



Division of Nuclear Chemistry and Technology
American Chemical Society

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NEWSLETTER

April 2013

Newsletter Editor: Lætitia Delmau

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FROM THE CHAIR – *Bob Rundberg*

The Spring Meeting of the ACS was a great success for the Nuclear Division with several large symposia, including the Seaborg Award symposium honoring Dick Haire, an isotope production symposium in honor of Michael Welch, nuclear forensics, radiochemistry of food and water contaminated with radionuclides, and a general session. There were a relatively small number of cancelled talks, in spite of the continuing resolution, congressional reaction to the GSA Las Vegas party, and sequestration. Dick Haire was honored with the Seaborg Award for his many contributions to the understanding of actinide and trans-uranium chemistry.

There will be a special symposium to honor Darleane Hoffman next fall. The symposium will occur October 3, 2013 in Santa Clara, California. The California local section of the ACS sponsors it. More details will be published in the newsletter as we approach October 3.

The Nuclear Division needs help from young members. We would like to have a Facebook (or whatever the latest social medium is) page for the division. We would like a student intern to manage the page. The reward will be the waiver of division dues. Professors, please encourage you students to apply for this position.

The Nuclear Division has the opportunity to nominate up to 4 ACS fellows. The deadline is April 22, 2013. The website is <https://www.nominatefellow.acs.org>.

The NAS report “Assuring a Future U.S.-Based Nuclear and Radiochemistry Expertise” revealed a problem in tracking the production of new doctorates in the field of nuclear and radiochemistry. Their recommendation is:

“At a minimum nuclear chemistry should once again be tracked through the National Science Foundation (NSF) Survey of Earned Doctorates or another federally funded data collection service. The NSF Division of Statistics, Department of Education, National Center for Education Statistics, and Department of Labor, Bureau of Labor Statistics should be called on to assist federal agencies in determining additional suitable metrics for tracking the quantity and quality of nuclear and radiochemistry expertise.”

I will be sending emails to faculty at universities with nuclear and radiochemistry programs. Graduating students need to know that they should check the “other box” and fill in the comment box with “nuclear and radiochemistry.” If enough graduating students do this, nuclear and radiochemistry will return to the menu of field choices in the survey of earned doctorates.

FROM THE PAST CHAIR – *Ken Nash*

Already it is time for an update? We must be having fun because time is sure flying. In the aftermath of the New Orleans meeting, my primary official ACS focus shifts back to my obligations to invest some time and effort in moving forward our efforts to secure the future of the Seaborg Award and to develop a slate of candidates for our upcoming election. On the former issue I will note the significant thanks due to my predecessor Mike Bronikowski for taking point on communicating the challenges we face in maintaining the “National” status of the Award, focusing in particular on the fiscal picture. On this issue we welcome your suggestions and of course your financial contributions. We continue to discuss and consider options for increasing financial support for the award. Any ideas regarding potential sponsors would be welcome – contact me (or in fact any officer) via e-mail or otherwise. We also want to make certain that quality candidates are getting nominated for the award. Anyone can submit a nomination electronically at the ACS website (www.acs.org) – the quickest way to get information at the website is to search for “national awards” on the opening screen, then look for “nomination guidelines”. Information about past Award winners is also posted at this location. Let us know if you need assistance or advice. On the issue of candidates to stand for election, I spoke with several potential volunteers in New Orleans and will be following up with them soon to confirm their interest. The open positions include Chair Elect, Councilor, Treasurer, and Secretary. If you are interested (or know someone who might be), let me know. The NUCL membership is in general a pretty cordial group that is always appreciative of the efforts of our volunteer “officer corps”.

CHANGES IN NUCL DUES FOR 2014

The dues for regular members is being increased to \$25.00 (action of Executive Committee at the 2012 Fall meeting) and the affiliates increased to \$30.00 (action of Executive Committee at the 2013 Spring Meeting). This increase in dues is to support the Seaborg Award.

