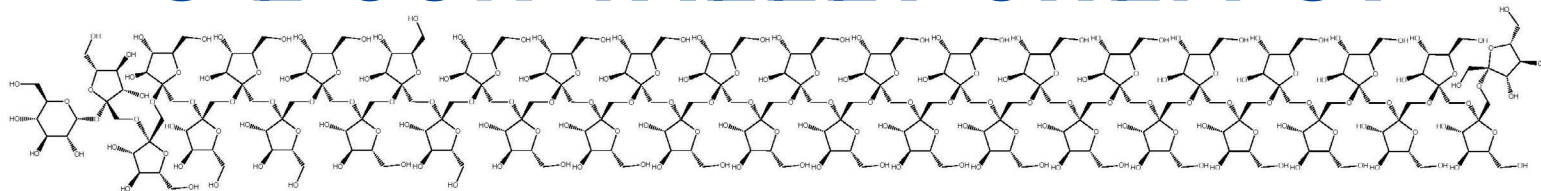


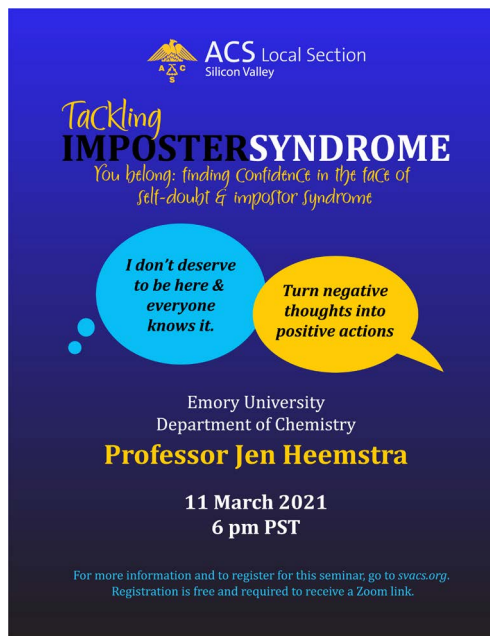
# SILICON VALLEY CHEMIST



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## A Bounty of March Programs



ACS Local Section  
Silicon Valley

**Tackling IMPOSTER SYNDROME**  
You belong: finding Confidence in the face of self-doubt & impostor syndrome

I don't deserve to be here & everyone knows it.

Turn negative thoughts into positive actions

Emory University  
Department of Chemistry

**Professor Jen Heemstra**

11 March 2021  
6 pm PST

For more information and to register for this seminar, go to [svacs.org](http://svacs.org).  
Registration is free and required to receive a Zoom link.

More information on page 2



ACS Local Section  
Silicon Valley

Why Commercial Tomatoes Have No Taste:  
The Biochemistry and Genetics of Flavor Preferences

Dr. Harry Klee  
University of Florida

18 March 2021  
7 pm PST

For more information and to register for this seminar, go to [svacs.org](http://svacs.org).  
Registration is free and required to receive a Zoom link.

More information on page 4

## Chair's Message

### Jigisha Shah



A few days ago, I was scrolling through some social media posts and came across a post by Priya Amin, a mother and the CEO of Flexible. She shared her thoughts on the importance of taking a break from work after she received a drawing from her 6-year old son showcasing their literal interaction, with Amin ignoring her son while staring at a computer screen. You may check out this post [here](#). As I looked at the drawing, it hit me really hard, because that sounds exactly like the kind of an experience my son would describe. In fact, as I write this post, I can see him get a bit edgy as he has been waiting patiently for hours to play one round of his favorite board game with us. Frankly, this is a common scene in so many households. Our life and work have been jumbled together and while the pandemic should have made us pause and rethink our situation, the fact is that the mindset prevails of work above all else. While I am aware that I am truly fortunate that I have a great job, good friends, and a family that is supportive, I am also aware that the pandemic is taking its toll. This burden looks different for each one of us in our individual circumstances, yet we are all in it together.

I think difficult topics like mental health should be talked about. C&ENews wisely covers this topic with articles about mental health and achieving the coveted work-life balance. It was here that I came across Professor Jen Heemstra's column, Office Hours. She does a phenomenal job writing,

*continued on next page*

## UPCOMING EVENTS

- Mar 2** **Lubricants and Glitter: Revolutionizing Sexual Assault Investigation** ([Learn more](#))  
Dr. Candice Bridge, University of Central Florida and National Center for Forensic Science  
Sponsored by ACS California Section and Association of Women in Science, East Bay Chapter  
5-6pm, Online via Zoom, Free, **Registration required**
- Mar 3** **Executive Committee Meeting of ACS Silicon Valley Section**  
**Sponsored by the ACS Silicon Valley Section**  
7:00-8:30pm, Online via Zoom, Free, Contact the **Chair** to attend

*continued on page 3*

Chair's Message, continued from front page

podcasting and tweeting about mental health, self-doubt, creativity, and mentorship while also leading her own research team in the chemistry department at Emory University. We have invited her to speak to us on March 11 about tackling one of these dilemmas - impostor syndrome. [Please join us](#) as Dr. Heemstra explores the mechanisms by which thoughts of impostor syndrome can form, and how we can work to dismantle them.

The Joys of Chemistry seminar series described in [last month's newsletter](#) offers a March program on the unfortunate taste of supermarket tomatoes. Dr. Harry J. Klee of the University of Florida will explore why the tomatoes sold in our supermarket have no flavor and what we can do to make tomatoes taste better again. [Join us](#) on March 18th from 7-8 PM PST for this flavorful program.

