The 2022 Ottenberg Award

Jigisha Shah

Dr. Shah received her B.Sc. in Chemistry in 2006 and M.Sc. in Organic Chemistry in 2008 from Fergusson College in the city of Pune, India. For her doctoral degree, she performed research on reactions of indoles with trichloroacetimidates at Syracuse University under the guidance of Professor John Chisholm.

When Jigisha relocated to California, she taught organic chemistry at San Jose City College. She then joined Cytokinetics in South San Francisco as a member of the regulatory affairs team, working through peer-to-peer interaction with life science partners in navigating the regulatory submission process.

As a newcomer to our Local Section in 2016, Jigisha volunteered to represent the section in hosting the 2017 ACS National Meeting in San Francisco. She then served as our section’s Secretary and a year later as our Chair-Elect. As Chair, she led the section while handling the additional challenges of COVID. Her selection of speakers and topics for monthly meetings provided fascinating speakers on a wide range of topics with broad appeal to both ACS members and to the outside community.

The Local Section and the local chemistry community have benefited from both established and new programs in which Jigisha has held major leadership roles. She demonstrates care and energy in providing children, students, and teachers learning opportunities in the sciences. Among these are:

- Teach-the-Teachers, a day-long workshop for middle school teachers with hands-on experimentation, colorful lectures, and take-home materials for their classrooms
- Pop-Up Chemistry, a collaboration with the Redwood City Library to provide middle school students and their families monthly hands-on-science experiments with both materials and

continued on next page

Chair’s Message

Stephanie Benight

We’re in the middle of summer and had a fantastic Annual Picnic BBQ and Awards Ceremony at Cuesta Park in Mountain View on July 16th. About 40 people of all ages attended, enjoying food, drink, and good company. 50- and 60-year ACS members regaled us with stories of their careers and experiences of life in chemistry. We highlight our award winners on other pages of this month’s newsletter. Former ACS President Marinda Wu was the winner of our Radding Award and gave a warm and insightful speech in accepting her award. Our past Chair, Jigisha Shah, won the 2022 Abraham Ottenberg Award which was a surprise announcement at the picnic. Congrats to all of our winners!

Our Section is a finalist for several ChemLuminary ACS Awards this year. This is a great honor! The event honoring the award nominees will be held at the ACS Fall National Meeting in Chicago later this month. The festivities - open to all meeting attendees - start at 8PM on Tuesday evening, August 23, in the Hyatt Regency Chicago, and are followed by music and dancing. Join in the celebration.

I’d like to highlight our section volunteer Padraic O’Reilly for boosting our Section’s social media presence. Padraic has jumped right in, familiarizing himself with our Section quickly, including both the program and outreach events that we host. As a result of his work, we are now more active on Twitter and LinkedIn and attendance at the last few events has increased. Please make sure to follow us on social media to be informed about upcoming events.

In the June 6th issue of C&EN there was an article about wildfire contamination of water citing the research done by Professor Andrew Whelton and coworkers. Professor Whelton and his colleague Professor Jackson Weber co-presented in our SVACS monthly seminar series on this topic earlier this year. Check out the C&EN write-up

Looking ahead, the third Bay Area Chemistry Symposium takes place on November 10 this year on the UC Berkeley campus. It is a fantastic opportunity to network and collaborate among Bay Area science organizations and between students, post-docs, professionals, and employers. If you would like more information about this event or would like to get involved, please send me a message. As always, you can reach me at chair@siliconvalleyacs.org.

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Silicon Valley Section Activities Selected as ChemLuminary Award Finalists!

Three activities conducted in 2021 by the Silicon Valley local section have been selected as finalists for ChemLuminary awards:

- **Best new public relations or communication program**: for our posters and social media efforts to publicize the Joys of Chemistry 2021 seminar series
- **Outstanding Sustainability Activities**: for our water quality project with local students
- **Most innovative new activity or program**: for our Paving the Path program mentoring students making the transition from Community College to 4-year degree

The award ceremony and party will be held at the Chicago National meeting on Tuesday, 8/23. If you are attending the meeting, please come, cheer for our members and enjoy the fun.

