



Division of Nuclear Chemistry and Technology
American Chemical Society

NUCL WWW Home Page – <http://www.nucl-acs.org>

NEWSLETTER

April 2015

Newsletter Editors: Lætitia Delmau & Andrew Klose
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FROM THE CHAIR – *Dave Hobart*

The 2015 Spring National ACS meeting held in Denver, CO March 22-26 with the theme “Chemistry of Natural Resources” was a great success. The weather was quite mild for March but a light snowfall one day reminded us that we were at the foot of the Rocky Mountains in spring. The technical program included 4 NUCL symposia and 2 symposia co-sponsored by NUCL with the Industrial & Engineering Chemistry Division and the Young Chemists Committee. The NUCL Symposia included: The Seaborg Award in Nuclear Chemistry; Nuclear Forensics; Convergence of Theory & Experiment in Heavy Element Chemistry; and 50th Anniversary of the NUCL Division, for a total of 140 oral presentations. The co-sponsored symposia were: Uranium in Seawater with I&EC Division and Chemical Tales of Success: Helpful Tips for Younger Chemists with the YCC. The YCC symposium was well attended with about 45 participants. The Seaborg Award symposium was very well attended by many participants who honored Heino Nitsche’s contributions to science and his legacy of educating the next generation of nuclear scientists.

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Alternate Councilor

DAWN A. SHAUGHNESSY, 2015-2017

Members-at-Large, Executive Committee

SUZANNE LAPI, 2015-2017

RICHARD ROBERTS, 2013-2015

His spouse, Ms. Martha Boccalini was the symposium special guest. Tuesday evening was the ACS Awards banquet where I had the honor of bestowing the Seaborg Award for Nuclear Chemistry to Ms. Boccalini, who accepted for the late honoree. Many of the papers presented at the 50th Anniversary Symposium have the potential of becoming articles for the upcoming special issue of the Actinide Research Quarterly dedicated to the 50th Anniversary. Among the many highlights of the 50th Symposium was the presentation by Paul Mantica of the NUCL Division Strategic Plan for 2015 through 2020. The Strategic Plan is now posted on the division website www.nucl-ac.org. The NUCL Executive Committee met Sunday evening. The Division Business Meeting was Monday evening followed by the NUCL Division Social Hour.

The 2015 Fall National ACS meeting will be in Boston, Massachusetts August 16-20, 2015 with the theme, "Innovation from Discovery to Application." The NUCL 50th Anniversary celebration will continue in Boston with the following symposia: Analytical Chemistry in Nuclear Technology; General Topics in Nuclear and Radiochemistry; and Transformation and Transport of Radionuclides in the Environment. NUCL is also co-sponsoring the Division of Industrial & Engineering Chemistry Fellow Symposium in Honor of Kenneth L. Nash. The Program Chair for the Boston meeting is Jeff Terry. Abstract submission for Boston is closed. Preliminary information for the Boston meeting can be found at: <http://www.acs.org/content/acs/en/meetings/fall-2015.html>.

The 2016 Spring National ACS meeting will be held in San Diego, California, March 13-17. If you are interested in organizing a symposium for this meeting please contact Dave Hobart (dhobart15@gmail.com) or Paul

Benny (bennyp@wsu.edu). The Program Chair for the San Diego meeting is Amy Hixon (amy.hixon.2@nd.edu) who can assist with programming questions as well.

NSAC Updates

The Nuclear Science Advisory Committee (NSAC) met in Gaithersburg, MD on April 3rd. In attendance from NUCL Division were Suzanne Lapi and myself. On the agenda were reports from the nuclear science federal funding agencies (U.S. Department of Energy and National Science Foundation) and operating facilities. Key in these presentations was a confirmation that the ACS-NUCL Nuclear Chemistry Summer School would be funded for this upcoming year. NSAC was presented with new charges on Molybdenum-99 and Neutrinoless Double Beta Decay. Also were presentations from the results of the NSAC Isotope committee (see below) and Electron-Ion Collider (EIC) costing committee. The NSAC committee also discussed the Long Range Plan (LRP). The plan is for the LRP Writing Group to complete its work by spring 2015, with submission of the final LRP document by the October 2015 deadline. Paul Mantica is serving on the LRP Writing Group as the NUCL Division representative. Updates on the LRP process will be provided on the American Physical Society's Division of Nuclear Physics website: www.aps.org/units/dnp/. The U.S. DOE Isotopes Subcommittee is working on a Long Range Plan as well. The draft report of the Subcommittee ("Meeting Isotope Needs & Capturing Opportunities for the Future – The 2015 Long Range Plan for the DOE-NP Isotope Program") was discussed in Gaithersburg. The subcommittee previously solicited input on the use of Isotopes from the broader nuclear science community. Paul Mantica delivered a presentation of the needs of NUCL division members to the subcommittee in January. The Subcommittee

