

Silicon Valley Chemist

Silicon Valley Section

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DECEMBER 2019 NEWSLETTER TOPICS

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Moshier Award Dinner and Lecture

Ushering in the Era of Digital Drug Design with Spherical Nucleic Acids

Professor Chad A. Mirkin

Department of Chemistry and International Institute for Nanotechnology
Northwestern University

Abstract

Over two decades ago, nucleic acid therapeutics emerged as a promising new technology for treating diseases with a known genetic basis. In addition, in recent years, nucleic acids have been identified as sequence-specific regulators of the immune system. However, issues pertaining to their stability, toxicity, and delivery have dramatically limited their application and thus slowed the growth of the field. Indeed, the vast majority of nucleic acid



drugs that are currently being developed target diseases that can be addressed in the liver, the site where nucleic acids accumulate when systemically administered. We have discovered a new form of nucleic acids that can be actively internalized by most cell and tissue types, without the need for trans-

fection agents, owing to their novel nanoscale architecture. These new forms of DNA and RNA, referred to as spherical nucleic acids (SNAs), are revolutionizing the way we study, track, and treat disease. SNAs are being used as potent gene regulation agents that can be topically delivered to the skin and cross the blood-brain-barrier to treat neurodegenerative conditions; they have also shown immense promise as advanced immunotherapeutics for cancer. This presentation will describe how SNAs are steering the community toward a whole new way of thinking about digital drug design.

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Connect with Chemists

An early morning chat with fellow chemists
Thursday, December 19, 2019, at 7-8 am
Coupa Café, 538 Ramona Street, Palo Alto
Contact Ean Warren (ewarren@scvacs.org)
for more information or ask for ACS at Coupa.

Chair's Message

Grace Baysinger



and to everyone who voted. It was an impressive ballot of candidates. Many thanks to Madalyn Radlauer for Chairing the Nominations Committee and to George

Greetings! I hope that this note finds you in good health and spirits. Congratulations to our newly elected officers. Many thanks to everyone who ran for office

Lechner who handled all the logistical and certification issues associated with an election. In keeping with tradition, there are articles in this issue that provide a summary of events and activities for 2019.

Chair's Goals for 2019: I had three goals that I wanted to accomplish this year. (1) Increase membership and engagement with graduate students, postdocs, and young professionals. (2) Help improve/expand our website, social media presence, and print materials. (3) Review SV committees and expand ExComm and member participation in these groups. Of these, I think that we have been successful in expanding our engagement

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Moshier Award Dinner and Lecture

Date: Thursday, January 23, 2020

Time: 6:00 - 9:00 PM

Speaker: Professor Chad A. Mirkin

Ushering in the Era of Digital Drug Design with Spherical Nucleic Acids

Location to be determined. Please see our website for updates.

Biography

Dr. Chad A. Mirkin is the Director of the International Institute for Nanotechnology and the George B. Rathmann Professor of Chemistry, Chemical and Biological Engineering, Biomedical Engineering, Materials Science & Engineering, and Medicine at Northwestern University. He is a chemist and a world-renowned nanoscience expert, who is known for his discovery and development of spherical nucleic acids (SNAs) and SNA-based biodetection and therapeutic schemes, Dip-Pen Nanolithography (DPN) and related cantilever-free nanopatterning methodologies, On-Wire Lithography (OWL) and Co-Axial Lithography (COAL), and contributions to supramolecular chemistry and nanoparticle synthesis. Mirkin received his B.S. degree from Dickinson College (1986) and a Ph.D. degree from the Penn State University (1989). He was an NSF Postdoctoral Fellow at the MIT prior to becoming a professor at Northwestern University in 1991. He has authored over 760 manuscripts and over 1,100 patent applications worldwide (over 350 issued) and founded multiple companies, including AuraSense, Exicure, TERA-print, and Azul 3D. Mirkin has been recognized with over 210 international awards, including the Kabiller Prize in Nanoscience and Nanomedicine, the SCI Perkin Medal, the Wilhelm Exner Medal, the RUSNANOPRIZE, the Dan David Prize, and the Sackler Prize in Convergence Research. He served for eight years on the President's Council of Advisors on Science & Technology (Obama Administration), and he is one of very few scientists to be elected to all three US National Academies. Mirkin has served on the Editorial Advisory Boards of over 20 scholarly journals, and he is the founding editor of the journal *Small*. At present, he is an Associate Editor of *JACS* and a PNAS Board Member. Mirkin's work in stereolithography ("3-D printing") was a feature article in the 11/4/2019 issue of *C&EN*.