On Thursday, March 4th, [join](#) California ACS, Silicon Valley ACS, and the ACS@Berkeley student chapter for a fun, virtual chemistry-themed trivia night. The event will be held over Zoom from 7-8 PM PST.

Despite the challenges of holding chemistry competitions virtually, the annual high school [Chemistry Olympiad](#) will be held in March, 2021. I would like to take a moment to acknowledge Dipti Shingnapurkar who has been extremely busy organizing the Chemistry Olympiad for our

local section, corresponding with students and teachers, handling registrations, and recruiting sponsors. The list is absolutely endless! We really appreciate all the work Dipti is doing. Dipti is looking for volunteers to assist with online proctoring from Noon to 1:50 PM on 27 March 2021. If you are interested, please fill out the Google form available [here](#). We are offering a \$25 honorarium to the online proctors. We have about 200 students registered and will need at least 20 proctors.

Do you know any middle school kids that love science, or have yet to discover their love for

science? Encourage them to join us as we kick-off our first [Pop Up Chemistry event](#) – Chemistry Expands Your World - this month in collaboration with Redwood City Library. Last year, we inflated balloons using thermal energy. This year, we will try some chemical energy to do the same.

We hope to see you at one or several of these upcoming events. Share this newsletter with a friend or family member to introduce them to your dynamic local ACS science organization. They are welcome to all of our events, free and open to the public. And now, off to play the Game of Life!



## BLAST Biosequence Searching Now Available in SciFinder-n

You can now find biosequences by protein/nucleotide string or a .txt/.fasta file in SciFinder-n. Basic Local Alignment Search Tool (BLAST) enables scientists to search biological sequence databases for identifying regions of similarity. Sequence similarity in proteins or nucleic acids can then be used to infer function or evolutionary relationships. While other BLAST search tools reference only journals, SciFinder-n searches journals and patents.

Learn more:

- [SciFinder-n: What's New – Biosequence Searching](#) (Press release, January 20, 2021)
- SciFinder-n Help: [Find Biosequences](#)
- [Biosequence Searching in SciFinder-n Webinar](#) (April 21st)

March 11, 2021, 4-5pm

## Tackling Imposter Syndrome - You belong: Finding Confidence in the Face of Self-doubt and Impostor Syndrome

Professor Jen Heemstra, Emory University  
Online via Zoom, Free, [Registration required](#)

### Abstract:

"I don't deserve to be here, and everybody knows it." This is the constant messaging of impostor syndrome – whether you're starting a new position, winning an award, or being asked to speak at a conference. While few of us talk about it, most of us experience it at some point in our careers. And, the struggles brought on by COVID-19 have only made this worse. However, with the right tools, we can fight back against impostor syndrome and help our friends and colleagues to do the same. This workshop will explore the mechanisms by which thoughts of impostor syndrome can form, and how we can work to dismantle them.

### Bio:

Professor Jen Heemstra received her B.S. in Chemistry from the University of California, Irvine, in 2000. At Irvine, she performed undergraduate research with Prof. James Nowick investigating



the folding of synthetic beta-sheet mimics, which instilled in her a love of supramolecular chemistry. Jen then moved to the University of Illinois, Urbana-Champaign, where she completed her Ph.D. with Prof. Jeffrey Moore in 2005 studying the reactivity of pyridine-functionalized phenylene ethynylene cavitands. After a brief stint in industry as

a medicinal chemist, she moved to Harvard University to pursue postdoctoral research with Prof. David Liu exploring mechanisms for templated nucleic acid synthesis. In 2010, Jen began her independent career in the Department of Chemistry at the University of Utah and was promoted to Associate Professor with tenure in 2016. In 2017, Jen and her research group moved to the Department of Chemistry at Emory University. Research in the Heemstra lab is focused on harnessing the molecular recognition and self-assembly properties of nucleic acids for

ACS Local Section  
Silicon Valley

Tackling  
**IMPOSTERSYNDROME**  
You belong: finding confidence in the face of  
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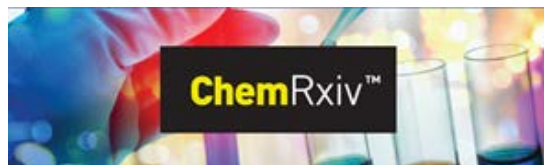
11 March 2021  
6 pm PST

For more information and to register for this seminar, go to [svacs.org](#).  
Registration is free and required to receive a Zoom link.

applications in biosensing and biomanufacturing.

Outside of work, Jen enjoys spending time with her husband and two sons, as well as rock climbing, cycling, and running. Jen has gained a cult following for her mentoring style on Twitter. Learn more about her in her C&EN column and send her your questions at [cenm.ag/officehours](#).

# Chemistry Preprint Server ChemRxiv to be Hosted on Cambridge University Press' Open Engage Platform



"ChemRxiv, the premier preprint server for the chemical sciences, announces that, beginning in the second quarter of 2021, the server will be hosted through the Cambridge Open Engage platform. Authors posting to ChemRxiv will benefit from an improved experience and will still be able to submit their preprints directly from ChemRxiv to all partner journals published by the American Chemical Society (ACS), Chinese Chemical Society, Chemical Society of Japan, German Chemical Society (GDCh) and Royal Society of Chemistry." [Learn more](#) (ACS Publications Press Release, Feb. 25, 2021).

