Eight ACS position statements are set to expire at the end of 2023. Society members are encouraged to review the expiring statements and to offer their thoughts and comments to the ACS committees considering revisions, as well as to provide input on other statements that should be developed or changed. The following are links to the statements up for review:

- A Competitive U.S. Business Climate: Innovation, Chemistry, and Jobs
- Intellectual Property
- Science and Technology in the Budget
- Visas for Scientific Collaboration and
- Critical Materials
- Sustainability and the Chemistry Enterprise
- Freedom of International Scientific Exchange
- Scientific Integrity in Public Policy

Comments and suggestions on any of these topics should be submitted to policy@acs.org.

Learn more about ACS Positions on Policy Issues and the ACS committees that shape these Policies.

Learn about ACS’s advocacy for chemistry and STEM-related issues and find out how to get involved.
Chemists. A follow-up survey sent to all attendees will provide suggestions and improvements for future career panels and events in support of community college and transfer students.

We also completed this year’s Chemistry Olympiad testing. Santa Clara University (SCU) hosted the National Olympiad candidates from the California section and the Silicon Valley section. The exams were conducted in SCU’s brand new chemistry labs. These are beautiful new teaching labs and well worth a visit. In the laboratory practical exam, the students were asked to do two experiments:

- Determine the molar mass and pKa of an unknown monoprotic weak acid
- Design an experiment to determine which cation selected from calcium chloride, magnesium chloride or potassium chloride, would form the strongest cross links and form a hydrogel with sodium alginate. This experiment is tested nightly at some high-end molecular gastronomy restaurants.

There were a lot of puzzled looks as the students read the second challenge, but at the end of the lab session I observed some nice spherical hydrogels. I also observed some sticky messes and clogged pipettes and flasks.

Lastly, the Chemists Celebrate Earth Week (CCEW) activities occur annually during April. Instead of one big event, the Silicon Valley section opted to spread out the activities over several months. In Pop-Up Chemistry, our on-going hands-on program at the Redwood City library, we helped the students understand the impact of CO2 on acidification of water. At the next session at the library which will be held on May 13, we will be exploring the chemistry of algae using algae beads.

We also have 3 CCEW illustrated poems to submit to the National ACS contest. A cute limerick on the theme of Amazing Algae that involved hot dogs was submitted by an 11th grade student at Carlmont High, pictured here. I am impressed by the amazing students living in our region considering the strong performance on the Chemistry Olympiad exams and the creativity shown in the poetry contest.

May won’t be quite as busy a month. We are always looking for volunteers so if you would like to get involved in any of our activities, please reach out to me or to any of the Executive Committee members.

The ACS Committee on Patents and Related Matters

The ACS Committee on Patents and Related Matters (CPRM) is an ACS Governance committee that comprises members from academia, technology transfer offices, industry, private legal practice, and the consulting sector. CPRM monitors issues relevant to intellectual property (patents, trademarks, copyrights, and trade secrets), and sits as a resource on such matters for the ACS Board. The committee meets twice each year, at the Spring and Fall national meetings, and also comprises four subcommittees, devoted to education and outreach, legal policy, technology transfer, and awards. The committee drafts an intellectual property policy statement for ACS every three years, and liaises with other ACS governance committees to provide summaries of proposed legislation, recent case law, and the like. The committee has also successfully nominated a number of ACS members to prestigious awards such as membership in the National Inventors Hall of Fame. Currently, three members of the Silicon Valley ACS local section serve on CPRM: Howard Peters (as associate member), Steve Boyer, and Richard Bone. If you have questions or comments about CPRM, or have suggestions about items for the committee to consider at the Strategic Planning Retreat June 10-11 in Washington D.C., please contact: peters4pa@sbcglobal.net or bone.richard@gene.com
## CALENDAR OF EVENTS
https://www.siliconvalleyacs.org/events/