Chair's Message, continued from front page

with graduate students, postdocs, and young professionals. Our social media presence has expanded but efforts to update our website are still underway. We did review our committees and nearly all members of the Executive Committee now participate and help lead committees, groups, or projects. These efforts will continue as I move to Past-Chair.

2019 SVACS Election Results

The results are in! We have elected our new slate of Officers, Councilors and Alternate Councilors for 2020. In order to even out the number of candidates elected each year, we opted to elect the treasurer for two years and the secretary for one year. Next year, we'll elect the secretary for two years in order to satisfy our 2018-revised-bylaws requirement to elect both the secretary and treasurer for two-year terms and then alternate their elections. In addition, we opted to elect three Alternate Councilors for three-year terms and one 1-year position for Alternate Councilor in order to complete the remaining year spot that Jane Frommer (2018-2020) vacated when she was elected as a Councilor for 2019-2021. Confused?! I was, too! The net result of all this is that, in next year's election, we will elect for the 2021-2023 term three Councilors and two Alternate Councilors, thus making it such that we even out the number of candidates for each position in subsequent years. I think of it as the "223/232" plan. Still confused? Me, too!

The Executive Committee line up next year will be as follows:

Chair	2020	Matt Greaney
Chair-Elect	2020	Jigisha Shah
Immediate Past Chair	2020	Grace Baysinger
Secretary	2020	Laura Yeager
Treasurer	2020-2021	Ihab Darwish
Councilors (7)	2018-2020	Ean Warren
	2018-2020	Natalie McClure
	2019-2021	Linda Brunauer
	2019-2021	Jane Frommer
	2019-2021	Sally Peters
	2020-2022	Matt Greaney
	2020-2022	Madalyn Radlauer
Alternate Councilor (7)	2020-2020	Howard Peters
	2020-2020	(January Appointment)
	2019-2021	Laura Yeager
	2019-2021	Sogol Teschler
	2020-2022	Heddie Nichols
	2020-2022	Todd Eberspacher
	2020-2022	Avni Gandhi

Thanks to the 247 members who voted this year. This number is 9.8% of the 2509 eligible voters as determined by ACS records. Your participation as members is appreciated and we encourage you all to continue your membership. We thank all the candidates who ran for office and look forward to an exciting and eventful 2020.

Please consider ways and actions you can take or continue to support the ACS, Silicon Valley Local Section, and the various committees that are necessary accomplish our **MISSION: "Engaging the chemistry community by providing professional development, educational opportunities, networking, and recognition; and by sharing innovative, exciting, and fun chemistry with our diverse broader community through education and outreach."**

Thank you very much for the opportunity to serve as Chair of the Silicon Valley Section! It has been a rewarding, humbling, and educational process. The members of the Executive Committee are a wonderful group of people that I hope you will have an opportunity to interact with in the future. It's been a pleasure to meet members at events and to learn about new areas of chemistry. We hope that you have enjoyed and celebrated the International Year of the Periodic Table (IYPT2019).

Please contact us: Let us know how we

are doing or if you would like to become more involved in the ACS Silicon Valley Section activities. A volunteer organization, we have jobs that are large and small. Please fill out this [contact us form](#) or send me an email message. Stay connected - like us on [Facebook](#) and follow us on [Twitter](#).

Many thanks for being a member of ACS!