The ChemLuminary awards are given to recognize ACS Local Sections, Technical Divisions, Regional Meetings, and International Chemical Sciences Chapters for their work in promoting chemistry in the past year. The awards are sponsored by National ACS committees focused on numerous areas of interest. The ChemLuminary awards also provide a way of sharing great new programs and ideas between local sections. Copying and expanding on other sections’ programs is welcomed and encouraged. The program also offers incentives for local sections to create programs consistent with the National ACS initiatives, like improving diversity, enhancing ethical and safe use of chemistry, and communicating ACS policies. There are over 40 different ChemLuminary award categories.

Local sections self nominate for the ChemLuminary award, and their nominations are then reviewed by the sponsoring ACS National committee. In 2021, we nominated ourselves for 4 ChemLuminary awards and have reached finalist status for 3 of them.

The **Outstanding Sustainability Activities ChemLuminary**, sponsored by Committee on Environmental Improvement (CEI), will recognize a program that educates, enhances awareness or promotes discussions between society members and the general public, or encourages activities in the community or local businesses about sustainability. In the water quality program that the Silicon Valley section created along with the California section, students tested the salinity, pH and other measures of the water in their local community (watch Pop Up Chemistry – Water Quality video on YouTube). Kits were distributed to 10 classrooms and also to individual students distributed by the Redwood City Library and kicked off using a zoom event for independent activities during the Covid lock down. Testing water quality outdoors with guidance from ACS members and teachers with assistance from the parents, students get to learn important chemistry concepts like salinity, pH, etc. The packet of directions addressed how each water quality parameter is important for water quality and the organisms living in these waters. The event was a big success! We also rolled out the 10 classroom sized kits with enough material for 30 students each. The students enjoyed the sessions, and we had a student exclaim, ‘I can do this as a career!’

The **Most Innovative New Activity or Program ChemLuminary**, sponsored by Local Section Activities Committee (LSAC), honors a local section that initiated a unique activity or program. The Silicon Valley section nominated our “Paving the Path” program for this award, which is a peer-mentoring program to support community college students considering transfer to 4-year institutions. The program objective was to help STEM students from underrepresented groups transition from community colleges into bachelor-level degree programs. Five prospective transfer students were paired one-on-one with five students who have already made the transition from community college to a 4-year college. In addition to one-on-one mentoring, the program provided group forums on a range of relevant topics: navigating the application process, financial aid, academic advising, resume-building, personal and career development, and professional networking. This was a new program we piloted in 2021 and are continuing in 2022.

The **Best New Public Relations or Communications Program of a Local Section ChemLuminary**, sponsored by Committee on Public Relations and Communications (CPRC), recognizes outstanding new efforts by local sections to promote chemistry to the public or to members. With all the distressing news swarming about the coronavirus, we thought the section’s programs for 2021 could use some destressing. So, we agreed that we would wear our hearts on our sleeves, our masks on our faces, continue with social distancing and stay up-to-date with aspects of science that interest us and our non-scientist friends and families! Over the course of 2021, we **featured a series of talks on the chemistry that involved sensory experiences** - 1) Polymer Chemistry and Lutherie: The Materials of Fretted Instruments 2) Why Commercial Tomatoes Have No Taste; The Biochemistry and Genetics of Flavor Preferences 3) Chemical Conundrums in the Movies 4) A Muggle’s Guide to Harry Potter’s Chemistry 5) How One Company is Making Blue Jeans ‘Green’. These seminars were publicized using the amazing graphics created by Efeefi Chen for our section and distributed in our newsletters (see page 4 of July 2022 issue), over Twitter and LinkedIn. Judging by the robust turnouts for our zoomed events, we were successful at conveying the joys and power of chemistry to our membership and the public.

