, and protective gloves! Learn how these scientists and engineers overcame challenges on their journeys to bring important discoveries to market that have helped save lives during the Covid-19 pandemic, improved outcomes for patients with Cystic Fibrosis, and even simplified how dentists install implants while

continued on next page



Featured Event: SLAC Public Lecture

Mercury Rising: The Toxicology of a Global Pollutant

Ashley James, Postdoctoral Fellow, University of Saskatchewan

Sponsored by SLAC National Laboratory

May 23, 2024, 7:00-8:00 pm, Free, [Register](#) to attend in-person at Kavli Auditorium or watch lecture live on YouTube, [Learn more](#)

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Featured Event: ChemHIST Talks, continued from front page

The Birth of the 3rd Dimension in Chemistry Symposium, Spring National ACS Meeting 2024

Stereochemistry, the branch of chemistry dealing with the three-dimensional arrangement of atoms and molecules in space, and how it affects chemical reactivity, is of critical importance in biological systems and the pharmaceutical industry. This presentation will use postage stamps to discuss some milestones in the development of modern stereochemistry, starting with the pioneering work of Louis Pasteur, who discovered molecular chirality and spontaneous resolution in 1848 by studying crystals of tartaric acid and various tartrate salts. The seminal 1874 contributions of Jacobus H. van't Hoff in the Netherlands and Joseph Le Bel in France, who independently explained optical activity in terms of the tetrahedral arrangement of the atoms bound to carbon, will be described. And the work of Vladimir Prelog, who shared with John Cornforth the 1975 Nobel Prize in Chemistry "for his research into the stereochemistry of organic molecules and reactions", will be outlined.

Karl Ziegler and Giulio Natta and Their Impact on Modern Catalysis

Pete Villarreal, pete.villarreal@students.tamuk.edu, Christine Hahn, Department of Chemistry, Texas A&M University-Kingsville, Kingsville, Texas, United States

History of Catalysis Symposium, Spring National ACS Meeting 2024

Karl Ziegler (1898-1973) and Giulio Natta (1903-1979) are two renowned chemists famous for their development and application of what is known as the Ziegler-Natta catalyst. Their pioneering work in titanium-based catalysts in the synthesis of 1-alkene polymers helped to revolutionize chemistry, industry, and commercial manufacturing. This talk aims to highlight their lives, achievements, and contributions to the field of chemistry and catalysis, as well as looking at the improvements that have been made to the modern world due to their work.

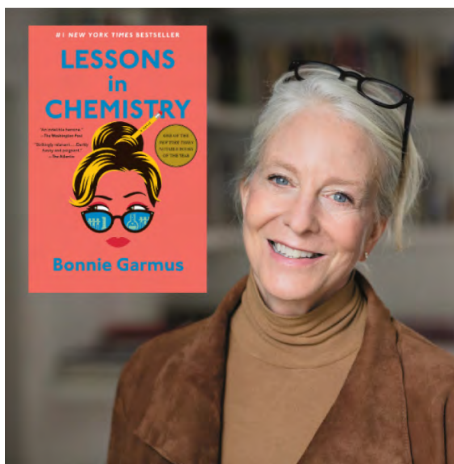
Featured Event: SLAC Public Lecture, continued from front page



Every day, we come in contact with many different chemicals that have the potential to impact our lives. Toxicology is a field of science that helps us understand the interactions between us, our environment, and these chemicals which are sometimes toxic. Heavy metals such as mercury are particularly interesting due to their toxicity to human health and their widespread environmental presence. X-ray experiments at facilities like the Stanford Synchrotron Radiation Lightsource at SLAC can teach us the ways in which these harmful pollutants affect our everyday lives. This lecture will explore different areas of toxicology through

case studies of mercury exposure in human and animal models. Discussion will include new insights into historic poisonings as well as other aspects relevant to human health and nutrition. The strength and versatility of synchrotron-based techniques allow us to delve into the sometimes dark, but always intriguing mysteries that the field of toxicology has to offer.

An Evening with Bonnie Garmus Author, Lessons in Chemistry



The Stanford Graduate School of Education hosted a conversation between author Bonnie Garmus and Professor Christine Min. They addressed the timeless, timely issues of building more inclusive and respectful learning environments and experiences in the sciences, and preparing young people to see themselves in any profession that inspires them regardless of social expectations.

