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Chicago Section

The Chemical Bulletin

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OCTOBER • 2017

CHICAGO SECTION AMERICAN CHEMICAL SOCIETY JOINT MEETING WITH NORTHWESTERN UNIVERSITY DEPARTMENT OF CHEMISTRY

BASOLO MEDAL AWARD LECTURE AND DINNER FRIDAY, OCTOBER 27, 2017

LOCATION
Northwestern University
Technological Institute
2145 Sheridan Rd
Evanston, IL 60208

Parking: For those attending the Refreshments and Introduction as well as the Basolo Medal lecture, parking after 4:00 p.m. is available in the lot across from the Technological Institute at the corner of Noyes Street and Sheridan Road. Parking is also available on the side streets just west of this lot; however, observe the posted signs. Please see Section's website for campus map of additional parking options.

Ryan Auditorium is on the first floor of the Technological Institute and is most easily reached by entering through the main doors facing Sheridan Road. The auditorium room is clearly marked and there will be signs at the entrance to guide you to the room.

The Medalist Lecture is open to the public and admission is free to all those wishing to attend.

The Dinner and Presentation of the Medal will take place at the Allen Center, NU's Kellogg School of Management, 2169 Campus Dr. This is a five minute walk, southeast toward the lake from the Technological Institute.

REFRESHMENTS	**4:15 – 4:30 PM**
INTRODUCTION, HISTORY OF THE BASOLO MEDAL, BASOLO LECTURE (Technological Institute Ryan Auditorium)	**4:30 – 5:30 PM**
RECEPTION (Allen Center)	**5:30 – 6:30 PM**
DINNER (Allen Center)	**6:30 – 7:30 PM**
PRESENTATION OF THE BASOLO MEDAL	**7:30 – 7:40 PM**

Professor Anthony K. Cheetham
Goldsmiths' Professor of Materials Science
Fellow of Trinity College
University of Cambridge, UK

Title: "Hybrid Organic-Inorganic Perovskites"

IN THIS ISSUE

BASOLO MEDAL

The Fred Basolo Medal is given for outstanding research in inorganic chemistry. It was established by the former students of Dr. Fred Basolo in appreciation of his contributions to inorganic chemistry at Northwestern University.

Fred Basolo was born in Coello, Illinois in 1920 and received a B.Ed. at Southern Illinois Normal University. He then went to the University of Illinois where he received a Ph.D. with John C. Bailar, Jr. in 1943. After working on a classified military research project during WWII, he joined the faculty at Northwestern in 1946. In 1980, the University honored him with the Charles E. and Emma H. Morrison Professorship of Chemistry.

Internationally recognized for his original contributions to the syntheses and reaction mechanisms of transition-metal Werner complexes, Basolo did some of the seminal work in the developing fields of organometallic and bioinorganic chemistry. He was also a truly gifted teacher. Many of his former students occupy prominent academic and industrial positions. Basolo influenced students worldwide to study inorganic chemistry and received the 1992 ACS Pimentel Award in Chemical Education. He published 400 scientific publications and four books before his death in 2007.

Basolo's contributions to the profession of chemistry were equally outstanding. He served as President of the American Chemical Society in 1983 and as Chairman of the Chemistry Section of AAAS in 1979. He was a member of the Board of Trustees of the Gordon Research Conferences and its chairman in 1976. Some of the many honors received by Basolo include membership in the National Academy of Sciences, the American Academy of Arts and Sciences, foreign membership in the Italian Academy of Sciences Lincei, as well as the ACS Awards for Research and for Service in Inorganic Chemistry. He received the first Joseph Chatt Medal, the 1996 Willard Gibbs Medal, and was the 2001 Priestley Medalist of the ACS.

Previous Basolo Medalists:

1991	**Ralph G. Pearson**	University of California, Santa Barbara
1992	**Henry Taube**	Stanford University
1993	**Jack Halpern**	University of Chicago
1994	**Harry Gray**	California Institute of Technology
1995	**Lawrence Dahl**	University of Wisconsin, Madison
1996	**Richard H. Holm**	Harvard University
1997	**Kenneth N. Raymond**	University of California, Berkeley
1998	**Malcolm Green**	University of Oxford, UK
1999	**Thomas J. Meyer**	University of North Carolina, Chapel Hill
2000	**James P. Collman**	Stanford University
2001	**M. Frederick Hawthorne**	University of California, Los Angeles
2002	**Stephen J. Lippard**	Massachusetts Institute of Technology
2003	**Daryle H. Busch**	University of Kansas
2004	**Malcolm H. Chisholm**	Ohio State University
2005	**John E. Bercaw**	California Institute of Technology
2006	**Ivano Bertini**	University of Florence, Italy
2007	**Richard R. Schrock**	Massachusetts Institute of Technology
2008	**Robert H. Grubbs**	California Institute of Technology
2009	**Peter J. Stang**	University of Utah
2010	**Roald Hoffmann**	Cornell University
2011	**Gregory J. Kubas**	Los Alamos National Laboratory
2012	**Richard Eisenberg**	University of Rochester
2013	**Marcetta Y. Darensbourg**	Texas A & M University
2014	**Makoto Fujita**	University of Tokyo
2015	**Clifford P. Kubiak**	University of California, San Diego
2016	**Susumu Kitagawa**	University of Tokyo
2017	**Anthony K. Cheetham**	University of Cambridge, UK

