

SILICON VALLEY CHEMIST

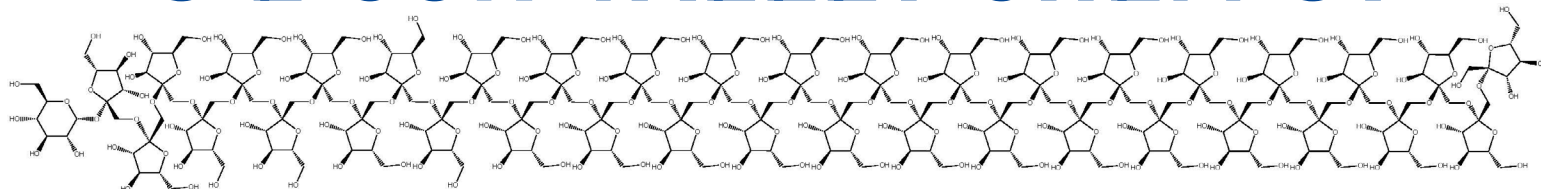


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A joint event of the Golden Gate Polymer Forum and ACS Silicon Valley Section
The Circular Economy of Polymers & Recycling Technologies
Inventing a Sustainable Future in Partnership with Nature

Dr. John C. Warner

Senior Vice President, Chemistry, Distinguished Research Fellow, Zymergen Corporation
 Thursday, June 23, 2022, 6:00 PM.

Free/\$5 donation. **Registration** required by Wednesday, June 22, 2022, at 1:00 PM.

When registering, please indicate your primary affiliations: GGPF, ACS, or both.

View and share flyer.

continued on next page

CIRCULAR ECONOMY OF POLYMERS & RECYCLING TECHNOLOGIES

Inventing a sustainable future in partnership with nature

John C. Warner
Distinguished Research Fellow
Green Chemistry & Sustainability

Thursday, 23 June 2022 | 6 pm PDT

For more information & to register for this seminar
 & receive a Zoom link go to <https://ggpf.org/events/?ee=297>

Chair's Message

Stephanie Benight, Ph.D.



Summer is here, a busy season for our Silicon Valley ACS Section.

Our notable event each year in June is the **annual joint meeting with the Golden Gate Polymer Forum** (GGPF)

where we enjoy mixing the memberships of the two science-supporting organizations. This year our featured speaker is Dr. John Warner, co-founder of the Warner Babcock Institute for

continued on next page

GOLDEN GATE POLYMER FORUM



American Chemical Society
Silicon Valley

Abstract:

The natural world is a beautiful and intricate system of intertwined and overlapping materials ecosystems that co-emerged over 3.8 billion years in the presence of one another. The vast majority of industrial products and processes have developed relatively independent of each other, not symbiotically as adjacent processes. This pattern of disconnection is not sustainable over the long run. The pathway to create technological ecosystems will require the inventive application of biomimicry and green chemistry - the molecular level mechanistic underpinnings of sustainability. This presentation will describe mechanisms in nature that we should consider when designing the human-built world. Illustrative examples of practical real world deployments will be presented.

Bio:

John is a senior vice president of chemistry and distinguished research fellow at the Zymergen Corporation, where they design and create commercial technologies inspired from nature consistent with the principles of green chemistry.

With over 300 patents, he has invented solutions for dozens of multinational corporations, and his inventions have served as the basis for several new companies. John is a cofounder of the field of green chemistry, coauthoring the defining text and articulating 12 principles of green chemistry. He has been involved with



foundational work in the fields of noncovalent derivatization, polymer photochemistry, metal oxide semiconductors, and synthetic organic chemistry. John has received many prestigious international awards, including: named by ICI Services as one of the most influential people impacting the global chemical industries; elected a Fellow of the American Chemical Society; named one of “25 Visionaries Changing the World” by Utne Reader; and in 2017 the German Ministry of Economic Affairs and The Technical University of Berlin announced “The John Warner Center for Green Chemistry Start-Ups” in his honor. He serves as Distinguished Professor of Green Chemistry at Monash University in Australia and as the Global Chair for the Center for Sustainable and Circular Technologies at the University of Bath.

John received his BS in Chemistry from UMass Boston, and his PhD in Chemistry from

Princeton University. After working at the Polaroid Corporation for nearly a decade, he served as tenured full professor at UMass Boston and Lowell in Chemistry and Plastics Engineering. In 2007, along with Jim Babcock he founded the Warner Babcock Institute for Green Chemistry, a research organization developing green chemistry technologies. With Amy Cannon, he founded Beyond Benign, a non-profit dedicated to sustainability and green chemistry education. He now advises several international organizations and in 2020 began working with the Zymergen Corporation.

Chair's Message, continued from previous page

Green Chemistry, and Research Fellow in Green Chemistry & Sustainability at the Zymergen Corporation.

You might recall that Dr. Warner received the **SVACS Mosher Award in 2016** for his contributions to the green chemical enterprise. **Join us** (virtually) on Thursday evening, June 23, to hear about pathways for creating technological ecosystems by inventive application of biomimicry and green chemistry.

