Chair’s Message
Natalie McClure

This is my last Chair’s message for 2023. In January, I will hand over the Chair position to Todd Eberspacher and I am delighted to welcome Amanda Nelson to her new role as Chair Elect. I am confident that our section is in good hands.

For the second year in a row, we have a National winner for the National Chemistry Week (NCW) poetry contest. The ACS poetry contests are run twice per year - once for the NCW and once for Chemists Celebrate Earth Week (CCEW).
Chair's Message, continued from front page

This year, 29 local sections contributed illustrated poetry entries from 66 young scientist/artists. National ACS presents awards to first and second place in four grade groups: K-2, 3-5, 6-8 and 9-12. Shreya K, a student at Harker Academy in San Jose, was awarded first place in the 6-8 grade category. You can see her winning entry in this newsletter. All the winning poems are posted on the ACS website. In addition to a prize given by our section for winning in our local competition, first place at the National level wins a cash prize of $300. If your young scientist/artists want to start composing now, the theme for the 2024 CCEW will be “Get a charge out of chemistry” which should spark lots of ideas for creative poems. Check out the December 18 issue of C&EN to see pictures from NCW events across the country and hopefully a few pictures from our section’s NCW events.

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Respectively submitted,
Natalie McClure

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**SVACS 2023 in Review**

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<td>• Kid Makers: Pop Up Chemistry for Middle School Scientists</td>
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<td>• Kids Zone: Hands on Chemistry for Kids</td>
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<td>September 2023</td>
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<td>• National Chemistry Week, Salinas Community Science Center, Salinas</td>
<td></td>
<td>Chair’s Message, Nov 2023</td>
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<td>• National Chemistry Week, Ronald McDonald House</td>
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<td>Chair’s Message, Nov 2023</td>
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<td>• National Chemistry Week, Martin Luther King Jr. Library</td>
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<td>Chair’s Message, Nov 2023</td>
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<td>• National Chemistry Week Illustrated Poem Contest</td>
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<td>Chair’s Message, Nov 2023</td>
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<td></td>
<td>• Kid Makers: Pop Up Chemistry for Middle School Scientists</td>
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<td>The Healing Power of Chemistry</td>
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<td>December 2023</td>
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<td>December</td>
<td>• Kid Makers: Pop Up Chemistry for Middle School Scientists</td>
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**Quiz**

I’m a newer material with multiple applications in chemistry. What molecule am I?

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**Answer**

I’m a newer material with multiple applications in chemistry. What molecule am I?

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**Chair’s Message, continued from front page**

This year, 29 local sections contributed illustrated poetry entries from 66 young scientist/artists. National ACS presents awards to first and second place in four grade groups: K-2, 3-5, 6-8 and 9-12. Shreya K, a student at Harker Academy in San Jose, was awarded first place in the 6-8 grade category. You can see her winning entry in this newsletter. All the winning poems are posted on the ACS website. In addition to a prize given by our section for winning in our local competition, first place at the National level wins a cash prize of $300. If your young scientist/artists want to start composing now, the theme for the 2024 CCEW will be “Get a charge out of chemistry” which should spark lots of ideas for creative poems. Check out the December 18 issue of C&EN to see pictures from NCW events across the country and hopefully a few pictures from our section’s NCW events.

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Respectively submitted,
Natalie McClure
The 2023 SVACS Harry & Carol Mosher Award

Save the Date! Join us on Thursday, January 25th to Celebrate

Initiated in 1980, the Silicon Valley ACS Harry and Carol Mosher Award recognizes individuals who advance the chemistry profession, make impactful scientific contributions, and support ACS in their outreach efforts to share chemistry with the general public. The award includes an ACS engraved plaque, a $2,000 honorarium, and a Mosher Lecture event.

The 2023 Mosher Award recipients are Dr. Bruce Maryanoff and Dr. Cynthia Maryanoff. SVACS will honor the Maryanoffs on Thursday, January 25, 2024, 5:30-8:00pm, at Stanford University. Save the date until registration details get posted on the Silicon Valley ACS website.

- 2023 Mosher Lecture Abstracts -
Adventures in Drug Discovery: TOPAMAX® (Topiramate) for Treating Epilepsy and Migraine
Bruce E. Maryanoff
formerly at Johnson & Johnson Pharmaceutical Research & Development, Spring House, PA 19477

During my 35-year career in the pharmaceutical industry (Johnson & Johnson) as a drug hunter, I have encountered many therapeutic targets and many clinical candidates. Under the old drug discovery paradigm of phenotypic assessment, I discovered TOPAMAX (topiramate), a billion-dollar drug for treating epilepsy and migraine headache. Its mechanisms of action are diverse, but still not fully understood. Phenotypic assessment mainly involves pharmacological and cellular methodology, an approach disfavored in the 21st century, given the wealth of information about receptor and enzyme molecular targets that has emerged, especially since the sequencing of the human genome. Nevertheless, phenotypic assessment still can have a valuable role to play for certain unmet medical needs.