PROJECT SEED SCHOLARSHIPS

The Board of Directors for the Chicago Section of the ACS has approved new scholarships. Every year, Project SEED students will now have the opportunity to earn one of three scholarships for college. These scholarships will be awarded over the course of their four-years in attendance at a college of their choice and will be awarded in the range of $6,000 to 10,000 per year for a total of $24,000. Students will need to submit an application, a letter of recommendation from the Project SEED mentor, a poster presentation that the student would give on their project at a Chicago Section Dinner Meeting, and an interview with the committee members. For more information you can contact Paul Brandt at pfbrandt@noctrl.edu.

CHEMED 2017

South Dakota State University in Brookings, SD was the host site for CHEMED 2017. The biennial conference brought together educators from across North America and a few from other reaches around the world. Roughly 300 participants spent five days from July 23-27 exchanging ideas, doing hands-on laboratory experiments and chemical demonstrations. Bassam Shakhashiri, University of Wisconsin, gave the Monday Plenary Session, providing some wonderful demonstrations and talking about the reality of climate change. The Chicago Section's own Lee Marek, the Reg Friesen lecturer, had the audience laughing as we viewed clips from The David Letterman Show. Jean Hein, editor of Chem 13 News magazine, captured the Irwin Talesnick Award with her relentless efforts to invigorate High School Chemistry teachers. Andy Brunning, Compound Interest and a UK high school teacher, showed how he gets his high school students – and the public for that matter – interested in chemistry by looking at the chemistry we come across on a day-to-day basis through easy-to-understand graphics. The Mole Breakfast, The Mole Run, So You Think You Can Demo, and industrial tours to Valero and 3M as well as a trip to the Children's Museum, were other events during the week. The Chicago Section was extremely well represented as we prepare to host the event at North Central College in 2019!

PAUL BRANDT

NORTHWESTERN AND THE BASOLO ACADEMIC FAMILY TREE

Scientists are social creatures. The personal bonds formed during graduate and postdoctoral studies oftentimes feel like family relationships. Academic scientists casually track and diagram these relationships like family trees; one's advisor becomes a "parent" and one's students become "children". This network not only provides a sense of social cohesion, but can also show how patterns of intellectual pursuits and concepts can propagate over time. To help celebrate the Basolo Award, named after famed Northwestern University Inorganic Chemistry Professor Fred Basolo, let's explore some highlights of Basolo's academic genealogy with respect to current Northwestern faculty.

Personal connections to historical greatness are fun to identify. Even with Basolo, one may be impressed to find he "descended" from Kekulé, Bunsen, and others. Perhaps some potent secret to success was passed down from these predecessors, resulting in Basolo's prominence and the excellence of his namesake awardees.

Basolo's influence can still be seen at Northwestern today, as several intellectual direct descendants are on the faculty.

- Prof. **Tom O'Halloran**, (bioinorganic, biophysics, chemical biology, medicine, and more) was a research assistant with Basolo PhD grad Prof. R. Kent Murmann (U. Missouri, Columbia).
- Caltech Prof. Harry Gray, a Basolo graduate and 1994 Basolo Medalist, mentored **Prof. Tom Meade** (bioinorganic, nanochem, biomedical, organometallic, biophysical, and others) as a postdoc.
- Gray mentored several scholars whose legacy includes several Northwestern faculty.
  - o Gray PhD Mark Wrighton (MIT) trained **Prof. Chad Mirkin** (nanoscience, synthetic, bioinorganic, and more) as a postdoc.
    - ■ Wrighton PhD Nate Lewis (Caltech) mentored **Prof SonBinh Nguyen** (inorganic, environmental, life sciences, and others) as a PhD.
    - ■ Wrighton postdoc Tim Swager (U. Pennsylvania) trained **Prof. Julia Kalow** as a postdoc (polymers, physical organic, biomaterials, and more).
  - o Gray postdoc Charles Lieber (Harvard), mentored **Prof. Teri Odom** (nanotechnology, materials, inorganic, biophysical, and others) for her PhD.
  - o Gray PhD Daniel Nocera (Harvard) mentored **Prof. Danna Freedman** as a postdoc (inorganic, solid-state, magnetism, and more)
    - ■ Nocera postdoc Theodore Betley (Harvard) trained **Prof. T. David Harris** (inorganic, coordination chem, bioinorganic, and more) as a postdoc.