## UPCOMING EVENTS (continued)

- Mar 4** **Chemistry Trivia Night**  
Sponsored by the Younger Chemists Committees of the Silicon Valley and California Sections of ACS  
7-8pm, Online, [RSVP](#)
- Mar 8** **International Women's Day Celebration: Choose to Challenge**  
Mitra Kashanchi, Chevron Chemicals; Lois Frankel, Bestselling Author; Sandy Robert, AWIS  
Sponsored by the ACS California Section Women Chemists Committee and Association for Women in Science, East Bay Chapter  
5-7:30pm, Online via Zoom, Free, [Registration required](#)
- Mar 9** **Microbe-Pollutant Interactions Between Fluorinated Fire-Fighting Foams and Bioremediation of Hydrocarbons and Chlorinated Solvents**  
Christopher Olivares, UC-Berkeley  
Sponsored by the ACS California Section  
5-6:30pm, Online via Zoom, Free, [Registration required](#)
- Mar 11** **Tackling Imposter Syndrome - You Belong: Finding Confidence in the Face of Self-Doubt and Impostor Syndrome**  
Jen Heemstra, Emory University  
Sponsored by the ACS Silicon Valley Section  
4-5pm, Online via Zoom, Free, [Registration required](#)
- Mar 17** **New Visualizations in SciFindern**  
Sponsored by CAS (Chemical Abstracts Service)  
New data visualizations are coming to SciFindern. Attend this webinar and see how to visualize the structural similarity of chemicals, review biosequence search results graphically, and more... [Details and Register](#)
- Mar 18** **Why Commercial Tomatoes Have No Taste: The Biochemistry and Genetics of Flavor Preferences**  
Dr. Harry Klee, University of Florida  
Sponsored by the ACS Silicon Valley Section  
7-8pm, Online via Zoom, Free, [Registration required](#)
- Mar 20** **Pop Up Chemistry for Middle School Kids**  
Sponsored by Redwood City Library and ACS Silicon Valley Section  
2-3pm, Online via Zoom, Free, [Registration required](#)
- Mar 22-24** **Virtual Workshop on International Chemical Identifiers (InChI)**  
Sponsored by NIH  
8am-Noon Pacific Time, Free, [Registration required](#)
- Mar 29-31** **Polymeric Materials for Additive Manufacturing (3-Day Live Virtual Short Course)**  
Prof. T. Long, Arizona State University; Prof. C. Williams and Prof. M. Bortner, Virginia Tech
- Sponsored by the Golden Gate Polymer Forum (GGPF)  
Online via Zoom, [Learn more](#)
- Apr 5-16** **ACS Spring 2021 National Meeting**  
Macromolecular Chemistry: The Second Century  
Fully virtual event, [Learn more \(Registration is open\)](#)
- Apr 14** **Wastewater-based Epidemiology (WBE) During the COVID-19 Pandemic and into the Future**  
Rolf Halden, PhD, PE  
Sponsored by the ACS Silicon Valley Section  
6-7pm, Online via Zoom, Free, [Registration required](#)
- Apr 20** **Chinese American Chemical Society 2021 Spring Virtual Program (Learn more)**  
Keynote address: Skin-Inspired Organic Electronics by Zhenan Bao, Stanford University  
Sponsored by the Chinese American Chemical Society and the American Chemical Society  
4:30-6pm, Online via Zoom, Free/Donations Welcome, [Registration required](#)
- Apr 21** **Plastics for Fuel - Recovering Energy from Ocean Waste**  
Professor Skip Rochefort of Oregon State University and in collaboration with Clean Oceans International (Santa Cruz, CA)  
Sponsored by the Golden Gate Polymer Forum (GGPF)  
7:30pm, Online via Zoom, \$5 GGPF Donation/Free, Registration required, see <http://ggpf.org/>
- Apr 21** **Biosequence Searching in SciFindern**  
Sponsored by CAS (Chemical Abstracts Service)  
SciFindern is adding biosequence searching, and increasing our biosequences collection to over 500 million, providing an extended world of protein and nucleic acid sequence data to scientists. [Details and Register](#)
- May 20** **Chemical Conundrums in the Movies**  
Dr. Mark Griep, University of Nebraska-Lincoln  
Sponsored by the ACS Silicon Valley Section  
6-7pm, Online via Zoom, Free, [Registration required](#)
- Jun 17** **A Muggle's Guide to Harry Potter's Chemistry**  
Dr. Rebecca Lai, University of Nebraska-Lincoln  
Sponsored by the ACS Silicon Valley Section  
6-7pm, Online via Zoom, Free, [Registration required](#)
- Aug 19** **How One Company is Making Blue Jeans 'Green'**  
Dr. Tammy Hsu, Chief Scientific Officer and co-founder of Huee  
Sponsored by the ACS Silicon Valley Section  
7-8pm, Online via Zoom, Free, [Registration required](#)