We've announced the winners of our Chemists Celebrate Earth Week Illustrated Poem contest. You can view these colorful winning submissions in this newsletter, created by awesome local middle school students.

Our section's **Radding Award** is also announced in this newsletter. Be inspired by its worthy recipient, Dr. Marinda Wu, who has contributed countless hours to the chemistry community.

We're in the middle of a push to expand our social media following to advertise our events to a broader audience. **Follow us on LinkedIn!** You can find us at ACS Silicon Valley Section. Are you active on **Facebook** or **Twitter**? Join our social media team to get the word out on the many SVACS activities and opportunities in our region.

Looking ahead to July – save the afternoon of Saturday, July 16, 2022, for our **annual picnic** to be held at Cuesta Park in Mountain View. We will have BBQ from Armadillo Willy's, wine- and beer-tasting, awards for our long time Section members, and good in-person company.

I'm sorry to report that a dear, long-time member of our Section passed away recently, Dr. Lois Durham. She was one of the original members of our ACS Section and supported the section in numerous roles.

As always, should you have any feedback or questions, please don't hesitate to reach out to me at chair@siliconvalleyacs.org.



EPA Releases List of Disinfectants for Emerging Viral Pathogens (EVPs) Including Monkeypox



On Monday, May 23, 2022, EPA triggered its emerging viral pathogen (EVP) **guidance** in response to recent cases of monkeypox in the United States. EPA expects products on its **List of Disinfectants for Emerging Viral Pathogens** to kill monkeypox when used according to the label directions.

When rare or novel viruses cause outbreaks of disease, there may be few if any disinfectants that have been tested and registered for use against that specific pathogen. To prepare for situations like these, EPA created the EVP guidance, which allows disinfectant manufacturers to submit data to EPA demonstrating a product's efficacy against difficult-to-inactivate viruses.

Monkeypox belongs to a group of viruses that is more susceptible to disinfectants than other types of viruses. While there are no disinfectants registered for use against monkeypox, all products with EVP claims have been tested against viruses that are more difficult to kill than monkeypox.

The use of products with EVP claims supplements but does not replace other infection control practices. Individuals should follow Centers for Disease Control and Prevention (CDC), state, and local public health guidelines. Learn more about monkeypox from the **Centers for Disease Control and Prevention**.

See the list of disinfectants for EVPs, including Monkeypox

2022 Shirley B. Radding Award Dr. Marinda Li Wu

Marinda Wu has been selected as the recipient for the 2022 SVACS Radding Service Award. The criteria to be selected for the Radding Award are:

- Member of the American Chemical Society for more than 20 years.
- Demonstrated dedicated and unselfish service to ACS members over a sustained period of time.
- Provided leadership through elected and appointed ACS positions at local, regional and national levels.
- Made significant contributions to industrial, applied or academic chemistry.



Marinda Li Wu has over 45 years of experience in the chemical industry. She worked many years in research for Dow Chemical R&D where she earned 7 U.S. patents in advanced batteries and membrane separations, and as a business leader for Dow Plastics Marketing where she created partnerships between industry, education, government, and community leaders. These partnerships resulted in the nation's first municipal curbside plastics recycling program for all mixed plastics and in national model recycling programs for schools and industry. Dr. Wu subsequently held management roles at several smaller chemical companies. A strong advocate of STEM education, she founded "Science is Fun!" to interest young students in science and enhance public support for science education.

As an ACS member for over 50 years, Dr. Wu has served in many national and regional leadership roles. These include being elected as the first Asian American ACS President (2013), Board of Directors (2006-2014), Councilor (1996-present), and Chair of the Committee on Economic and Professional Affairs (CEPA) (2003-2005) where she created a Globalization Task Force that brought out the importance of globalization to jobs and careers of ACS members and students. Dr. Wu has also served on numerous other national ACS committees including Local Section Activities Committee (LSAC), Committee on Chemistry and Public Affairs (CCPA), Committee on Public Relations and Communications (CPRC), Petroleum Research Funds (PRF), and Budget & Finance (B&F) as well as the ACS Board Committees on Professional & Member Relations (P&MR), Public Affairs and Public Relations (PA&PR) and Grants and Awards (G&A).

Dr. Wu has also helped countless students and professionals at all career stages as a certified ACS career consultant for almost 30 years. Dr. Wu was Chair of the Women Chemists Symposium at the Western Regional Meeting in 2006.

At her local ACS California Section level, Dr. Wu was Chair during its Centennial Celebration year in 2001, Chair of the Women Chemists Committee four times, Chair of the Government Affairs Committee, and Chair or member of over half a dozen other committees. She continues to serve on the Executive Committee, actively participating at their monthly meetings. She pioneered the Family Science Night in 1997, introduced the popular Science Cafe programs to support public education and outreach, and co-founded the monthly Career Assistance and Transition Group meetings, providing mentoring and resume reviews to job-seeking chemists for many years.