Bonnie Garmus is the author of *Lessons in Chemistry*, a number-one global bestseller and winner of international awards. Currently published in forty-two territories, it has sold almost seven million copies.

The sold-out event took place on May 4, 2024 and will be available as a video recording for a short time.

[Request a video recording.](#)

Featured Event: Meet the Heroes of Chemistry, continued from front page

making it less painful for the patient.

Join a panel of ACS Heroes of Chemistry featuring Jisun Lee of Pfizer for Paxlovid™ which was FDA authorized for emergency treatment of patients with COVID-19, Christoph Thalacker of Solvntum Dental Solutions (formerly 3M Oral Care Solutions) for the RelyX™ Unicem and Universal Dental Cements, which enable dental implant procedures that are simpler with virtually no post-operative sensitivities, and Mark Miller of Vertex Pharmaceuticals for Trikafta®, which takes a novel approach to the treatment of cystic fibrosis in adults and children by combining three active compounds to treat the underlying genetic defects that cause the disease. During this interactive panel discussion, learn how these teams succeeded in both internal and external collaboration, tips for how chemists can grow their career while working on life-changing discoveries, and discover the necessary details regarding eligibility to be nominated for the ACS Heroes of Chemistry Award.

ACS Proactive Membership Assistance Program



"Life-changing events, such as job loss or natural disasters, can disrupt your day-to-day life and completely redefine what normalcy and stability mean to you and your family. This is why the American Chemical Society wants to ensure that you are aware of all the resources at your disposal to help you through tough times.

At ACS, we strive to enrich the value of your membership by offering support throughout your professional career in chemistry in times of success and in times of difficulty." [Learn more](#)

CALENDAR OF EVENTS

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

- May 2024 -

May 8 How Nanoscale Materials in Biosensors are Innovating Health from Concept to Care

Jean-Marc Pecourt, CAS; Asst. Prof. Jun Chen, Bioengineering Dept., UCLA; and Venk Varadan, Co-founder and CEO, Nanowear
Sponsored by ACS Webinars and CAS
11:00 am-Noon, Online, Free, [Registration required](#)

May 8 Stanford Frontiers in Synthetic Biology Distinguished Lecture: Sang Yup Lee

Prof. Sang Yup Lee, Chemical and Biomolecular Engineering and Senior Vice President for Research at Korea Advanced Institute of Science and Technology (KAIST)
Sponsored by Stanford Bioengineering
2:00-3:15 pm, In person event, Clark Center, S360 - Third Floor, 318 Campus Drive, Stanford, CA 94305, Free, [Registration required](#)

May 9 Tools to Make Chemistry Education Accessible for Persons with Visual Impairments

Bryan Shaw, Prof. Chemistry & Biochemistry, Baylor University
Sponsored by ACS Webinars and ACS Professional Relations Division
11:00 am-Noon, Online, Free, [Registration required](#)

May 9 SLAC on Tap: Shocking to the Core: Adventures in Earth Science

Arianna Gleason, Staff Scientist/Rock Star
Sponsored by SLAC National Laboratory
5:00-7:00 pm, The Dutch Goose, Front patio, 3567 Alameda de las Pulgas, Menlo Park, CA 94025, Free, [Registration required](#)

May 15 Making the Most of Your Interview: Outshine the Competition

Roger E. Brown, Jr., Human Capital
Sponsored by ACS Careers
9:00-10:30 am, Online, Free, [Registration required](#)

May 15 Your Career Story: Crafting CVs and Resumes

Milcah S. Jackson, ACS Student and Postdoctoral Scholars Development Office
Sponsored by ACS Webinars and ACS Careers
11:00 am-Noon, Online, Free, [Registration required](#)

May 15 ChemHIST Talks from the ACS 2024 Spring Meeting

Stamps are Planar, Carbon is Not: A Philatelic History of Stereochemistry
Prof. Daniel Rabinovich, Nanoscience Dept., University of North Carolina
Karl Ziegler and Giulio Natta and Their Impact on Modern Catalysis
Prof. Pete Villarreal, Chemistry Dept., Texas A&M
Sponsored by the ACS History of Chemistry Division
Noon-1:00 pm, Online, Free, [Registration required](#)

