

THE VORTEX

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CALIFORNIA SECTION
OCTOBER 2017



Prof. Richmond Sarpong, Speaker, October Section Meeting

CALIFORNIA SECTION OCTOBER MEETING	PAGE 2
CHAIR'S MESSAGE	PAGE 3
REMINDER OCTOBER 18 MEETING WITH PROF ZARE	PAGE 3
ACS NATIONAL MEETING REPORT (M. FRISCHBERG)	PAGE 4
WCC MEETING	PAGE 5
YCC MEETING	PAGE 5
STUDYING STEVIA (BILL MOTZER)	PAGE 6
ACS NATIONAL ELECTION	PAGE 10
BUSINESS DIRECTORY	PAGE 11
INDEX OF ADVERTISERS	PAGE 11
LOCAL ELECTION NOTICE	BP

CALIFORNIA SECTION, ACS October Section Meeting
Thursday, October 26, 2017
A Career in Chemical Synthesis Inspired by a Response to
Parasitic Diseases in Sub-Saharan Africa

Speaker: Prof. Richmond Sarpong Department of Chemistry, UC Berkeley,
Date: Thurs., Oct. 26, 2017, 6:00 – 6:50, Social with light refreshments, 7:00 – 8:15pm, Presentation.

Location: USDA, 800 Buchanan Street, Albany.

Cost: \$10.00 (\$5.00 for students) for light refreshments. No cost for presentation only. Reservations are required: Please register for meal or talk only by email office@calacs.org or 510-351-9922, no later than Monday Oct. 26th. You may prepay by mailing your check to Cal. Section ACS at 2950 Merced St. #225, San Leandro CA 94577 no later than Wed., Oct 18th, or with PayPal using our email address office@calacs.org.

Abstract:

Richmond's interest in chemical synthesis of natural products stems mostly from his experiences with parasitic diseases growing up in Sub-Saharan Africa. His evolution to the current focus of his research will be presented. Natural products continue to inspire and serve as the basis of new medicines including novel anti-parasitics. They also provide intricate problems that expose limitations in the strategies and methods employed in chemical synthesis. Several strategies and methods that have been developed in the Sarpong laboratory and applied to the syntheses of architecturally complex diterpenoid alkaloids, indole alkaloids, and several Lycopodium alkaloids, will be presented and discussed.

Biography:

Richmond Sarpong is a Professor of Chemistry at UC Berkeley where he and his group specializes in synthetic organic chemistry. Richmond became interested in chemistry after seeing, firsthand, the effectiveness of the drug ivermectin in combating river blindness during his childhood in Ghana, West Africa. Richmond described his influences and inspirations in a TEDxBerkeley talk in 2015 (Face of Disease in Sub-Saharan Africa – <https://www.youtube.com/watch?v=nIsY87-zkXA>). Richmond completed his undergraduate studies at Macalester College in St. Paul, and his graduate work was carried out with Prof. Martin Semmelhack at Princeton. He conducted postdoctoral studies at Caltech

with Prof. Brian Stoltz.

At Berkeley, Richmond's laboratory focuses on the synthesis of bioactive complex organic molecules, with a particular focus on secondary metabolites that come from marine or terrestrial flora and fauna. These natural products continue to serve as the inspiration for new medicines. It is Richmond's hope that through the work in his laboratory, he and his coworkers will uncover methods and strategies for synthesis that may contribute to more efficient ways to prepare bioactive compounds that may inspire new medicines.

Of all his professional accomplishments, Richmond is most proud of the students in his research group (<http://www.cchem.berkeley.edu/rsgroup/>) and those with whom he has worked in the past that have gone on to their own independent careers. He enjoys teaching and was the recipient of the 2009 UC Berkeley Dept. of Chemistry teaching award and the 2016 Noyce Prize for Excellence in Undergraduate Teaching in the Physical Sciences at Berkeley. Richmond's research group has published over 80 papers and he has received numerous awards in recognition of his research including an Alfred P. Sloan Foundation Fellowship, Japan Society for the Promotion of Science Fellowship, Camille Dreyfus Teacher-Scholar Award, ACS Cope Scholar Award, NSF Career Award, the 2015 Royal Society of Chemistry Synthetic Organic Chemistry Award, and a 2017 Guggenheim Fellowship.