The Silicon Valley local section has been awarded a ChemLuminary award every year for the past 5 years. This year we plan to continue our winning streak. Please attend the award ceremony in Chicago if you can and stay tuned for the outcome which will be reported in real time on our Twitter account.

Submitted by Natalie McClure
**CALENDAR OF EVENTS**

- **August 2022** -

Aug 5  
Science @ Cal – Oakland First Fridays  
Sponsored by Science at Cal, The Lawrence On-The-Go, and Berkeley Lab  
5-9pm, Telegraph Ave between West Grand and 27th St, Oakland, CA,  
Free (Learn more)

Aug 10  
To Cheat or not to Cheat: Changing the Question  
Tracy Halmi, Penn State Behrend; Laura Pence, University of Hartford;  
and Matthew Mio, University of Detroit Mercy  
Sponsored by ACS Webinars and ACS Committee on Education  
11am-Noon, Online via Zoom, Free, Registration required

Aug 12  
Frontier Fridays: Putting Sustainable Chemistry to Work in Manufacturing  
Prof. Mark Mascal, University of California at Davis; Prof. Ryan Lively,  
Georgia Institute of Technology  
Sponsored by ACS Webinars, ACS Committee on Science, and ACS Office  
of Sustainable Development  
10-11:30am, Online via Zoom, Free, Registration required  
(Deadline Aug. 15@1pm)

Aug 16  
Extreme Mechanics of Soft Functional Materials  
Prof Lihua Jin, Mechanical and Aerospace Engineering, University of  
California, Los Angeles  
Sponsored by the Golden Gate Polymer Forum  
6-7pm, Online via Zoom, Free/$5 Donation, Registration required

Aug 21-25  
ACS Fall 2022 National Meeting: Sustainability in a Changing World  
Chicago, Illinois and virtually (hybrid meeting),  
View program and register

- **September 2022 & Beyond** -

Sep 10  
Moving the Needle: How key interventions can increase diversity,  
equality, and inclusion in STEM  
Malika Jeffries-El, Assoc. Dean Graduate School in Arts and Sciences,  
Assoc. Prof. Dept. Chemistry and Div. Materials Science, Boston  
University  
Sponsored by the ACS California Section’s Women’s Chemists Committee  
10:30am-Noon, Online via Zoom, Free, Registration required

Sep 15  
The 32nd First Annual Ig Nobel Ceremony 2022 (View recording of 31st  
Ceremony)  
Sponsored by Improbable Research  
3-4:30pm, Online via Zoom, Free, 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, Registration  
required

Nov 10  
3rd Bay Area Chemistry Symposium  
Sponsored by the ACS California and ACS Silicon Valley Sections plus  
Merck, Genentech, Gilead, Novartis. Maze, AbbVie, and Cytokinetics.  
Pauley Ballroom, UC-Berkeley, 8am-5pm  
More details will be posted later at:  
hits://www.bayareachemistrysymposium.com/

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**In the News:**

**Interesting and Cool Science**

*Benzoyl Peroxide Is the Best Topical Acne Medicine, Immune Pathway Shows* (AAAS News, July 19, 2022)


*Common approach to keeping wildfire smoke out of U.S. homes doesn’t work, Stanford study finds. Better policies can help* (Stanford News, July 7, 2022)

*‘E-nose’ sniffs out mixtures of volatile organic compounds (VOCs)* (ACS Press Release, June 8, 2022)

*Eco-friendly sound absorbers from seaweed* (ACS Press Release, July 14, 2022)

*‘The entire protein universe’: AI predicts shape of nearly every known protein.* (Nature News, July 28, 2022)

*Future smart homes could be powered with electronics built on stones* (ACS Press Release, July 11, 2022)

*‘Heroes of Chemistry’ recognized for contributions to health, medicine and more* (ACS Press Release, July 20, 2022)

*How sustainable are fake meats?* (Knowable Magazine from Annual Reviews, July 20, 2022)