May 16 Meet The Heroes of Chemistry: Featuring the Scientists behind Paxlovid, RelyX, and Trikafta

Jisun Lee, Pfizer; Christoph Thalacker, Solvatum Dental Solutions; and Mark Miller, Vertex Pharmaceuticals. Moderated by Judith C. Giordan, Co-founder of the Chemical Angels Network, Managing Director of ecosVC, Inc., and ACS President 2023
Sponsored by ACS Webinars, ACS Industry Member Programs, and ACS Committee on Corporation Associates
11:00 am-Noon, Online, Free, [Registration required](#)

May 22 Exploring Thermal Mechanics in Polymeric Materials: Thermomechanical and Self-Healing Properties

Prof. Tim White, University of Colorado; Dhriti Nepal, Air Force Research Lab; and Asst. Prof. Rachel Letteri, University of Virginia
Sponsored by ACS Webinars and ACS Polymeric Materials: Science & Engineering Division
11:00 am-12:30 pm, Online, Free, [Registration required](#)

May 22 Scaling Sustainability Innovation: Insights from DOE and Beyond - A Conversation with Dr. Steve Chu

Prof. Steven Chu, Physics, Molecular and Cellular Physiology, and Energy Science and Engineering at Stanford University; Nobel laureate; and former U.S. Secretary of Energy.
Sponsored by Stanford Sustainability Accelerator
11:30 am-12:20 pm, In person and online, Mitchell Earth Sciences, Room 350, 397 Panama Mall, Stanford, CA 94305, Free, [Registration required](#)

May 23 Reuse or Recycling of Thermosets: Interesting Approaches Emerging

Jeff Gotro, Ph.D., President and Founder of InnoCentrix, LLC.
Sponsored by the Golden Gate Polymer Forum
6:00-9:30 pm, Online, \$0/\$5 Donation, [Registration required](#) by May 22nd at 1:00 pm

May 23 Mercury Rising: The Toxicology of a Global Pollutant

Ashley James, Postdoctoral Fellow, University of Saskatchewan
Sponsored by SLAC National Laboratory
7:00-8:00 pm, Free, [Register](#) to attend in-person at Kavli Auditorium or watch lecture live on YouTube, [Learn more](#)

- June 2024 and Beyond -

Jun 3 How to scale and finance industrial "hard" technologies: a view from venture capital

Josh Stiling, Anzu
Sponsored by Stanford Precourt Institute for Energy
4:30-5:20 pm, Free, In-person at Skilling Auditorium, Stanford, and online, [Learn more](#)

Jun 3-5 28th Annual Green Chemistry and Engineering Conference

Sponsored by the ACS Green Chemistry Institute
Theme: AI-Enabled Green Chemistry. Atlanta, Georgia. [Learn more](#)

Jun 12 See What's New in CAS SciFinder

Sponsored by CAS
11:00 am-Noon, Online, Free, [Registration required](#)

Jun 20 Revealing Mona Lisa's Secrets Through Advanced Analytical Chemistry

Victor Gonzalez, French National Center for Scientific Research (CNRS)
Sponsored by ACS Webinars and ACS Publications
8:00-9:00 am, Online, Free, [Registration required](#)

Jun 23-26 2024 ACS Northwest Regional Meeting - "Breaking Borders: Building Bonds"

Sponsored by ACS Washington-Idaho Border Section
In person, Washington State University, Pullman, Washington, [Learn more](#)

Jul 28 Biennial Conference on Chemical Education (BCCE)

-Aug 1 Sponsored by the ACS Division of Chemical Education (DivCHED)
In person, University of Kentucky, Lexington, Kentucky, [Learn more](#)

STANFORD CHEMISTRY DEPARTMENT UPCOMING EVENTS

Subscribe to *This Week in Chemistry* to attend Stanford Chemistry events held in the *Sapp Center* that are also available via Zoom. TWIC is published on Fridays.