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Chair's Report



If your life as a chemist parallels mine at all, you've probably been asked by your children, grandchildren, friends, or their teachers to visit a classroom and make a presentation about chemistry or science. I hope you have responded

positively and found it to be a rewarding experience. However, if you have avoided the "opportunity" out of uncertainty or feelings of inadequacy, let me encourage you by offering some resources that are available from your Local ACS Section or the National ACS Office.

I've touted the talents and commitments of Alex Madonik in this column a few times, but let me reiterate some of those points in this context. Alex heads our Section's outreach efforts, including Family Science Night presentations at local schools, as well as our National Chemistry Week efforts and a range of other public events. (Alex would be quick to note that the success of these events are due to a cadre of committed and talented volunteers.) I bring Alex up in this context to let you know that he is a wealth of information about what is possible for public presentations, even on a small, classroom scale, including feasible demonstrations,

age-appropriate materials, and kid-friendly handouts and swag. You can find Alex's contact information on our website, www.calacs.org.

There are many others in our Section who would be willing to offer their advice and possibly even their presence if you have a presentation that you would like help with. Let me know and I can put you in touch (jpostma@csuchico.edu).

The other set of resources that I want you to be aware of is found on the www.acs.org website. Look under "Community Outreach" for a wide array of ideas for National Chemistry Week, Earth Day, festivals of various kinds, and classroom/school activities.

I encourage you to participate in spreading the word.

Jim



Reminder

The October 18 meeting with Professor Zare will be at the USDA in Albany. Details on the Section's website

REPORT FROM THE ACS NATIONAL MEETING

Highlights from the Washington, DC Meeting

ACS hosted its 254th national meeting in Washington, DC after a long absence from holding a National meeting in the ACS headquarters city. DC did not disappoint with its summer heat and humidity, but this meeting was made more comfortable than previous DC meetings due to the opening of the 1000+ room Marriott Hotel, where governance meetings, and several technical sessions and evening receptions were held, adjacent to the Convention Center and connected by a convenient underground passage way. While DC is also known for summer thunderstorms, only those traveling on the Friday before the start of the meeting were impacted by the string of storms that went through the area that afternoon and evening. It was a great help for those who found out that one could take the Metro from Washington National (Reagan) Airport direct to the Convention Center station and connect through the Convention Center to the Marriott without getting drenched.

Not often does a major ACS meeting highlight, let alone a celestial one, happen outside of the Convention Center and meeting hotels, but with this ACS meeting overlapping with the total solar eclipse on Monday afternoon, August 21st in DC there was more than chemistry talks on attendees' minds at that time. The exhibition and many of the sessions and events temporarily lost attendees as people went outside to view the approximately 80% of totality visible in DC. Both ACS and NASA handed out thousands of free eclipse glasses so that members could view the event safely, and the skies over DC cooperated.

As always, this was a very busy meeting for CALACS Councilors, Past Presidents, and our Director-At-Large – all of which are active in other ACS Governance and volunteer activities beyond that of representing CALACS at the Council meeting, as you will see documented later in this report, although we did have three Councilors who were not able to make this meeting, two of which were replaced by Alternate

Councilors.

A meeting highlight for CALACS came on Tuesday evening at the ChemLuminary Awards. CALACS was a finalist for two awards, Outstanding Continuing Public Relations Program of a Local Section and Best New Public Relations Program of a Local Section, and while not winning either award this time around it is always good to get the recognition and the opportunity to attend the Award, cheer on the other Local Section and Division winners, and display the CALACS poster covering our events for all to see.

