

# SILICON VALLEY CHEMIST



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## Careers in Industrial Chemistry Identifying Your Role in the Value Chain

Xu Simon, PhD, Chief Technology Officer, Enozo Technologies in Andover, MA  
An ACS Career Pathways Virtual Workshop  
March 19, 9-10:30AM, Online, Free, *Registration required*



This free, 90-minute virtual live event provides an overview of the job market and job types for industrial chemistry. Learn about the latest employment trends and discuss what skills and values align with each sector, helping you identify the area best suited for your personal background and interests.

You will learn:

- How the industrial value chain can be used as a tool to help refine your job search in alignment with your strengths and values.
- Key components of job descriptions and how to break down job descriptions to best match job opportunities with your experience, strengths, and values.

The first hour of the workshop features a presentation by an ACS Career Consultant, while the last half hour is a Q&A session between participants and the facilitator.



**ACS SPRING 2025**  
ACS Chemistry for Life®  
AMERICAN CHEMICAL SOCIETY

**ACS Spring Meeting 2025**  
**Pushing Boundaries. Solving Global Challenges.**  
San Diego, California & Virtual, March 23-27, 2025  
<https://www.acs.org/meetings/acs-meetings/spring.html>  
*Continued on next page*



**Pacifichem 2025**  
The International Chemical Congress  
of Pacific Basin Societies 2025  
HONOLULU, HAWAII • DECEMBER 15-20, 2025  
ABSTRACT SUBMISSIONS  
OPEN NOW THROUGH APRIL 2  
*Learn more and submit an abstract*



[Registration & Pricing](#) | [Meeting Badge](#)  
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## ACS Fellows Nominations

Open February 1 - April 1, 2025



*"The American Chemical Society Fellows Program* was created by the ACS Board of Directors in December 2008 to recognize members of ACS for outstanding achievements in and contributions to science, the profession, and the Society.

Nominations for the 2025 Class of ACS Fellows will be open from February 1 to April 1, 2025."

[Learn more and watch the 'How to Webinar for Nominators' Video](#) | [View slides](#)

## Judges Needed for Local Science Fairs

Please Volunteer and Register Now

If you are reading this newsletter, you are likely interested in science in our community. How about encouraging our 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 one (San Mateo STEM Fairs) are in person. The following science fairs need category awards judges, especially in the areas of biology, chemistry, microbiology, and all areas of informatics. 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 the Silicon Valley ACS special award team of judges at the Synopsys Championship on March 13, 2025 in San Jose, please [contact us](#). We welcome participants from all chemistry-related fields.

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

- **Santa Cruz County STEAM Expo**, March 8, 2025, Santa Cruz County Fairgrounds
- **Synopsys Championship, Santa Clara County**, March 13, 2025, San Jose Convention Center
- **San Mateo County Office of Education STEM Fair**, March 15, 2025, virtual format
- **Alameda County Science and Engineering Fair**, March 15, 2025, Chabot College, Hayward Campus

## P.I.E.F.E.S.T. Bay Area Pasifika STEM Fair 2025

Saturday, April 12th, 1-5pm

San Mateo Event Center, San Mateo, CA



The P.I.E.F.E.S.T. (Pacific Islanders encouraging fun, Engineering, Science & Technology) Bay Area Pasifika STEM Fair is a fun and engaging STEM experience designed to spark interest in STEM fields for all youth. This event improves access to STEM for underserved communities by bridging the gaps between children, youth, families, and Bay Area STEM learning providers. The Bay Area Pasifika STEM Fair creates a culturally nurturing experience and presents STEM through a Pacific Islander lens.

Silicon Valley ACS participates annually in this event with hands-on chemistry experiments. [Contact us](#) to help at this event.