Why Hawaii? Kona Coffee!
Cynthia Maryanoff
Co-CEO and CTO at Absolute Palate®, Holicong, PA 18928

In 2015, Bruce and Cyndie Maryanoff established Absolute Palate® LLC (www.absolute-palate.com) as a coffee business on the Big Island of Hawaii. Thus, their long-standing passion for exceptional coffees and love of Hawaii were merged. A special interest in premium, single-estate 100% Kona coffee led them to purchase two coffee farms in the iconic Kona Coffee Belt, which provide coffee fruit that is hand-picked, processed into green beans, and custom-roasted in small batches with a fluidized-bed air roaster. They assembled a laboratory for on-site decaffeination, thereby extracting green beans with supercritical carbon dioxide to furnish a flavorful 100% Kona decaf coffee (Absolute Decaf). Cyndie will discuss this coffee project and the organic chemistry that contributes to coffee’s special aroma and flavor.

- Brief Biographical Information -
Bruce Maryanoff received a BS and PhD at the Drexel Institute of Technology in Philadelphia and was a postdoctoral fellow at Princeton. He then embarked on a decades-long career in research and management with Johnson & Johnson. He is currently a Visiting Investigator at the Scripps Research Institute in La Jolla, CA. View biography

Cynthia Maryanoff received a BS at Drexel University and a PhD at Princeton University. She performed postdoctoral research at Princeton. She joined Johnson & Johnson for a long career in research and management. She is currently a Foundation Distinguished Professor at the Baruch S. Blumberg Institute in Doylestown PA. View biography

Both Maryanoffs have extensive experience in drug discovery and management in the pharmaceutical industry. They are long-term active participants and supporters of ACS activities. They are founders of the Maryanoff Scholars - an annual program to assist undergraduate chemistry students in research at Drexel University. The Maryanoffs also founded Absolute Palate LLC, a coffee company specializing in single-estate 100% Kona coffee, with two coffee farms in Hawaii.

Election Results for 2024 SVACS ExComm

Many thanks to the members who supported the Silicon Valley ACS by voting for its 2024 leadership team, the ExComm (Executive Committee). Your participation as members is appreciated. Voting was open from 12:01am, November 15, 2023, to 11:59pm, November 29, 2023. Total voters for the ballot: 183. This represents 8.8% of 2,069 eligible voting members.

We thank all the candidates who ran for office and look forward to an exciting and eventful 2024.

We thank all the candidates who ran for office and look forward to an exciting and eventful 2024. Please consider ways to participate and to support the ACS, the Silicon Valley Local Section, and the various committees that help us accomplish our Strategic Plan.

### Election Results

#### Chair-elect (3-year commitment; Chair-elect in 2024, Chair in 2025, Immediate Past Chair in 2026):

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<thead>
<tr>
<th>Votes</th>
<th>Name</th>
<th>%</th>
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<tbody>
<tr>
<td>178</td>
<td>Amanda Nelson</td>
<td>99.40%</td>
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<td>1</td>
<td>Write-in A</td>
<td>0.60%</td>
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#### Treasurer (2-year term, 2024-2025) (176 voters indicated a choice on this ballot; vote for 1):

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<th>Votes</th>
<th>Name</th>
<th>%</th>
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<tr>
<td>176</td>
<td>Ihab Darwish</td>
<td>100%</td>
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<tr>
<td>0</td>
<td>Write-in</td>
<td>0.00%</td>
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#### Alternate Councilors (1 open position for 3-year term, 2024-2026 ) (179 voters indicated a choice on this ballot; vote for 1):

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<th>Votes</th>
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<th>%</th>
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<tr>
<td>99</td>
<td>Howard Peters</td>
<td>55.30%</td>
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<tr>
<td>78</td>
<td>Karan Dikshit</td>
<td>43.60%</td>
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<th>Votes</th>
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<td>2</td>
<td>Write-ins</td>
<td>1.10%</td>
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- December 2023 -

Dec 9  Kid Makers: Pop Up Hands-on Chemistry for Middle School Scientists
Sponsored by ACS Silicon Valley and Redwood City Public Library (RCPL)
2:00-2:30pm, RCPL Downtown Location, 1044 Middlefield Road,
Redwood City, Free, Learn more

Dec 13  Breaking Down the Mechanics of Polymers: From Networks to Viscoelasticity
Sponsored by ACS Webinars and ACS Division of Polymeric Materials: Science & Engineering (PMSE)
11am-Noon, Online via Zoom, Free, Registration required