Indirect connections in the Basolo family include virtually all of the Northwestern Chemistry faculty, and are therefore not explicitly enumerated here.

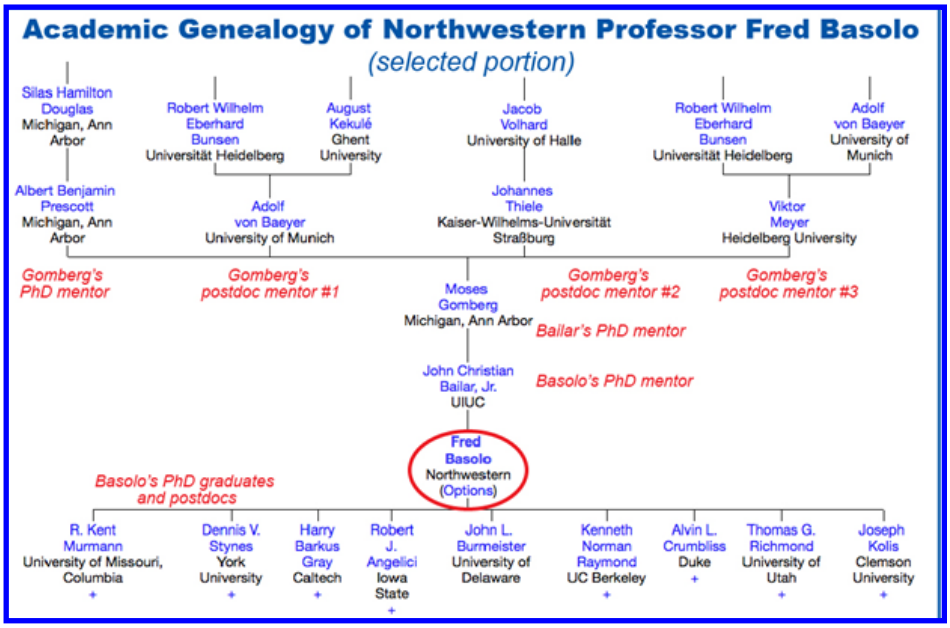
The 2017 Basolo Medalist, Prof. Anthony Cheetham (U. Cambridge, UK), is indirectly part of the Basolo family. He was postdoc advisor for Joseph Hriljac (U. Birmingham, UK), whose PhD advisor was Northwestern Prof. Duward F. Shriver, who co-mentored Thomas Richmond with Basolo. It's convoluted, but the connection is solid.

It is remarkable that so many of Basolo's academic progeny have returned to Northwestern. Surely more will arrive in the future, driven either by statistical probability or, one may hopefully expect, intellectual congruence.

Note: Basolo is shown to have nine grad students who started their own academic laboratories. No postdocs are listed. If any readers here can add to this list, please contribute to AcademicTree.org. and contact Josh Kurutz, Chicago ACS Historian at jkurutz@alumni.caltech.edu.

To read the diagram, first locate Basolo (circled). Above him, you see Prof. John C. Bailar, Jr. (U. Illinois Urbana-Champaign), indicating Basolo earned his PhD in Bailar's lab. Likewise, Bailar earned his PhD under Prof. Moses Gomberg (U. Michigan - Ann Arbor). Neither Basolo nor Bailar held postdoctoral positions, so their direct parental lineage is unbranched. Gomberg, however, held three postdoctoral positions in addition to his PhD work with Prof. Prescott, so a horizontal line connects him to all four of his "parents".

Note that this tree neglects students who thrived in non-academic careers, such as those in industry, government, or non-research educational institutions. It may also be incomplete, considering it requires volunteer contributions.



Examination of academic genealogy has been facilitated in recent years using crowdsourced online tools. The source material for this article is here: https://academictree.org/chemistry/tree.php?pid=52861 (*)

SECTION DUES

Members are urged to pay the $15 Section dues when you get your annual ACS membership dues statement. The Section needs this revenue to help support its many activities.

ILLINOIS SECTIONS OF THE ACS at the ILLINOIS STATE FAIR

The science tent opened on Friday, August 11 in the Conservation World section of the Illinois State Fair. This was our 14th year providing information to the public on science by way of science demonstrations, an expanded hands-on activity area, information for teachers (including a CD with over 200 ChemShorts experiments), and literature and promotional items for the public.

Over 7,900 visitors went through the tent over the nine days that we were open. This year, we closed a day early, with permission, due to the loss of key volunteers leaving for the national ACS meeting in Washington D.C. or traveling to view the solar eclipse. The official Illinois State Fair attendance count will not be available until after the Department of Agriculture's audit on September 30. Fair attendance was affected by the loss of the Colosseum. No repairs were done to the Colosseum after the flood last year, making it unsafe, and resulting in the Colosseum being condemned this year. The Fair never recovered from the increase in ticket and parking fees a couple of years ago as well as the start of school, which has been moved up in recent years as compared to when we began this project.