Prior to the start of the ACS meeting, a Presidential Public Outreach event: "Exploring Our World through Chemistry", which has become a feature on the Saturday preceding National meetings, was held at ACS Headquarters. Councilor Sheila Kanodia attended this event and reports that there were almost 300 attendees (about 150 children), at the ACS Presidential Outreach Kids Zone. ACS partnered with the Percy Julian Institute, the Smithsonian National Air and Space Museum, and the Smithsonian National Museum of Natural History. People also enjoyed receiving free glasses to view solar eclipse from Smithsonian National Air and Space Museum. ACS president Dr. Allison Campbell dressed up as Meg A. Mole for the first hour to kick off the event. Visitors received copies of the NCW 2017 edition of Celebrating Chemistry, with the NCW theme, "Chemistry Rocks," and they explored tables of hands-on activities, many based on this theme. CAL-ACS Councilor Alex Madonik is on the organizing committee for these events (the Committee on Community Activities, CCA) which also brings you Chemists Celebrate Earth Day (now transitioning into Earth Week), and National Chemistry Week). A "Chemistry Rocks" concert was held on the Sunday evening of the meeting to commemorate the 30th anniversary of NCW.

The overall theme of the Washington, DC meeting was "Chemistry's Impact on the Global Economy." Clear Message." The

continued on page 7)

Organized by:



**All are welcome
CA Section
ACS Meeting**

Saturday, October 14, 2017

Cal State University East Bay
Science Building South, Room 143
25800 Carlos Bee Blvd.
Hayward, CA 94542

Title

From Indonesian student to
industrial scientist to UOP
pharmacy school professor

Time

2:00 p.m. - 4:30 p.m.
(Light refreshments served)

Reservation

Event is FREE. Please RSVP by email to
the CA Section office: office@calaus.org, or
call at 510-351-9822, to inform the hosts of
your intention to come by October 7, 2017.

In partnership with:



CALIFORNIA STATE
UNIVERSITY
EAST BAY



Speaker

**Miki Susanto Park, Ph.D.
Professor**

Pharmaceutics and Medicinal
Chemistry Department
Thomas J. Long School of
Pharmacy and Health Sciences
University of the Pacific
Stockton, CA 95211

Dr. Park came from Indonesia and attended Brooklyn College in New York from 1983 to 1985. She then transferred to The University of Texas at Austin and graduated with a B.S. in biochemistry in 1987. She attended the University of California San Francisco from 1987 to 2002, graduating with a Ph.D. in pharmaceutical chemistry. Following graduation, she worked at Genentech, a biotech company in south San Francisco, from 2003 to 2004 as a pharmacokinetic scientist in the small molecule drug discovery and development group. She then joined the pharmaceutics and medicinal chemistry department at the University of the Pacific as an assistant professor in 2004. She was promoted to associate professor in 2011 and to professor in 2016.

Abstract

One of the aims of the CA Section WCG is to expose students and young professionals to possible career options in the broadly defined field of chemistry. To achieve this goal, we strive to find individuals with varied backgrounds from all over the world who are willing to share their unique paths to their current jobs. Finding the right fit is key to this process.

In this talk, Dr. Park will share with you her education journey, from her high school years in Indonesia to her graduate years at the University of California San Francisco. She will also share with you her experience working as a scientist at Genentech, and as a pharmacy school professor at the University of the Pacific and how her education prepared her for these jobs.

*Home Brew Competition: Tasting & Judging
November 11th, noon to 3:00pm
Golden State Brewery
1252 Memorex Lane, Santa Clara, CA
(In the very back, next to the train tracks)
RSVP for the Home Brew Event*

Join us over at Golden State Brewery for our first home brew competition. We are (still) looking to get 5-10 brewers/teams to commit to enter a home brew for this event. All entrants will receive a Visa gift card to compensate for the cost of raw materials. All participants will be invited to sample the entered brews and enjoy the company of fellow chemists, engineers, and beer aficionados. Please contact Matt Greaney at greaney19@gmail.com if you are interested in entering a brew for this event.