Dr. Wu served on the Council of Scientific Society Presidents

CALENDAR OF EVENTS

- June 2022 -

- Jun 6-8** **The 26th Annual Green Chemistry & Engineering Conference**
Sponsored by the ACS Green Chemistry Institute
Reston, Virginia and Online (fully hybrid meeting for speakers and attendees) [Learn more](#)
- Jun 9** **How to Plan and Organize Your Competitive Research Proposal**
Nancy Jensen, ACS Office of Research Grants; and Joerg Schlatterer, ACS Student & Postdoctoral Scholars Office, ACS Bridge Project
Sponsored by ACS Webinars and ACS Student & Postdoctoral Scholars
11am-Noon, Online via Zoom, Free. [Registration required](#)
- Jun 21** **Chemistry, ACS And YOU: The Value of Getting Involved**
Dr. Judy Giordan - 2022 ACS President-Elect
Sponsored by the Women Chemists Committees of the ACS California & ACS Puget Sound Sections, and ACS Portland and ACS Alaska
5-6pm, Online via Zoom, Free. [Registration required](#)
- Jun 22** **Schrödinger Educator's Day 2022**
11am-4pm PT, Free, [Learn more and register](#)
- Jun 23** **The Circular Economy of Polymers & Recycling Technologies - Inventing a Sustainable Future in Partnership with Nature**
Dr. John C. Warner, Zymergen Corp. and Warner-Babcock Green Chemistry Institute
Sponsored by ACS Silicon Valley Section and Golden Gate Polymer Forum
6-7pm, Online via Zoom, Free/\$5 Donation, [Registration required](#)
(Deadline: June 22 at 1pm)
- Jun 26-30** **47th National Organic Chemistry Symposium**
Sponsored by the ACS Organic Chemistry Division
La Jolla Marriott, California. [Learn more](#)

- July 2022 & Beyond -

- Jul 16** **ACS Silicon Valley Annual Picnic and Awards Ceremony**
Sponsored by the ACS Silicon Valley Section
4-7pm, Cuesta Park, Mountain View, CA, [Learn more](#)
- July 20** **Polymeric Fibers with Novel Antimicrobial and Antiviral Properties**
Prof. Gang Sun, UC Davis Biological & Agricultural Engineering Dept.
Sponsored by the Golden Gate Polymer Forum (GGPF)
6:30 Online via Zoom, \$5 donation/free
Details and registration [available soon](#)
- Aug 22-25** **ACS Fall 2022 National Meeting: Sustainability in a Changing World**
Chicago, Illinois (hybrid meeting), [Learn more](#)
- Oct 19-22** **ACS Western Regional Meeting 2022: Empower the Chemist for a Better Tomorrow**
Sponsored by the ACS Southern Nevada Local Section
Flamingo Hotel & Convention Center, Las Vegas, Nevada, [Learn more](#)

(2012-2015), the International Advisory Board for 45th IUPAC World Chemistry Congress, and has also been named an honorary member of the Romanian and Polish Chemical Societies. She is a longtime member of the University of Illinois Chemistry Alumni Advisory Board and the Chinese American Chemical Society Board of Directors (Chair, 2019-2022). She has authored over 70 journal articles, internal Dow research papers, and book chapters, co-edited three ACS Symposium Books, and was invited as plenary speaker for the Federation of Asian Chemical Societies as well as many other international and domestic conferences.

Dr. Wu was elected ACS Fellow in 2015. She received her Ph.D. in inorganic chemistry from the University of Illinois in Urbana-Champaign and a B.S. cum laude with Distinction in Chemistry from The Ohio State University.

Silicon Valley ACS Annual Picnic & Awards

Come celebrate together with
wine- & beer-tasting, good food & awards



For information go to <https://www.siliconvalleyacs.org>.
Registration (deadline 13 July 2022) is required to make sure there is plenty of food.



ACS National High School 2022 Chemistry Olympiad

Each year, ACS runs a competition to identify the top high school chemists to represent the United States in the International Chemistry Olympiad. This program is a multiple step challenge that is coordinated by the local sections. The Silicon Valley local section participates each year in administering the exams. This year, we have an outstanding group of young chemists. Two of our students achieved scores that qualify them to proceed to the next step: National Study Camp at the University of Maryland. Five of the Silicon Valley students received High Honors and nine were recognized on the Honor list for the National Competition. This is a huge accomplishment for our students, and recognizes also the strength of the chemistry education being offered in the local school systems.

Over 300 students from 25 different high schools participated in our local qualifying exam. From these, the top 15 were nominated to compete in the National competition which consists of a multiple choice exam, a problem-solving exam, and a laboratory practical. Over 1000 students participate in the National exams across the country, and the top 175 are recognized on the High Honors and Honors list. In addition, 20 students are selected to attend the



Chemistry Olympiad Laboratory Practical, at Los Positas College, April 2022

Study Camp. From these 20 students, 4 are selected to represent the US team in the International Competition to be held in July. Unfortunately, this year the international competition will have to be virtual again due to Covid. It was scheduled to be held in China where infection rates are high.