Dec 13  Know the Crystallization Pathway During Processing: Crystallization of Nylons Using Fast Scanning Calorimetry and Beyond
Xiaoshi Zhang, PhD, Plastics Engineering Technology, Penn State University Behrend
Sponsored by the Golden Gate Polymer Forum (GGPF)
6pm, Online via Zoom, Free/$5 Donation; Registration Details

Dec 14  Silicon Valley ACS Executive Committee Meeting
7:00-9:00pm, Online via Zoom, Free. To attend as a guest, please contact the Chair

Dec 17  Dr. Robert Huw Morgan: Holiday Organ Concert
Sponsored by Stanford Department of Music and Stanford Office for Religious & Spiritual Life
1:30-3:00pm, Stanford Memorial Church, 450 Jane Stanford Way,
Building 500, Stanford, CA 94305, Free, Open to the Public, Learn more

- January 2024 and Beyond -

Jan 25  Mosher Award Reception and Lecture
Sponsored by Silicon Valley ACS
5:30-8:00pm, Stanford University
Registration details to be posted on the Silicon Valley ACS website

Judges Needed for Local Science Fairs in 2024
by Susan Hines

December is known by many as the season of giving. How about encouraging middle and high school students to participate in the world of STEM – science, engineering, math, and science? It takes just one day of your time to judge at a local science fair – and all but two (Golden Gate and San Mateo STEM Fairs) are in person. The following science fairs need category awards judges, especially in the areas of botany, biology, chemistry, microbiology, and behavioral science. All of them are qualifiers for the California State Science Fair and either the Broadcom Masters (middle schoolers) or the International Science and Engineering Fair, ISEF (high schoolers).

To join our SVACS special award team of dedicated chemists at the Synopsys Championship on March 14, 2024, reach out to us at svseidr@gmail.com

No matter which fair(s) you choose, please volunteer now!

- Santa Cruz County STEAM Expo: March 9, 2024, Santa Cruz County Fairgrounds
  https://santacruzcoe.org/educational-services/curriculum-instruction/programs-services/academic-competitions/steamexpo/

- San Mateo County Office of Education STEM Fair, March 9, 2024, virtual format
  https://stemfair.net

- Synopsys Championship, Santa Clara County: March 14, 2024, San Jose Convention Center

- Alameda County Science and Engineering Fair: March 16, 2024, Chabot College, Hayward Campus
  https://www.acsef.org/judges

- Golden Gate STEM Fair: March 18, 2024, virtual format
  https://wp.ggstemfair.org
Written by C. Gluchowski for the December issue of
the Vortex, the California ACS Section newsletter.
Reprinted with permission for the Silicon Valley ACS
Section newsletter, the Silicon Valley Chemist.

The award-winning Bay Area Chemistry Symposium (BACS) was held this year on November 3rd, 2023, at Robertson Auditorium
on the UC San Francisco Mission Bay Campus. The weather was warm, the sun was shining, and
the science and networking opportunities were
delightful!

This event, organized by the California and Silicon Valley ACS sections, and financially
supported by established and start-up local industry sponsors, has grown significantly in the
4 years that it has been held. This year it brought
together over 250 participants at all career stages
from undergraduates to distinguished scientists
to hear about new discoveries in chemistry and
biochemistry coming from academic and industrial
labs throughout the SF Bay area and beyond.

The tag line for the symposium – connecting
industry + academia – certainly was fulfilled at
this event. The symposium featured an eclectic
mix of oral presentations from distinguished
college faculty such as Professors Kevan Shokat, UCSF and
Carrie Partch, UCSC as well as talks from industrial
scientists such as Michael O’Keefe from Gilead
and Joseph Young from Novartis. In addition, 40
posters were presented by young scientists from
all over the SF Bay area.

With the weather at a balmy 72 degrees and
sunny in downtown San Francisco, it was a beautiful
day to mingle outside during coffee breaks and
lunch. Blankets were provided for picnicking
on the Koret Quad outside the auditorium. The
symposium was capped off by a reception and
poster session followed by presentation of awards
for the outstanding posters. Each of the winners
received a gift card. The following individuals won
poster awards:

- 1st place: Di Gu, UC Berkeley, Wenjun Zhang
  Lab, “Discovery and biosynthesis of Salivabactin,
a new antibiotic from oral bacteria”
- 2nd place: Logan Bartholomew, UC Berkeley,
  Richmond Sarpong Lab, “14N to 15N Isotopic
  Exchange of Nitrogen Heteroaromatics through
  Skeletal Editing”
- 3rd place: Clifford Leung, University of
  San Francisco, Herman Nikolayevskiy Lab,
  “Development and Mechanistic Analysis of
  Covalent Inhibitors Against Sortase A. Activity
  in Staphylococcus aureus Bacteria”

Speaking of awards, at the National ACS
meeting held in San Francisco in August this
year, the BACS and the California Section were
recognized at the ChemLuminary event with the
Outstanding Continuing Public Relations or
Communications Program of a Local Section
Award!