Studying Stevia Part 1

Bill Motzer

Recently, a colleague of mine who had read my column on sucralose (Splenda®) and Lou Rigali's excellent companion article about its potential health affects (see November 2010 Vortex) ask me: "What about Stevia?" Because of Lou's paper, I had avoided and/or stopped using all of the artificial sweeteners (e.g., aspartame, sucralose, neotame, acesulfame potassium

or Ace-K, saccharin, and advantame) (Figure 1). So, my response to my friend's question was: "Steve who?" Consequently, on my next supermarket visit, I went to the aisle containing sugar and artificial (substitute) sweeteners and noticed that there were three entire shelves of brand and generic names. *Stevia rebaudiana bertonii* is a small perennial shrub (Figure 2) native to South America growing in the region where the borders of Paraguay, Argentina, and Brazil meet. It's a member of one of the largest families of plants: the Asteraceae (chrysanthemum or sunflower family), with about 240 close relatives, all considered herbs or shrubs originating in tropical and semi-tropical regions of North, Central, and South America.

For over 1,500 years, the indigenous Guarani peoples of Paraguay and southern Brazil used the plant's leaves to sweeten local teas, medicines, and as an overall sweet treat or "candy." Modern discovery is attributed to Dr. Moisés Santiago Bertoni (1857-1929), an Italian-Swiss botanist who in 1899, was conducting research in eastern Paraguay. In 1904, he first described the plant and its sweet taste, naming the genus for both himself and for Spanish botanist and physician Pedro Jaime Esteve (1500-1556), aka Petrus Jacobus Stevus, a professor of botany at the University of Valencia. Except for South American locals, the plant was virtually forgotten and only limited research was conducted until early in the 20th century. In 1931, two French chemists, M. Bridel

and R. Lavielle, isolated the glycosides stevioside and rebaudioside A, that give stevia its sweet taste. Continued research has shown that steviol glycosides also occur in related species such as *Stevia phlebophylla* (but in no other stevia species) and in the plant *ubuschingii* (Rosaceae). A Chinese plant, *Rubus chingii* is also now known to produce rubusoside, a steviol glycoside not found in stevia.

The steviol glycosides contain several active compounds with up to 150 to 400 times sugar's (sucrose) sweetness, depending on which glycosides are used. Stevia has been reported to have a slower taste onset and longer lasting or duration time than that of sucrose sugar; however, some extracts at high concentrations may have a bitter or licorice-like after taste. Initial taste studies reported that steviol glycosides from *Stevia rebaudiana* had 30 to 320 times sucrose's sweetness.

Other early sensory tests suggested that rebaudioside A was 150 to 320 times sweeter, stevioside was 10 to 270 times sweeter, rebaudioside C, 40 to 60 times sweeter, and dulcoside A 30 times sweeter. More recent evaluations indicated that rebaudioside A was approximately 240 times sweeter, and stevioside about 140 times. Rebaudioside A also had the least bitterness and aftertaste. Apparently, relative sweetness varies with concentration, and a mixture of steviol glycosides in the natural proportions was found to be 150 times sweeter.

In general, these compounds are heat- and pH-stable and therefore have long shelf lives. They are nonfermentable, do not cause tooth decay, and are essentially noncaloric because when ingested they do not induce a glycemic response. The human digestive system typically cannot metabolize them, although steviol is taken up into the bloodstream, metabolized by the liver to steviol glucuronide, and subsequently excreted in urine. Steviol glycosides stimulate insulin secretions through β -cell potentiation, preventing high blood glucose after a meal. Therefore, they become attractive and useful as natural sugar substitutes, particularly for diabetics and those on carbohydrate-controlled diets. For steviol glycosides, the

(continued on page 7)

continued from Page 6

acceptable daily intake (ADI), expressed as steviol equivalents, has been established to be 4 mg/kg body weight/day, which is based on a no-observed-effects-level (NOEL) of a 100 times higher dose in rats.

Stevia's legal status as a food additive or dietary supplement, varies from country to country. In the U.S., extracts of high-purity stevia glycosides are generally recognized as safe (GRAS) by the federal Food and Drug Administration (FDA) allowing their use as ingredients in food products. Since December 2008, purified rebaudioside A has been allowed as a food additive (sweetener), sold under various trade names (e.g., Truvia® developed by Cargill for use in Coca Cola and PureVia™ in Pepsi Cola), and classified as GRAS. Since 1995, Stevia rebaudiana leaf and crude extracts have been available as dietary supplements, but they do not have the 2008 GRAS or FDA approval for use in food. In 2011, the European Union approved stevia additives in foods and in Japan, stevia has been widely used as a sweetener for decades.