- May 8** **Particulate methane monooxygenase structure in situ**
Prof. Amy Rosenzweig, Northwestern
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)
- May 16** **Manipulating Phase Transitions and Free Volume: From Solid Refrigerants to Microporous Water**
Prof. Jarad Mason, Harvard University
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)
- May 20** **Molecular Glues & Bifunctional Compounds: Therapeutic Modalities Based on Induced Proximity**
Prof. Stuart L. Schreiber, Harvard University
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)
- May 21** **Chemical Exfoliation of Quantum Materials**
Prof. Leslie Schoop, Princeton University
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)
- May 22** **Multum in Parvo: Mechanisms of phage derived protein antibiotics**
Prof. Bil Clemons, Caltech
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)
- May 24** **Local Distortions and Long-Range Polarity in Pyrochlore Oxides from Total Scattering**
Prof. Geneva Laurita, Bates College
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)
- May 29** **Visualizing Dynamics—A Role for Nonlinear Optical Spectroscopy in Energy Science**
Prof. Amber Krummel, Colorado State University
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)
- May 30** **Magnetic resonance one spin at a time**
Prof. Joerg Wrachtrup, University of Stuttgart
3:00-4:00 pm, Stanford University, Sapp Center Lecture Hall 114, Free,
[Learn more](#)

Hartnell College Spring 2024 Career & Resource Fair

The sunny central quad of Hartnell College in Salinas hosted the annual Spring Career and Resource Fair on April 22. Hundreds of visitors attended from 11AM to 2PM to explore career opportunities and community resources. The open and free event drew not only from the Hartnell student body, but also from local schools and the community to learn about full-time and part-time jobs, internships, public resources, volunteer opportunities, and college transfer information. Silicon Valley ACS (SVACS) was there to describe professional opportunities based on foundations of science, and to foster everyone's

interest in the chemistry in our lives.

In addition to SVACS, welcoming participants numbered in the dozens and included the Salinas School District & YMCA, The Watsonville Nursing Center, Monterey County agencies such as medical response, the Arts Council, employment training, community hospitals & human services, food banks, and housing authority. The state and federal level had representatives from the CA Highway Patrol, Departments of Corrections, Cal State University Monterey Bay, the US Army, and the National Guard. Private companies also participated as potential employers in the electrical, construction, and automotive industries.

SVACS representatives Anais Nguyen, Steve Boyer, Jose Ramirez, and Jane Frommer were kept busy explaining the role of chemistry in everyone's lives. They were joined by students from the newly formed Hartnell Chemistry Club. ACS National generously provided hand-outs and swag that drew in curious browsers.

It was an exciting and productive

day for SVACS as dozens of Salinas-area residents departed knowing more about chemistry than when they arrived. SVACS is no stranger to the Hartnell Chemistry Department, having hosted activity of the SVACS Paving The Path program that advises students in the transition from community colleges to 4-year institutions. Plans are underway to facilitate Hartnell Chem Club members in joining the ACS to learn the benefit of networking and resources in a professional organization.



SVACSers share the power and joy of chemistry with Hartnell College and the Salinas community: Steve Boyer, Jane Frommer, Jose Ramirez, Anais Nguyen

2024 Science Fair SVACS Award Winners

by Susan Hines



The results of the March 14, 2024, SVACS Synopsis Championship Science Fair awards are in! In its 65th year, this regional competition showcased and celebrated our local 6th-12th graders' extracurricular science projects.

It will be these students who become our future scientists, engineers, technologists, and mathematicians. So, whether or not they were selected for the SVACS awards, other organizations' sponsored awards, or the Synopsis Championship's category or grand prize awards, they are all winners. And kudos to the fair's board of directors for their tireless organizing and providing the in-person judging experience.

The four members of our SVACS-sponsored award teams judged for two awards: the middle school Dave Parker Award and the High School Excellence in Chemistry Award. Howard Peters and Mike Lepisto judged for the former award, and Owen Gooding and Susan Hines judged for the latter. Of all the incredible 140 chemistry and chemistry-related projects at the fair, we selected the following winners:

SVACS Dave Parker Award for Excellence in Chemistry

First place (\$250 and framed certificate): Aanya Kandala for "Biodegradable Hydrogels"

Second place (\$125 and framed certificate): Mika Perl for "Homemade stain removers or store-bought stain removers, which one is the most effective at removing dog accidents?"