Grace Baysinger
ACS Fellow

graceb@stanford.edu
<https://profiles.stanford.edu/grace-baysinger>

Addendum to 2019 SVACS Election

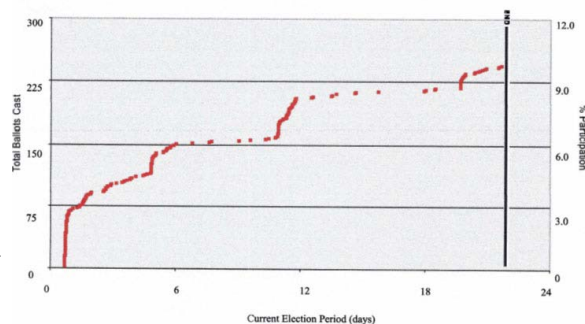
George Lechner, SVACS Councilor

Several members commented on our election. Here's what they said:

- *Very happy to see a strong contingent of new volunteers.*
- *We are blessed with so many well qualified candidates to choose from! Thank you for your service!*
- *Thank you for saving trees and making the voting electronically!*
- *Good Luck.*
- *New faces – hopefully to be more relevant to today's chemist.*
- *Congratulations Silicon Valley ACS for involving so many fresh new leaders. There's hope yet for the ACS to serve the world's upcoming generations of scientists.*
- *The ballot worked well. I printed my choices without difficulty.*

Find your dot on the chart.

ACS - Silicon Valley Section Election 2019
Analysis of vote frequency to date as of 8:07 AM, Saturday, November 16, 2019, (U.S. Pacific).



Total ballots: 247 | Ballots in previous five minutes: 0; last hour: 0; last day: 5 | Ballots per hour overall: 0

Highlights of SVACS Internal Activities

From the SVACS Executive Committee

Approved in the November 2018 elections, new Bylaws were ratified and went into effect in 2019. The Operations Manual was revised, the culmination of a two year effort. Many thanks to George Lechner for all his efforts to get these two key documents revised. Jane Frommer led efforts to get two grants from ACS: an Innovative Projects Grant (IPG) to help support the Bay Area Chemistry Symposium, and a Members Engaging Through Technology (METT) Grant to help refresh our website and newsletter. Task forces focusing on finances, the newsletter (and website), and strategic plans are underway to help build a roadmap for the next 1-3 years. Zoom was used for remotely attending Executive and Program Committee Meetings.

SVACS Grants, Awards, and Recognition: A Recap of 2019

While articles about recipients appeared throughout the year in our Newsletter, this brief summary lists awardees for 2019.

- Professor Gary Molander, Northwestern University, was the Harry and Carol Mosher Award recipient, our Section's highest award.
- Mary Virginia Orna, Professor Emerita of Chemistry at the College of New Rochelle and President of ChemSource, Inc., was our 2019 Shirley B. Radding Award recipient.
- Dr. Kathleen Armstrong, Foothill College, was the recipient of our 2019 Teacher-Scholar Award.
- Two local high school students, Leslie Reyes and Trinity Mai, did summer research at Stanford as part of the ACS Project Seed program.
- Overfelt High School, East San Jose, was the recipient of our 2019 Bubble Grant Award for Fermenting an Interest in Chemistry.
- Elizabeth Migicovsky received a Salute to Excellence award from us for her efforts with CCEW.
- Pastel Schway, a 9th grader from Connections Academy, won ACS' Chemists Celebrate Earth Week (CCEW) poetry contest.
- Our Section won two of ACS' 2019 ChemLuminary Awards: Outstanding Local Section Programming Related to the Promotion of Ethics in Chemistry (Inaugural winner, Sponsor: ACS Committee on Ethics), and Best New Public Relations Program of a Local Section (Sponsor: ACS Committee on Public Relations and Communications).