- **May 2023 -**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Sponsor</th>
<th>Time</th>
<th>Location</th>
<th>Registration link</th>
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<tr>
<td><strong>May 11</strong></td>
<td>Green Cards for Scientific Researchers: How to Win Your EB-1/NIW Case</td>
<td>Sponsored by ACS Webinars and ACS Careers</td>
<td>11am-Noon</td>
<td>Online via Zoom</td>
<td>Free, Registration required</td>
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<tr>
<td><strong>May 13</strong></td>
<td>Building a Competitive and Multifaceted Research Portfolio: An Outsider’s Perspective</td>
<td>Sudip Das, PhD, University Hospital Bern, Switzerland</td>
<td>10:30am-Noon</td>
<td>Online via Zoom</td>
<td>Free, Registration required</td>
</tr>
<tr>
<td><strong>May 17</strong></td>
<td>Molecular-Scale Engineering of Stimuli-Responsive Polymer Hydrogels</td>
<td>Prof. Danielle Mai, Stanford University Chemical Engineering</td>
<td>6:30pm</td>
<td>Online via Zoom</td>
<td>Free/$5 Donation, Registration required (Registration deadline: May 16 at 1pm)</td>
</tr>
<tr>
<td><strong>May 18</strong></td>
<td>How to Safely Manage Chemicals in Educational Settings</td>
<td>Sponsored by ACS Webinars, ACS Division of Chemical Health &amp; Safety, and the Committee on Chemical Safety</td>
<td>11am-Noon</td>
<td>Online via Zoom</td>
<td>Free, Registration required</td>
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<tr>
<td><strong>May 20</strong></td>
<td>Biomedical Scientists Making Their Mark In Clinical Research: Experience On A Journey Without A Map</td>
<td>Rajan Singh, University of Nevada at Reno</td>
<td>10:30am-Noon</td>
<td>Online via Zoom</td>
<td>Free, Registration required</td>
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<tr>
<td><strong>May 24</strong></td>
<td>Think like a CSO: How to Develop a Strategic Mindset</td>
<td>Sponsored by ACS Webinars and ACS Division of Professional Relations</td>
<td>11am-Noon</td>
<td>Online via Zoom</td>
<td>Free, Registration required</td>
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<tr>
<td><strong>Jun 14</strong></td>
<td>Light, Materials and Interfaces:The Complex Dance for Continuous Liquid Interface Production in 3D Printing</td>
<td>Professor Joe DeSimone, Carbon and Stanford University Chemical Engineering</td>
<td>6-7pm</td>
<td>more details: <a href="https://ggpf.org">https://ggpf.org</a></td>
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<tr>
<td><strong>Jul 8</strong></td>
<td>Annual ACS Silicon Valley Picnic and Awards</td>
<td>4-7pm, Cuesta Park Group BBQ Areas #1-2, Mountain View, CA</td>
<td>Cost: Adult: $20.00; Student: $10.00; Children under age 12: $5.00</td>
<td>Learn more</td>
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<tr>
<td><strong>Jul 28-30</strong></td>
<td>Postdoc to Faculty Workshop</td>
<td>Held in Chicago, Illinois (Learn more and register)</td>
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### Interested in serving on an ACS National Committee?

Examples of ACS National Committees include Chemists with Disabilities, Community Activities, Economic and Professional Affairs, Chemistry and Government (Public Affairs), Environmental Improvement, Ethics, International Activities, Minority Affairs, National Historic Chemical Landmarks, Senior Chemists, Technician Affairs, and Younger Chemists.

**A more comprehensive list**

ACS Members interested in being appointed to serve on a National ACS Committee should submit their committee assignment preferences on the [online committee preference form](https://www.siliconvalleyacs.org/events/) between April 15 and July 15, 2023.

Submit the committee preference form only if you are committed to attend and actively participate in committee meetings either virtually or in-person.

Your ACS membership must be in good standing to complete your committee preferences.

Learn more

### ACS Climate Change Advocacy Workshop

Free & On-Demand Enroll

The ACS Chemistry Advocacy Program is designed to help ACS members passionate about science and chemistry advocacy maximize Society resources through in-person workshops or this on-demand course.

This workshop is online and includes four modules covering skills, resources, logistics, and communication for the purpose of advocating for chemistry on the federal level. Participants will learn to successfully plan and execute advocacy activities, as well as have an opportunity to network and build a community with others passionate about science advocacy and ACS. This program aligns with ACS’ ongoing engagement with policymakers on Capitol Hill in support of science, engineering, innovation, and chemical stewardship.