SVACS High School Award for Excellence in Chemistry

Tie for first place, \$500 and framed certificate:

Angely Vargas for "Synthesis of 5-HT2A serotonin agonists to target Body Dysmorphic Disorder (BDD)"

Viraj Pandey for "From Polluted to Potable: Revolutionizing pollutant removal and desalination using nanoparticulate graphene quantum dot-based membranes"

We'd also like to thank the many SVACS

members that were category, grand prize, and other sponsored award judges for volunteering their time and expertise. Additionally, we extend our thanks to Dr. Aart de Ges, chairman and CEO of Synopsis, and Lauren Foote of the Synopsis Outreach Foundation for their continuing and generous support of local science students and their teachers. Science fairs don't happen without these committed students, teachers, sponsors, and judges.



Science Fair SVACS Middle School Award Winner



Science Fair SVACS High School Award Winner

Call for Nominations

2024 Abraham Ottenberg Service Award - Silicon Valley ACS Local Section

Deadline: June 1, 2024

The **Ottenberg Award** is presented annually to a member of our local section for outstanding service to the section.

Nomination packages include the nominee's biography, description of the service(s) for which the member is nominated, and a description or evaluation of the service to be recognized by the award. Nominations are not retained for subsequent years, but re-nominations are accepted for consideration. Previous recipients are not eligible to receive it again.

Please send your nomination before June 1, 2024 by e-mail to PFRusch@aol.com or by fax (650-961-8120) or by postal mail to:

Chair, Ottenberg Award Selection Committee
Silicon Valley Section American Chemical Society
P.O. Box 395, Palo Alto, CA 94302-0395

Previous Recipients

2023	Matthew Greaney	2006	George Lechner	1987	Malcolm Dole
2022	Jigisha Shah	2005	Hong Gao	1986	June G. Jones and Robert L. Montoya
2021	Grace Baysinger	2004	Maureen Scharberg	1985	Not awarded
2020	Jane Frommer	2003	Ean Warren	1984	Howard M. Peters
2019	Not awarded	2002	Jamil Talhouk	1983	Ludwig A. Mayer and John F. Riley
2018	Joseph A. Castellano	2001	Sally Peters	1982	Alan C. Ling
2017	Ihab Darwish	2000	Herb Silber	1981	Not awarded
2016	Susan Oldham-Fritts	1999	Linda Brunauer	1980	Richard W. Gaver
2015	Todd Eberspacher	1998	Bonnie Charpentier	1979	Lois J. Durham
2014	Not awarded	1997	Not awarded	1878	Harry S. Mosher
2013	Natalie McClure	1996	Not awarded	1977	Frank R. Mayo
2012	Harry Ungar	1995	Carol W. Mosher	1976	Floyd M. Hobbs
2011	Abby Kennedy	1994	Stephen N. Senzer	1975	Oliver S. Senn
2010	Stephanie Gehling	1993	Karl Marhenke	1974	Shirley B. Radding
2009	Peter Rusch	1992	Hubert E. Dubb		
2008	Bruce Raby	1991	Donald E. Green		
2007	David Parker	1990, 1989 & 1988	Not awarded		

Want to Serve on an ACS National Committee in 2025? The Online Preference Form is Open

Deadline: July 1, 2024

Give the gift of your time, talent, and engagement to help advance the mission of the ACS. With **30+ Society Committees** to choose from, there is something for everyone. As a Committee volunteer, you'll participate and drive important initiatives that support current and future leaders in ACS and the chemical enterprise.

What Do Committees Do?

- Lead and shape the direction, experiences, and programs of the Society
- Represent, involve, and serve members
- Develop and deliver key policies & procedures for the Society
- Participate in outreach events and activities in the greater community

Why Join a Committee?

- Work with other passionate members to drive change on the chemical enterprise
- Make an impact in areas important to you
- Develop new skills that will enhance personal and professional work
- Expand your network and collaborate with professional peers

Afraid you don't have the time?



Committees meet monthly on average for a total time commitment of less than four hours a month. You can attend either virtually or in person.

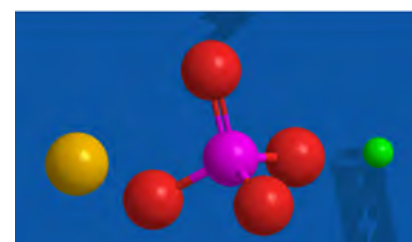
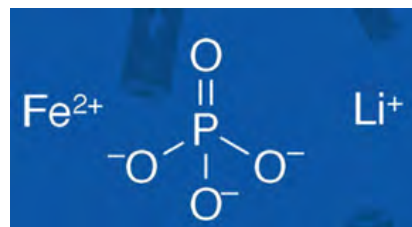
Each committee has been assigned an experienced Staff Liaison who will support you in learning more about ACS governance, schedule and help pay for travel, and help you participate in leadership training.