Our location was the same as last year. We are grateful that there was no significant rain. The design of the tent was similar to last year but the sides of the tent were lifted to combat the heat. Photos from the Illinois State Fair Tent are available at:
http://chicagoacs.net/PhotoShow.php?d=photos/2017_State_Fair

Approximately 52 volunteers worked in the tent from setup to tear down. Six local ACS sections (Chicago, Decatur-Springfield, East Central, Illinois Heartland, Mark Twain and Rock River) participated in this year's fair along with 12 colleges and universities (College of DuPage, Columbia College, Eastern Illinois University, Illinois State University, Lincoln Land Community College, Loyola University, Midwestern University, North Central College, Southern Illinois University at Edwardsville, University of Illinois at Chicago, University of Illinois at Springfield, and University of Illinois at Urbana).

We wish to thank our sponsors: Chicago Section, Decatur-Springfield, East Central Illinois, Illinois Heartland, Joliet, Mark Twain and Rock River Sections of the ACS; AAAS; ACS Committee on Chemical Safety; ACS Office of Science Outreach; ACS Committee on Project SEED; ACS Division on Chemical Education; Charles Cannon; Richard Cornell; Kaycie Dunlap; Fisher Scientific; Ken Fivizanni; Fran Kravitz and Daniel Edelman; Illinois State University, Department of Chemistry; Milt Levenberg; Avrom Litin; NorthStar Credit Union; Oli Dri; United Soybean Board; and Wizardcraft, .

We also wish to thank our planning committee members for their hard work throughout the year. They are Harsh Bapat, Charles Cannon, Karen Cochran, Fran Kravitz, Avrom Litin, Craig McLauchlan, Milt Levenberg, Ellis Moore, Frank Salter, and Linghong Zhang.

The 2018 Illinois State Fair is just around the corner. We will be holding a planning meeting within the next couple of months, and we are always looking for new members to join the planning committee. All meetings are by conference call. Won't you join us and become part of this growing outreach program. Please contact Fran Kravitz at fk1456@sbcglobal.net if you are interested.

Fran Kravitz and Milt Levenberg
Co-Chairs of the Illinois Sections of the ACS State Fair Project

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CHEMSTRY WEEK 2017

Come celebrate Chemistry Week with the Chicago Section ACS at Malcolm X College in Chicago on Saturday, October 21! The Chemistry Week program is scheduled to begin at 10 am and should conclude around 3 pm. This year's theme is CHEMISTRY ROCKS! Chemistry Week will focus on geochemistry.

Chemistry Week is an outreach program of the ACS to communicate the importance of chemistry to our quality of life. We are looking for universities, government agencies and industrial partners to participate in this event by hosting hands-on activities or displaying their technology to the general public. Tables are free and this would be a chance to showcase your organization to the community and allow the public to interact with chemists. It is a win-win situation for everyone. All hands-on activities must be approved prior to the event (safety is a first).

We are also looking for volunteers to help with the event. It is both a fun and rewarding event for everyone. Lunch will be provided free of charge for volunteers and exhibitors. Please contact the Chicago Section Office at chicagoacs@ameritech.net to sign up for a table and submit your exhibit ideas or to volunteer. Make sure to put "Chemistry Week 2017" in the subject line.

So SAVE THE DATE----Saturday, October 21 Chemistry Week at Malcolm X College in Chicago.

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CHAIR'S COLUMN SECTION ELECTION TIME