[Learn more about P.I.E.F.E.S.T.](#) | [Learn more about the LEMO foundation](#)

# CALENDAR OF EVENTS

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

All Times Given are Pacific Time Zone

- March 2025 -

## Mar 6 Women in Data-Driven Discovery (WiD3) Conference

Sponsored by Stanford Data Science

8:30 am-5:30 pm; Stanford University, Simonyi Conference Center, CoDa, 389 Jane Stanford Way. Industry/General Admission \$200, Student (Stanford & Non-Stanford) \$15, Faculty/Staff/Postdocs (Stanford & Non-Stanford) \$25, [Learn more and buy tickets](#)

## Mar 6 ACS Virtual Office Hours: LinkedIn Profiles for Chemists

Sponsored by ACS Careers

9:00-10:30 am, Online, Free, [Registration required](#)

## Mar 8 Kid Makers: Pop Up Chemistry

Sponsored by Silicon Valley ACS & Redwood City Public Library (RCPL)

2:00-3:00 pm, In-person for ages 9-12, RCPL Downtown Location, 1044 Middlefield Road, Redwood City, Free, [Learn more](#)

## Mar 13 The Career Growth Formula: Plan, Pivot, and Prosper

Sponsored by ACS Webinars and ACS Women Chemists Committee

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

## Mar 16 Empowering Academic Researchers to Strengthen Safety Culture Workshop

Sponsored by ACS Division of Chemical Health and Safety

11:00 am-2:30 pm, Online, \$25/participant, [Registration required by March 14th, Download Flyer](#)

## Mar 19 Careers in Industrial Chemistry: Identifying Your Role in the Value Chain

Sponsored by ACS Careers

9:00-10:30 am, Online, Free, [Registration required](#)

## Mar 19 Precise Bond Cleavage as a Tool to Characterize Polymer Networks

Prof. Jeremiah J. Johnson, Massachusetts Institute of Technology

Sponsored by Golden Gate Polymer Forum

6:00-7:00 pm, Online, Free/\$5 Donation, [Registration required by March 18 at 1pm](#)

## Mar 21 The 51st Annual Linus Pauling Lectureship: Emergence and Self-organization in Biological Systems

Erwin Frey, PhD - Chair for Statistical and Biological Physics

Ludwig-Maximilians-Universität München

Sponsored by Stanford Department of Structural Biology

4:00-5:00 pm, Stanford University, Clark Center Auditorium S001,

[Learn more](#)

## Mar 23-27 ACS Spring 2025 Meeting

San Diego, CA & Virtual, [Learn more](#)

- April 2025 -

## Apr 7 Silicon Valley ACS Executive Committee Meeting

Sponsored by the Silicon Valley ACS local section

7:00-8:30 pm, Hybrid Event, Free, Guests welcome: [contact Chair](#) to attend

## Apr 12 P.I.E.F.E.S.T.: 4th Annual Bay Area Pasifika STEAM Fair

1:00-5:00 pm, San Mateo Event Center, San Mateo, California, 94403,

[Learn more](#)

## Apr 12 Kid Makers: Pop Up Chemistry

Sponsored by Silicon Valley ACS & Redwood City Public Library (RCPL)

2:00-3:00 pm, In-person for ages 9-12, RCPL Downtown Location,

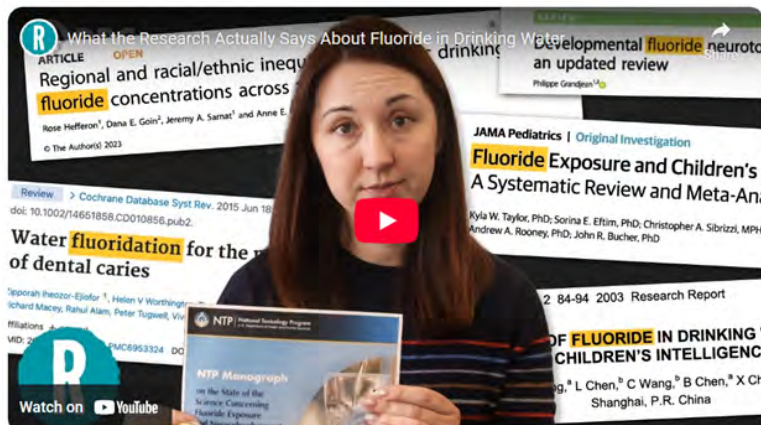
1044 Middlefield Road, Redwood City, Free, [Learn more](#)

## Apr 23 Chemical Recycling of Polyethylene Terephthalate

Prof. Jason Bara, Chemical & Biological Engineering, Univ. of Alabama

Sponsored by Golden Gate Polymer Forum

6:00-7:00 pm, Online, Free/\$5 Donation, Details TBA



## What the Research Actually Says About Fluoride in Drinking Water

Reactions - [Uncover the Chemistry in Everyday Life](#)

[Watch Video on YouTube](#) | [View Sources](#)

“Fluoride has been all over the news and people with PhDs can’t agree on if it should be in water or not. We wanted to get to the bottom of this controversy. Alex went on a mission to find out once and for all what the research actually says and what the off-camera experts have to say.”