In future parts, I'll discuss stevia's chemistry, analytical and extraction/manufacturing methods, possible allergic



(ACS continued from page 4)

The popular Kavli Foundation Lecture series continued on Monday afternoon, with the Emerging Leader lecture given by Dr. Prashant K. Jain, University of Illinois – Urbana Champaign entitled “Turning Photons into Chemical Bond,” and the keynote Innovations in Chemistry lecture given by Dr. Joanna Aizenberg of Harvard University entitled “Multifunctionality of Liquid-filled Nanostructured Materials: From Encryption to Anti-fouling.”

A special Tuesday afternoon symposium, “Journey to Mars: Materials, Energy & Life Sciences,” was sponsored by the Polymer Division with many co-sponsors, including the Chemical Marketing & Economics Group (NY Section). The impressive roster of speakers included J. Craig Venter, the co-founder of Human Longevity, Inc. and founder of Celera Genomics, Janet L.

Kavandi, former astronaut and Director of NASA's John H. Glenn Research Center and Harry B. Gray, the Arnold O. Beckman Professor of Chemistry at Caltech and Founding Director of the Beckman Institute. The event concluded with evening award presentations at the National Air and Space Museum.

C&EN again recognized nominated twelve young science trailblazers using chemistry to solve challenging global problems, dubbed by C&EN as the Talented 12, who were the subject of a special symposium to present their work. Councilor Kanodia attended the Talented 12 session and reports that inorganic guru Prof. Harry B. Gray was one of the other speakers and shared highlights of his life journey as a chemist and had suggestions for the young budding scientists. A few statistics were collected on these talented twelve; their fuel of choice is coffee, higher percentages of them are early risers, and more can be found on the ACS website. Nominations are sought for 2018 Talented 12 through an on-line form.

Monday's evening's SciMix poster session showcased posters from most ACS Divisions, including the Academic Employment Initiative helping members seeking academic positions to network with perspective employers, and enthusiastic Project SEED high school students from several local sections happy to share their experiences.

Report from the Council Meeting and other Society governance activities

Five of our eight CALACS Councilors, plus two Alternate Councilors, our two Past ACS Presidents, and our Director-At-Large were present at the Council meeting. Information on some of the activities to which they are affiliated can be found below. Alternate Councilors, Michael Cheng and Donald MacLean, attended the Council meeting in place of Councilors Alex Madonik and Paul Vartanian, respectively.

The Washington, DC Council meeting was a relatively quiet and efficient one, except for two discussions. The first around the proposed approval for a probationary “Space Chemistry Division” which was eventually voted down. The second, around

(continued on page 8)

a By-laws amendment that would have allowed consideration of ACS financial support for International Chapters (other than local dues) and potential participation on the Council came close, but did not receive the required 2/3rds vote needed for passage.

As usual for the fall National meeting, voting was held to select new members to the Council Policy Committee (CPC), the Committee on Committees (CONC), and the Committee on Nominations and Elections (N&E). CALACS Councilor Mark Frishberg was elected to a 3-year term on CPC, the Executive Committee of the Council.

Affiliations/comments from our Councilors, Past ACS Presidents, and Director-At-Large

Bryan Balazs – Committee on Budget and Finance (B&F, Associate Member), ACS Career Consultant – Career Fair, and Undergraduate Program Advisory Board (UPAB)

B&F - overall finances of the ACS continued their positive trends seen in the last few years, mitigating the long-term effects of the 2008 recession. Due to the fact that the technical portions of the two ACS national meetings each year are struggling to break even (a goal set by the ACS Board of Directors), the advance registration fee for the 2018 national meetings will be increased to \$475 from \$445, with prorated increases to reduced registration categories (students, guests, expo-only, etc.) as well.

UPAB (an affiliate of SOCED) reported that the multi-day programs and activities for undergraduates continue to be well attended with very positive attendee feedback.