Special thanks to Caleb Karmel, Maze
Therapeutics and Professor Ian Seiple, UCSF, co-
chair for the 2023 BACS, the rest of the organizing
committee and particularly Julie Mason, CalACS
for her support. Check out the BACS website
https://www.bayareachemistrysymposium.com/
for updates on plans for the 2024 BACS!
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 for November 2023**

- Caroline Broude
- Karen Leigh Butler
- Evan Carlson
- William Carpenter
- Maria Caryotakis
- Leah Filardi
- Austin Kizzie
- Megan Klein
- Maria Korshunova
- Bedelia Law
- Renhe Li
- Wanru Li
- Lixin Lu
- Jack Lubbs
- Eran Lustig
- Srivatsan Mohana Rangan
- Riya Nigudkar
- Sai Prathima Parvathaneni
- Benjamin Peters
- Anitha Ravikrishnan
- Kadin Riggs
- Tyler Roberts
- Antonio Romero
- Susmita Sarkar
- Laura Shigemoto
- Casper Vroemen
- Luwen Wan
- Yi Wang
- Anitha Ravikrishnan
- Nipuna Weerasinghe
- Pengkun Xia
- Raymond Yu
- Xizi Zhang
- Jiyun Zhu
- Yi Wang
- Nipuna Weerasinghe
- Pengkun Xia
- Raymond Yu
- Xizi Zhang
- Jiyun Zhu

**Abstract:** PubChem ([https://pubchem.ncbi.nlm.nih.gov](https://pubchem.ncbi.nlm.nih.gov)) is a popular chemical information resource that serves a wide range of use cases. In the past two years, a number of changes were made to PubChem. Data from more than 120 data sources was added to PubChem. Some major highlights include: the integration of Google Patents data into PubChem, which greatly expanded the coverage of the PubChem Patent data collection; the creation of the Cell Line and Taxonomy data collections, which provide quick and easy access to chemical information for a given cell line and taxon, respectively; and the update of the bioassay data model. In addition, new functionalities were added to the PubChem programmatic access protocols, PUG-REST and PUG-View, including support for target-centric data download for a given protein, gene, pathway, cell line, and taxon and the addition of the 'standardize' option to PUG-REST, which returns the standardized form of an input chemical structure. A significant update was also made to PubChemRDF. The present paper provides an overview of these changes. Read the full-text: Sunghwan Kim, Jie Chen, Tiejun Cheng, Asta Gindulyte, Jia He, Siqian He, Qingliang Li, Benjamin A Shoemaker, Paul A Thiessen, Bo Yu, Leonid Zaslavsky, Jian Zhang, Evan E Bolton, PubChem 2023 update, Nucleic Acids Research, Volume 51, Issue D1, 6 January 2023, Pages D1373–D1380, [https://doi.org/10.1093/nar/gkac956](https://doi.org/10.1093/nar/gkac956)
New LinkedIn Learning Benefit for ACS Premium Members

Unlock access to thousands of expert-led, creative, business and technology courses to help you achieve your personal and professional goals.

ACS Members at the Premium level of membership now have access to LinkedIn Learning, an on-demand, online learning platform that offers thousands of online courses on a variety of topics. LinkedIn Learning provides the opportunity to gain valuable new skills at your own pace.

Contact linkedinlearning@acs.org to get started.

APPLY FOR THE 2024 CAS FUTURE LEADERS PROGRAM

Join a group of exceptional Ph.D. students and postdoctoral scholars from around the world to take the next steps in your leadership journey. Learn how to apply and submit your application for the 2024 CAS Future Leaders program by Sunday, January 28, 2024.

Why you should apply

- **Advance your career and make meaningful impacts in science**: The CAS Future Leaders program supports the growth of science leadership among early-career scientists. Since 2010, the program has awarded Ph.D. students and postdoctoral scholars opportunities to learn leadership skills, engage in scientific discourse, and connect with peer scientists and innovators from around the world.
- **Learn**: Get exclusive leadership training from industry experts and learn how CAS connects the world’s scientific knowledge.
- **Engage**: Share your latest discoveries to advance scientific knowledge at the American Chemical Society fall meeting.
- **Connections**: Network to make meaningful connections with peer scientists and innovators from around the world.