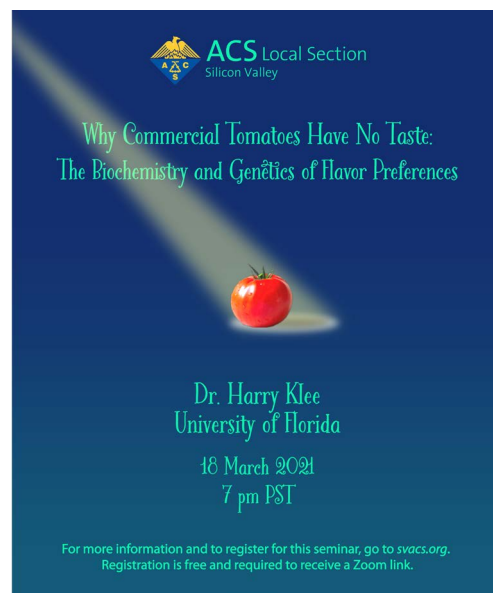


# Why Commercial Tomatoes Have No Taste; The Biochemistry and Genetics of Flavor Preferences

18 March | 7 pm PST | Dr. Harry Klee [Registration](#)



Professor Harry Klee of the University of Florida will address the oft heard query in the vegetable section of the supermarket, “Why don’t commercial tomatoes have any taste?” In his talk on the biochemistry and genetics of flavor preferences, Dr. Klee strives to understand the chemical and genetic make-up of “flavor” in fruits and vegetables. His talk will describe how he and his group identify the genes that control syntheses of the flavor volatiles. He’ll then explain how they use this knowledge to produce a better-tasting tomato, thus trying to push the flavor calendar back decades to recapture the characteristics that were present in tomatoes in the first half of the 20th century.



April 14, 2021, 6 pm PST

## Wastewater-based Epidemiology (WBE) During the COVID-19 Pandemic

Dr. Rolf Halden

Online via Zoom, Free, [Registration required](#)

### Abstract:

Wastewater-based epidemiology (WBE) is quickly gaining traction globally as a tool to assess the COVID-19 pandemic and to inform public health decision-making. With the medical practicalities of testing for SARS-CoV-2 on an individual basis being limited for a variety of reasons, WBE constitutes one potential tool that allows for rapid, comprehensive and recurring data collection to inform evidence-based decision-making. Our team modeled and analyzed the feasibility, economy, opportunities and challenges of tracking COVID-19 locally and globally using WBE, taking into account as key variables factors including air temperature, average in-sewer travel time and per-capita water use. An Arizona case study illustrates that effective surveillance and public health response may occur in a two-step process in which WBE helps to identify and enumerate infected cases, whereafter clinical testing then serves to identify infected individuals in WBE-revealed hotspots. Data provided here demonstrate this approach to save money and be broadly applicable worldwide. WBE brings with it an interesting collaborative, as sewer and water districts are forming new partnerships with public health agencies and medical professionals to aid in the management of public health priorities, thereby helping to accelerate the local, regional, national and global recovery from the pandemic.

### Bio:

Professor Rolf Halden of Arizona State University (ASU) is Founding Director of the [Biodesign Center for Environmental Health](#)



[Engineering](#), the nonprofit [OneWaterOneHealth](#), and the ASU startup company, [AquaVitas LLC](#). He

has authored over 230 research papers, patents, monographs, and the 2020 [popular science book, Environment](#). Dr. Halden has been invited to brief the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Academies, the Centers for Disease Control and Prevention, and members of U.S. Congress on environmental health and sustainability challenges. As an expert in [wastewater-based epidemiology](#) for tracking harmful chemicals and infectious disease agents, he has lent his expertise to studying the causative agent of the COVID-19 pandemic, [SARS-CoV-2](#).

## Paving the Path – A Mentoring Program for Community College Transfer Students

The Silicon Valley ACS is piloting a mentoring program for prospective chemistry transfer students! The main objective of the Paving the Path (PTP) program is to help students from underrepresented groups in STEM transition from community colleges to 4-year institutions. The program includes 1-on-1 mentoring as well as group forums involving all program participants to focus on financial literacy, building confidence and community, personal and career development, and professional networking. Long term, the goal is to help build a system of support and resources for chemistry transfer students from community colleges in our region.

For their participation, each student will be awarded \$100 toward costs associated with their transfer applications.

Could you recommend prospective transfer students who would benefit from this program? Please send their names and email addresses by March 8 to [ptp@svacs.org](mailto:ptp@svacs.org). Feel free to reach out to us with any questions, comments, or suggestions so that we can better serve our chemistry community!

## 2021 Shirley B. Radding Award Call for Nominations: Silicon Valley Section

Deadline: May 1, 2021

This award was established in 1994 by our Section of ACS to recognize demonstrated, dedicated, unselfish leadership, service and significant contributions, over a sustained period of time, to industrial, academic, or applied chemistry and to the American Chemical Society at local, regional and national levels. The award is named for Shirley B. Radding, who was a charter member and long-time supporter of this Section. It currently consists of an engraved plaque and a check for \$1000.

Award recipients selected on the following criteria:

- Member of the American Chemical Society for more than 20 years
- Dedicated and unselfish service to ACS members over a sustained period of time
- Leadership through elected and appointed ACS positions at local, regional and national levels
- Significant contributions to industrial, academic, or applied chemistry

Please submit nomination dossier with CV and two letters of recommendation by May 1, 2021.

Heddie Nichols, Chair, Radding Award Committee  
Silicon Valley Section, American Chemical Society  
P.O. Box 395, Palo Alto, CA 94302-0395  
Email: [hnichols105@gmail.com](mailto:hnichols105@gmail.com)

Past recipients:

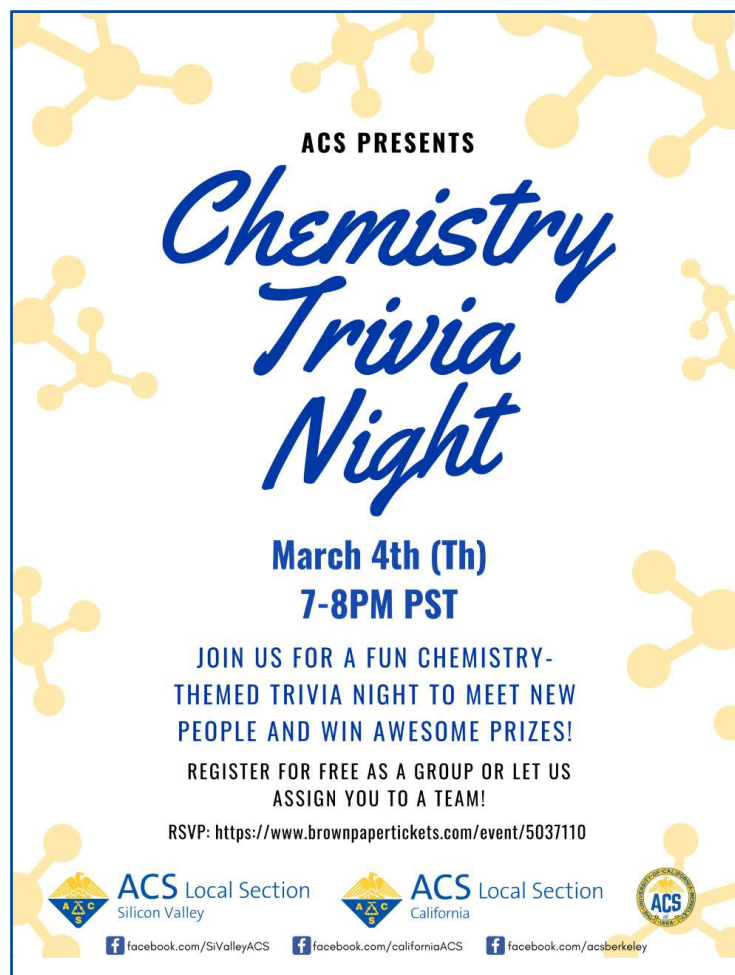
1994 Shirley B. Radding	1995 Agnes Ann Green
1996 John C. "Jack" Riley	1997 Howard M. Peters
1998 Alan C. Nixon	1999 Valerie J. Kuck
2000 Halley A. Merrell	2001 Norman A. LeBel
2002 Paul H. L. Walter	2003 Jean'ne M. Shreeve
2004 Maureen Chan	2005 Glenn Fuller
2006 Janan Hayes	2007 Merle Eiss
2008 Dorothy Phillips	2009 Bryan Balazs
2010 Herb Silber	2011 Carol A. Duane
2012 Bonnie A. Charpentier	2013 Mamie W. Moy
2014 Lee H. Latimer	2015 Connie Murphy
2016 Sally Peters	2017 Gary D. Christian
2018 Peter Rusch	2019 Mary Virginia Orna
2020 Thomas R. Beattie	

## 2021 Abraham Ottenberg Service Award Call for Nominations: Silicon Valley Section

Deadline: May 30, 2021

The Abraham Ottenberg Service Award was established in 1973 by the Silicon Valley Section to recognize members who have rendered outstanding service to the Section. It is named after Abraham Ottenberg, a former member who devoted himself to service to the Section. The award currently consists of an engraved plaque and a check for \$250. The award recipient is selected from candidates nominated by members of the Section. Nominees must be members or affiliates of the Silicon Valley Section.

Nominating letters should include a brief biography of the candidate and a description or evaluation of the service(s) to be recognized by the award. Seconding nominations are not required but will be accepted. Re-nominations are accepted for consideration as previous nominations are not



ACS PRESENTS

# Chemistry Trivia Night

March 4th (Th)  
7-8PM PST

JOIN US FOR A FUN CHEMISTRY-  
THEMED TRIVIA NIGHT TO MEET NEW  
PEOPLE AND WIN AWESOME PRIZES!

REGISTER FOR FREE AS A GROUP OR LET US  
ASSIGN YOU TO A TEAM!

RSVP: <https://www.brownpapertickets.com/event/5037110>

ACS Local Section Silicon Valley  
ACS Local Section California

facebook.com/SiValleyACS facebook.com/californiaACS facebook.com/acsberkeley

retained for subsequent years. Previous recipients are not eligible.

Please send your nomination to:

Peter Rusch, Chair, Ottenberg Award Selection Committee  
Silicon Valley Section, American Chemical Society  
P.O. Box 395, Palo Alto, CA 94302-0395  
E-mail: [PFrusch@aol.com](mailto:PFrusch@aol.com), Fax: 650-961-8120

Past recipients:

1974 Shirley B. Radding	1975 Oliver S. Senn
1976 Floyd M. Hobbs	1977 Frank R. Mayo
1978 Harry S. Mosher	1979 Lois J. Durham
1980 Richard W. Gaver	1982 Alan C. Ling
1983 Ludwig A. Mayer and John F. Riley	1984 Howard M. Peters
1986 June G. Jones and Robert L. Montoya	1987 Malcolm Dole
1991 Donald E. Green	1992 Hubert E. Dubb
1993 Karl Marhenke	1994 Stephen N. Senzer
1995 Carol W. Mosher	1998 Bonnie Charpentier
1999 Linda Brunauer	2000 Herb Silber
2001 Sally Peters	2002 Jamil Talhouk
2003 Ean Warren	2004 Maureen Scharberg
2005 Hong Gao	2006 George Lechner
2007 David Parker	2008 Bruce Raby
2009 Peter Rusch	2010 Stephanie Gehling
2011 Abby Kennedy	2012 Harry Ungar
2013 Natalie McClure	2015 Todd Eberspacher
2016 Susan Oldham-Fritts	2017 Ihab Darwish
2018 Joseph A. Castellano	2020 Jane Frommer

## ACS Author Lab

### Master the preparation and publication of scientific manuscripts

ACS Author Lab is an online training course that empowers authors to prepare and submit strong manuscripts, avoiding errors that could lead to delays in the publication process. The course was developed by ACS Editors and ACS Publications staff to help authors identify key considerations for each step of publishing a manuscript. Course modules cover the following:

- Selecting the right journal
- Showcasing the significance of your work
- Effectively describing your research
- Creating publication-ready visuals
- Finalizing your manuscript and preparing for submission
- Navigating the revision process
- Adhering to ethical guidelines

Purchase full access to the course for \$50. ACS Members receive a 20% discount. Coming soon: researchers at institutions with a subscription to

the ACS Guide to Scholarly Communication will have the opportunity to access ACS Author Lab at no cost. Find out more about the course, including a free preview of one of the modules, [here](#).