*Is nuclear energy critical in solving climate change?* (CAS Blog, July 1, 2022)

*‘TEARS’ could help diagnose diseases by isolating biomarkers in tears* (ACS Press Release, July 20, 2022)

*Miniature Implantable Nerve Coolers Enable Targeted Pain Relief* (AAAS News, July 1, 2022)

*‘Pulling back the curtain’ to reveal a molecular key to The Wizard of Oz* (ACS Press Release, July 20, 2022)

*Recent advances in 3D electronics* (ACS Press Release, July 14, 2022)

*SLAC expands and centralizes computing infrastructure to prepare for data challenges of the future* (SLAC National Accelerator Laboratory, July 27, 2022)

*Speeding up the search for the next COVID-19 antiviral* (ACS Press Release, July 13, 2022)

*Stanford researchers map electric fields to help unravel how enzymes work* (Stanford University News, July 26, 2022)


*Turning white blood cells into medicinal microrobots with light* (ACS Press Release, July 13, 2022)

*Why the Omicron BA.5 Variant Evades Vaccines* (CAS Blog, July 20, 2022)
Peter Rusch presents Jigisha Shah with the 2022 Ottenberg Award.

We all enjoyed a delightful science activity organized by Natalie McClure with Cochineal Bugs! Krishiv Shah uses a rolling pin to extract dye.

Marinda Wu is the recipient of the 2022 Radding Award, pictured here (middle) with previous recipients: Natalie McClure, Sally Peters, Howard Peters, and Radding Award Chair, Heddie Nichols.

Matt, Jack and Isaac blow bubbles at the picnic. There were lots of little ones this year.

SVACS Councilor Madalyn Radlauer with SJSU Professor Resa Kelly, the 2021 Mosher Award Recipient. Matt Greeney and Anna Batt enjoy the awesome picnic party.

Natalie McClure presents a certificate to Paul Karol, a 60-year member of ACS.

We all enjoyed a BBQ picnic dinner from Armadillo Willy's.

Stephanie Benight (Chair), Ihab Darwish (Treasurer), Xiaoyan Li and Richard with Niyah. We all enjoyed a BBQ picnic dinner from Armadillo Willy’s.
Publisher Data Availability Policies Index

“Over the last few years, publishers have been making their Data Availability Policies known either at the publisher level or at the journal level. These policies range in their mandate, but most require authors to make all data necessary to replicate their study’s findings publicly available without restriction at the time of publication. When specific legal or ethical restrictions prohibit public sharing of a data set, authors must indicate how others may obtain access to the data. Often, when submitting a manuscript to the publisher, authors must provide a Data Availability Statement describing compliance with the data availability policy. If the article is accepted for publication, the Data Availability Statement will be published as part of the article.

CHORUS has created a centralized index of publishers’ policies with links to the publisher’s site. This chart will be updated at least annually.”  View the chart

Why Don’t We Have Synthetic Blood yet? (video)

“Millions of liters of blood are donated around the world every year, but there’s still not enough for everyone who needs it. Chemists have been trying to make synthetic, transfusable blood for a century; in this video we dive into their odyssey and figure out how close we are to the Holy Grail of transfusion medicine: https://youtu.be/Uy8p_Ypego

Reactions is a video series produced by the American Chemical Society and PBS Digital Studios. Subscribe to Reactions at http://bit.ly/ACSRxactions and follow us on Twitter @ACSRxactions.

Source: ACS Press Release, July 5, 2022

Congratulations to the 2022 CAS Future Leaders

“We are excited to announce the 2022 CAS Future Leaders! This group of elite Ph.D. students and postdoctoral scholars from around the world will blaze a trail toward science leadership this August in Columbus, Ohio and Chicago, Illinois.

Celebrating its 12th year, the CAS Future Leaders program awards early-career scientists with leadership training and a trip to the ACS National Meeting & Exposition. This year’s participants were selected among hundreds of applicants, representing 10 countries and a wide array of scientific disciplines.”