UPCOMING PROGRAMMING - *Jenifer Braley*

Bob Rundberg (Chair, 2013), Paul Mantica (Chair, 2014) and other helpful parties have been key in developing programming for the Fall 2013 meeting in Indianapolis and the 2014 meetings. One more symposium could possibly be squeezed into the Dallas 2014 meeting. If you have interest in programming further out, ample room exists for the 2015 Spring (Denver) and Fall (Boston) meetings. The theme for the Denver meeting, "Chemical Resources: Extraction, Refining and Conservation", could fit very well with some divisional interests. Thank you to all current and future organizers for their programming contributions.

Fall 2013 – Indianapolis – *Chemistry in Motion (transportation)*

- Actinide Materials (Organizers Peter Burns, Ginger Sigmon)
- Young Investigators (Organizers: Suzy Lapi, Mikael Nilsson)
- Nuclear Reactions (Title TBD) (Organizers: Walt Loveland, other organizers welcome)
- General Topics in Nuclear and Radiochemistry (Organizers: Ken Nash and Jenifer Braley)
- Recent advances in the inorganic chemistry of technetium and rhenium (Organizers: Ken Czerwinski, Lynn Francesconi, Silvia Jurisson)

Spring 2014 – Dallas – *Chemistry of Power and Advanced Materials* (March 16-20, 2014)

- Seaborg Award Symposium (Organizer: TBD)
- Global Status of Nuclear Energy (Organizers: Ken Nash, WSU, knash@wsu.edu; Jeff Terry, IIT)
- Symposium in Honor of Norman Edelstein: A Distinguished and Diverse Scientific Career in Actinide Chemistry (Organizers: David Shuh, LBNL, dkshuh@lbl.gov; David Clark, LANL, dlclark@lanl.gov; Lynda Soderholm, ANL, soderholm@anl.gov; Al Sattelberger, ANL, asattelberger@anl.gov)
- Radiation Hardened Materials for Accelerators, Reactors and Spacecraft – Ram Devanathan (PNNL)
- Nuclear Batteries and Radioisotope Micropower Sources (Organizer: David Meier, PNNL, david.meier@pnnl.gov)

NUCL will also co-sponsor a symposium with PHYS in Dallas entitled "Thermodynamics, Reactivity, and Spectroscopy of the Heavy Elements" (Organizers: Angela Wilson, Paul Bagus, and Laura Gagliardi). Division members interested in contributing to this symposium should contact Angela Wilson, UNT, akwilson@unt.edu

Fall 2014 – San Francisco – *Chemistry and Stewardship of the World* (August 10-14, 2014)

- Comprehensive Test Ban Treaty Verification (Organizer: Sean Liddick, MSU, liddick@nscl.msu.edu)
- High-Level Waste Storage (Organizer: Nathalie Wall, WSU, nawall@wsu.edu)
- Nuclear Fusion, from NIF to the Stars (Organizers: Mark Stoyer, LLNL, stoyer1@llnl.gov; Lee Bernstein, LLNL, laberstein@llnl.gov)
- Environmental Radiochemistry Symposium (Organizers: Don Reed, LANL, dreed@lanl.gov; Ralf Sudowe, UNLV,

ralf.sudowe@unlv.edu; Brian Powell, Clemson, bpowell@clemson.edu)
– Young Investigator Research Symposium in Nuclear Chemistry and Technology (Organizers: Cody Folden, TAMU, folden@comp.tamu.edu; Jeff Terry, IIT, terryj@iit.edu)
– General Topics in Nuclear Chemistry and Technology (Organizers: Paul Mantica, MSU, mantica@msu.edu; Jen Braley, CSM, jbraley@mines.edu)

If you are interested in any of the 2014 topics and would like to serve as a Symposium Co-Organizer, please contact Paul Mantica, 2014 NUCL Chair (mantica@msu.edu), or Jenifer Braley, NUCL Program Chair (jbraley@mines.edu)

Spring 2015 – Denver, CO – March 22-26, 2015 - Chemical Resources: Extraction, Refining and Conservation
– Seaborg Award Symposium (Organizer: TBD)

Fall 2015 – Boston, MA – August 16-20, 2015 - A History of Innovation: From Discovery to Application
– Young Investigators (Organizer: TBD)

If you are interested in organizing a symposium for 2015, please contact Dave Hobart, 2015 NUCL Chair (dhobart15@gmail.com), or Jenifer Braley, NUCL Program Chair (jbraley@mines.edu).