2019 SVACS Election Vote Count

Total Eligible (ACS) Voters: 2509

Total Voters Casting Ballots: 247 (9.8%)

Name	Votes
Chair-Elect	
One 1-year position (2020)	
Jigisha Shah	225
Write-In Candidate	Marilyn Bryer (1) Zhonghua Pei (1) Peter Rusch (1) Wendy B. Young (1)
Secretary	
One 1-year position (2020)	
Laura Yeager	144
Sogol Teschler	90
Write-In Candidate	None
Treasurer	
One 2-year position (2020-2021)	
Ihab Darwish	228
Write-In Candidate	Jillian Sanzone (1)
Councilor	
Two 3-year positions (2020-2022)	
Madalyn Radlauer	227
Matt Greaney	221
Write-In Candidate	None
Alternate Councilor	
Three 3-year positions (2020-2022)	
One 1-year position (2020)	
Heddie Nichols	186
Todd Eberspacher	175
Avni Gandhi	163
Howard Peters	158
Dipti Shingnapurkar	119
Prasad Raut	73
Write-In Candidate	Jillian Sanzone (4)

Notes:

There were NO Petition Candidates.
There were nine (9) members who abstained from voting.
There were no paper ballots returned to Vote-Now. All Electronic.

Behind the Scenes

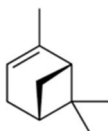
The Newsletter Team for the Silicon Valley Chemist

The SVACS newsletter “automagically” appears monthly but requires a team of people to produce: authors for articles, Kevin Greenman as editor, Partha Bera as assistant editor, Ling Cao for ChemPloyment ads, and multiple proofreaders. All this before moving on to an outside agency for layout and production. These publishers were engaged to produce the newsletter for the section back in the days when typewriters were used and layouts involved cutting up articles and laying them out with rubber cement. Production has since modernized to pdf formats and on-line posting. Our webmasters upload the newsletter to the website and broadcast by email when new issues are available on-line. It's a team effort! Our team even includes local high schooler, Annie Ma, who is using her graphics skills to update the masthead design.

We understand the importance of sharing information with the community regularly. If there are topics that you would like covered in the newsletter, please let us know. Or contribute an article yourself! Discussion about software designed specifically for composing dynamic newsletters on-line is on-going. If you have skills or recommendations with on-line newsletters or websites - we want to hear from you.

Chemistry Quiz

What is the name of this monoterpene?
What does it smell like?



The answer will appear in next month's newsletter.

Last Month's Chemistry Quiz

Catechols (1,2-dihydroxybenzenes) exhibit toxicity against cells ranging from microbes to mammalian cells. What are the molecular mechanisms responsible for this toxicity?

Catechols undergo a variety of reactions with DNA, proteins and membranes including enzyme inhibition, lipid peroxidation, uncoupling and strand breaks. For a review see: Schweigert, N.; Zehnder, A. J. B.; Eggen R. I. L. *Env. Microbiology*, 2001, 81–91. <https://doi.org/10.1046/j.1462-2920.2001.00176.x>

Sidney Harris Cartoon



"AT 9:30 SOME GOVERNMENT INSPECTORS WILL BE HERE. AT 11:15 WE HAVE A COUPLE OF ETHICISTS, THERE'LL BE A FEW LAWYERS AT 2, THE ENVIRONMENTALISTS AT 4:15..."

Chemists want to do chemistry. We are happiest when we are at the bench, surrounded by glassware, apparatus of all shapes and sizes and the ubiquitous safety equipment – or on our computer, performing simulations or modeling. It's where we are at our best and feel fulfilled and productive. Duties that take us away from that familiar environment such as regulatory affairs, environmental impact assessments, safety procedures, or ethics training can be seen as an unwelcome distraction from the excitement of doing science. But those tasks are critical to how we pursue our science. Today's chemists not only understand that but live by it. Safety and ethics are core to chemistry, front and center in chemists' minds. And our science is all the better for it. There is no doubt that what we now produce is of higher quality and is more responsive to the world in which we live than ever before. We thrive with those challenges and opportunities.

– Bibiana Campos-Seijo, Editor in Chief, Chemical & Engineering News

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! To encourage you to attend a monthly section seminar meeting, we would like you to be our guest. When you register, 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. If you are unable to attend in the evening, perhaps you would 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. Then, there is our annual wine tasting and awards picnic in July. The local section is a volunteer organization. Please attend an event, volunteer to help and get to know your local fellow chemists. Welcome!