# ACS SPRING 2025

## March 23-25 • San Diego, CA

### WOMEN CHEMISTS COMMITTEE EVENTS SCHEDULE

**WCC Chair:** Lorena Tribe • **Program Chair:** Danniebelle Haase

#### SUNDAY, MARCH 23, 2025

8:00 AM – 12:00 PM

#### Pfizer Emergent Leader Award Symposium

San Diego Convention Center: Room 29A



#### MONDAY, MARCH 24, 2025

7:30 AM – 9:00 AM

#### Women in the Chemical Enterprise Networking Breakfast

Hilton San Diego Bayfront: Sapphire A/B

Keynote Speaker: **Vanessa Rosa, Ph.D.**

Founder of Cuvette Collective

**From Academic Rejections to Impactful Collaborations: Reimagining a Chemistry Career**



8:00 AM – 12:00 PM

#### WCC Rising Star Award Symposium

San Diego Convention Center: Room 29A

1:00 PM – 2:30 PM

#### Women Chemists of Color Sweet Treats Networking Event

Hilton San Diego Bayfront: Sapphire I/J

2:00 PM – 6:00 PM

#### ACS Award for Encouraging Women into Careers in the Chemical Sciences Symposium

San Diego Convention Center: Room 29A

Keynote Speaker & 2025 Award Winner:

**Rachel Mamlok-Naaman**

The Weizmann Institute of Science



#### TUESDAY, MARCH 25, 2025

11:00 AM – 12:00 PM

#### WCC Eli Lilly Travel Award Poster Session

Hilton San Diego Bayfront: Aqua Salon A/B Foyer



#### Women Chemists Committee Luncheon

12:00 PM – 1:30 PM

KEYNOTE SPEAKER

Hilton San Diego Bayfront:

Aqua Salon A-D

**The Chemistry Diversity Initiative:  
A Graduate Student Program for  
Success at Purdue University**



**Jean Chmielewski**  
2025 Garvan-Olin Medal Winner

#### Symposium Honoring the Contributions of Ann Nalley: Amazing ACS Past President, Champion, Ambassador, Mentor, Teacher & Role Model

8:00 AM – 12:00 PM and

2:00 PM – 4:00 PM

San Diego Convention Center: Ballroom 6E



5:00 PM – 7:00 PM

#### WCC Just Cocktails Reception

#### Honoring Ann Nalley-ACS Past President

Hilton San Diego Bayfront: Aqua Salon A-D

#### WCC Co-Sponsored Symposia:

**Sunday, March 23 – Bonds That Matter: Soft Materials for a Sustainable World Symposium** sponsored by CHED-GSSPC

**Monday, March 24 – Quantifying & Addressing the US Fentanyl Crisis** sponsored by PRES

All meeting times are noted in the Pacific Time Zone.

Please be sure to check the ACS Meeting Mobile App for the most updated information.

Send an email to [WCC@acs.org](mailto:WCC@acs.org) for further information.

## ACS Western Regional Meeting 2025: Call for Symposia

Deadline: March 21, 2025



The Silicon Valley and California sections of the American Chemical Society (ACS) invite you to participate in the **2025 Western Regional Meeting**, "Building Bridges", in San Jose, CA October 25-28, 2025. As the premier scientific event in 2025 for chemists in the ACS western region, we anticipate up to 1500 attendees from academia, industry, and government labs. The SF Bay area has a strong presence of universities, science and technology-focused companies, start-ups, and national labs.

A varied **program** is planned, including oral presentations, poster sessions, and four plenary sessions. Additional programming includes networking receptions, award dinners, and workshops. There will be symposia and a poster session specifically for undergraduate presenters.