Related information:

- [ACS Author Lab, a new course from ACS Publications, empowers authors to create their best manuscripts](#) (ACS Publications Press Release, January 13, 2021)
- [Five Reasons to Try ACS Author Lab](#) (ACS Axial article, February 15, 2021)



## Local Science Fairs in 2021

### Judges Needed

by Susan Oldham-Fritts

While chocolates and flowers are high on many people's Valentine list, how about a gift that keeps on giving? The cost is minimal – just a day of your time judging at the local science fair – and the return is great. Your supportive judging will encourage middle and high school students to participate in the world of STEM – science, technology, engineering, and math. With all of the following fairs being virtual due to the pandemic, it's now easier than ever to support our budding scientists with just one day of your time. All of these science fairs need category awards judges, especially in the areas of botany, biology, chemistry, microbiology, and behavioral science. The majority of fairs serve as qualifiers for the International Science and Engineering Fair, ISEF.

**Please contact me at [svsefmgr@gmail.com](mailto:svsefmgr@gmail.com) to join our SVACS special chemistry award team of dedicated chemists at the Synopsis Championship on March 11.**

To judge other fairs, click through the links below to science fair websites where you'll find contact information.

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

- [Synopsis Science & Technology Championship](#): March 11
- [Golden Gate STEM Fair](#): March 8-11
- [Santa Cruz County Science and Engineering Fair](#): March 1-13
- [San Mateo County STEM Fair](#): March 15
- [Monterey County Science & Engineering Fair](#): March 8-20



## International Women's Day

"A challenged world is an alert world and from challenge comes change. So let's all choose to challenge.

How will you help forge a gender equal world? Celebrate women's achievement. Raise awareness against bias. Take action for equality."

International Women's Day (IWD) (March 8) is a global day celebrating the social, economic, cultural, and political achievements of women. The day also marks a call to action for accelerating women's equality. IWD has occurred for well over a century, with the first IWD gathering in 1911 supported by over a million people. Today, IWD belongs to all groups collectively everywhere. IWD is not country, group or organization specific.

Learn more: [International Women's Day](#) website, [Women in Science](#) guide to resources by Stanford's Science Library, and the [ACS Women Chemists Committee](#) webpage



# Worth Knowing About KNIME

By Stephen Boyer, PhD

KNIME is an open-source, free, and powerful platform for data integration, analytics, and reporting.



In the “old days”, familiarity with tools such as Excel, PowerPoint, and Word was considered essential for professional success across disciplines. Going forward in science, these utilities alone are insufficient. Programming skills (Python, SQL, Visual Basic, Bash, awk, etc.) are now considered required, a challenging task for many. It requires time, training, and practice; like learning to play the piano, programming skills do not arise from reading a book or watching someone else play. Fortunately, there is help.

Following the pattern of ‘outsourcing’ math functions such as long division and square roots to the calculator, some data management programming once considered the purview of computer scientists is now accessible to the average person. Yes, to some they are ‘cheats’, but worth knowing about.

KNIME is a workflow engine that visually creates data flows (pipelines) in a user-friendly drag-and-drop manner to tailor a sequence of functions that otherwise require programming skills such as SQL or Python <https://www.knime.com>. The core version includes hundreds of modules (nodes) for

- data integration (file I/O, nodes supporting

common database management systems)

- data transformation (filter, converter, splitter, combiner, joiner)
- other commonly used methods of statistics, data mining, analysis and text analytics
- visualization, supporting free report designer extensions

KNIME workflows can be used to create report templates exportable to document formats like doc, ppt, xls, and pdf. Many other capabilities of KNIME can be found within the [KNIME website](#). They are worth exploring along with similar data-handling applications such as [DataWarrior](#) or [OrangeDatamining](#), discussed in [earlier Worth Knowing About columns](#).

An illustration of KNIME’s utility to chemists is the evaluation of compounds for desirable physico-chemical properties such as solubility, pKa, and Lipinski criteria to [automate screening drug compounds](#). [Tutorials](#) abound on the KNIME website, together with user [forums](#).

KNIME has a learning curve. It’s minimal compared to the value it provides, much like learning the buttons to push on a calculator. Continuing with the calculator analogy, there is no substitute for learning math but the calculator’s quick, accurate answers can’t be denied. Similarly, KNIME is a useful tool for exploring and deriving value from huge and ever-increasing data streams. In fact, KNIME is so powerful for data management and mining, its initial use in chemistry [quickly spread](#) to include sports, finances, engineering, and overall project management.