New SVACS Members

Meret Aeppli	Jordan Thomas Grenier	Dr. SunAi Raillard
Udaya Kiran Ammu	Deja-Monae Tiani Hermsillo	Maria Reyes Fabregat
Horacio Enrique Barragan Peyrani	Miss Shenyue Huang	Dean M. Roddick
Katheryn Berkeland	Isabel Jaffer	Laura Striepe
Dr. Arianna Carughi	Xiqian Jiang	Suzanne Szewczyk
Damla Cehreli	Dr. Timothy Johnstone	Joshua Visser
Dr. Hongjie Dai	Tom Larson	Dr. Claus Weisemann
Dr. Xiaohui Du	Prof. Michael Z. Lin	Beth Willers
Katelyn Michelle Esposto	Kanagavel Murugesan	Ru-Yi Zhu
Princess Galvan	Ilkwon Oh	Xingjun Zhu
Avni Gandhi	Maria Teresa Perez	

The First Annual Bay Area Chemistry Symposium (BACS)

203 northern California chemistry professionals came together for an all-day event on November 8, 2019, in South San Francisco. The occasion? The first annual Bay Area Chemistry Symposium, BACS.

<http://svacs.org/bacs>

BACS was designed to serve the local chemistry community by providing an environment for interaction between professionals, students, and established chemistry enterprises of academia, government & industry. It succeeded, reflected in enthusiastic feedback:

“I enjoyed the first BACS very much. This is probably the best local ACS event I ever attended (both on the east coast and west coast). The choice of topics was very interesting. The schedule was balanced and there was sufficient time for networking. When I shared with my colleagues afterwards, they regretted they did not get the chance to participate this year. I am looking forward to the next one!”

“Thanks to the team for pulling this off. It was long overdue and definitely to be repeated. I thought the program was well assembled and I am also supportive of including additional topics.”

Long-range plans are for an annual BACS event to sustain interaction between local establishments and to strengthen the network of support for each year's wave of entering young professionals.

Starting in February (2019), the Silicon Valley and California ACS sections joined forces with representatives from local

industry to organize the event.

<http://svacs.org/bacs/organizing-committee>
Teleconferences, grant-writing, sponsor commitments, program drafts, and speaker invitations followed. Merck Research Labs in South San Francisco generously provided the venue of their brand new auditorium, an offer that contained the budget and allowed setting reasonable registration fees. Additional facility offers have already been made by local companies for future BACS, assuring continuity in a variety of settings.

The final registration list included attendees from 31 companies and 8 universities. People from UC Davis and UC Santa Cruz saw the value and braved the commute to take part in the first BACS. Overwhelming support for an event of this kind was evidenced with financing from Gilead, Novartis, Merck, AbbVie, Genentech, Millipore Sigma, Google, Cytokinetics, Pharmaron, Schrodinger, Theravance Biopharma, Chemical Computing Group, Maze, Arcus Biosciences, Nurix, Cambridge Isotope Laboratories, and Ideaya Biosciences.
<http://svacs.org/bacs/2019-bacs-industry-sponsors>

The day's program included presentations from industry and academia, grad student and post-doc short talks, and posters.

<http://svacs.org/bacs/bacs-technical-program>

Keynote talks led off each session by Carolyn Bertozzi (Stanford), Richmond Sarpong (UC Berkeley), and Bill DeGrado (UCSF). Topics covered synthetic, medicinal, and process chemistry in this first BACS year. Future BACS will reflect varying subjects, already being suggested in feedback following the event: computational chemistry (‘coding academy’), advanced analytical methods, materials and energy. Suggestions from local section members are welcomed:

bacs@svacs.org

The growing number of pharmaceutical, high tech, start-up and other scientist-employing businesses in the region translates into a growing demand to showcase both employers and potential employees who are local to northern California. While individual educational institutions hold career events for their own students, BACS provided a forum for candidates from all stages of their careers. The SF Bay area has good precedence with joint ACS YCC (Younger Chemist Committee) events between the two local sections. BACS amplified this to reach a broader spectrum of members and potential members.