Mark Frishberg – Divisional Activities Committee (DAC), ACS Career Consultant – Career Fair

The Divisional Activities Committee is the primary focus, along with the Committee on Meetings and Expositions, of a new ACS division wide discussion regarding the potential elimination of Thursday programming at National meetings. A presentation was

made to DAC by members promoting the establishment of a new ACS division, Material Science, which is not being endorsed by DAC based on negative feedback from many other Divisions who see conflicts with the coverage they are already doing.

Sheila Kanodia – Committee on Ethics

The Committee on Ethics is developing a matrix to give the first Chemluminary award in 2018 for the best event concerning ethics and also developing tools and resources to help ACS members successfully deal with ethical dilemmas in work place.

Lee Latimer – Director-at-Large, ACS Boare of Directors

Besides dealing with several immediate legal issues (see C&EN), the board dealt with a variety of issues internal to the ACS. Of particular importance was a meeting of the ACS Board with the Board of NOBCCHE to develop discussions on ways to work together in a variety of projects. We are very interested in the results that will develop over the next few years. (NOBCCHE = The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers)

Eileen Nottoli – Committee on Environmental Improvement (CEI)

CEI discussed how to have greater interaction with local sections and develop fact sheets related to policy statements.

Attila Pavlath – International Activities Committee (IAC), Task Force on Employment.

As co-chair of the Task Force on employment, I prepared a draft report regarding recommendations and actions on how to improve the employment situation for chemical professionals of every demographic characteristic. The draft report was sent to all Councilors and the final one is still being fine-tuned. The recommendations will need the support of the ACS Governance.

Marinda Wu – Committee on Budget and Finance (B&F), ACS Career Consultant – Career Fair

At the ACS Career Fair, presented the four-hour Acing the Interview workshop plus

(continued on page 9)

conducted four hours of resume reviews for various job seekers.

Exceed the program for another successful CACS (Chinese-American Chemical Society) Banquet well attended by many VIPs from ACS governance.

Elaine Yamaguchi – Local Section Activities Committee (LSAC), and CALACS Project SEED Coordinator

LSAC - Due to the popularity of Science Cafes, and their increase across the country, the LSAC budget was modified to put more funds to this use. \$500 is the maximum amount awarded.

Project SEED open meeting - Plans are underway for the 50th anniversary of SEED in 2018. Under discussion is a “Wall of Testimonials,” already reaching out for input from previous students, especially those who were in the program many years ago. There were 415 SEED students in 2017, 306 of whom are SEED I and the remainder SEED II. They work in 120 labs in 35 states, DC, and Puerto Rico. The total number of students is unchanged from last year. This year, 27 SEED scholarships and 3 Ciba scholarships were awarded. Revenue was \$1,278,495 and expense was \$1,262,000, leaving a carryover of \$16,495 for 2018. This is a very small number compared to past years. Revenue comes from endowment (too small to run SEED), carryover of \$81,721 from 2016, ACS (\$200,000), individuals, and corporations. Funding Project SEED is an ongoing challenge for ACS and Local Sections, but obviously critical for the sustenance of this very worthwhile joint ACS and Local Section program, that was originally initiated by CALACS, especially in light of proposals being discussed to increase SEED stipends.

Looking ahead to New Orleans – March 18-22, 2018

The overall meeting theme will be “The Food, Water, Energy Nexus.”

The advance member registration fee for National ACS meetings in 2017 will be \$475.

Planned Presidential symposia under development will include: “Food, Energy,

and Water Safety and Security.”

Project SEED, initiated by CALACS, will celebrate its 50th Anniversary in 2018 and it is expected that celebrations will be planned at one or both National meetings in 2018.

News you might use

Abstracts of the papers and posters presented at the meeting are archived at www.acs.org, and those plenary and symposium presentations that were recorded, with sequenced slides, can be found at www.acs.org/meetingcontent.

Any members interested in the latest ACS financial performance can look at www.acs.org, click on the “About ACS” tab at the bottom and then “ACS Financial Information.” Information regarding grants offered by all ACS committees can be found at www.acs.org/getinvolved.

On September 28th, the ACS Younger Chemists Committee in conjunction with the ACS Council Committee on Nominations and Elections will hold a virtual forum presenting the two nominees for President-Elect of the ACS for 2018. The YCC is also initiating the “Catalyze the Vote” campaign to encourage younger ACS members to vote in ACS National elections.