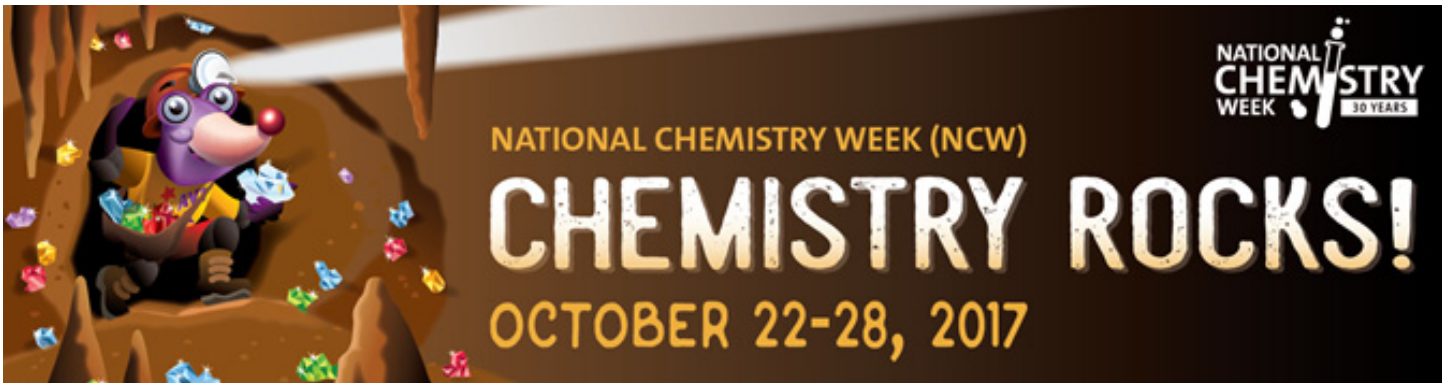
Did you know that less than 10% of Chicago Section ACS members cast a ballot each year during the Section's election? That number keeps going down. I think that is one of the saddest facts about our Section. It is not unusual since most local and national ACS elections have a very low number of ballots returned. I have often wondered why. Is it because members don't know the candidates on the ballot or is it because members don't care. I would hate to think our members don't care since these individuals will be making decisions for you on the Section's activities as well as how members' dues are spent.

One thing I have begun to notice this year is more and more members, who have never participated in Section activities such as a monthly program meeting, are beginning to attend events. I hope it is for our great programming and our new format of streaming meetings to satellite sites. No matter what the reason is, as Martha Stewart says "This is a good thing". It lets me know that we have members who care and are interested in the Section.

So, if the reason is that you don't know the candidates then come out to Chicago Section events and meet the candidates on the ballot. The Section is always looking for members to become active on committees and the Board. That is how those on the ballot got recognized by the nominating committee. Remember that we need member involvement to grow.

Prove me wrong during this Chicago Section election and vote! Show us that you care about your local Section. It would nice to see the number of returned ballots double in size to 20% just like our monthly meeting attendance has doubled. **REMEMBER that all electronic ballots as well as paper ballots must be in by noon on October 27.**

Fran Kravitz
2017 Chicago Section ACS Chair
fk1456@sbcglobal.net



Saturday, October 21, 2017 — 10:00 am to 3:00 pm
Malcom X Community College
1900 W. Jackson, Chicago, IL 60612

Free Admission - All ages welcome

Demonstrations, Experiments, Exhibits, Tours and Presentations
For poetry Contest Rules and Entry Form see:
http://chicagoacs.org/content.php?page=Chicago_Section_Community_Activities
Please email to: **chicagoacs@ameritech.net**; Deadline: 22 October 2017
Location and How to Get There:

Campus Map

Public Transportation:	The closest CTA station is the Illinois Med Center Blue line stop. The CTA 50 (Damen) and 126 (Jackson) busses stop there.
Driving:	The Damen exit North from the Eisenhower (I-290) Expressway
Parking:	Parking available in the main garage off Jackson (East of Damen).

Sponsored by

CITY COLLEGES of CHICAGO
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Education that Works

National Chemistry Week

2017 CHEMLUMINARY AWARDS

The 19th Annual ChemLuminary Awards celebration was held during the ACS National Meeting & Exposition in Washington, D.C. The ceremony gave members the opportunity to recognize local sections, technical divisions, regional meetings, and international chemical sciences chapters for their tireless efforts and work in promoting chemistry and the chemical sciences during 2016. The theme of this year's event was, "Our Volunteers and Their Monumental Impact". At the celebration, the Chicago Section won two awards:

Outstanding Performance by a Local Section (Very Large Size)

The Chicago Section was recognized by the National ACS for its innovative approach to programming which was implemented in 2017. The Section provides live streaming of monthly program meetings to at least two additional remote sites so that many more of the 4,000 members will be able to participate and become active in Section activities by substantially decreasing commuting time. Box lunches have also replaced more expensive traditional dinner meetings.

Committee on Chemistry and Public Affairs, ACS President's Award for Local Section Government Affairs

The Chicago Section has received this award 3 out of the past 4 years. This year's award recognized the Chicago Section's work with the Metropolitan Water Reclamation District of Greater Chicago (MWRD), an often overlooked government entity that provides wastewater treatment and storm water management to over 5 million people in Chicago and its 125 surrounding communities. Activities included a community meeting with the MWRD Executive Director to discuss its biosolids program, lectures by the Director of Research and a microbiologist, and a tour of an MWRD treatment plant.

Congratulations to the Chicago Section for being recognized at the National level for its great work.