**Module topics include:**
- Introduction to chemistry advocacy
- Chemistry advocacy within the U.S. government
- Advocating for chemistry with Congress
- Chemistry communication for advocates

Questions? Please contact Government Affairs: advocacy@acs.org
Green Chemistry’s John Warner Presents the 2023 UCSC Bunnett Lecture in Chemistry

As the keynote speaker at the 2023 annual UCSC Joseph F. Bunnett Symposium, John C. Warner presented a visionary talk describing challenges for the entire chemistry community to ensure future human prosperity. Dr. Warner inspired a large audience of students, faculty, and chemistry professionals on April 28, 2023 in the UC Santa Cruz Chemistry and Biochemistry Department.

In the early 1990s, Warner realized that global chemistry students lacked training in predictive toxicology and understanding of environmental systems; the result is that many industrial products and processes have negative impacts on human health and the environment. In collaboration with Paul Anastas, he co-founded the field of Green Chemistry, defining the 12 Principles of Green Chemistry. He also co-founded the non-profit Beyond Benign to provide educators with the tools, training, and support to make green chemistry an integral part of chemistry education.

Dr. Warner has held professorships in chemistry at UMass, Boston, in Plastics Engineering at UMass, Lowell, and in Green Chemistry at Monash University. He created the world's first graduate program in Green Chemistry and received a Presidential Award for Excellence in Science Mentoring in 2004. The Technische Universität Berlin named their Center for Start-ups in Green Chemistry after John Warner. His awards include the 2014 Perkin Medal.

Warner’s industrial experience includes Polaroid, Zymergen, and numerous start-ups. In 2007 he co-founded the Warner Babcock Institute for Green Chemistry with a mission to design, develop and commercialize high-performance, cost-effective and sustainable technology solutions across all industries that are touched by chemistry.

Dr. Warner continues to work towards educating future chemists to ensure that all practicing chemists have the necessary skills to invent truly sustainable technologies.

Learn more about his mission in his 2023 UCSC Bunnett lecture: https://science.ucsc.edu/bunnett-symposium-2023/
Days before the National Meeting officially begins, some of the most dedicated members of the ACS gather in the host city to attend committee meetings. These members fuel the activities that will ensue in the coming days, as well as the months in between conferences. Their efforts behind the scenes drive the ACS organization forward in supporting the scientific and professional advancement of chemistry. To me, as a general member of ACS until recently, I never really put too much thought into the obvious questions: how does the ACS make these National Meetings happen, how does the website continue to deliver premium content, and to what extent is the reach of this organization’s impact. In summary, all of this is brought forth by the tireless volunteer efforts of very few, but very dedicated, ACS members that operate at the local and national levels.

A few months ago, I was recruited to get involved in my local section of ACS and was elected to the executive committee as an Alternate Councilor, meaning that I may be asked to serve as a Councilor representative for the Silicon Valley section if one of its Councilors were unable to attend a National Council Meeting. Upon running for this position, I had no idea what that would actually entail, but I was excited nonetheless to get involved; I was quickly drawn into supporting my local section’s outreach events and programs. A few months into this new term, I was then afforded the opportunity to serve as a Councilor representative at the Spring National Meeting in Indianapolis and I took a deep dive behind the scenes of ACS to explore how it all works.

I arrived on Saturday to attend the New Councilor Meeting, where I was given a “New Councilor” ribbon for my badge that identified me to other national governance members. This meeting explained the ACS governance structure, wherein numerous local sections, 41 committees, and 32 divisions organize and run all the facets of the things that ACS does at the national level, such as hosting conference symposiums, providing educational and science policy, supporting chemistry initiatives and outreach programs, and connecting chemists through this global network of scholars and professionals. It is incredible that there are about 772 members serving on these committees, which equates to just 0.5% of all ACS members actually running the show! Committees are made up of any members that want to get involved (though, as a general ACS member, I had been totally oblivious to the existence of committees) and Councilors are strongly encouraged to participate in them as well; in fact, my “New Councilor” ribbon incited the common question throughout the week, “which committees are you interested in joining?” I was looking forward to experiencing the Council Meeting later that week, but first, I needed to go investigate what these committees and divisions are all about.