**2024 Program Benefits**
- Expense-paid trip to ACS CAS Headquarters in Columbus, Ohio
  - August 12-17, 2024
- Expense-paid trip to ACS Fall 2024 National Meeting in Denver, Colorado
  - August 18-22, 2024
  - $1,000 USD
- 3-year ACS membership
- Profile featured in C&EN (see the 2018, 2019, 2022, and 2023 articles)
- Complimentary registration for the ACS meeting
- Opportunity to present your research at the ACS meeting
- Complimentary registration for an ACS Professional and Leadership Development course at the ACS meeting
- Lifetime membership in the CAS Future Leaders Alumni Community

2023 EDUCAUSE Horizon Reports

“**EDUCAUSE Horizon Reports** profile key trends and emerging technologies and practices shaping the future of higher education and envisions a number of scenarios and implications for that future. They are based on the perspectives and expertise of a global panel of leaders from across the higher education landscape.”

**2023 EDUCAUSE Horizon Report**

**Holistic Student Experience Edition**

“This report profiles the trends and key technologies and practices shaping the future of the holistic student experience and envisions a number of scenarios for that future. It is based on the perspectives and expertise of a global panel of leaders from across the higher education landscape.”

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2023 EDUCAUSE Horizon Action Plan: Generative AI

“In 2023, generative AI emerged as the most rapidly adopted technology in history. All members of the higher education community, from students to administrators, are trying to determine what impact generative AI tools can, will, and should have on life, learning, and work. To make matters more complex, there is no consensus about how or even whether generative AI should play a role in the future of higher education.

Building on the trends, technologies, and practices described in the 2023 EDUCAUSE Horizon Report: Teaching and Learning Edition, the report panel crafted its vision of the future along with practical actions that individuals, units and departments, and groups of collaborators can take to make this future a reality.”

*continued on next page*
Shreyas K. of The Harker School in San Jose wins First Prize in the Middle School category of the ACS National competition with this outstanding poetry artwork

“As part of National Chemistry Week (NCW) 2023, students from grades K-12 were invited to share their interpretation of this year’s theme, “The Healing Power of Chemistry”, in the form of illustrated poems. Winners qualified for the national contest via their ACS local sections. At the national level, first- and second-place prizes were awarded in four categories. Thank you to all schools and local sections that participated!” See their amazing submissions here: NCW Illustrated Poem Contest Winners

1st Place, Grades 6-8
Shreyas K., Silicon Valley Local Section

Data processes play a foundational role in just about every professional discipline, and data stakeholders all over the world are grappling with modernizing and optimizing data governance policies and practices. In this rapidly evolving landscape, what challenges will higher education face, and how will we rise to meet those challenges? How can we leverage our individual and collective expertise to create innovative and durable data governance solutions?

Approaching these questions with a spirit of hope and optimism, a panel of higher education data and analytics experts from a range of institution types assembled to describe an optimized future of data governance, focusing on a 10-year timescale. Building on the trends, technologies, and practices described in the 2022 Horizon Report: Data and Analytics Edition, the panel crafted its vision of the future along with practical action items the data and analytics community can employ to make this future data management planning a reality.
The Silicon Valley ACS supports local science teachers with an annual **BUBBLE Grant** of up to $1,000 to acquire teaching equipment in their classrooms.

The winner of the 2023 Bubble Grant Award is the **Salinas Community Science Workshop**. Their **STEAM Gxrls Workshop** offers curated activities spanning math, engineering, physics, chemistry, electronics, environment, and biology. It is dedicated to providing underserved kids with the tools, time, and inspiration to explore with their natural curiosity by supporting the local school districts. The grant will be used to acquire science-related equipment like nature journals and binoculars, to cover transportation expenses for bi-annual field trips, and to enhance the overall laboratory experience in the chemistry classroom of El Sausal Middle School.

The BUBBLE Grant is awarded annually. Encourage your K-12 teaching colleagues to apply!

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**U.S. National High School Olympiad Key Dates**

The **U.S. National Chemistry Olympiad (USNCO)** program is a multi-tiered chemistry competition for high school students. ACS has sponsored the program since 1984.

**Key Dates:**
- **January 19, 2024** Student Registration Closes
- **March 1-24, 2024** Local Exam
- **April 13-21, 2024** National Exam
- **June 2-14, 2024** Study Camp
- **July 22-31, 2024** International Chemistry Olympiad

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**Silicon Valley ACS Section Launches Hub on the New ACS Network**

Check out and join our new group hub! No login is required to view content. Information currently posted in our hub includes issues of our newsletter from 1999 to present; links to our website and social media accounts; and the Silicon Valley ACS Strategic Plan - 2023 Update. Future plans include adding links to our sponsored events. Please contact us to share feedback or if you are interested in volunteering to help add content to our hub.
2023 ACS Presidential Laboratory Safety Teams Summit

“Building upon the 2022 ACS Chemical Safety Summit’s recommendation to establish more connections between academia and industry, the Office of Safety Programs hosted the first ACS Presidential Lab Safety Teams (LSTs) Summit on October 5-7, 2023.