Chair is Larry Cardman (cardman@jlab.org). Several NUCL members are participating on this subcommittee, including Suzanne Lapi, Dave Robertson, Mark Stoyer, and Scott Wilbur.

Volunteers Needed

The Division has many for service opportunities for members to serve on committees. These include positions outlined in the Division Strategic Plan and on other subcommittees. If you are interested in learning more about ACS governance and playing an active role in your division this is an excellent way to expand your network and raise awareness on issues important to NUCL members. Please contact Dave Hobart (dhobart15@gmail.com) to volunteer.

NUCL Membership Drive

The NUCL Division has grown considerably over the past ten years from just over 700 members to more than 1000 for the past two years. This reflects a healthy resurgence of interest in nuclear and radiochemistry and it has allowed our Division to participate at a new level within the ACS – with more representation on the governing council and more funds available for Divisional activities. This year our membership continues to hover around 1000, which includes both students and full members, however we were in danger of falling below the 1000 members mark at the time of the next census in May 2015. To avoid dropping below 1,000 members and retaining our two councilors, the NUCL Division Executive Committee started a limited-time ACS/NUCL Division membership drive for students and waived the membership fees for the first fifty new members who signed up by April 15th. The membership drive was very successful with the concerted efforts of Graham Peaslee and Alice Murray and though the recommendation by Donovan Porterfield.

UPCOMING PROGRAMMING- *Dave Hobart, Jenifer Braley, Jeff Terry, Amy Hixon*

Fall 2015 – Boston, MA – August 16-20, 2015. A History of Innovation: From Discovery to Application

General Topics in Nuclear & Radiochemistry (Jenifer Braley, CSM, jbraley@mines.edu)

Analytical Chemistry in Nuclear Technology (Organizers: Charles Coleman, SRNL, charles02.coleman@srnl.doe.gov, David Hobbs, SRNL, David.Hobbs@srnl.doe.gov; Herman Cho, PNNL, HM.Cho@PNL.gov, PNNL; Dominic Peterson, LANL, dominicp@lanl.gov)

Transformation and Transport of Radionuclides in the Environment– Maxim Boyanov, ANL, mboyanov@anl.gov; Ken Kemner, ANL, kemner@anl.gov; Edward O'Loughlin, ANL, OLoughlin@anl.gov.

Co-sponsored with FLUO Division: Radiopharmaceutical Design and Applications– Alan Packard, Harvard Univ, Alan.Packard@childrens.harvard.edu

Co-sponsored with I&EC Division: Fellows Symposium in Honor of Kenneth Nash- Peter M. Smith, Westminster College, smithpm@westminster.edu

Spring 2016 – San Diego, CA – March 13-17, 2016

General Topics in Nuclear & Radiochemistry (Organizer TBD)

Challenges in Modeling Actinide Chemistry (Organizers: Aurora Clark and Enrique Batista)

Young Investigators (Organizers TBD)

Several other concepts in development

Radiochemistry Infrastructure – cooperative with the Health Physics Society

Archaeometry (contact Dave Robertson)

PACIFICHEM 2015

The 2015 International Congress of Pacific Basin Societies (PACIFICHEM) will take place in Honolulu, Hawaii December 15-20, 2015. The preliminary program for the congress is available at: www.pacificchem.org/symposiadesc2015/.

Housing reservations opened February 1, 2015, and Registration will start on June 25, 2015. NUCL Division has submitted an Innovative Grants Proposal to support student participation at this conference. For more information on PACIFICHEM please visit: www.pacificchem.org.