Throughout the week, the committees and divisions hold their own meetings and receptions— who knew?! These meetings appear on the events schedule, so they are by no means conducted in secrecy (though some are “closed” meaning not open to observers). However, the most important element to recognizing their meaningful existence is decoding the 73 acronyms assigned to each, as there are 41 committees and 32 technical divisions with unique identifiers. The technical divisions provide networking and collaboration opportunities within an area of specialization. For example, the Chemical Health & Safety (CHAS), Organic Chemistry (ORGN), and Small Chemical Businesses (SCHB) are technical divisions, and these are most recognizable to the lay members by the symposium structures at conferences. Committees, which are a little more covert to the attendees, have a more direct purpose to govern and organize the facets of ACS; these facets are sometimes overlapping with the technical divisions, which was a bit confusing when trying to understand and navigate all these distinctions and acronyms! For example, the Committee on Chemical Safety (CCS) is differentiated from CHAS: the latter provides technical resources and mentorship on the topic of chemical safety, wherein the CCS, in contrast, works to publish tools and standards and is the authority in ACS’s safety policies and statements. It was a very full and exhausting week exploring all the options and ways to get involved in ACS governance. With my “New Councilor” ribbon reminding everybody to ask me “what committees are you interested in?”, the overwhelming options almost made me forget how busy I am already with supporting my local section!

The Council Meeting convened at 8am on Wednesday, the last full day of the conference. The chatter and bustle of 450 representatives derived from technical divisions, committees, and local sections echoed wildly in the enormous ballroom hosting the American Chemical Society’s Council Meeting. This bi-annual gathering is where the high-level agenda of governance of new policy is debated and voted upon. Committees and divisions worked hard throughout the year(s) to put careful thought and revisions into the items now up for debate and vote on the Council floor. A few weeks prior to this meeting, I was provided with a 106-page document to review the details of each agenda item that would be brought to the floor. As various governing bodies gave their reports, amendments were open for discussion. The first item was to amend the duties of the Council Policy Committee- a new policy that would provide this committee with the judge and jury power to remove Councilors from their elected positions. After a heated debate with strong arguments on both sides, the motion eventually passed with a 75:25 majority vote. This deviation from near uniform consensus was highly unusual; for reference, all other motions that day passed with a >95% consensus.

I find it fitting to close this perspective with the interesting statistics that were brought to light during the Special Discussion Item- which posed the question for us to peer into the future of the ACS Society Committees. A delegate asked the Council to consider the workload to size ratio of committees and asked the question that was thematic to my experience that week: How many Council members are also serving on committees? Of the 772 total committee members, only 37% are also Councilors. Other topics that were addressed in this discussion: term limits and equitable access to committee positions, as well as the general accessibility of ACS Committees to members at large. This last point really spoke to me, personally, having had not a clue of the existence of committees prior to being sent to this conference as the Alternate Councilor representing my local section. Moreover, in my experience exploring the committees and observations at the Council Meeting, there was a notable lack of “Young Chemist” representation; that is, it seemed to me that most members in the room were of the 35+ ages, myself included. I work closely with our up-and-coming generation of chemists in academia, my gut feeling is that this may be due to a lack of visibility more so than a lack of interest, which is what inspired this article. As I look into the future of ACS Society Committees, I want to have that question of “which committees are you interested in?” become a conversational starter with members that don’t possess a special ribbon on their badge.
70th Anniversary of DNA Discovery and Rosalind Franklin’s Contributions


“Franklin was no victim in how the DNA double helix was solved. An overlooked letter and an unpublished news article, both written in 1953, reveal that she was an equal player.

“James Watson and Francis Crick are two of the twentieth century’s most renowned scientists. The seminal paper from the pair at the University of Cambridge, UK, detailing the discovery of the DNA double helix, was published as part of a trio in Nature 70 years ago this week. They are also widely believed to have hit on the structure only after stealing data from Rosalind Franklin, a physical chemist working at King’s College London. Lore has it that the decisive insight for the double helix came when Watson was shown an X-ray image of DNA taken by Franklin — without her permission or knowledge. Known as Photograph 51, this image is treated as the philosopher’s stone of molecular biology, the key to the ‘secret of life’ (not to mention a Nobel prize). In this telling, Franklin, who died of ovarian cancer in 1958 at just 37, is portrayed as a brilliant scientist, but one who was ultimately unable to decipher what her own data were telling her about DNA. She supposedly sat on the image for months without realizing its significance, only for Watson to understand it at a glance.

This version of events has entered into popular culture. It is the subject of Photograph 51, a play by Anna Ziegler that starred Nicole Kidman on the London stage in 2015. The image graces a British 50 pence coin that marked the centenary of Franklin’s birth, in 2020. The whole affair has provided fodder for scornful Twitter jokes ("What did Watson and Crick discover in 1953? Franklin’s data.") and even a marvelous rap battle by seventh-grade students in Oakland, California.