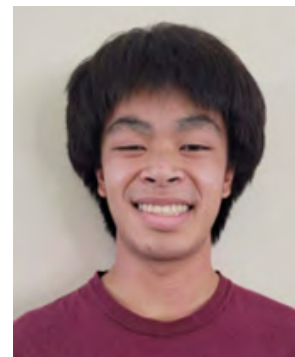
Please join us in congratulating all the students who participated in the Chemistry Olympiad and in thanking the teachers who made this possible. These students represent the future of the ACS and the chemical enterprise.

Alex Gu, a senior at Gunn High School in Palo Alto, will attend the Study Camp again this year. This will be his second year at the Study Camp. Alex enjoys chemistry because it offers the perfect blend of engaging problem solving and fun trivia. He is looking forward to the Study Camp as a perfect way to tie off his journey through the Chemistry Olympiad before heading to Stanford in the fall.

Gilford Ting, a senior at Cupertino High School, will attend his first Study Camp. His interest in chemistry started when his sophomore chemistry Honors teacher poured nitric acid on a penny and made brown gas and blue Gatorade-colored liquid appear out of nowhere. He has since learned that drinking solutions in the laboratory is a very bad idea, but continues to be fascinated by the beauty of chemistry, from the atomic scale up to the industrial scale. He also leads his school's Science Bowl team, serves as his class council's vice president, and dances as part of KASA, his school's Korean dance team. Gilford will be attending MIT in the fall and plans to study chemistry, physics, or computer science.



Alex Gu



Gilford Ting

2022 EDUCAUSE Horizon Report Teaching and Learning Edition



"This report profiles the trends and key technologies and practices shaping the future of teaching and learning, and envisions a number of scenarios and implications for that future. It is based on the perspectives and expertise of a global panel of leaders from across the higher education landscape."

[Learn more and read the full report](#)

Time to Review Your Periodic Table

The "Standard Atomic Weights of the Elements 2021" is out and so is an updated Periodic Table which contains these latest revisions listing the abridged atomic weights along with their +/- values. [Learn more](#)

IUPAC Periodic Table of the Elements

1 H Hydrogen 1.008																	18 He Helium 4.0026			
2 Li Lithium 6.94	3 Be Beryllium 9.0122	Kw Symbol Atomic weight Standard atomic weight										10 Ne Neon 20.180	11 Na Sodium 22.990	12 Mg Magnesium 24.305	13 Al Aluminum 26.982	14 Si Silicon 28.086	15 P Phosphorus 30.974	16 S Sulfur 32.06	17 Cl Chlorine 35.45	18 Ar Argon 39.948
19 K Potassium 39.098	20 Ca Calcium 40.078	21 Sc Scandium 44.956	22 Ti Titanium 47.88	23 V Vanadium 50.942	24 Cr Chromium 52.00	25 Mn Manganese 54.938	26 Fe Iron 55.845	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.38	31 Ga Gallium 69.723	32 Ge Germanium 72.630	33 As Arsenic 74.922	34 Se Selenium 78.96	35 Br Bromine 79.904	36 Kr Krypton 83.80			
37 Rb Rubidium 85.468	38 Sr Strontium 87.62	39 Y Yttrium 88.906	40 Zr Zirconium 91.224	41 Nb Niobium 92.906	42 Mo Molybdenum 95.94	43 Tc Technetium [98]	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.91	46 Pd Palladium 106.36	47 Ag Silver 107.868	48 Cd Cadmium 112.415	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.757	52 Te Tellurium 127.6	53 I Iodine 126.905	54 Xe Xenon 131.29			
55 Cs Cesium 132.905	56 Ba Barium 137.327	Lanthanides										80 Hg Mercury 200.59	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98	84 Po Polonium [209]	85 At Astatine [210]	86 Rn Radon [222]		
57 Fr Francium [223]	87 Ra Radium [226]	88 Ac Actinium [227]	89 Th Thorium 232.0377	90 Pa Protactinium 231.036	91 U Uranium 238.02891	92 Np Neptunium [237]	93 Pu Plutonium [244]	94 Am Americium [243]	95 Cm Curium [247]	96 Bk Berkelium [247]	97 Cf Californium [251]	98 Es Einsteinium [252]	99 Fm Fermium [257]	100 Md Mendelevium [258]	101 Lv Livermorium [260]	102 Ts Tennessine [289]	103 Og Oganesson [284]			
INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY																				

[Enlarge image](#)

For notes and updates to this table, see www.iupac.org. This version is dated 4 May 2022. Copyright © 2022 IUPAC. In Memoriam Union of Pure and Applied Chemistry.

2022 Chemists Celebrate Earth Week ACS Silicon Valley Illustrated Poem Contest

To promote the positive role that chemistry plays in the world, the ACS hosts the *Chemists Celebrate Earth Week* (CCEW) public awareness campaign. During CCEW, ACS members and chemistry enthusiasts celebrate by communicating the importance of chemistry.