Laboratory Safety Teams (LSTs) are communities of graduate students and postdoctoral associates that play a pivotal role in promoting a strong safety culture within their respective laboratories, departments, and institutions. Over 40 attendees, including graduate students, instructors, members of industry, and ACS staff, participated in presentations, panels, and group discussions to explore new partnerships and avenues for sustaining LSTs. Four goals are included in the Executive Summary Report:

1. Define what an LST is and the benefits of having one
2. Identify what LSTs need to start and thrive
3. Define the partnerships LSTs can have, and why they benefit both partners
4. Enable LSTs to prepare scientists for industrial safety standards

LSTs emerged as an academic grassroots movement in 2012 as a way for university students to take independent initiative to evaluate safety concerns within their departments and institutions and offer solutions to address these issues. LSTs operate with the backing and support of department heads, safety professionals, and advocates. The American Chemical Society (ACS) is committed to its core value of safety and continuously promoting the safe practice of chemistry throughout the chemistry enterprise.”

Free Digital Access to Illustrated Encyclopedia from 1860

Published in 1860, Muspratt’s encyclopedia includes many illustrations. This encyclopedia was digitized by the Science History Institute (SHI) (scanned copies are also available in the Hathi Trust, Google Books, and the Internet Archive). The SHI’s copy and website lets users browse thumbnail images for each page, enlarge a single page, or download a whole volume. See SHI’s descriptions and links to the full text below.


• Volume 1: https://digital.sciencehistory.org/works/g00ak0n
• Volume 2: https://digital.sciencehistory.org/works/ysz6nva

“This two-volume encyclopedia seeks to provide a comprehensive exposition of the state of chemical manufactures at the turn of the 19th century. Written by James Sheridan Muspratt (1821-1871), an Irish-born research chemist and son of James Muspratt (1793-1886), an infamous industrial chemical manufacturer in the UK between 1825 and 1850, Chemistry, Theoretical, Practical, and Analytical is regarded as Muspratt’s magnum opus. Digitized content includes front matter and illustrations, including thirty full-page engraved portraits of prominent chemists of the period.”

The copy of the 1860 Muspratt’s encyclopedia in the Hathi Trust repository lacked the portraits of the prominent chemists originally included in the publication. Grace Baysinger, then Stanford Chemistry & Chemical Engineering Librarian, received special funds from the Stanford Libraries to create high resolution scans of the 27 chemists available in Stanford’s copy of this work. Each signed portrait can be viewed online or downloaded.