But this is not what happened.

One of us (N.C.) is writing a biography of Watson, the other (M.C.) is writing one of Crick. In 2022, we visited Franklin’s archive at Churchill College in Cambridge, UK, and went through her notes together, reconstructing the development of her ideas. We also found a hitherto unstudied draft news article from 1953, written in consultation with Franklin and meant for Time, a US magazine with international reach — as well as an overlooked letter from one of Franklin’s colleagues to Crick. Together, these documents suggest a different account of the discovery of the double helix. Franklin did not fail to grasp the structure of DNA. She was an equal contributor to solving it.

Getting Franklin’s story right is crucial, because she has become a role model for women going into science. She was up against not just the routine sexism of the day, but also more subtle forms embedded in science — some of which are still present today.”

Read the full text

Rosalind Elsie Franklin, the British chemist and crystallographer, in 1955. She died in 1958. Credit: Science Source/SPL

Franklin and Gosling’s X-ray diffraction image of B DNA, known as Photograph 51. Credit: King’s College London Archives/Science Photo Library

Chemist Rosalind Franklin independently grasped how DNA’s structure could specify proteins. Credit: Photo Researchers/Science History Images/Alamy

Related articles:
Nature Podcast: How Rosalind Franklin’s story was rewritten
“She was a super dedicated, driven, passionate woman,” says neuroscientist Hannah Franklin, who is Rosalind’s great-niece. Source: Nature Podcast, April 26, 2023.
Untangling Rosalind Franklin’s Role in DNA Discovery, 70 Years On
“Historians have long debated the role that Dr. Franklin played in identifying the double helix. A new opinion essay argues that she was an “equal contributor.” Source: New York Times, April 25, 2023.
Franklin understood her DNA data, academics say
“Personal archives and papers add more detail to Rosalind Franklin’s story” Source: C&EN, April 30, 2023.
Francis Crick, Rosalind Franklin, James Watson, and Maurice Wilkins
“These four scientists—Crick, Franklin, Watson, and Wilkins—co-discovered the double-helix structure of DNA, which formed the basis for modern biotechnology.” Source: Science History Institute’s Historical biographies

Books:
“In this family memoir her sister, the writer and historian Jenifer Glynn, paints a full picture of Rosalind’s life. Looking at Rosalind’s background; her early education, her time as a science student at Cambridge, and her relations with her family, to her life as an adult and her time in Paris and at King’s, Glynn shows how much her sister achieved and how she was influenced by the social and intellectual climate of the period she worked in.”

continued on next page

“In 1962, Maurice Wilkins, Francis Crick, and James Watson received the Nobel Prize, but it was Rosalind Franklin’s data and photographs of DNA that led to their discovery. Brenda Maddox tells a powerful story of a remarkably single-minded, forthright, and tempestuous young woman who, at the age of fifteen, decided she was going to be a scientist, but who was airbrushed out of the greatest scientific discovery of the twentieth century.”


“The Secret of Life is a story of genius and perseverance, but also a saga of cronyism, misogyny, anti-Semitism, and misconduct. Drawing on voluminous archival research, including interviews with James Watson and with Franklin’s sister, Jenifer Glynn, Markel provides a fascinating look at how science is done, how reputations are undone, and how history is written, and revised.

A vibrant evocation of Cambridge in the 1950s, Markel also provides colorful depictions of Watson and Crick—their competitiveness, idiosyncrasies, and youthful immaturity—and compelling portraits of Wilkins, Pauling, and most cogently, Rosalind Franklin. The Secret of Life is a lively and sweeping narrative of this landmark discovery, one that finally gives the woman at the center of this drama her due.”


“For centuries, women scientists have faced seemingly insurmountable barriers to success in their careers. Yet many have excelled in science, achieving some of the most important scientific breakthroughs in history. In her latest book, Magdolna Hargittai discusses over 120 such women scientists. The book details the lives and careers of women scientists from the past and present, from various parts of the world, and representing many different fields, including physics, chemistry, astronomy, mathematics, and medicine.”