A goal of BACS is to counter the decline in ACS industrial membership by providing a platform for demonstrating value to enterprises for recruiting and for partnering. The SF Bay area is a nexus of intense yet dispersed chemistry activity. BACS rose to the challenge of bringing it together.



Month-by-Month: A Summary of Programs and Outreach Events in 2019

Below is a summary of events held by the ACS Silicon Valley Section in 2019. These events are all possible due to the efforts of a small group of members. They have my deepest gratitude for their dedication, inspiration, and creativity! Also noteworthy are the number of organizations that we collaborated and partnered with that enabled us to provide a diverse array of programs available to you.

January

- Professor Gary Molander (Northwestern University) Single Electron Processes Enabling Organic Synthesis. Harry and Carol Mosher Award dinner meeting. (MacArthur Park Restaurant, Palo Alto, January 24th)

February

- Dr. Kathleen Armstrong (Foothill College) Why Does it Have to be So Hard? Evaluating the Value of a Course in Organic Chemistry. Teacher-Scholar Award dinner meeting and Foothill Student Poster Session. (Foothill College, February 28th)

March

- Professor Phil Crews (UC Santa Cruz and Pelican Ranch Winery) Wines and Winemaking: Merging Chemistry Fundamentals and Sensory Evaluation Outcomes to Gain a 21st Century Perspective. Dinner meeting. (Cabrillo College, March 8th)
- Where in the world is Dr. Aurora Quicksilver? Escape Room chemistry game created by Natalie McClure, Bonnie Charpentier, Jigisha Shah. Outreach event. (Santa Clara University on March 10th and San Jose State University on March 16th)

April

- Dr. Bonnie Charpentier, ACS Community and Priorities for 2019: A Conversation with ACS President. Joint dinner meeting with Silicon Valley and California Sections. (Basque Cultural Center, South San Francisco, April 18th)
- Chemists Celebrate Earth Week. The theme was the Chemistry of Paper. Attendees created ChemCatchers. Outreach event. (Martin Luther King Library, San Jose, April 22nd)
- Pastel Schway, a 9th grader from Connections Academy, wins the ACS Chemists Celebrate Earth Week poetry contest.
- ACS International Chemistry Olympiad National Exam. Twenty-nine local schools participated: 15 private and 14 public schools. (Santa Clara University, April 27th)

May

- 31st Northern California Undergraduate Research Symposium co-sponsored by Silicon Valley and California Sections. The event showcased undergraduate research in chemistry and biochemistry through 26 oral and 96 poster presentations. Keynote Speaker: Professor Stephen Boxer, Stanford University. (Santa Clara University, May 4th)

June

- Citizen Science in Silicon Valley. Jointly sponsored by the ACS Silicon Valley Section and BioCurious Hackerspace for Biotech. Outreach event. (BioCurious, June 15th)
- Professor Zhenan Bao, Stanford University. Skin-Inspired Electronics. Joint dinner meeting with Silicon Valley Section and the Golden Gate Polymer Forum. (Michael's at Shoreline,

Mountain View, June 27th)

July

- Tech Trek. Jointly sponsored by American Association of University Women of Palo Alto and the ACS Silicon Valley Section. (Stanford University, July 11th and July 17th)
- SVACS Annual Picnic, Wine and Beer-Tasting, and Awards Ceremony. Professor Emerita Mary Virginia Orna (College of New Rochelle and President of ChemSource, Inc.) 2019 Shirley B. Radding Award winner and 33 members with 50+ years of membership in ACS were recognized. (Stanford University, Chemistry Dept., July 13th)
- YCC Chemistry Trivia Night. Joint Younger Chemists Committee (YCC) Meeting between Silicon Valley and California Sections. (Freewheeling Brewing, Redwood City, July 17th)

August

- The ACS National Meeting attracts many to San Diego, August 25-29.