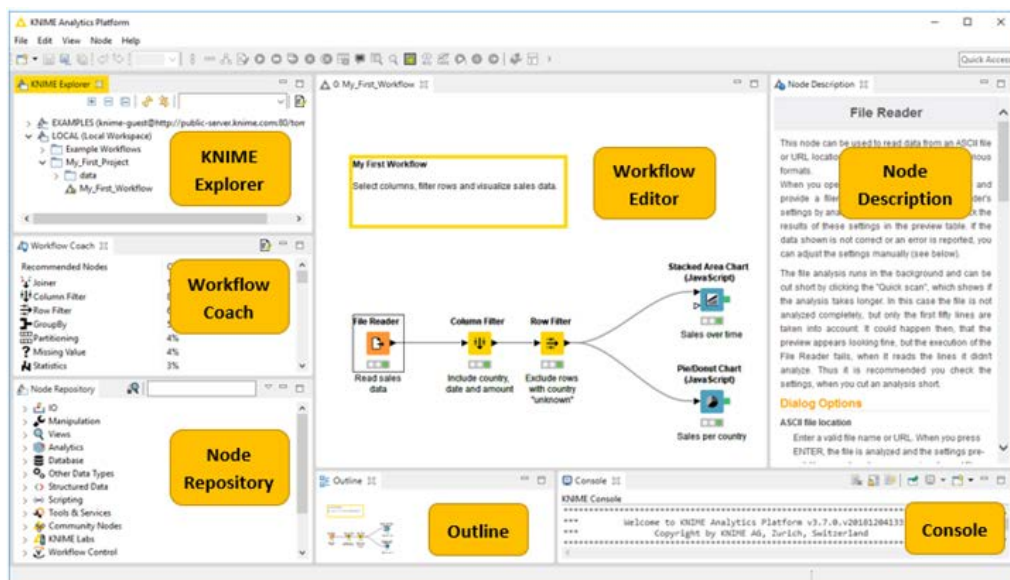


Figure caption: a representative page from KNIME’s workflow analytics platform

# Virtual Workshop on International Chemical Identifiers (InChI)

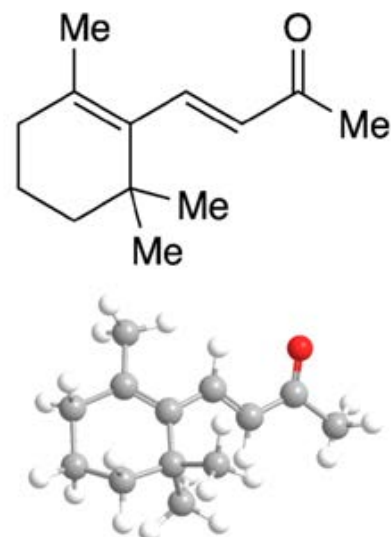
March 22-24, 8am-Noon Pacific Time, Free, [Registration required](#)

A major theme emerging from the December 2020 NIH Workshop on Ultra Large Chemistry Databases is the essential role of the IUPAC International Chemical Identifier ([InChI](#)) in our ability to link and query across large and diverse chemistry data resources. Therefore, we now seek to bring the chemistry community together for an update on the development of the InChI and a discussion of its use in chemistry, biochemistry, and related research domains. Speakers will report on developments in the InChI field, usage of InChI in their organization, as well as challenges and areas not yet covered by InChI. The virtual workshop is scheduled for three half-days and will include short talks and panel discussions.

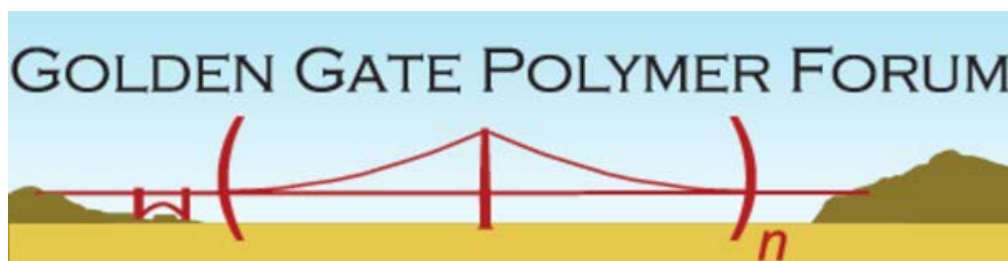
**Organizers:** **Steven Heller**, National Center for Biotechnology Information, NIH; **Marc Nicklaus**, Center for Cancer Research, National Cancer Institute, NIH; **Evan Bolton**, National Center for Biotechnology Information, NIH; **Noel Southall**, National Center for Advancing Translational Sciences, NIH.

## CHEMISTRY Quiz

Why do fresh home-grown tomatoes taste so much better than store-bought ones?



Answer



ACS Webinar

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## Polymeric Materials for Additive Manufacturing

3-Day Live Virtual Short Course Sponsored by the Golden Gate Polymer Forum

March 29 - 31, 2021

Taught by

- Prof. Timothy Long, Arizona State University
- Prof. Christopher Williams, Virginia Tech
- Prof. Michael Bortner, Virginia Tech

The three-day short course on polymer science and engineering of additive manufacturing (AM, also known as 3D-printing) introduces scientists, engineers, and other professionals to basic principles, terminology, and applications. A focus on the use of polymeric materials highlights the interplay of polymer material design, chemical reactivity, and rheology with the resolution and design aspects of resultant structures. Emphasis will be placed on practical applications and rapidly emerging technologies.

Topics to include:

- overview of polymer materials issues and structure-property relationships important for AM applications and technologies
- range of state-of-the-art printing/process methods and modalities with emphasis on
  - extrusion
  - vat photopolymerization (VP)
  - direct ink writing (DIW)
  - material/binder jetting
  - powder bed fusion (PBF)

A course wiki site will be available with supplementary literature, to remain open after the course to encourage interactive discussion of concepts.