High School Chemistry Olympiad National Exam Administered in the ACS Silicon Valley Section

The qualifying exams were offered at individual high schools and online throughout the month of March. SVACS members Amanda Nelson, Dipti Shingnapurkar, and Richard Bone are pictured here proctoring the lab practical exam which was held on April 22nd at Santa Clara University.
Carol Duane Awarded the 2023 Henry Hill Award

Carol Duane

Carol Duane is awarded the 2023 Henry Hill Award by the ACS Division of Professional Relations (PROF) for promoting, engaging, and preparing individuals to thrive in their chosen profession. She is recognized for being a key player within the American Chemical Society in developing programs and workshops that promote professionalism. She is honored for her role in creating the ACS Center for Leadership Development and the ACS Strategic Planning Retreats.

Division of Professional Relations
American Chemical Society

Mastering the Art of Scientific Publication

Two Virtual Issues of Editor Tips for Authors

Part I:
"While the electronic age has made the publication process easier and quicker, optimizing the structure of a scientific paper requires a certain degree of skill and proficiency. ACS Publications has been actively engaged in disseminating the basics of publication through Publication 101 videos and editorials, and in continuation of this spirit we have assembled this virtual issue. This issue draws together in one place these editorials that summarize the key steps involved in writing an effective paper, journal submission, review processes, and post-publication efforts."

Part II:
“This Virtual Issue highlights recent editorials published in ACS journals (ACS Catalysis, ACS Energy Letters, ACS Nano, ACS Nanoscience Au, Chem. Materials, Journal of Physical Chemistry C, and Journal of Physical Chemistry Letters) to provide important tips for composing a well-balanced scientific article. These editorials supplement the articles discussed in the previous virtual issue. Together these two virtual issues provide the necessary information to prepare an effective manuscript that is likely to see a greater success in the reviewing and editorial decision process.”

Also see: ACS Guide to Scholarly Communication

SLAC National Accelerator Laboratory
Public Lectures Available On-Demand

“From the big bang to robots, SLAC’s long-running Public Lecture series brings science to life in a language everyone can understand. Sit back and enjoy the unfolding story of discovery told by the scientists themselves.” Recent talks include:

- Capturing Molecular Motion using Artificial Intelligence
- What in the cell is going on?
- Charging ahead: batteries of the future
- Revolutionary 3D Views of Viral RNA Using Cryogenic Electron Microscopy

SLAC Public Lectures YouTube Playlist | Events archive | Subscribe to events newsletter
Chemistry

One of us could be a future COVID-19 treatment. What molecule am I?

The Safety in Outreach Settings Instruction Guide walks through the basics of RAMP and the details of performing a RAMP analysis for hands-on activities and demonstrations in outreach settings. RAMP is an acronym for the process “recognize hazards, assess risk, minimize risk, and prepare for emergencies.”

Safety in Outreach Settings adapts RAMP, the four-part risk management system used in academic labs, to public venues. Facilitating hands-on activities or performing chemistry demonstrations in public outreach settings requires special safety considerations, beyond the established standard operating procedures of your lab. Places where public outreach takes place such as science museums, libraries, public parks, and schools are all unlikely to have fume hoods, splash shields, eye protection, or even easy access to running water. Add the need to transport chemicals to the site and back again, with the unknowns of bringing together groups of people, and the likelihood that someone gets hurt increases dramatically!

This guide will help you select low-risk activities and demonstrations for your program. It will also help you recognize and eliminate high-risk ones, before they become regrettable accidents. More powerfully, though, this guide will help you plan and implement specific strategies and safeguards to minimize the risks you take every time you engage the public with chemistry. Safety in Outreach Settings will help you:
1. Identify and select low-risk activities for your outreach program
2. Recognize and eliminate high-risk activities and demos before they lead to accidents
3. Make strategic changes to activities and demos to minimize the likelihood of injury and promote a culture of safety

Learn more

Welcome to the Silicon Valley Section of ACS

Each month, the 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 SVACS seminar meeting. Come join us at our in-person dinner events! To register as our guest for an in-person dinner 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