https://searchworks.stanford.edu/view/1121588
Advancements Make Laser-Based Imaging Simpler and Three-Dimensional (Caltech news, December 1, 2023)
Age-Old Chemistry: The Mona Lisa (ACS Axial, December 4, 2023)
Antibiotic adjuvant designed to subvert bacterial defence mechanisms (Chemistry World, December 4, 2023)
As seasons change, so does the guidance around antibiotics: Here’s what you need to know now (Scope blog, Stanford Medicine, November 17, 2023)
Astronomers stunned by six-planet system frozen in time (Science news, November 29, 2023)
Atomic-level structures show how accuracy is maintained in protein synthesis (Nature Research Briefing, November 29, 2023)
Blasts to clear World War II munitions could contaminate the ocean (ACS Press Release, November 20, 2023)
Building blocks for life could have formed near new stars and planets (ACS Press Release, November 29, 2023)
Can pharma overcome obesity? (CAS Insights, November 10, 2023)
Carbon rings push limits of chemical theories (Nature news, November 29, 2023)
A Celebration of the Publication of the 100th Volume of Organic Syntheses (editorial) (Journal of the American Chemical Society, November 17, 2023) (open access)
Chemical & Engineering News announces 2023 list of 10 chemistry startups to watch (ACS News Release, November 13, 2023)
Chemists Tackle Formation of Natural Aerosols (Caltech news, November 16, 2023)
ChemRxiv Posts Its 20,000th Preprint (ACS Axial, October 30, 2023)
Decoding the Molecular Universe -- Workshop Report (arXiv [q-bio.BM], November 19, 2023)
Device ‘smells’ seawater to discover, detect novel molecules (ACS Press Release, November 8, 2023)
Entanglement to the Rescue (Caltech news, November 28, 2023)
Feeling lonely? You’re far from alone: Expert advice on how to get reconnected (Scope blog, Stanford Medicine, November 30, 2023)
Four uses for renewable feedstock in sustainable coatings (CAS Insights, November 28, 2023)
The future of computational imaging (Stanford Engineering news, October 27, 2023)
The future of ecohydrology (Stanford Engineering news, November 17, 2023)
Harold Hwang awarded 2024 McGroddy Prize for discovering exotic new materials (SLAC News, November 1, 2023)
How tiny hinges bend the infection-spreading spikes of a coronavirus (SLAC News, November 14, 2023)
Hydrogen needs cleaner production: Photocatalysis is the answer (CAS Insights, November 3, 2023)
Imaging Breakthroughs Provide Insight into the Dynamic Architectures of HIV Proteins (Caltech news, November 22, 2023)
‘Indoor solar’ to power the Internet of Things (ACS Press Release, November 9, 2023)
Interstellar ices could have been the nursery for building blocks of life (Chemistry World, December 1, 2023)
The Joy Workout: Six research-backed moves to improve your mood (video, 8:29 minutes) (New York Times, May 24, 2022)
Making gluten-free, sorghum-based beers easier to brew and enjoy (ACS Press Release, November 2, 2023)
Making hydrogen from waste plastic could pay for itself (NSF Research News, November 14, 2023)
Materials-predicting AI from DeepMind could revolutionize electronics, batteries, and solar cells (Science news, November 29, 2023)
Maternal vaccination against COVID-19 lowered risk of preterm births, Stanford study finds (Stanford News, November 27, 2023)
Milestone for novel atomic clock (NSF Research News, November 14, 2023)
Mixing heat with hair styling products may be bad for your health (ACS Press Release, November 27, 2023)
Molecular movie captures DNA repair from start to finish (Chemistry World, December 1, 2023)
The moon is 40M years older than previously thought (NSF Research News, November 28, 2023)
Nanopore test could identify misfolded proteins in Alzheimer’s and Parkinson’s disease (Chemistry World, December 4, 2023)
New drug delivery system could reduce daily diabetes shots to just three a year (Stanford News, November 21, 2023)
New silicon-based protecting group removable with blue light (Chemistry World, November 29, 2023)
Not so silver lining: Microplastics found in clouds could affect the weather (ACS Press Release, November 15, 2023)
Novel bacterial proteins from seafloor shine light on climate and astrobiology (NSF Research News, November 16, 2023)
Plastic-eating bacteria turn waste into useful starting materials for other products (ACS Press Release, November 1, 2023)
Recent advances in tree nut research — walnuts, pecans and more (ACS Press Release, November 30, 2023)
The Remains of an Ancient Planet Lie Deep Within Earth (Caltech news, November 1, 2023)
Researchers aim to make cheaper fuel cells a reality (SLAC News, November 13, 2023)
Researchers develop promising approach to smaller, more powerful, safer electric vehicle batteries (NSF Research News, November 28, 2023)
Researchers show an old law still holds for quirky quantum materials (SLAC News, November 30, 2023)
Rigorous research practices improve scientific replication (Stanford School of Humanities and Sciences news, November 15, 2023)
Robotic chemistry lab joins forces with Google AI to predict then make new inorganic materials (Chemistry World, November 30, 2023)
Rubin Observatory will unlock fossil record of galaxy cluster evolution (SLAC News, December 4, 2023)
Seeing Deep Blood Flow with Sound and Laser Light (Caltech news, November 30, 2023)
Slippery toilet bowl treatment causes bacteria to slide right off (ACS Press Release, November 28, 2023)

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Solar Power at All Hours: Inside the Space Solar Power Project (Caltech news, October 16, 2023)

A step to prevent opioid overdose deaths with light-activated naloxone treatment (ACS Press Release, November 9, 2023)

Study reveals location of starfish’s head (Stanford News, November 1, 2023)

Surveilling wetlands for infectious bird flu — and finding it (ACS Press Release, November 15, 2023)

Sustainable, plant-based menstrual pads could improve access to hygiene products (Stanford News, November 30, 2023)

Swapping blood for spit — for convenient at-home health monitoring (ACS Press Release, November 29, 2023)

Tiny bubbles could reveal immune cell secrets and improve treatments (NSF Research News, November 2, 2023)

Tiny robots made from human cells heal damaged tissue (Nature news, November 30, 2023)

Twin research indicates that a vegan diet improves cardiovascular health (Stanford Medicine news, November 30, 2023)

Ulrafast Lasers on Ultratiny Chips (Caltech news, November 9, 2023)

Ultrasound Enables Less-Invasive Brain–Machine Interfaces (Caltech news, November 30, 2023)

What does hope for climate change look like? (Stanford Woods Institute for the Environment news, November 30, 2023)

Reactions Videos – Yule Log for Nerds & Vanadium Flow Batteries

Produced by ACS, Reactions a web series about the chemistry that surrounds you every day.