We are conducting a call for symposium proposals, as well as soliciting interest in joining our career / internship / graduate school / undergraduate transfer fair. **Learn more and submit a proposal by March 21, 2025.**

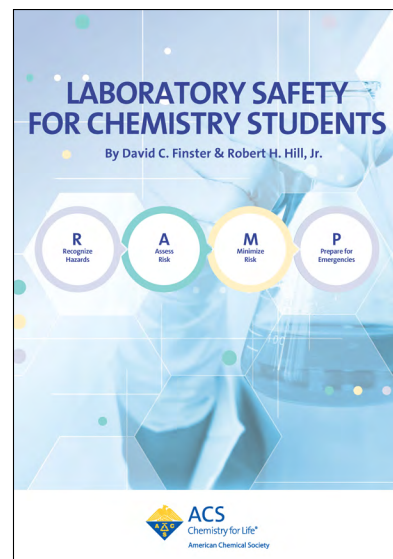
For additional details, to join the exposition, or to become a meeting sponsor, visit the conference website: <https://wrm2025.org/>

Questions? Contact us [acs\\_wrm2025@gmail.com](mailto:acs_wrm2025@gmail.com). We look forward to your participation!

The WRM 2025 Organizing Committee

## Hot Off the Press: ACS' New, FREE Lab Safety e-Textbook

e-Textbook Debuts at ACS Spring Meeting



For anyone traveling to San Diego for Spring 2025, **you are invited to attend the presentation spotlighting the new e-Textbook in the Expo Hall Theater!**

The third edition of Laboratory Safety for Chemistry Students (LSCS) by David Finster and Robert Hill is now available as a free ACS e-textbook! Join LSCS co-author Dr. Robert Hill and chemistry professor Dr. Weslene Tallmadge for an interactive walkthrough of this valuable new resource. Learn how it can be seamlessly integrated into chemistry curricula, with a particular focus on benefits for undergraduate educators and students.

**Date & Time:** Monday, March 24, 2025 | 3:30 PM-4:20 PM

**Location:** ACS 2025 Spring Meeting Expo Hall Theater, Exhibit Hall D-E, Expo Theater 2 #3453

**Presenters:** Dr. Robert Hill & Dr. Weslene Tallmadge

**Organizers:** David Finster, Robert Hill, Paul Jackson, Rachel Bocwinski, and Marta Gmurczyk, ACS Chemical Safety Committee

## Economic Elements of Chemistry



|                         |                       |                             |                    |                       |                        |
|-------------------------|-----------------------|-----------------------------|--------------------|-----------------------|------------------------|
| 1<br>Sh<br>Shipments    |                       |                             |                    |                       | 15<br>Gl<br>Global     |
| 2<br>Pr<br>Production   | 5<br>Jb<br>Jobs       |                             |                    | 12<br>Se<br>Security  | 16<br>St<br>States     |
| 3<br>Sc<br>Supply Chain | 6<br>Wg<br>Wages      | 8<br>Cs<br>Capital Spending | 10<br>He<br>Health | 13<br>Ey<br>Energy    | 17<br>Rg<br>Regulation |
| 4<br>Tr<br>Trade        | 7<br>In<br>Innovation | 9<br>En<br>Environment      | 11<br>Sa<br>Safety | 14<br>Em<br>Emissions | 18<br>Pl<br>Plastics   |

"Published by the American Chemistry Council, the **Economic Elements of Chemistry (EEC)** is an online resource to help you learn more about how the chemical sector supports every corner of the economy. The EEC replaces

the *Guide to the Business of Chemistry*, which was printed annually. This new digital format was created to provide easier access to valuable and up-to-date insights into the vital contributions of the U.S. chemical industry."

# Interested in serving on an ACS National Committee in 2026?



ACS Committees need you! ACS welcomes all members on Standard and Premium packages to serve on national committees. Learn more about how ACS Committees fit into the Society's governance structure and how YOU can become involved.

ACS Committees have an important role in representing the perspective of our core membership. Committees contribute to governance decisions in the areas they represent. By joining a committee, you will also receive benefits such as career and networking opportunities.

ACS National Committees include:

***Chemical Safety***  
***Chemical Technical Professionals***  
***Chemists with Disabilities***  
***Community Activities***  
***Economic and Professional Affairs***  
***Education***  
***Environment and Sustainability***  
***Ethics***  
***International Activities***  
***Minority Affairs***  
***National Historic Chemical Landmarks***  
***Patents and Related Matters***

***Professional and Member Relations***  
***Publications***  
***Science***  
***Senior Chemists***  
***Women Chemists***  
***Younger Chemists***  
***View all ACS Committees and frequently asked questions.***

ACS members interested in serving on an ACS Committee should submit their committee assignment preferences using the ***online committee preference form*** between March 3 through July 3, 2025 to start service in 2026.