PLUTONIUM FUTURES – THE SCIENCE 2016

The Plutonium Futures conference will be held in Baden-Baden, Germany, September 18-22, 2016. This conference is a series of conferences to provide an international forum for the presentation and discussion of current research on the physical and chemical properties and environmental interactions of plutonium and closely-related actinide elements. The conference is co-sponsored by the European Commission (EU), the Commissariat à l'Energie Atomique et aux Energies (CEA), France and the Atomic Weapons Establishment (AWE), United Kingdom. The first announcement is forthcoming.

COUNCILORS' REPORT - *Graham Peaslee and Silvia Jurisson*

Portions of the following edited summary were provided by the Office of the Secretary and General Counsel on key actions and discussions of the ACS Council and Board of Directors at the 2015 Fall National Meeting in Denver.

Actions of the ACS Council:

Candidates for the Fall 2016 ACS national elections

- By electronic ballot, the Council selected G. Bryan Balazs and Allison A. Campbell as candidates for 2016 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.

- By electronic ballot, the Council selected two candidates to run for election as Directors from District I and District V on the Board of Directors for the term 2016-2018. The council selected Thomas R. Gilbert and Laura E. Pence as District I candidates; and John E. Adams and Kenneth V. Fivizzani as District V candidates. Ballots will be distributed on October 2, 2015 to all ACS members in District I and District V for election of a Director from each District.

- The Committee on Nominations and Elections announced the selection of the following candidates for Directors-at-Large for 2016-2018 terms: Willem R. Leenstra, Ingrid Montes, Mary Jo Ondrechen, and Thomas W. Smith. The election of two Directors-at-Large from among those candidates and any selected via petition will be conducted in the fall.

2016 Member Dues

The Council voted to set the member dues for 2016 at the fully escalated rate of \$162. This rate is established pursuant to an inflation-

adjustment formula in the ACS Constitution and Bylaws.

National Meeting Concerns

Following a discussion on the revenue supporting National Meetings, the ACS Council respectfully requested that the Board of Directors delay the implementation of the technical meeting additional fee to the meeting registration fee, until the Board presents an analysis (preferably at the Boston national meeting) of the projected break even fee, including and excluding the net revenue from the National Meeting Exposition. The issue is that the national meetings have been losing revenue for the past few years.

New International Chemical Sciences Chapters

On recommendation of the Committee on International Activities and subject to the concurrence of the Board of Directors, the Council voted to approve petitions to charter the India International Chemical Sciences Chapter and the Taiwan International Chemical Sciences Chapter.

Highlights of Committee Reports:

Council Policy (CPC)

As required by the Society's Bylaws, CPC has set the divisors which will be used to determine how many Councilors each Local Section and Division is entitled for 2016-2019. We were officially notified last week that the new number of members per technical division that will be represented by a councilor will be 655. This is due to a reduction in ACS membership in general, but the NUCL Division is one of only a few ACS technical Divisions that has shown growth in the past few years!

Nominations and Elections (N&E)

The committee introduced the candidates for Directors-at-Large, 2016-2018: Willem R. Leenstra (Green Mountain Section), Ingrid Montes (Puerto Rico Section), Mary Jo Ondrechen (Northeastern Section), and Thomas W. Smith (Rochester Section).

N&E solicits Councilors' input of qualified individuals for President-Elect and/or Directors for future consideration. Suggestions may be sent to nomelect@acs.org.

Budget and Finance (B&F)

In 2014, ACS generated a Net from Operations of \$17.9 million, which was \$4.2 million favorable to budget. Total revenues were \$499.0 million, \$0.7 million or 0.1 percent higher than budget. Expenses ended the year at \$481.1 million, \$3.5 million favorable to the budget. This variance was largely attributable to a continued emphasis on expense management across the Society. Despite favorable operating results, the Society's financial position weakened in 2014, with Unrestricted Net Assets declining \$62.3 million, to \$144.7 million at year-end. This decline was the result of a significant accounting charge related to the Society's two closed postretirement benefit plans. Additional information can be found at www.acs.org, at bottom, click 'About ACS', then 'ACS Financial Information'. There you will find several years of the Society's audited financial statements and IRS 990 filings.