Learn more and select your committee preferences now

CHEMISTRY

Quiz

I have a special connection to this year's **Chemists Celebrate Earth Week**.
What molecule am I?



Answer

Build a More Inclusive Graduate Program

Free Online Workshops for Faculty in June



IGEN

Inclusive Graduate Education Network
an NSF INCLUDES Alliance

The **ACS Bridge Program** in partnership with the **Inclusive Graduate Education Network (IGEN)** is offering free online workshops for faculty in the chemical sciences. Empower your department with research-based strategies for building a welcoming environment for all students.

Workshops will focus on research-based strategies for equity and inclusion, practical steps for building a diverse graduate program, and shared understanding & collaborative implementation.

Thursday Workshops, 10:00 am-Noon PT:

- June 6: Fundamentals of Equity in Admissions
- June 13: Strategies for Equity-based Review
- June 20: Systemic Change: Designing for Equity

Learn more and [register](#). Don't miss this chance to invest in your department's future.

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 free attendance at a catered SVACS event. Come join us at our in-person gatherings! To register as our guest for a catered 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.

New SVACS Members

Georgios Alachouzos
Tiffany Chen
Moritz Classen
Liem Dam-Quang
Changxin Dong
Anishka Duvvuri

Timothy Johnson
Sandra Ordonez
Dylan Parsons
Gregory Pitner
Natalie A. Ramirez
Sabrina Michelle Richter

Laura Rijns
Jordan Steinle
Alice Ting
Jeremy Willman
Caleb Yu
Dawei Yuan

ACS PRESENTS

THE GRAD STUDENT AND POSTDOC RECOGNITION PROGRAM

Nominate outstanding graduate students and postdocs that show leadership in:

- Diversity, Equity, Inclusion, and Respect
- Research Safety
- Mentoring

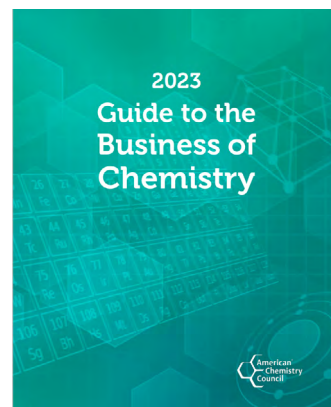


Deadline to submit nominees is June 30, 2024

Scan the QR code to learn more!



2023 Guide to the Business of Chemistry



Download the [2023 Guide to the Business of Chemistry \(PDF\)](#)

“The American Chemistry Council (ACC) published the 2023 edition of the *Guide to the Business of Chemistry*, a comprehensive profile of the U.S. chemistry industry and its contributions to domestic and global economies.

American chemistry is the world’s second-largest producer, providing 11% of its chemicals and over 10% of all U.S. goods exports. It is one of America’s largest manufacturing industries, a \$639 billion enterprise providing 555,000 skilled, high-paying jobs. For every chemistry industry job, more than six jobs are supported elsewhere in the economy. Industries that rely on chemistry include building and construction, automotive, computers and electronics, medical equipment and supplies, furniture, household appliances, agriculture, and many more.

The chemical industry is also a leader in capital investment, with more than \$26 billion in new spending in 2022. These investments include projects to expand capacity in order to meet growing demand and make industry operations more sustainable.”

Read the [full press release](#)

Learn more: [ACC’s Data & Industry Statistics](#) | [Chemistry in Your Community](#) > [California Statewide Statistics \(PDF\)](#)

ACS Funding and Award Opportunities for May-June 2024

Name of Grant or Award	Recipient	Amount	Deadline
ACS GCI Pharmaceutical Roundtable Research Grant	Faculty, Industry, Student	\$40,000-\$80,000	May 17, 2024
Student Chapter Award	Student, International	\$0	May 31, 2024
Green Chemistry Student Chapter Award	Student	\$0	May 31, 2024
Trust in Science and Scientists Grant	Industry, Chemistry Professional, Volunteer	\$1,500 - \$4,500	June 1, 2024
ACS-Hach High School Chemistry Classroom Grant	K-12 Teacher	Up to \$1,800	June 1, 2024
Women Chemists Committee/Eli Lilly Travel Award	Faculty, Chemistry Professional, Early Career	Variable	June 1, 2024
ACS Bridge Travel & Professional Development Award	Student	Up to \$2,000 expenses	June 14, 2024
Women Chemists Committee Rising Star Award	Faculty, Industry, Chemistry Professional	\$1,000	June 15, 2024