[More course information, pricing, and registration.](#)

### Mar 3 How to Protect Your Intellectual Property When Collaborating with Others

Robert Migliorini, Exxon Mobil Corporation

11am-Noon Pacific Time, Online via Zoom, Free, [Registration required](#)

### Mar 10 Science as a Diplomatic Tool

Zafra Lerman, Malta Conferences Foundation; Peter Hotchkiss, Organisation for the Prohibition of Chemical Weapons; Vaughan Turekian, National Academies' Policy and Global Affairs Division

8-9am Pacific Time, Online via Zoom, Free, [Registration required](#)

### Mar 11 Neither Fish nor Fowl: The Growth of Alternatives to Animal-Derived Food

Julie Mann, PURIS Holdings; Joshua March, Artemys Foods; Andrew Ive, Big Idea Venture

10-11am Pacific Time, Online via Zoom, Free, [Registration required](#)

### Mar 17 Chemists Make the Best Homebrewers

Nick Flynn, West Texas A&M University

11am-12:30pm Pacific Time, Online via Zoom, Free, [Registration required](#)

### Mar 25 The Resilience of Women in Chemistry

Patricia Silveyra, Indiana University Bloomington; Sara Mason, University of Iowa; Allison Aldridge, U.S. Food and Drug Administration

11am-12:30pm Pacific Time, Online via Zoom, Free, [Registration required](#)

### Mar 30 How to Embrace the New Norm and What That May Look Like

Tom Connelly, ACS CEO; Robin Preston, ACS Director of Meeting Operations; Frankie Wood-Black, Northern Oklahoma College and Principle of Sophic Pursuits, Inc.

10-11am Pacific Time, Online via Zoom, Free, [Registration required](#)

### Mar 31 An Integrated Approach: Oral Delivery of a Fatty Acid Acylated GLP-1 Peptide

Stephen Buckley, Novo Nordisk

11am-12:30pm Pacific Time, Online via Zoom, Free, [Registration required](#)

## 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 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 a number of 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 October. Plan to be at our annual beer & wine tasting and awards picnic each July on the Stanford campus. The local section is a volunteer organization. Attend an event, volunteer to help, and get to know your local fellow chemists. Welcome!

Please note: in-person events have been suspended during the pandemic but we are meeting virtually. The offer for a free dinner meeting stands for new members once we start getting together in person again.

## NEW ACS MEMBERS

Muratahan Aykol  
Benjamin Bruxvoort  
Duyen Cao  
Jason Ross Casar  
Stephanie Michele Evanson  
Ana Galesic  
Peng Gao  
Marlene M. Gutierrez  
Scott Alan Hollingsworth  
Xiaozhou Ji

Tina Kim  
Helena Landin  
Bernadette Latimer  
Mackenzie Lee  
Allison Lim  
Chih-Hao Lu  
Chelsea A. McIntyre  
Tatsuya Nakatani  
Aditya H. Ramabadrans  
Naoko Sato

Conrad A. Shultz  
Michael Siu  
K M. Skog  
Rajasree Swaminathan  
Missy A. Thompson  
Severin Thompson  
Steve Tondre  
Ming Yu  
Jason Robert Zbieg



# THE CHEMISTRY OF AN ELECTRIC GUITAR

The electric guitar as we know it today owes a lot to the materials that make it up. In this graphic, we take a look at the different magnetic mixtures used in the electric guitar pickups, the alloys used in the frets and strings, and the chemicals used to give the guitar a glossy finish.

### GUITAR PICKUPS

**Al Ni Co Sm Nd Fe**

Guitar pickups are built around permanent magnets. Alnico magnets (made from aluminum, nickel, and cobalt) are most commonly used, but ceramic magnets (based on iron oxide with strontium or barium carbonate), samarium cobalt magnets and neodymium magnets can all also be used.

**MAGNETS**  
**COILED WIRE**

1. Strings vibrate in magnetic field.
2. Flux of magnetic field to coil changes.
3. Currents convert to flow to coil.

### GUITAR STRINGS

**Ni Fe C Mn Cr**

Electric guitars require their strings to contain a magnetic metal. Usually, this is in the form of steel. The thicker strings (E, A & D) are usually wound with nickel wire. For some strings, a polymer coating is used to help to prevent corrosion.

### GUITAR FRETS

**Ni Cu Zn Fe C Cr**

Frets are commonly made from nickel-silver (an alloy of copper, nickel, and zinc), but stainless steel can sometimes be used (an alloy of iron, carbon, and chromium which prevents corrosion).

### GUITAR FINISH

**NITROCELLULOSE**      **POLYURETHANE**

Some guitars have a nitrocellulose lacquer finish, consisting of nitrocellulose mixed with other compounds and dissolved in a solvent. Polyurethane and polyester finishes are also common. They also tend to be more durable than nitrocellulose lacquer.

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ACS Local Section  
Silicon Valley

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[@SiValleyACS](https://twitter.com/SiValleyACS)

Click [here](#) to enlarge image. For people who missed our SVACS February program on the materials that compose fretted musical instruments, a recording of this talk is available [here](#).

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Secretary (2021-2022)	Prasad Raut	330-780-3689	prsraut@gmail.com
Treasurer (2020-2021)	Ihab Darwish	650-624-1389	darwishis@yahoo.com

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## ChemPloyment Abstracts

Director	Liang Cao	Dr.LiangCao@gmail.com
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