REPORT OF COUNCIL MEETING IN WASHINGTON

The 254th National Meeting of the ACS was held in Washington DC, from August 20 – 24, 2017. The theme of this meeting was "Chemistry's Impact on the Global Economy" The Chicago section was represented at Council by nine councilors and one alternate councilor: Charles Cannon (Local Section Activities), Ken Fivizzani (Community Activities), Russell Johnson (Chemistry and Public Affairs), Michael Koehler (Chemical Safety), Margy Levenberg (Meetings and Expositions), Milt Levenberg (Senior Chemists), Inessa Miller, Barbara Moriarty (Ethics), Margaret (Peggy) Schott and Susan Shih (Education). The national activities of each are given, as I know them.

Finances: The Society's 2017 Probable 1 Projection calls for a Net from Operations of $25.3 million. This is $2.1 million favorable to the Approved Budget and $1.6 million higher than 2016. Total revenues are projected to be $553.0 million, which is $2.4 million unfavorable to the budget, but 5.0% higher than the prior year. Total expenses are projected at $527.6 million, which is $4.5 million favorable to the budget, and 4.9% higher than 2016. The ACS is expected to finish the year meeting 4 out of the 5 budgetary guidelines. The Society is expected to miss the fund balance ratio guideline.

Governance: The Council elected councilors to serve on the Committee on Committees, the Council Policy Committee and the Committee on Nominations. For the Committee on Committees – Mitchell Bruce, Jetty Duffy-Matzner, Martha Holloman, Diane Krone and Robert Pribush were elected for three-year terms (2018-2020). For the Council Policy Committee – Karl Booksh, Mark Frishberg, Zaida Morales-Martinez and Linette Watkins were elected to full three-year terms, while Ella Davis was elected to a one-year term. For the Committee on Nominations and Elections – Michael Appell, Neil Jespersen, Mamie Moy, Eleanor Siebert and Julianne Smist were elected to full three-year terms (2018-2020).

The candidates for the fall 2017 ACS national election for President-Elect 2018 are Bonnie A. Charpentier and Willie E. May. Candidates for Directors-at-Large, who are elected by Council, include our own Ken Fivizzani.

Meetings and Expositions: The attendance at the meeting was reported to be 12,904 with 2,997 students and 7,938 attendees. Once again, as part of their sustainability plan, only the mobile app was available. M&E recommended that the Early Member Registration fee for national meetings in 2018 be $475; this was approved by the Board of Directors.

Committee on Economic and Professional Affairs (CEPA): The Committee on Economic and Professional Affairs (CEPA) reported that the unemployment rate for member chemists was 2.8%, down from a high of 4.6%; this compares to the 4.4% total unemployment rate. The on-site career fair at the meeting had 364 job seekers and 36 employers.

Community Activities: The theme for National Chemistry Week (NCW), to be held this October, is "Chemistry Rocks." This is the 30th anniversary of National Chemistry Week. In 2018, Chemists Celebrate Earth Week (CCEW) will be one week long. The inaugural theme of CCEW will be "Diving into Marine Chemistry."

Local Section Activities: The Chicago section won the Outstanding Performance by a Local Section - Very Large Size Category award at the ChemLuminary Awards Ceremony. In addition, at the ChemLuminary Awards ceremony, the Chicago section won the ACS President's Award for Local Section Governmental Affairs.

If you have any questions and/or comments about the above actions, please contact me or one of your other representatives. You may contact me by email (barbaramoriarty0@gmail.com).

BARBARA MORIARTY

SOMEONE YOU SHOULD KNOW

I chose David Crumrine as my subject in this month's column in honor of National Chemistry Week. I think I first met Dave at a Chemistry Week committee meeting years ago at Tom Kucera's house. At the time, Tom Kucera was the chair of the Chemistry Week Committee or, as it was called in those days, Chemistry Day. Dave was Tom's right hand in planning the event and developing activities for high school chemistry teachers at Chemistry Day. Dave is one of those people who never seems to have a bad thing to say about anyone and is always very eager to help. Dave is also someone who knows many experts in chemistry and the ideal person to ask when looking for a speaker. Dr. Crumrine is one of the ten Chicago Section's Councilors, is Co-Chair of Chemistry Week, and was Chair of the Chicago Section in 2008.

Dr. Crumrine was born in the South while his father was in the Navy. Dave was not the first in his family to go into science. Both his mother and father were science and math education majors in the 30s, but neither could find jobs in that area. His mother went to Ohio State University to become certified to teach Home Economics. At OSU, his father became certified to teach Shop and Mechanical Drawing. Their initial jobs were in those subjects, but they subsequently also taught science and math courses. Dave's younger sister and her husband earned PhDs in Organic Chemistry; you could call it a family tradition.

Many factors went into Dave's decision to become a chemist. Ohio had statewide high school tests in many subject areas. His mother and father would invite their stronger students, who planned to take the Chemistry, Physics, Algebra, and Geometry tests, for dinner and some practice. Dave and his sister would listen and learn. Dave felt that chemistry was interesting and fairly straightforward. Dave had four informative summers. The first involved an NSF summer Chemistry program for high school students at Northern Illinois University. The second was at a music colony in upstate New York. The third was doing research with Al Padwa at Ohio State and the fourth involved summer research with John D'Amico of Monsanto in Nitro, West Virginia. Dave had considered farming or becoming a musician, but lucky for us he chose chemistry. He states that to this day he still has interests in farming and music.