Please submit the committee preference form only if you are committed to attending and actively participating in committee meetings either virtually or in person. Please note that your ACS membership must be in good standing in order to complete your committee preferences.

Read more about ***committee preferences and the appointment process.***

Review the ***Responsibilities of Committee Members section of the Committees FAQ*** for more details.

“Under the hood:” ***Committee Information from the ACS Committee on Committees***



ACS  
**FALL**  
**2025**  
WASHINGTON D.C.  
AUGUST 17-21

ACS  
Chemistry for Life  
AMERICAN CHEMICAL SOCIETY

## CALL FOR ABSTRACTS

### Innovations in Chemistry

Get ready to learn, network and advance your career.

Washington, DC & Virtual | August 17-21

**Visit the website** to learn more about the call for abstracts.

**Submit your Abstract**

The deadline for submitting is Monday, March 31.

Registration and Housing open in May. **Learn more**

## CSA Trust: Call for Grant Applications from Younger Chemists

**Deadline: April 17, 2025**

The Chemical Structure Association (CSA) Trust is an internationally recognized organization established to promote the critical importance of chemical information to advance chemical research. In support of its charter, the Trust has created a unique Grant Program and is now inviting grant applications for 2025.

### Purpose of the Grants

The Grant Program has been created to provide funding for the career development of young researchers who have demonstrated excellence in their education, research or development activities that are related to the **systems and methods used to store, process, and retrieve information about chemical structures, reactions and compounds.** One or more Grants will be awarded annually up to a total combined maximum of ten thousand U.S. dollars (\$10,000).

### Who is Eligible?

Applicants in the early stages of their careers who have demonstrated excellence in their chemical information related research and who are developing careers that have the potential to have a positive **impact on the utility of chemical information relevant to chemical structures, reactions, and compounds,** are invited to submit applications. Applicants must be within five years of obtaining their PhD.

**Learn more and apply**

# March 2025

## Celebrating Women's History Month

### A List of Resources

|  |  |  |   |
|--|--|--|---|
|  |  |  |   |
| <p><b>Rachel Holloway Lloyd</b></p> <p>The first American woman to earn a chemistry Ph.D., Lloyd introduced a beet sweetening agent as a sugar substitute.</p> | <p><b>Ellen Swallow Richards</b></p> <p>Pioneer of sanitary engineering, Richards contributed to our understanding of environmental systems.</p> | <p><b>Alice Hamilton</b></p> <p>A pioneer in the toxicology field, Hamilton studied the effects of harmful substances on the human body.</p> | <p><b>Gerty Theresa Cori</b></p> <p>The first American woman to win the Nobel Prize, Cori's landmark research gave us an understanding of sugar metabolism.</p> |













#### ACS Celebrates the Achievements of Women Scientists in American History

"Women's History Month honors the contributions

of women to American culture and society. ACS has selected a few of many distinguished women scientists (some still unknown) in history whose

dedication and determination in the midst of gender discrimination led to important discoveries that have transformed our lives."