There are now 19 International Chapters and an Asia Pacific Conference of International Chapters is set for November 5-8, 2017.

The ACS Board of Directors approved funding for on-line courses on Laboratory Safety and a New Faculty workshop.

In addition to job interviews, workshops, resume reviews, and mock interviews, the ACS Career Fair now includes a booth staffed by immigration lawyers offering free, expert advice.

The Committee on Safety’s publication “Hazard Assessment in Research Labs” can be downloaded at www.acs.org/safety.

Interesting Statistics

There are now over 5000 people who have joined the American Association of Chemistry Teachers (AACT) launched by the ACS in 2014, up from 3900 last year at this time, over 88% of whom are K-12

(Continued on page 10)

chemistry teachers.

Attendance at the Washington, DC meeting was 12,901, pretty much on par with the 2016 Fall meeting in Philadelphia and considerably down from the record setting of 18,898 at the Spring meeting in San Francisco. This included 7938 regular attendees, 2997 students, and 1068 expo only attendees.

The Committee on Economic and Professional Affairs (CEPA) reported that domestic unemployment for ACS members is slightly up from 2.6% to 2.8% at this time last year, which was the lowest it has been since 2008. The unemployment rate for new graduates remains high, over 12%. This data is all self-reported and represents a modest percentage of ACS members. For more information, see the reports in C&EN.

At the ACS Career Fair there were 364 job seekers, 36 employers offering 90 positions, and 17 recruitment booths in the Expo. Professional “headshots” were again offered to registrants for use in on-line networking. In conjunction with these

activities, as a benefit to members on site, Career workshops were held, along with 248 resume reviews and 137 mock interviews. CAL-ACS members, Bryan Balazs, Mark Frishberg, and Marinda Wu, who are ACS Career Consultants, actively participated in these offerings.

There have now been over 2100 students who have gone through the ACS Scholars program, over 300 of which have gone on to complete a Ph.D. degree.

US students sponsored by the ACS won four gold medals at the Chemistry Olympiad in Thailand.

CS membership had another slight decline from 2016 and now stands at 152,850, including 27,332 International members. The retention rate for US members is 84% and for International members it is 85%.

Submitted by Mark Frishberg, CAL-ACS Councilor, with input from our other Councilors, Past ACS Presidents and our Director-At-Large – September 12, 2017



*2017 ACS National Election Information
President-Elect,*

2018 Bonnie A. Charpentier Cytokinetics, Inc., South San Francisco, CA www.bonnie4acs.org

Willie E. May University of Maryland, College Park, MD <https://www.williemayacs.com>

Directors-at-Large, 2018-2020

Kenneth P. Fivizzani (Retired), Nalco Company, Naperville, IL www.kenfivizzani.com

Wayne E. Jones, Jr. University of New Hampshire, Durham, NH

Bonnie (Helen A.) Lawlor (Retired) National Federation of Abstracting and Information Services, Philadelphia, PA

Barbara A. Sawrey Univ.of California, San Diego, La Jolla, CA

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SEARCHING FOR THAT SPECIAL JOB?

There are many companies and organizations searching for chemical and biochemical personnel to fill important jobs in their organizations.

- Companies for laboratory and management positions
- Universities & Colleges for teaching positions and laboratory personnel
- Hospitals for technical and research personnel

There are several web sites that may help you search for these open positions.

- www.mboservices.net
- <http://www.calacs.org/page.asp?id=22>

Member Election Notice

All members that have an email listed with National ACS in Washington will receive by October 15 an e-mail notice of our local election. It will ask if you want to vote with a paper mail-in or a digital ballot.

Please advise the office if you do not receive that notification. Office@calacs.org)

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TIME VALUE

CALIFORNIA SECTION
AMERICAN CHEMICAL SOCIETY

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Metals by ICP-OES, ICP-MS, A/A

FTIR, UV/VIS Spectroscopy

Ion Chromatography

GC-MS

Polarimetry

DSC, TGA, melting point

KF Aquometry, Titrimetry

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