Dave earned his undergraduate degree from Ashland College in chemistry and math with a minor in physics. He then went on to the University of Wisconsin in Madison to earn his Ph.D. under Howard E. Zimmerman where he studied organic photochemistry. Dr. Crumrine did a postdoc with Herbert O. House at MIT and Georgia Institute of Technology doing early work on metal ion controlled aldol reactions.

Dr. Crumrine started at Loyola University Chicago in 1972 and was a chemistry professor for 43 years, including a few years in administrative positions in the Office of Research Services, the Institute of Environmental Sustainability, and as Chemistry Department Chair. He feels that his life as a faculty member was always changing; although classes were repeated, each year the presentation was changed and new students had novel questions. Grants, papers, and editorial reviews were written and submitted, but their details were always different.

Dave took two sabbaticals; the first was a 12-month leave involving NMR research. He spent 4 months with Hiizu Iwamura at the Institute for Molecular Science in Okazaki, Japan. The reminder of the time was with Gordon Lowe at the Dyson Perrins Lab in Oxford University. His second sabbatical was a semester with Manuel Diaz at the Loyola University Cancer Center. I asked what was his favorite position or project and he said that it was a difficult call because he was always deeply involved with current students, their research projects, their progress, and their goals. He has always enjoyed NMR research, but his last project on photoinitiated destruction of cancer cells brought back his photochemistry experience and involved the most collaboration of any of his projects. This research initiated a whole new area of learning, and Dave felt that it had been very rewarding.

Dave became an ACS member as part of an undergraduate award and has been a member for over 52 years. Professor Carl Moore encouraged him to become active in the Chicago ACS Section. He has served on a number of committees and has facilitated a number of section meetings and events at Loyola University. Dave has volunteered twice at the Illinois Sections of the ACS State Fair tent. He is a very active Section Board member, and since 1997 he has collaborated on Chemistry Week with most of the people on the Chicago Section Board including Tom Kucera, Irene Cesa, and Avrom Litin. Dave has also worked on four Great Lakes Regional ACS meeting committees. Nationally, he has helped organize symposia at National Meetings on Group 6 NMR research and a symposium for Howard Zimmerman. As a Councilor, he has served on the Publications committee for two years, the Committee on Chemical Safety for nine years, and he is currently on the Constitution and Bylaws committee.

Dr. Crumrine has been married to Sheila for almost 20 years. Dave had married earlier while in graduate school. Their combined family now includes four sons and, so far, two granddaughters. The boys are all interested in science; and two of their sons work in science areas. Dave's principal hobby has been singing in church choirs and the North Shore Choral Society. He has always been interested in family life, sustainability, reading, and cars. Very few of us know that Dave's other interest besides chemistry is cars. He finds history has become more interesting since he has been retired, At the present time, they have no pets but they had a dog while their children were growing. He states that now they just enjoy their children's pets.

I asked Dave who he might want to have lunch with dead or alive. Dr. Crumrine states that he has been very lucky to have talked and worked with a good number of outstanding scientists. The one scientist he would have liked to visit with would be Richard Feynman. He feels this would have been a unique experience.

Dave's final words of wisdom to us are: "The ACS, both locally and nationally, is a great organization to help you enlarge your research interests as well as your circle of professional collaborators, colleagues, and friends."

Fran Kravitz

The mission of the Chicago Section of the ACS is to encourage the advancement of chemical sciences and their practitioners.

ACS SAFETY RESOURCES FOR CHEMISTRY EDUCATORS

In 2017 the American Chemical Society incorporated safety as a core value in its Strategic Plan for 2017 and Beyond. In combination with the other core values of the society, the ACS strategic plan supports the fundamental responsibility of the society to safeguard the health of the planet through chemical stewardship. Recognizing the importance of professionalism, safety, and ethics for the well-being of its members and for the success of the chemical enterprise in all facets of education, research and development, the ACS empowers its members and governance structures to provide authoritative and comprehensive safety-related information. The following ACS resources focus on safe chemical practices for teachers and students in educational institutions.

Safety in Academic Chemistry Laboratories

Released in Spring 2017, this newly updated 8th edition of the classic publication describes best safety practices for first- and second-year college chemistry students. The book emphasizes safety knowledge, reviews the basic principles of the Globally Harmonized System (GHS) for classifying chemical hazards, and provides a convenient protocol for assisting students in developing a risk-analysis approach to minimize risk and prevent accidents in chemistry laboratories. All of the basics are also covered, including the types and uses of personal protective equipment, hazards and risks for common laboratory techniques, safety equipment, and emergency response procedures. The hard copies of the booklet can be purchased at $10 from the ACS online store at www.acs.org/store.