The 2022 theme for Chemists Celebrate Earth Week is *"The Buzz about Bugs: Insect Chemistry."*

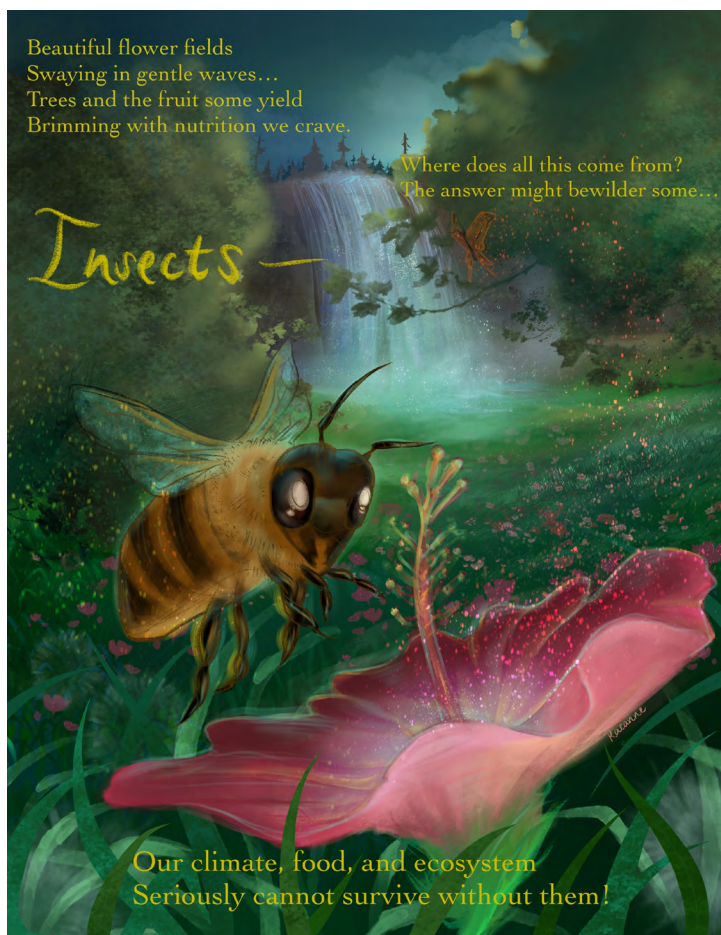
Silicon Valley ACS celebrates CCEW by asking school children to create illustrated poems based on the year's theme, and awarding prizes for outstanding contributions.

Enjoy this year's colorful and meaningful creations here!