September

- Palo Alto S.T.E.A.M. (Science, Technology, Engineering, Art, & Math). The Silicon Valley Section participated by helping attendees make slime, ChemCatchers, UV beads, and making 3D printed DNA available for auction. (Mitchell Park Library, Palo Alto, September 22nd)
- Professor Rebecca Braslau (UC Santa Cruz) More Than Just One Word on Plastics (Cabrillo College, September 27th).

October

- ACS National Chemistry Week. The theme was Marvelous Metals. Kids made slime, boo bubbles, extracted iron out of their cereal, made indium-gallium alloy and silver-plated copper cacti. Students from Santa Clara University volunteered at the event. Outreach event. (Martin Luther King Library, San Jose, October 5th)

November

- Bay Area Science Festival. A large outreach event. (Oracle Park, November 2nd)
- First Bay Area Chemistry Symposium (BACS). Joint planning and coordination between Silicon Valley ACS, California Section ACS, Merck, AbbVie, Gilead, Novartis, Cytokinetics, UC Berkeley, Stanford, and UCSF structured as a full day symposium featuring keynote speakers Bonnie Charpentier (2019 ACS President), Carolyn Bertozzi (Stanford), Richmond Sarpong (UC Berkeley), and Bill Degrado (UCSF). (Merck Research Laboratories, South San Francisco, November 8th)
- Dr. Wendy Young, Senior Vice President of Small Molecule Drug Discovery at Genentech. Delivering Innovative Medicines: Small Changes Can Have a Large Effect. Dinner meeting. (Stanford Faculty Club, November 14th)

December

- Wishing everyone happy and safe holidays.

All-year, once a month

- Connect-with-Chemists met the 3rd Thursday at Coupa Café in Palo Alto.
- The SVACS ExComm held an open evening meeting at Stanford.



Education and Research: Testing Hypotheses

Teachers : apply for funding to attend the 2020 EARTH workshop to be held August 3-7 in Dobbs Ferry, NY

About the EARTH Program

Recognizing the need to educate the public about the value of research and help them understand scientific methodology, this MBARI/Monterey Bay Aquarium (MBA) collaboration allows us to test new ideas for public outreach and education. One of MBARI's joint projects with MBA, Education and Research: Testing Hypotheses (EARTH) lays new groundwork, providing teachers with a means for integrating real-time data with existing educational standards and tested curriculum in an interactive and engaging way.

EARTH uses near-real-time data from ocean observatories to design and test outreach with the Internet as an interface to scientists, teachers, students, and the public. Several workshops were held at MBARI in 2002-2005 bringing educators, scientists, and engineers together to develop effective educational practices for access and use of near-real-time data in preparation for the future deployment of benthic observatories (in particular, the *Monterey Accelerated Research System, MARS*). Since 2006, MBARI has partnered with a variety of organizations across the country to host the EARTH workshop.

Participants include educators from other research institutions, universities, community colleges, and high schools as well as MBARI and MBA staff. Initial efforts of EARTH target high school and undergraduate students, with the ultimate goal of reaching kindergarten through college. This effort will enhance online education material on the ocean and resources for teachers already available on MBARI's website and the *Aquarium's 'E-quarium' Web site and 'Learning Center'*.

Background information on earlier EARTH workshops are provided on this website as well as links to activities developed as part of the previous workshops. If you are interested in using any of these activities in your classroom, please take the time to fill out the assessment rubric and return it to George Matsumoto (earthATimbariDOTorg). Any comments or thoughts regarding these activities are welcome. Please be aware that some of these activities have NOT been tested in the classroom yet and some of them are still under development (e.g., Photographic Identification). We will be updating these pages throughout the year, so please check back if you are interested.

A comprehensive literature review of potential approaches and effective educational practices for the development of a national ocean observing education product has been generated as part of the results from the 2005 EARTH workshop and is available [here](#).