View 2022 class: https://www.cas.org/about/futureleaders

I’m useful on Earth and notable in space. What molecule am I?

Answer: Methane
The University of California is the first university system to become a charter member of STEM Equity Achievement (SEA) Change, an initiative of the American Association for the Advancement of Science (AAAS) that supports educational institutions as they systemically transform themselves to improve diversity, equity, and inclusion (DEI) in science, technology, engineering, mathematics, and medicine (STEMM).

In joining SEA Change, the 10-campus system publicly commits to advancing the full participation of individuals across gender, race, ethnicity, disability status, socioeconomic status, sexual orientation, age, familial history of higher education or any other aspect of identity that has been a source of bias in STEMM.”

Learn more
UN International Year of Glass 2022

When reading Francl’s fascinating article about how glass revolutionized chemistry, I discovered that 2022 was designated by the UN as the International Year of Glass. She noted:

“There is no doubt that glass has played a pivotal role in many sciences. Glass lenses revolutionized astronomy and biology, enabling scientists to see the distant as well as the microscopic. Given its general lack of reactivity to a wide variety of reagents and its transparency, glass might simply seem to be a practical choice of material for chemists. Yet organic chemist and historian Catherine Jackson argues that glassware revolutionized chemistry as much as it did either biology or astrophysics, despite its inability to directly reveal to us either molecules or atoms. What Jackson calls the glassware revolution — drawing a deliberate parallel to the instrumental revolution of the twentieth century — was fundamentally about who had access to and control of chemical research. Glass changed not only the chemistry that could be done, but who could do it.

In the minds of most people, chemists and their glassware are inextricably linked. Search ‘chemist’ on Google Images and — at least in the US — what pops up are stock photos and clipart showing people in white lab coats holding up a flask containing a brightly coloured liquid with assorted glassware scattered about the bench top. The association of chemistry with glassware, if not such brightly coloured solutions, is clear in our own minds as well. The American Chemical Society seal has centered on a piece of chemical glassware for more than a century. And because 2022 is the UN International Year of Glass, I’d like to suggest chemists take a moment to celebrate our test tubes, Erlenmeyer flasks and Schlenk lines. Arguably chemistry would not be the science it is without them.”


To learn more about glass, these two videos are worth watching.

Worldwide presentation of the United Nations International Year of Glass 2022. “Prologued by the Spanish ambassador to UN and other ambassadors, the video revises the multiple applications of glass and the determining role of this material in achieving the goals of the 2030 Agenda and building a more just and sustainable world.”

Watch video (31.38 minutes) | Glass: The Journey from Magic to Science... and Back. “Jeff Evenson, Corning’s chief strategy officer, explores the extraordinary attributes of glass and how they can help solve the world’s most pressing issues. In a talk first given at the United Nations’ 2022 International Year of Glass kickoff in February, Jeff explains how glass has a role in alleviating illness, climate change, and inequality. And we’re just beginning to tap into the possibilities. What else can glass do? Watch as he explains how scientists see paths to progress where we need it most – through glass.”

Test your knowledge of scientific glassware in the Infographic on the last page of this newsletter.
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

Kathleen Carmody Alexander
Xujun Cao
Arianna Carugh
Pengcheng Chen
Si-Jie Chen
Andrei Chthemeseline
Anthony Cordova
Angela Yachiyo Craig
Nhu Dao
Katherine De La Fuente

David Entwistle
Runduo Gao
Benjamin B. Gebarski
Nelly Gergen
Joshua Goldenberg
Katherine Hansen
Maggy Harake
Akash Jain
Janis Jermaks
Hemamala I. Karunadasa

Yumin Liu
Zhongyue Luan
Mei Matsumoto
Joseph Nelson
Nicholas Race
Vanessa Sanchez
Juan Santiago
Michael Schmidt
Edward J. Sullivan
Aaron Suzar

Desiree Thayer
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Celine Wang
Dahlia Weiss
Chloe Wong
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