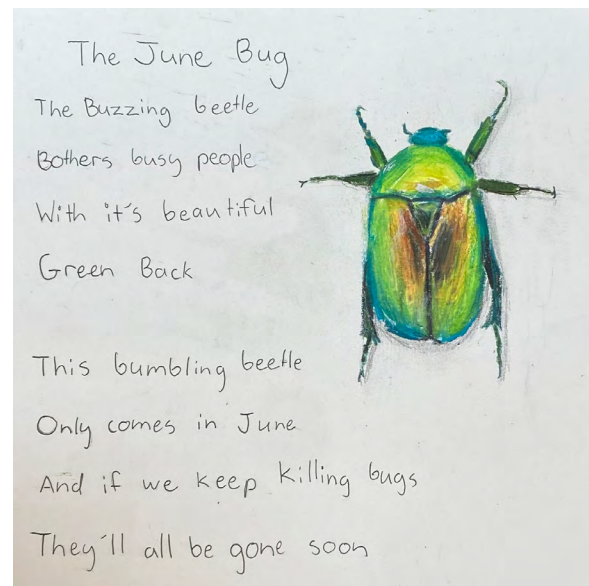
2022 Winner: Reanne Li, Grade 7

2022 Runners up: Chelsea Xie, Grade 7

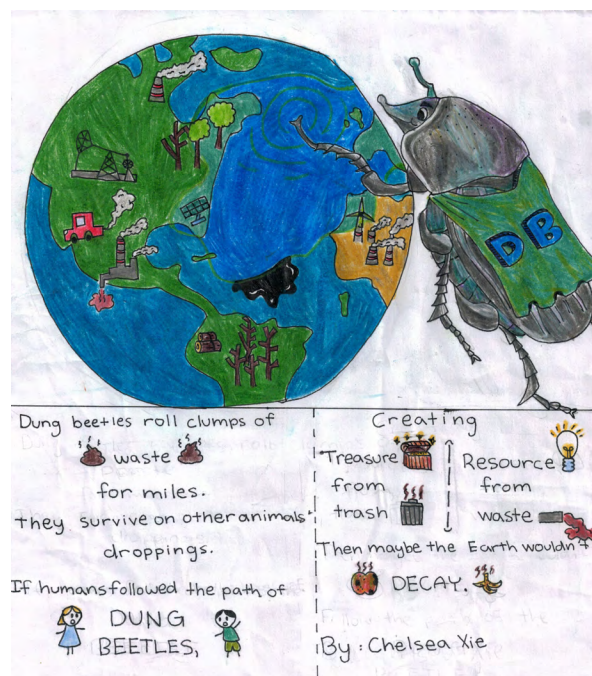
Maya Choudhari, Grade 7



Winner: Reanne Li, Grade 7



Runner up: Maya Choudhari, Grade 7



Runner up: Chelsea Xie, Grade 7

Science and Technology: Public Perceptions, Awareness, and Information Sources

Published in May 2022 by the National Science Board, this report explores indicators of public perceptions of science and technology. This includes public familiarity with science research processes, American adults' exposure to sources of science information, and their involvement in scientific activities.

[Read the full report](#)





ACS Western Regional Meeting

Now Accepting Abstracts

Abstracts are now being accepted for oral and poster presentations for the 2022 Western Regional Meeting (WRM). The theme, Empower the Chemist for a Better Tomorrow, will be at the core of programming for the event.

This four-day event hosted by the ACS Southern Nevada local section (ACS-SNS) will highlight achievements, peak challenges, and opportunities in the ACS western region and beyond.

Visit the website to find a list of the programming divisions and planned symposia open for submissions.

The deadline to submit an abstract is Tuesday, July 5. [Submit an abstract](#)

Submit Your Award Nominations

Help recognize a member or partner in the chemical enterprise by nominating them for one of the following awards. The deadline to submit nominations is August 1. [Learn More & Nominate](#)

- *Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences*: This award recognizes individuals and/or institutions who have advanced diversity in the chemical sciences and significantly stimulated or fostered activities that promote inclusiveness within the region.
- *E. Ann Nalley Regional Award for Volunteer Service to the American Chemical Society*:

This award recognizes the volunteer efforts of individuals who have served the American Chemical Society, contributing significantly to the goals and objectives of the Society through their regional activities

- *Partners for Progress & Prosperity Award*: To encourage and recognize successful and exemplary partnerships, advancing advocacy efforts with government and other thought leaders, and supporting STEM education or research.
- *Regional Awards for Excellence in High School Teaching*: The Division of Chemical Education established an endowment to support Regional Awards for Excellence in High School Teaching in each ACS Region.

Book Your Stay in Las Vegas

Take advantage of exclusive rates and benefits by booking your housing at the Flamingo Las Vegas. [Book your stay](#)

The all-in-one casino, hotel, and resort offer everything an adventurous vacationer could want. Located at the center of the Strip and adjacent to The LINQ and High Roller, this Las Vegas hotel combines heart-pounding excitement with hospitality.

Visit the [website](#) to find more information and use the reservation link to ensure you support the meeting.

47th National Organic Chemistry Symposium



Kendall Houk, PhD
Roger Adams Awardee
University of California,
Los Angeles



Frances Arnold, PhD
Nobel Prize 2018
California Institute of
Technology



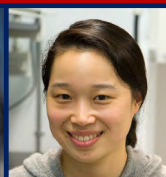
Benjamin List, PhD
Nobel Prize 2021
Max-Panck-Institut
für Kohlenforschung



Jeffery Aubé, PhD
University of North
Carolina, Chapel Hill



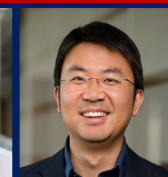
Emily Balskus, PhD
Harvard University



Michelle Chang, PhD
University of California,
Berkeley



Nicolai Cramer, PhD
École Polytechnique
Fédérale de Lausanne



Mingji Dai, PhD
Purdue University



Sabine Hadida, PhD
Vertex Pharmaceuticals



Seth Herzon, PhD
Yale University



Masayuki Inoue, PhD
Tokyo University



Jeremiah Johnson, PhD
Massachusetts, Institute
of Technology



László Kürti, PhD
Rice University



Bradley Moore, PhD
Scripps Institute of
Oceanography



Javier Read de Alaniz, PhD
University of California,
Santa Barbara



Corinne Schindler, PhD
University of Michigan



Steven Townsend, PhD
Vanderbilt University



Seble Wagaw, PhD
AbbVie Process R&D

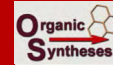


Charles Yeung, PhD
Merck & Co., Inc



Zhongxin Zhou, PhD
Gilead Sciences

Roger Adams
Award
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WILEY

A milestone – 50,000+ titles in the Directory of Open Access Books



“A milestone for open access – the *Directory of Open Access Books* now includes over 50,000 open access books published in 90 languages by 560 academic book publishers. The directory, representing scholarship from authors and publishers around the globe, is openly available to the scholarly community and the general public at large.

The Directory of Open Access Books (DOAB)

– an initiative launched in 2012 inspired by the Directory of Open Access Journals (DOAJ) – indexes peer-reviewed open access books and provides information about its publishers. Today we celebrate a milestone for the open access community as we surpass the threshold of 50,000 open access books, while looking ahead at how we may, collectively, continue our efforts enabling open access books to thrive.”