## 1 WOMEN IN CHEMISTRY HISTORY

|   |   |   |
|---|---|---|
|  <p><b>MARIE-ANNE PAULZE LAVOISIER</b><br/>BORN 1758 DIED 1836</p> <p>Married chemist Antoine Lavoisier and received training in chemistry. Worked with Lavoisier editing and drawing his methods so they could be understood.</p> |  <p><b>MARIE SKŁODOWSKA CURIE</b><br/>BORN 1867 DIED 1934</p> <p>Carried out pioneering research on radioactivity. The first woman to win a Nobel Prize, and the only person to win a Nobel Prize in two different sciences.</p>       |  <p><b>ALICE AUGUSTA BALL</b><br/>BORN 1892 DIED 1916</p> <p>Developed an injectable oil which was the most effective treatment for leprosy until the 1940s. She died before the results of her work were published.</p>          |
|  <p><b>GERTY THERESA CORI</b><br/>BORN 1896 DIED 1957</p> <p>Helped establish how glycogen is broken down in muscles then remade and stored as an energy source (the Cori Cycle). She jointly won a Nobel Prize for her work.</p>  |  <p><b>IDA EVA NODDACK</b><br/>BORN 1896 DIED 1978</p> <p>She was the first person to propose the idea of nuclear fission, which she suggested in 1934. She was also the co-discoverer of rhenium, in 1925.</p>                        |  <p><b>IRÈNE JOLIOT-CURIE</b><br/>BORN 1897 DIED 1956</p> <p>Daughter of Marie Curie. A joint Nobel Prize in Chemistry winner in 1935 with Frédéric Joliot-Curie for their discovery of and work on artificial radioactivity.</p> |
|  <p><b>KATHLEEN LONSDALE</b><br/>BORN 1903 DIED 1971</p> <p>Pioneered use of X-rays to study crystals, and also used the technique to confirm that a benzene ring is flat. A form of carbon, Lonsdaleite, is named after her.</p>  |  <p><b>DOROTHY MARY HODGKIN</b><br/>BORN 1910 DIED 1994</p> <p>Used X-ray crystallography to determine the structure of vitamin B<sub>12</sub>, for which she won a Nobel Prize. She went on to decipher the structure of insulin.</p> |  <p><b>GERTRUDE BELLE ELION</b><br/>BORN 1918 DIED 1999</p> <p>Developed numerous drugs, including the first immunosuppressive drug used for organ transplants. Jointly won the 1988 Nobel Prize in Medicine or Physiology.</p>   |
|  <p><b>ROSALIND FRANKLIN</b><br/>BORN 1920 DIED 1958</p> <p>Made X-ray diffraction images of DNA, crucial in allowing DNA's structure to be discerned. This contribution wasn't fully acknowledged until after her death.</p>      |  <p><b>MARIE MAYNARD DALY</b><br/>BORN 1921 DIED 2003</p> <p>Thought to have been the first Black American woman to earn a PhD in chemistry, in 1947. She later researched effects of cigarette smoke on the lungs.</p>                |  <p><b>STEPHANIE KWOLEK</b><br/>BORN 1923 DIED 2014</p> <p>Developed the polymer Kevlar and won many awards for her work on polymer chemistry. Also developed the 'nylon rope trick' chemistry demonstration.</p>                 |

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[Download image \(PDF\)](#)

Women from Chemistry History Infographics: [Part 1](#), [Part 2](#), [Part 3](#), [Part 4](#), [Part 5](#), and [Part 6](#) (from Compound Interest) created in celebration of International Women's Day, each graphic features twelve pioneering female chemists.



*Women in Chemistry* (from the Science History Institute)

"Women have contributed to the chemical sciences since the age of alchemy, but for centuries they did so largely unseen and unheard. Women in Chemistry, a TV show and companion film series, celebrates eight women scientists and entrepreneurs."

*Continued on next page*



**Breaking In: Women in STEM** (Online Exhibit at the National Women's History Museum).

"Explore the historic reasons women are underrepresented in science, engineering, technology, and mathematics today."



**Inventive Women: American Women in Innovation and Invention** (Online Exhibit at the National Women's History Museum).

"American women and girls continue to innovate. An encouragement for girls to pursue STEM interests guarantees a steady supply of "Inventive Women" into the future."



*Miss Margaret D. Foster, US government's only woman chemist, Oct. 4, 1919.*



*American Indian and African American students in chemistry lab at Hampton Institute, Hampton, Va., circa 1900.*

**Women in Science and Technology: A Resource Guide** (from the Library of Congress).

"This guide provides links to selected books, journal articles, historical works, and other resources on women in science."



*Agnes Fay Morgan, Judith Klinman and Darleane Hoffman*

**The first women chemists at Cal** (from UC Berkeley College of Chemistry):

"One of the important legacies of the UC system is that women were admitted two years after the university's founding in 1870. The regents had unanimously passed a resolution to admit women who at the time made up around 36% of the state's population. The University Registrar announcement was clearly meant to encourage them to attend: "Young Ladies are admitted into the University on equal terms, in all respects with young men."