Lauren Marie Adams  Suhun Jo  Sandhya Sriram
Marshall Bern  Walter Lewis Johnson  A N. Sunder Ram
Berenger Biannic  Kara M. Juneau  Annalise L. Van Wyngarden
Justin Chung  Rao V. Kalla  Felix Vega
Samer Daher  Shravan Kannan  Erik J. Verner
Peter Dahlberg  Sungeun Lim  Anthony Frank Volpe Jr.
Karan Vivek Dikshit  Xin Linghu  Dhaiyia Himanshukumar Vyas
Nicole Escorcia  Hongxu Liu  Shunyang Wang
Kyle L. Fujdala  Charles Kenneth Marlowe  Rafał Piotr Wiewióra
Isabella Germek  Adam Miller  Abraham Wolcott
Swapnil V. Ghodge  Yuzki Oey  Hua Yang
Mr. Tomasz W. Glinka  Joseph Matthew Ondus  Priscilla L. Yang
Melissa Sadioa Griffin  Danielle Nicole Penk  Holly H. Yip
Kater D. Hake  Jan J. Scicinski  Yanqi Yu
Muhammad Redwan Hassan  Neha Sharma  Qian N. A. Zhang
Jingli Hu  Peyton Shieh  Qihao Zhu
Jim Jacob  Trinity Smith
Michael Jewett  Shwetha Srinivasan
Impact of US Globalization and Collaboration

“This Global Research Report examines the trajectory of recent United States research, focuses on the balance of domestic and collaborative research and its policy implications, including the redistributive effects of the Established Program to Stimulate Competitive Research (EPSCoR), and raises questions as to how well past investment has prepared the U.S. scientific enterprise to achieve its specified goals.”

Highlights from the Executive Summary:

● **Impact:** The U.S. is strong but no longer dominates the research landscape as it did, sharing this on an increasingly equal basis with other G7 nations and at close to eye level with Mainland China. Profile analyses reveal that more U.S. papers are now of world average citation impact (an indicator of utility, influence and significance) while competitors are producing relatively more papers of the highest citation impact.

● **Portfolio:** The U.S. ‘footprint’ in research remains extensive and diverse but its research subject diversity has declined because the science budget expanded much faster in biomedicine than in technology areas.

● **Collaboration:** International research collaboration has expanded pervasively across the globe. Most growth in U.S. research output is attributable to collaboration, doubling for major traditional partners such as the United Kingdom and Germany and quadrupling with Mainland China.

● **Balance:** U.S. research collaboration is greatest in the physical sciences and in technology subjects. It accounts for over 50% of output in most science/engineering areas and includes a diverse network of partners.

● **Conclusions:** The U.S. remains a leading science and technology power but unless it acknowledges and addresses its shrinking domestic research capacity and works pragmatically with resourceful competitors such as Mainland China, it risks falling behind new science-based economies in Asia.

Read the full report to learn more.

2022 Guide to the Business of Chemistry

Published by the American Chemistry Council (ACC), the free 2022 Guide to the Business of Chemistry (PDF) provides a historical overview of the chemical industry through 2021 (130 pages).

“Jobs & Economic Impact: The business of chemistry is a key element of the nation’s economy. The industry supports a quarter of U.S. gross domestic product (GDP) and creates more than half a million skilled, good-paying American jobs.
Chemistry supports a vast supply chain and creates economic activity in communities where facilities are located.
The products of chemistry enable higher living standards and are crucial to meeting the needs of a growing global population. Solutions from the chemistry industry will be needed to ensure a safe and plentiful food supply, clean air and water, safe living conditions, efficient and affordable energy sources, and life-saving medical treatments for people around the globe.
Innovation into new materials, applications, and processes is critical to advancements in human development.
The chemical industry is one of the largest private-sector industry investors in research and development.”

2022 Annual Report for the RCSB Protein Data Bank Now Available

Download the 2022 Research Collaboratory for Structural Bioinformatics (RCSB) Protein Data Bank Annual Report for an overview of recent Deposition/Biocuration, Archive Management/Access, Data Exploration, and Outreach/Education activities. This review highlights how RCSB.org enabled access to ~1 million Computed Structure Models (CSMs) from AlphaFoldDB and RoseTTAFold.

About:

● Research Collaboratory for Structural Bioinformatics (RCSB) Protein Data Bank: RCSB PDB ([RCSB.org](https://RCSB.org)) is the US data center for the global Protein Data Bank (PDB) archive of 3D structure data for large biological molecules (proteins, DNA, and RNA) essential for research and education in fundamental biology, health, energy, and biotechnology. Learn more Also see: Keeping up with RCSB PDB news

● The [Worldwide PDB (wwPDB)](https://www purch.org) organization manages the PDB archive and ensures that the PDB is freely and publicly available to the global community. It is worth noting that other PDB members may offer unique content due to special curation efforts or enhancements of the search interface.