Education (SOCED)

SOCED reported that more than 1,900 individuals have joined the American Association of Chemistry Teachers (AACT) which launched last year, 88 percent of whom are K-12 teachers of chemistry. The Dow Chemical Company was announced as the Sole Founding Partner of AACT with a gift of \$1 million.

Science (ComSci)

ComSci has collaborated with several ACS committees to develop five public policy statements which were approved by the Board in December 2014. More recently ComSci led the development of a new draft ACS policy statement on hydraulic fracturing, which will be considered by the Board. Current collaborations include revising ACS policy statements on energy, climate change and forensic science.

Committee on Meetings and Expositions (M&E)

M&E recommends that the Early Member Registration Fee for 2016 national meetings be \$415, per the National Meeting Long-Range Financial Plan.

As part of the continuing ACS sustainability effort and to encourage the use of the ACS mobile app and online program, M&E has decided to discontinue free distribution of the hard copy program book starting in 2016. Those who pre-register for the meeting may purchase a copy of the program book for \$10 (pick up on site), and copies will be available at the meeting for \$20. The PDF version of the national meeting program will be more prominently displayed on the ACS website for those who would like to print portions for themselves.

M&E reported on the attendance at the Denver ACS meeting as of Tuesday evening, March 24:

Attendees	7,307
Students	5,141
Exhibitors	847
Expo only	360
Guest	285
Total	13,940

Committee on Divisional Activities (DAC)

National meeting attendees were recently surveyed for their views on the Society's policy governing the use of devices to capture and/or disseminate content delivered at our

meetings. While expressing support for the policy, the respondents also expressed interest in amending the current policy to permit presenters – at their discretion – to authorize audience members to capture and disseminate content.

Committee on Economic and Professional Affairs (CEPA)

CEPA reported the 2014 New Graduate Survey Results which show the unemployment rate for new graduate chemists has dropped from 14.9 percent in the 2013 survey to 12.4 percent as of 2014. The drop is principally due to more new bachelor's degree chemists finding employment. ACS members experienced three successive years of lowered unemployment, which could hint at a positive outlook for chemists in coming years. While unemployment is down, salaries have been overall stagnant. The ACS Career Fair had 715 seekers, 27 employers, 85 positions, and 10 booths. The Virtual Career Fair had 918 seekers, 6 employers, and 38 positions. Additionally, 368 resume reviews, 218 mock interviews, and 23 Career Pathway workshops were conducted during the meeting.

Women Chemists (WCC)

WCC celebrated ten early-to-mid-career women chemists as recipients of the Fourth Annual WCC Rising Star Awards, and eight WCC/Eli Lilly Travel Grant awardees. WCC is also collaborating with Merck to develop a new Research Award that will fund eight women graduate students to present their research at the fall national meeting in Boston.

Members of WCC have been involved as contributing authors and editors for the second more diverse and inclusive edition of "Mom, the Chemistry Professor" being published by Springer.

Professional Training (CPT)

At this meeting, CPT reviewed 39 periodic reports from currently approved programs and held conferences with two departments beginning the process of applying for ACS approval. CPT also reviewed four site visit reports and approved three new programs. There are currently 681 colleges and universities offering ACS-approved bachelor's degree programs in chemistry.

The new 2015 ACS Guidelines for Bachelor's Degree Programs were approved at CPT's winter meeting and recently published on the ACS website.

International Activities (IAC)

At this meeting, the committee received, reviewed, and approved annual reports from ACS International Chemical Sciences Chapters in Hong Kong, Hungary, Malaysia, Romania, Saudi Arabia, and Shanghai. Additionally, the committee reviewed and approved new chapter applications initiated by members in Brazil, Nigeria, Peru, and the United Arab Emirates.

Environmental Improvement (CEI)

At this meeting CEI awarded Local Section Sustainability Grants to three Local Sections: Cornell, Kalamazoo, and Midland.