Read full blog post: “*Guest post: A milestone for the open access book: 50,000 open access books in DOAB and counting*” by Tom Mosterd, DOAB, in Open Access Scholarly Publishing Association blog on April 21, 2022.

CAS Common Chemistry in 2021: Expanding Access to Trusted Chemical Information for the Scientific Community



Andrea Jacobs, Dustin Williams, Katherine Hickey, Nathan Patrick, Antony J. Williams, Stuart Chalk, Leah McEwen, Egon Willighagen, Martin Walker, Evan Bolton, Gabriel Sinclair, and Adam Sanford

Journal of Chemical Information and Modeling Article ASAP (Publication Date: May 13, 2022) DOI: [10.1021/acs.jcim.2c00268](https://doi.org/10.1021/acs.jcim.2c00268)

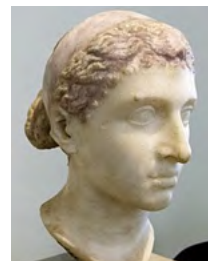
Abstract: CAS Common Chemistry (<https://commonchemistry.cas.org/>) is an open web resource that provides access to reliable chemical substance information for the scientific community. Having served millions of visitors since its creation in 2009, the resource was extensively updated in 2021 with significant enhancements. The underlying dataset was expanded from 8000

to 500,000 chemical substances and includes additional associated information, such as basic properties and computer-readable chemical structure information. New use cases are supported with enhanced search capabilities and an integrated application programming interface. Reusable licensing of the content is provided through a Creative Commons Attribution-Non-Commercial (CC-BY-NC 4.0) license allowing other public resources to integrate the data into their systems. This paper provides an overview of the enhancements to data and functionality, discusses the benefits of the contribution to the chemistry community, and summarizes recent progress in leveraging this resource to strengthen other information sources.

In the News: Interesting & Cool Science

- [The physics of gel-like substances](#) (article is part of the series The Future of Everything, Stanford Engineering, May 5, 2022).
- [Automated Research Workflows Are Speeding Pace of Scientific Discovery; New Report Offers Recommendations to Advance Their Development](#) (News Release from the National Academies of Sciences, Engineering, and Medicine, May 10, 2022).
- [A new approach to vaccinations: 3D printed patches](#) (*Scope*, Stanford Medicine, May 12, 2022)
- [How three mutations work together to spur new SARS-CoV-2 variants](#) (ACS Press Release, May 17, 2022).
- [How to tie-dye cotton with acorns and rust](#) (ACS Press Release, May 26, 2022)

3 ways Cleopatra Contributed to Science and Medicine



“Cleopatra supported advancements in science and medicine. She also contributed to The Great Library of Alexandria, which was eventually destroyed after Cleopatra’s death during the Roman

occupation. Arabic-language texts note her legacy as a scientist and a scholar. Here are three documented examples of Cleopatra’s scientific prowess.” (Source: Sigma Xi Newsletter, *April 28, 2022 issue*).

Read full text article published in *Discover Magazine*

Image credit: Bust of Cleopatra VII now located in Altes Museum in Berlin, Germany. (Source: [Wikimedia Commons - File: Altes Museum Berlin - Kleopatra VII.jpg](#), IN [Wikipedia article on Cleopatra](#), accessed 2022-04-28)

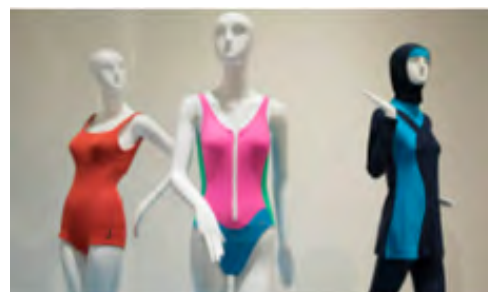
Making Maple Syrup



Learn more and watch video

Second Skin: The Science of Stretch

A Digital Exhibit from the Science History Institute that is hosted on Google Arts & Culture’s website



“Learn all about stretch fabrics and how these second skins changed the way we move through the world.” [View the exhibit](#)

Science Education in an Age of Misinformation



This article was reprinted from <https://sciedandmisinfo.stanford.edu/>

“Misinformation is a grave threat to science.

In this report, generated by an international group of leading scientists and education researchers, we outline the nature of that threat along with why it is important and how it can be addressed.”