Watch Video on YouTube | Learn more

“There’s a century-old battery technology that’s taking the grid-scale market by storm. Based on water, virtually fireproof, easy to recycle, and cheap at scale, flow batteries could be the wave of the future.”

Watch Video on YouTube

Yule Log Chemistry Trivia - 4 Hours of Cozy Fireplace for Your Nerdy Holiday Parties

“Ready to kick back and relax by the fire this holiday season? We’ve got you covered. Enjoy our chemistry-themed yule log trivia with a cup of hot cocoa at home, in the background at work, or at this year’s annual ugly sweater party.”

Celebrating Scientists with Disabilities

Shining a spotlight on disabled scientists (Chemistry World, November 7, 2023)

“As Enable Science launches a poster series to celebrate disabled scientists, founder Chantelle Minchin discusses the importance of representation.
Huge survey finds US$10,000 pay gap for disabled scientists (Nature news, November 28, 2023)

“People with disabilities make up about 10% of the workforce in science, technology, engineering, and mathematics in the United States. Scientists and engineers with long-term disabilities earn, on average, US$10,580 less per year than their non-disabled peers, finds a massive survey of people with PhDs in science, technology, engineering, and mathematics (STEM) in the United States.”

Throughout my scientific career, I have encountered disability discrimination. I have been banned from mentioning my diagnosis, faced accusations of special treatment, and, at times, been excluded from the workplace altogether. I am not alone. There are many more stories like mine, which, perhaps, explains why disabled individuals are almost twice as likely to be unemployed as non-disabled individuals.” Read the full text

Spotlight Science: Celebrating disabled scientists (Compound Interest, posted November 6, 2023)

“Disabled scientists are still vastly underrepresented in the sciences. With Enable Science, and with the help of a grant from the Royal Society of Chemistry’s Inclusion and Diversity Fund, we’ve produced a series of twelve graphics highlighting the amazing science being done by disabled scientists across the UK. Each poster highlights some of the challenges and accommodations needed to do science alongside being disabled, but also the scientists’ contributions to science.

The Spotlight Series project is targeted at school children to demonstrate that it is possible to undertake a scientific career and be disabled. It is hoped that this will inspire more students to study and work in science, no matter what their background.”

Download the posters (Zip file)

Huge survey finds US$10,000 pay gap for disabled scientists (Nature news, November 28, 2023)

“People with disabilities make up about 10% of the workforce in science, technology, engineering, and mathematics in the United States. Scientists and engineers with long-term disabilities earn, on average, US$10,580 less per year than their non-disabled peers, finds a massive survey of people with PhDs in science, technology, engineering, and mathematics (STEM) in the United States.”


“A diverse workforce provides the potential for innovation by leveraging different backgrounds, experiences, and points of view. Innovation and creativity, along with technical skills relying on expertise in science, technology, engineering, and mathematics (STEM), contribute to a robust STEM enterprise. Furthermore, STEM workers have higher median earnings and lower rates of unemployment compared with non-STEM workers. This report provides high-level insights from multiple data sources into the diversity of the STEM workforce in the United States.”

ACS Committee on Chemists with Disabilities

Mission: “The committee will promote educational and professional opportunities in the chemical sciences and in fields requiring knowledge of chemistry for persons with disabilities. The committee will champion the capabilities of those persons to educators, employers, and peers.”
**The chemistry of ginger and gingerbread**

**Ginger's flavour, aroma and pungency**
Ginger's flavour is influenced by a number of compounds. The pungency of fresh ginger comes from gingerols, which activate heat receptors on the tongue, while zingerone also contributes to the flavour.

**Zingerone**
Produced by inverse aldol reaction of gingerol

**Zingerone** makes up to 30% of ginger essential oil.

**Potential health benefits of ginger**
A number of the compounds in ginger are bioactive. Shogaol has a strong anti-inflammatory effect, whilst gingerols have anti-infectious & analgesic properties. Studies have also suggested that gingerol inhibits production of prostate blood vessels, which may make it useful in the treatment of tumours. Other studies have found that ginger is more effective than a placebo for treating nausea during pregnancy and chemotherapy.

**Shogaol**
Produced when ginger is dried/cured

**Gingerol**
Active constituent of fresh ginger

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- Secretary: Megan Tichy
- Treasurer: Ihab Darwish

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**Newsletter**
- Editor: Grace Baysinger
- Assoc. Editor: Jane Frommer

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