View more Data & Industry Statistics on the ACC website.
Interesting and Cool Science in the News

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**‘BeerBots’ could speed up the brewing process** (ACS News Release, April 24, 2023)

**Benzene’s forgotten isomer takes centre stage in organic synthesis** (Chemistry World news, May 2, 2023)

**Bio-nano approach flips artificial photosynthesis for hydrogen on its head** (Chemistry World news, May 2, 2023)

**Colorful films could help buildings, cars keep their cool** (ACS News Release, March 26, 2023)

**Degrading viral RNA to treat SARS-CoV-2 infection** (ACS News Release, April 26, 2023)

**Fluorescent blue coumarins in a folk-medicine plant could help us see inside cells** (ACS News Release, April 19, 2023)

**Forum on Drug Discovery, Development, and Translation: 2022 Annual Review** (National Academies of Sciences, Engineering, Medicine, 2023)

**Gel cures 100% of mice with deadly brain cancer** (Futurity, April 25, 2023)

**‘Gluing’ soft materials without glue** (video) (ACS News Release, May 3, 2023)

**‘Green’ way to extract hair compounds that could be used for bandages, sunscreens** (ACS News Release, April 27, 2023)

**Huge cache of mammal genomes offers fresh insights on human evolution** (Nature news, April 27, 2023)

**The launch of a new field: precision microbiome editing** (Chemistry World news, April 21, 2023)

**Making oil and water mix by encapsulation** (Chemistry World news, April 27, 2023)

**The messy chemistry that led to life** (Chemistry World news, April 18, 2023)

**Nanoparticles poison single-atom cross coupling catalyst** (Chemistry World news, April 26, 2023)

**New method for making ammonia could take a bite out of global energy use** (Stanford News, April 24, 2023)

**New SLAC-Stanford Battery Center targets roadblocks to a sustainable energy transition** (SLAC National Accelerator Laboratory news, April 13, 2023)

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**New Zinc batteries are safer, sustainable, powerful** (Futurity, April 24, 2023)

**No More Soggy Straws** (ACS Axial, May 1, 2023)

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**Researchers devise new system for turning seawater into hydrogen fuel** (SLAC National Accelerator Laboratory news, April 11, 2023)

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**At Stanford Medicine symposium, Nobelists stress importance of basic research to drug discovery** (Stanford Medicine News, April 28, 2023)

**Study finds new pathway for clearing misfolded protein** (Stanford News, April 20, 2023)

**Testing vaccine candidates quickly with lab-grown mini-organs** (ACS News Release, April 12, 2023)

**Tiny DNA circles are key drivers of cancer, Stanford Medicine-led international study finds** (Stanford Medicine News, April 12, 2023)

**Out of Thin Air**

**CBS 60 Minutes Reporting**

Oil company plans to build the largest direct air capture plant

**“According to a 2023 UN climate report, the heat-trapping effects of carbon dioxide are more severe than anyone expected, as oil and gas emissions reached record highs. Bill Whitaker travels to Iceland to see the world’s first commercial Direct Air Capture plant in operation.”**

**Watch trailer | Watch full episode**
The materials science of cycling

May is National Bike Month in the US. Bicycle manufacturers use various alloys and polymers to make bike frames, tires, and accessories. Here we take a closer look at these materials.

### Bike frame materials

- **Steel alloys**: High strength, but heavy and prone to rust. Common in cheaper bikes.
- **Aluminum alloys**: Lighter than steel, corrosion-resistant, and offers good strength-to-weight ratio. Common in mid-range bikes.
- **Titanium alloys**: Lightest and strongest of all. Expensive, but ideal for high-end bikes.
- **Carbon fiber**: Light, strong, and offers excellent stiffness. Used in high-end bikes.

### Bike accessories

- **Bike helmets**: Made of polymer foam and outer shell of hard plastic. EPS foam is commonly used.
- **Bike jerseys**: Made of polyester, which is lightweight and provides durability.

### Bike tire materials

- **Tire treads**: Made of rubber, including carbon black and silica. The tread pattern provides grip and stability.
- **Tyre casing**: Made of polyester, which offers strength and durability.

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