Reactions Science Videos



[Watch on YouTube](#) | [Read associated article](#)

Science Doesn't Understand How Ice Forms

"This video contains incredible macro footage of supercooled water droplets nucleating ice. All George wanted to do was make a crystal-clear ice cube. Instead, he ended up rediscovering dendritic crystal growth, a beautiful phenomenon first described in the 17th century. You'll never look at your freezer the same way again."



[Watch on YouTube](#) | [Read associated article](#)

Is There a Quick Fix for Ocean Acidification?

"Acidification is threatening the ocean's ability to pull carbon dioxide out of our atmosphere, so scientists and startups are looking to ocean-sized antacids to raise its pH. While they might not be the ultimate solution to our climate crisis problem, the antacids could have a hand in helping our oceans rebound."

Science of Synthesis Early Career Advisory Board: Call for Nominations Thieme Chemistry Publishers

Deadline: July 31, 2024



Science of Synthesis is pleased to announce the call for nominations for the 2025–2027 term of the Early Career Advisory Board (ECAB) of the Thieme Chemistry Publishing company to help promote young talented chemists.

Early career researchers are defined as those who have completed their PhD in the past 10 years or who are within the first 5 years of their independent research career. Applicants from both industry and academia are welcome. A typical term for this board is three years with renewal possible if eligibility is met. Members of the Early Career Advisory Board may be invited also to work on other Thieme Chemistry products/journals.

We will accept nominations from anyone working within the field of chemistry, including our editors, authors, and current early-career board members, as well as personal applications. The deadline for submission of your application for the January 1st, 2025, until December 31st, 2027, term is July 31st, 2024.

[Learn more and apply](#)

ACS GCI Pharmaceutical Roundtable

Catalyzing green chemistry & engineering in the global pharmaceutical industry.

Research Grants Available from the ACS GCI Pharmaceutical Roundtable

Deadline: May 17, 2024

The ACS Green Chemistry Institute (ACS GCI) Pharmaceutical Roundtable invites proposals from institutions of higher education worldwide for its 2024 Research Grants.

2024 Key Research Area Grants

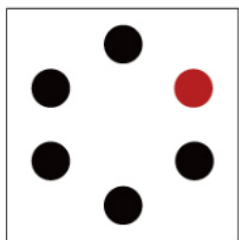
These grants are on a select list of topics prioritized by the Roundtable each year. Successful proposals will receive \$80,000 for a 12-month research commitment.

- Alternatives to Halogenated Solvents
- AI and Machine Learning Reaction Optimization
- Greener Solid Phase Peptide Synthesis
- Sustainable Oligonucleotides Process Development

Ignition Grant Program

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HETEROCYCLES

An International Journal for Reviews and Communications in Heterocyclic Chemistry

A Key Chemistry Journal Disappeared From the Web. Others are at Risk.

The article was *reprinted from Chemistry World news* published on April 9, 2024.

“When **Jonathan Goodman** went looking for a paper published by the popular chemistry journal *Heterocycles*, he realised something odd. Not only was the paper he was looking for not available, all of the journal’s content had disappeared from the web.

‘I was looking for an article in *Heterocycles* because it’s a journal which contains a lot of useful articles,’ says Goodman, a chemist at the University of Cambridge, UK. But when he went on the journal website, Goodman came across a note saying publication in the journal had been suspended and there was no access to the title’s previously published content.

An archived version of the note on the *Heterocycles* webpage says the journal suspended publication in December 2023 due to ‘various circumstances’. It goes on to add that *Heterocycles* has ‘completed its role in promoting the recognition of heterocyclic chemistry as a discipline’.

The Japan Institute of Heterocyclic Chemistry, which published *Heterocycles*, told Chemistry World that publication ceased last year and that subscribers were informed via email.