The committee has established working relationships with several technical divisions. The committee cosponsored with Division of Chemical Education the symposium featuring the winners of the ACS-CEI Award for Incorporation of Sustainability into Chemical Education. CEI and the Division of Environmental Chemistry have jointly established a project to provide grant support for programming around climate change at regional meetings.

CEI continues to review existing ACS policy statements, and at this meeting approved recommendations to the Board to establish new public policy statements on Hydraulic

Fracturing and on Water Treatment and Conservation.

Chemistry and Public Affairs (CCPA)

The committee highlighted the power of ACS member engagement in government affairs by relating the bipartisan effort, despite partisan roadblocks, to secure a resolution for National Chemistry Week in the United States Senate by Senator Chris Coons, a Democrat from Delaware, and Republican Senator Pat Toomey of Pennsylvania. The extra effort invested by ACS members in Pennsylvania to ensure that the resolution had bipartisan sponsorship helps to underscore that science is an issue where both parties can come together.

Actions of the Board of Directors:

- The Board of Directors received and discussed reports from its Committees on Grants and Awards (G&A), Professional and Member Relations (P&MR), Executive Compensation, and Corporation Associates; the Society Committee on Education (SOCED); and the Joint Board-Council Committee on Publications.

- On the recommendation of the Committee on Grants and Awards and of the Committee on Science, the Board voted to approve a Society nominee for the National Medal of Science.

- On the recommendation of the Committee on Professional and Member Relations, the Board voted to provide nominal sponsorship, without financial commitment, for the "Frontiers of Science Research and Education in the Middle East: A Bridge to Peace" (Malta VII) to be held in Rabat, Morocco, November, 2015.

- The Board received an extensive briefing and approved several recommendations from its Committee on Executive Compensation. The compensation of the Society's executive staff receives regular review from the Board.

- On the recommendation of the Society Committee on Education, the Board voted to approve a procedure for the establishment of the inaugural Governing Board for the American Association of Chemistry Teachers (AACT).

- On the recommendation of the Joint Board-Council Committee on Publications, the Board voted to approve the reappointment of an Editor-in-Chief for an ACS journal.

SUMMER SCHOOL – *Dave Robertson*

Through a concerted effort by many in the Office of Science, I am pleased to report that the 2015 Nuclear Chemistry Summer Schools will be held June 15 through July 24 at Brookhaven National Laboratory and San Jose State University. Herb Silber will again serve as Site Director at SJSU and Trish Baisden will be the primary instructor at SJSU. Louis Pena will again serve as Site Director at BNL. The deadline for receiving all application materials was March 13. We received over 155 complete applications. My sincere thanks the selection committee for their work on reviewing such a large number of applications from so many outstanding students. This year's selection committee consisted of Zach Kohley from Michigan State University, Jenifer Braley from the Colorado School of Mines, Richard Wilson from Argonne National Laboratory, and Richard Clark from Pacific Northwest National Laboratory. All four members of this year's selection committee are alumni of the Summer Schools! The students that will be participating in this year's program are:

Brookhaven National Laboratory

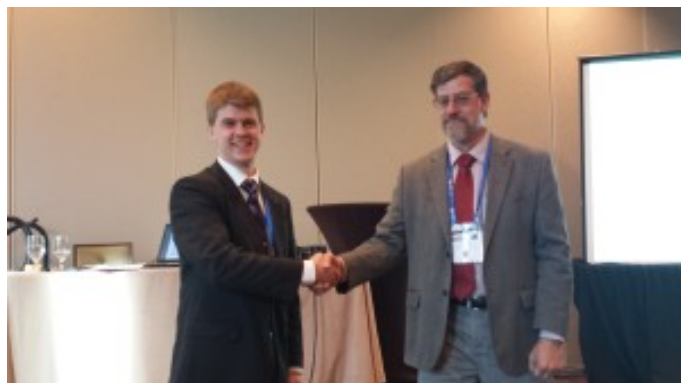
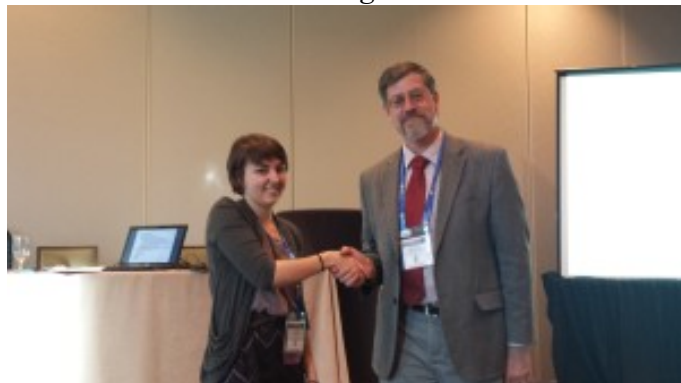
Michelle Beauvais (Wheaton College), Christopher Caroff (Westminster College), John Condoluci (Binghamton University), James Johnstone (Abilene Christian University) Ashlyn Jones (University of