Guidelines for Chemical Laboratory Safety in Secondary Schools and Guidelines for Chemical Laboratory Safety in Academic Institutions

These twin or companion volumes for high school and college students, respectively, were produced in 2016 by a special safety education task force convened by the Committee on Chemical Safety and including representation from the Committee on Professional Training and the Division of Chemical Health and Safety. The booklets focus on specific learning objectives to help students and faculty move beyond formulaic safety rules in order to integrate a knowledge-based approach for chemical safety into the chemistry curriculum. The guidelines make extensive use of the so-called RAMP protocol for analyzing hazards and risks and keeping safety in the forefront of students' work in the laboratory. The basic principles of RAMP are: Recognize hazards; Assess the risks of the hazards; Minimize the risks of the hazards; and Prepare for emergencies from uncontrolled hazards. The hard copies of the booklet can be purchased at $3 each from the ACS online store at **www.acs.org/store.**

Hazard Assessment in Research Laboratories

Originally published as a pdf document, this seminal publication has been transformed into a fully interactive website to familiarize researchers with the fundamentals of hazard assessment. The online guide offers a number of ways to conduct hazard assessments. Practice exercises illustrate a variety of tools and provide templates and examples that can easily be adapted for use in educational labs.

Safety Guidelines for Chemical Demonstrations

Appropriate physical and chemical demonstrations in the classroom or in a public venue have both educational and motivational value and are a long-standing pedagogy in chemical education. Individuals planning chemical demonstrations have a responsibility to follow and document safe laboratory practices for each demonstration. These guidelines, published by the Division of Chemical Education in 2016, are based on current best practices and provide a checklist of key issues for demonstrators to assure that chemical demonstrations are conducted safely and without incident.

"Safety Data Sheets: Information that Could Save Your Life"

Safety Data Sheets are the foundation of the Globally Harmonized System for classifying, labeling, and communicating the hazards of chemicals. Make Safety Data Sheets a part of your chemistry instruction and teach your students how to assess hazards related to chemicals with this article from the ChemMatters magazine.

Irene Cesa

STREAMING TECHNOLOGY TEAM NEEDED

The Chicago Section is continuing to move forward with streaming our monthly program meetings from a primary meeting location to several satellite sites. The program started on January of 2017, and all meetings this year will be streamed, with the exception of May (Willard Gibbs Award) and October (Basolo Award). This program is showing great success; we have seen our attendance double at monthly program meetings. In September, we initiated the use of live video streaming.

The success of this program is due to the technical expertise of Milt Levenberg and his staff of Richard Cornell and Russ Johnson. It is time to expand this program and develop a team of chemists who can be at one or two program meetings a year to help set up the equipment, run the equipment during the meeting and troubleshoot when necessary.

Please contact Fran Kravitz at fk1456@sbcglobal.net if you are interested in volunteering on the Streaming Technology Team. You will receive all the necessary training in order to feel comfortable with our equipment. We are looking for a team of 5 to 10 people to carry this technology on into the future. Remember the commitment is for only one or two meetings per year.

Fran Kravitz

CALENDAR

October 10-13: Laboratory Management Conference sponsored by The Association of Laboratory Managers (ALMA), San Diego, CA. See details at http://labmanagers.org/2017-annual-conference/.

October 13-14: MACTLAC Annual Meeting at Monmouth College. This years' theme is Expanding the Curriculum. For more information see details http://esr.monmsci.net/wiki/index.php/MACTLAC_2017

October 14 and October 28: Volunteers needed for the Chicago Section ACS Boy Scout of America's Chemistry Merit Badge program, noon to 1 p.m. on either Saturday, October 14 at Oakton Community College in Des Plaines or Saturday, October 28 at College of Lake County in Vernon Hills; to discuss their chemistry career. Contact Fran Kravitz at fk1456@sbcglobal.net if you are available to help.

October 21: National Chemistry Week at Malcolm X Community College. **See details in this issue.**

October 27: Basolo Medal lecture with Dr. Anthony Cheetham at Northwestern University. **See details in this issue.**

October 27-28: Illinois Science Teachers Association Conference, Northern Illinois University. For more information, visit http://ista.wildapricot.org/conference.

November 17: Chicago Section Dinner Meeting with Dr. May Berenbaum, Professor of Entomology, University of Illinois – Urbana Champaign.

December 15: Chemistry Careers and the Future of Chemistry Symposium, 8:30 am – 4:00 pm at North Central College.

December 15: Chicago Section Dinner Meeting; Dr. Maria Bakalis' *Discovering Marie Curie* at North Central College.

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