The case of *Heterocycles* is not unique. A **January 2024 study** of more than 7.4 million studies found that just under 28% were not preserved in any online archive, meaning that much of the scholarly literature is at risk of being lost if their publications are discontinued.

Martin Paul Eve, principal developer at Crossref – the registry that issues unique digital object identifiers for journal articles – who authored the analysis, says his study found that a quarter of Crossref members didn’t have any digital preservation in place for their content.

Previously, it was librarians whose duty was to preserve hard copies of manuscripts and make them available, Eve notes, but that duty has transitioned to publishers as journals have switched to a digital format.

‘It’s become the expectation that publishers should be the ones who preserve material,’ Eve says. ‘However, that message has got slightly lost in that transition and not all publishers know that they have a responsibility to ensure the continued

accessibility of the material they publish.’

A **2016 study** found that the websites of just over 2% of the more than 9000 journals indexed in Directory of Open Access Journals (DOAJ) at the time were no longer active. While a **2021 analysis** that evaluated the fate of academic journals that were delisted from indexing databases between 2000 and 2019 found that 176 journals had vanished since being removed from prominent databases such as Scopus, Ulrichsweb and the DOAJ.

‘The indexing landscape is very good at keeping track of what’s coming out,’ **Mikael Laakso**, an information scientist at the Hanken School of Economics in Helsinki, Finland, who co-authored the 2021 study, said at the time. ‘But as soon as a journal stops publishing they are commonly dropped from the indexes and since the information about removed journals is not maintained it is really hard to figure out which the at-risk journals are at any given point in time.’

Goodman reached out to his local library, which, he says, is paying a subscription fee for access to *Heterocycles* but is concerned about continuing to do so. After looking into this,

the library discovered that *Heterocycles* had subscribed to a service called **CLOCKSS**, a dark archive of around 55 billion journal articles and 490,000 books that aims to digitally preserve scholarly literature. Other similar archives include **LOCKSS** and **Portico**.

Alicia Wise, executive director of CLOCKSS in Surrey, UK, confirmed that her organisation does hold a complete record of *Heterocycles*. According to Wise, the Japan Institute of Heterocyclic Chemistry is weighing up future options for the journal. ‘The content is safe and secure and we will be in a position to make it available should they not find a successor organisation to look after it,’ she notes.

‘It’s a useful service,’ says Goodman, referring to CLOCKSS. ‘It’s not clear when the articles will become available again and, of course, until you can see them, you can’t be sure that they’re all there.’

‘A lot of researchers and libraries think that the long-term preservation of books and journals is a done deal,’ says Wise. ‘But nothing could be farther from the truth.’ “



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How is alcohol-free beer made?



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Alcohol-free beer

Alcohol-free beer varies in alcohol content, as the definition of "alcohol-free" varies in different countries.



Low alcohol beers are also common. In the UK beers with an alcohol percentage above 0.5% but below 1.2% can be termed low alcohol.



Fermentation-free

Brewers can eliminate the alcohol-producing fermentation stage by not adding yeast to the wort. This means that they must add flavour compounds usually produced during fermentation using additives, often resulting in dull flavour.

Dilution



Brewers use extra malt and hops during brewing to produce a concentrated beer.

After fermentation, brewers add water to dilute the beer to the required concentration.



Brewers adjust the acidity of the beer by adding organic acids then carbonate it.

Dealcoholisation

Brewers can brew beers as normal, then remove the alcohol after. There are several ways of doing this.

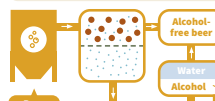
Distillation

Heating beer removes alcohol which boils at a lower temperature than water. But this also removes flavour. Vacuum distillation reduces the temperature at which alcohol boils, preserving more flavours.



Membrane filtration

Some brewers use membranes that let water and alcohol through but not flavour compounds. They then add the water back in to the beer.

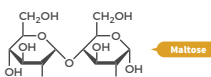


Limiting fermentation

Other brewers modify fermentation to reduce the alcohol content of the resulting beer.

Special yeasts

Some brewers use particular strains of yeast which cannot ferment maltose, the principal sugar in wort, and produce little alcohol.



Cold contact fermentation

Fermentation at low temperature produces little ethanol but does produce some flavour compounds.

Other methods

Other methods include limiting fermentable sugars in wort or removing yeast before too much alcohol has been produced.

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