[Download the report](#)

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. To welcome you to the section and in order to get to know you, the Executive Committee offers new members a free dinner at a monthly section seminar meeting, once we return to meeting in person! When you register for the event, make certain to mention that you are a new member and you and a friend will be our guests. The seminar meetings are held at several local venues. We hope you will also join us for an outreach event, like judging a science fair, proctoring the Chemistry Olympiad, or participating in a National Chemistry Week event in the autumn. 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

Khaled Al Kurdi
David Anders
Bohdan Andreiuk
Remy Angelaud
Shaobo Cai
Steven Chamow
Kuo-Wei Chang
Richard Closser
Tingting Dai
Xiaohui Du
Stephen Philip Alan Fodor

Yixuan Gao
Amanda Guan
Mengxuan Jia
Adam Jones
Lauren Kennedy
Eric T. Kool
Timothy Joseph Lee
Rebecca Lennen
Brenda Lu
Pu-Ping Lu
Sunghoon Ma

Siavash Mashayekh
Jevgenij Raskatov
Ryan Ribson
Rosa Rocha Zamora
Sandra Burnham Sachs
Chuncheon Shin
Chris R. Somerville
Annie E. Stefanides
Bingchuan Wei
Jason D. White

Institutions Partner with ACS to Advance First California-wide Transformative Open Access Agreement

“WASHINGTON, May 17, 2022 — Three California consortia, representing nearly 60 academic and research institutions, and the Publications Division of the American Chemical Society (ACS) today announced the first-ever California-wide transformative open access agreement. It is also ACS’ first “read and publish” agreement in the U.S. composed of multiple consortia. Through a partnership with the 10-campus University of California (UC) system, the 23-campus California State University (CSU) system, and 25 subscribing institutions represented by the Statewide California Electronic Library Consortium (SCELC), readers and researchers at dozens of California research institutions will be able to benefit from full access to subscription content while receiving support for open access publication in ACS’ portfolio of more than 75 premier chemistry journals.”

[Read the full press release](#)

2022 Schrödinger’s Educator’s Day

Learn about the role of computational tools in the classroom



Educator's Day 2022

Schrödinger’s Educator’s Day is connecting educators from all over the world to discuss the growing role of computational tools in the classroom and integrating molecular modeling into modern science curriculums.

June 22, 2022
11:00 AM to 4:00 PM ET

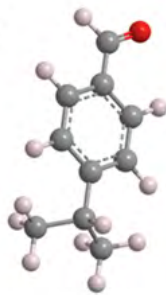
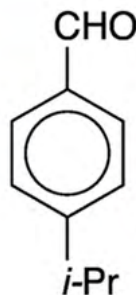
[Register Here](#)

[Learn more and register](#)

CHEMISTRY

Quiz

You know me from Middle Eastern foods and tacos. What molecule am I?



Answer

HAY FEVER & HAY FEVER MEDICATIONS

THE CAUSE



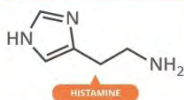
TREE, GRASS & WEED POLLENS

10-15% The percentage of the UK population affected by hay fever.

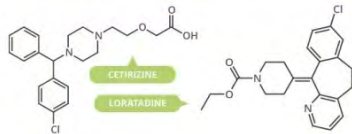
90-95% The percentage of hay fever sufferers that are allergic to grass pollens.

THE ALLERGIC RESPONSE

- 1 Pollen exposure results in the body misidentifying it as a threat; antibodies are released to combat it.
- 2 The antibodies produced bind to two types of cell in tissues - mast cells and basophils.
- 3 These release several chemicals, including histamine, which produce an inflammatory response.
- 4 Symptoms of this response include a runny nose, itching, sneezing fits, and nasal congestion.



ANTIHISTAMINES FOR HAY FEVER



Block histamine action, prevent most symptoms

All oral formulations for treatment of hay fever are antihistamines. These bind to H₁ histamine receptors instead of histamine, preventing the effects produced by the allergic response - although they may not clear blocked noses.

1st GENERATION VS. 2nd GENERATION

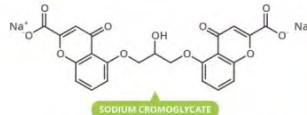
First generation antihistamines can cause undesirable effects, including sedation. Second generation are less likely to exhibit sedative effects, particularly loratadine. Peak levels of antihistamines are generally reached one hour after taking.

Take when hay fever symptoms are expected, rather than when they have already started.

This is because they cannot reverse the effects of histamine already binding to the H₁ receptors, and so will not provide relief.



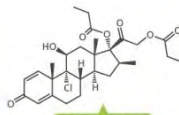
SODIUM CROMOGLYCATE IN EYE DROPS



Prevents release of histamine

Commonly used in eye drop solutions, sodium cromoglycate prevents hay fever symptoms by stabilising mast cells, and preventing them from releasing histamine. Unlike anti-histamines, it is effective at remedying itchy eyes even after symptoms have started.

CORTICOSTEROIDS



Prevent the inflammatory symptoms of hay fever

Prevent nasal symptoms more effectively than antihistamines, and also relieve itchy eyes. They act to reduce inflammation, rather than directly blocking or preventing the action of histamine.

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ACS Local Section
Silicon Valley

P.O. Box 395, Palo Alto, CA 94302

Contact us: <https://www.siliconvalleyacs.org/about/contact/>

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

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Enlarge image. Learn about *The Chemistry of Hay Fever – How Do Hay Fever Medications Work?*

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