Tennessee), Jennifer Klutts (Trine University), Corinne Kuebler (University of Pittsburgh), Robert Lusk (University of Utah), Katherine Shield (Tufts University), Joseph Spahr (University of Dayton), Trev Thompson (University of Texas at Tyler), Helen Zhao (University of Nebraska at Omaha).

San Jose State University

Emma Berger (Colby College), Brett Bowman (University of North Carolina), Harper Cox (University of Alabama), Camille DuBois (Santa Clara University), Samuel Ferran (Franklin College), April Furin (University of Utah), Dorothy Miller (Siena College), Jonathon Misiewicz (Hillsdale College), Ellen Monzo (College of Saint Benedict-Saint John's Univ.), Daniel Mulrow (University of Virginia), Joshua Welfare (Lynchburg College), and one more student pending.

The outstanding students from the 2014 program, Emily (Paige) Aldrich (BNL) and Aaron French (SJSU), were recognized at the NUCL Business Meeting in Denver.



Questions, comments, or concerns regarding the summer school program should be directed to:

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National Director, ACS Nuclear and
Radiochemistry Summer Schools
University of Missouri
Columbia, MO 65211-7600
Phone 573-882-2240
robertsonjo@missouri.edu

CORYELL AWARD

If you have undergraduates engaged in research, please remember to nominate them for the Coryell Award this Spring. The Charles D. Coryell Award honors undergraduate students who have completed research projects in nuclear or nuclear-related areas. Each year there is a \$1000 prize to be awarded to the successful nominee(s). Contributions are judged on the basis of ingenuity, novelty, and potential usefulness. To be eligible, a student must have been an undergraduate at some time during the 12-month period prior to the deadline date for submission of applications for the award. The student may be sponsored by a faculty member at the home institution or by a research director at another institution where the student performed the work. **The nomination deadline is May 1, 2015.** The nomination process consists of an example of the student written work, and a nomination letter that describes the student's contribution to the project. These items should be emailed directly to the Chair of the award committee (peaslee@hope.edu)

AWARD NOMINATIONS COMMITTEE OF NUCL – Steve Yates

The Awards Nominations Committee of the Division was formed to encourage and

facilitate nominations for national ACS awards. Please nominate a colleague for one of the awards given below or another ACS award
(<http://www.acs.org/content/acs/en/funding-and-awards/awards/national.html>).

W. Frank Kinard Distinguished Service Award, established in 2014, recognizes NUCL members for outstanding service to the Division and the field of nuclear science -- Nomination procedures are given on the NUCL website (http://www.nucl.acs.org/?page_id=611) and the next deadline is July 1, 2015.

Glenn T. Seaborg Award for Nuclear Chemistry
(<http://www.acs.org/content/acs/en/funding-and-awards/awards/national/bytopic/glenn-t-seaborg-award-for-nuclear-chemistry.html>) -- Nominations are initiated by individuals and the procedures are given on the ACS website. The next deadline is November 1, 2015.

ACS Fellows
(<http://www.acs.org/content/acs/en/funding-and-awards/fellows.html>) -- Nominations can be initiated by individuals; however, the Division can nominate up to four individuals as ACS Fellows annually. Nominations for the 2016 class of Fellows are scheduled to open February 1, 2016 and close April 1, 2016.

Suggestions and questions should be addressed to Steve Yates (yates@uky.edu; 859-257-4005).