A requirement of the application process is to trial an EARTH lesson, complete the feedback rubric (word version), and mail the rubric to George Matsumoto (earthATimbariDOTorg). Applications should include a completed rubric and a cover letter that includes the following information: your school/district, grade level/s, subject/s taught, and email/phone contact (both school and personal as the school email system sometimes rejects our group emails). Please also address the following questions: Why do you want to be selected for this workshop? What makes you the ideal candidate? Application deadlines and workshop location/dates will be posted as soon as they have been confirmed.

Please follow us on [Facebook](#)

Why participate in the Local Section?

When reviewing our mission statement – “Engaging the chemistry community by providing professional development, educational opportunities, networking, and recognition; and by sharing innovative, exciting, and fun chemistry with our diverse broader community through education and outreach.” – I think that we have provided a vibrant, local community for chemists.

Being involved in the ACS Silicon Valley Section enables members to learn more about chemistry research, innovative efforts, and chemists in the Bay Area. It enables members to network with colleagues. The knowledge and experience gained at the National and Local Section levels of ACS are synergistic. Experiences and skills gained provide transferable skills to use in professional careers too. Being involved locally helps support educators in our schools. Engaging and inspiring students to become the next generation of chemists and scientists is good for our communities and for the global chemistry enterprise.

There were 456 new members to the Silicon Valley Section from January to November 2019 so we are an actively growing community. Participate to learn and to become part of a vibrant community!

CHEMPLOYMENT ABSTRACTS

CHEMPLOYMENT ABSTRACT 4007

Position Title: Assistant Professor of Chemistry

Job Description: Develop and teach lower division courses in chemistry and upper division courses in your area of expertise; Create an externally-funded research program that provides opportunities for undergraduates; provide service to the department, university and community.

QUALIFICATIONS DESIRED:

Education: Ph.D. in chemistry, biochemistry, or a closely related field

Experience: Demonstrated experience with course and curriculum development; Proven ability and desire to mentor and teach students from diverse cultural, ethnic, educational, and economic backgrounds; A record of scholarly achievement including publications, grantsmanship, and external funding; and evidence of collaboration and leadership.

LOCATION, SALARY, EMPLOYER:

Job Location: Seaside, CA

Salary: Competitive salary and benefits package; on-campus employee housing

Description: : California State University, Monterey Bay is a comprehensive, mid-sized four-year university whose staff and faculty help transform student lives by emphasizing project-based learning, requiring service learning, and promoting multicultural and global perspectives on and beyond the campus community.

Application Instructions: For detailed instructions, visit <https://csumb.peopleadmin.com/postings/5463>

Applications will be accepted until the position is filled, and review of applications will begin November 17, 2019.



SILICON VALLEY SECTION
AMERICAN CHEMICAL SOCIETY
P.O. Box 395, Palo Alto, CA 94302

Seasons Greetings

To receive an email when our newsletter is published on our web site, sign up at:

<https://svacs.org>

SILICON VALLEY SECTION

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FUTURE EVENTS

- Jan 16** Dr. Barbara Engelhardt
Stanford Bio-X Frontiers in Interdisciplinary Biosciences
<https://events.stanford.edu/events/853/85333/>
- Jan 23** SVACS Mosher Award Dinner and Lecture
Dr. Chad Mirkin
Dept. of Chemistry, Northwestern University
(Location to be determined)
- Jan** SVACS Younger Chemists Speed Networking
Santa Clara University
(Date to be determined)
- Jan 25** Science Saturday: Amazing Migrations
Pacific Grove Museum of Natural History
<https://www.pgmuseum.org/sciencesaturdays/>
- Mar** SVACS Dinner Lecture
Dr. Andy Stevenson
CTO Redwood Materials
(Date and location to be confirmed)
- Apr 28** SVACS Dinner Lecture
Dr. Jason Rolland
VP of Materials at Carbon 3D, Redwood City
Michael's at Shoreline, Mountain View, CA
For more details and to register,
go to the Calendar page at <https://svacs.org>