But the hiring of women faculty, especially in the sciences, was a long way behind women student attendance. The first woman chemist arrived on campus in 1915. Professor Agnes Fay Morgan had a Ph.D. in Chemistry from the University of Chicago which she received in 1914. However, she was hired as

*Continued on next page*



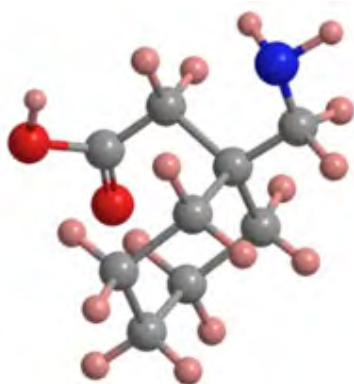
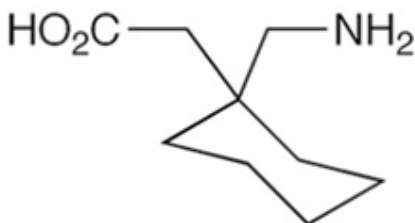
Continued from previous page

a professor in the Home Economics Department where she went on to pioneer biochemical research in vitamins and the understanding of how the human body processes food. The first woman physical scientist, hired into the College of Chemistry, came in 1978 with the arrival of Professor Judith Klinman. Klinman is internationally renowned for her research into enzyme catalysis. Professor Darleane Hoffman was the next tenured faculty member to come in 1984 from the Manhattan Project at Los Alamos and the fourth female chemist on campus. (Professor Angelica Stacy was the third chemist arriving as an assistant professor in 1983. Since 2001, she has served as the first Associate Vice Provost for the Faculty.) Hoffman continued her groundbreaking scientific research into radioactive elements at the Lawrence Berkeley National Laboratory during her tenure.

CHEMISTRY

## Quiz

Seniors take me for all sorts  
of medical issues.  
What molecule am I?



Answer

Call for Nominations

## 2025 Abraham Ottenberg Service Award Silicon Valley ACS Local Section

Deadline: May 31, 2025

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

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

Please send your nomination by May 31, 2025, by e-mail to [PFrusch@aol.com](mailto:PFrusch@aol.com) or by fax (650-961-8120) or by postal mail to:

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

## Welcome to the Silicon Valley Section of ACS



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

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

### New SVACS Members

Dakota Sean Balcer  
Ozge Bozkurt  
Helen Branson  
Erin Brown  
Mark Castro  
Sol Hsun-Hui Chang  
Markus Covert  
Jize Dai  
Aarushi Dandin  
Rebecca Gardner  
Raina Goyal  
William Graham  
Robin Grotjahn  
Mary Jane Hartman

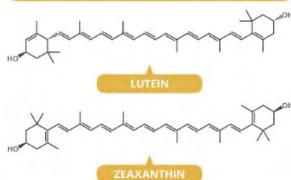
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# THE CHEMISTRY OF EGGS & EGG SHELLS

Eggs are one of the most versatile kitchen ingredients; there are numerous ways of cooking them on their own, and they can also be used to help create a range of other foods. Here, we take a look at what they're made of, and how they change during cooking.

## EGG COLOUR & COMPOSITION



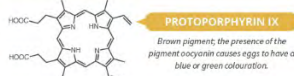
The yellow colour of egg yolks is due to the presence of the carotenoid pigments lutein and zeaxanthin. Artificial additives aren't permitted, but additives such as beta-carotene and marigold petals can be added to chicken feed to influence the yolk's colour.



## EGG SHELL COMPOSITION



Calcium carbonate is the main component of eggshells. Nanoparticles of calcium carbonate are arranged into ordered crystals by proteins, forming a calcite shell. The colour of the eggshell comes from porphyrin pigments on the shell's surface.



## COOKING EGGS



Egg proteins begin in the raw egg as folded chains, but as they are heated they begin to denature and unfold. Interactions between the unfolded proteins create a three-dimensional network, trapping the water and causing the egg to solidify.



Hydrogen sulfide, formed by the reaction of sulfur-containing proteins in the albumen, is the compound that gives cooked eggs their characteristic smell. When eggs are cooked for a long time it can react with iron in the yolk, forming iron sulfide, and giving a green hue to the yolk surface.



Albumen pH increases as CO<sub>2</sub> diffuses out through the shell. Albumen adheres more strongly to the shell at lower pH, making it harder to peel boiled eggs.



About 90% of the egg white is water; the rest of its mass is mostly protein. Ovalbumin's purpose is thought to be nutrition for the developing chick; Ovomucin helps thicken the egg white; and conalbumin binds iron & guards against infection.

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