Several other concepts in development

Radiochemistry Infrastructure – cooperative with the Health Physics Society

Archaeometry (contact Dave Robertson)

CAREER PREPARATION ACTIVITIES – Paul Mantica

The ACS offers graduate students and post-docs the opportunity to participate in career preparation workshops and initiatives on a regular basis. Upcoming opportunities include the following:

Academic Employment Initiative (AEI) poster session, www.acs.org/aei

For senior graduate students and postdocs seeking academic positions

Deadline: April 18, 2013

When: 8 – 10 PM, September 9, 2013

Where: Indianapolis, IN (SciMix at the fall national meeting)

Postdoc to Faculty workshop, www.acs.org/p2f

For postdocs only, preparing for an academic position

Applications: Open February 15, 2013

When: September 6 – 7, 2013

Where: Indianapolis, IN (just prior to, and in conjunction with the fall national meeting)

Also, there is a Post-doc to Primarily Undergraduate Institution Professor Workshop that is held in late spring, with a typical registration deadline in late January/early February.

Additional information is available from the ACS Graduate and Postdoctoral Scholars Office by contacting Dr. Joe Sostaric, j_sostaric@acs.org

SUMMER SCHOOL – Dave Robertson

The 2013 Nuclear Chemistry Summer Schools will be held June 17 through July 26 at Brookhaven National Laboratory and San Jose State University. The deadline for receiving all application materials was February 1. We received over 130 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 Paul Benny from Washington State University, Lynn Francesconi from Hunter College of CUNY, David Shuh from Lawrence Berkeley National Laboratory, and Daniel Stracener from Oak Ridge National Laboratory. The outstanding students from the 2012 program, Justin Vadas (BNL) and John Gray (SJSU), were recognized at the NUCL Division Business Meeting in New Orleans.



(Left to right: Dave Robertson, Bob Rundberg, and John Gray)



(Left to right: Dave Robertson, Bob Rundberg, and Justin Vadas)

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

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

TREASURER'S REPORT – *Alice Murray*

To date in 2013, the NUCL Division has received an income of \$32,200 and has had expenses of \$25,900. The NUCL Division received funding to support three of the symposia that were held during the ACS 245th National Meeting and Exposition in New Orleans. The organizers of those symposia obtained funds from national laboratories and commercial entities to provide registration and travel for speakers, to provide refreshments during the symposia and social activities. The symposia were: Isotope Production: Past, Present, and Future: Symposium in Honor of Michael J. Welch (\$5000 to date), Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in Honor of Richard G. Haire (\$17900), and Radiochemistry and Risk Assessment of Food and Water Contaminated with Radionuclides (\$4000).

COUNCILORS' REPORT – *Steve Yates and Graham Peaslee*

The following is an edited summary on key actions and discussions of the ACS Council at the 2013 Spring National Meeting in New Orleans.

Election Results

- The Committee on Nominations and Elections (N&E) presented to the Council the following nominees for selection as candidates for President-Elect, 2014: G. Bryan Balazs, Charles E. Kolb, Jr., Carolyn Ribes, and Diane Grob Schmidt. The Council selected G. Bryan Balazs and Charles E. Kolb, Jr. as candidates for 2014 President-Elect. These two candidates, along with any candidates selected through petitions, will stand for election in the Fall National Election.

- N&E announced the results of the election to select candidates from the list of nominees to serve as Directors from District II and District IV on the Board of Directors for the term 2014-2016. By mail ballot, the Councilors from these districts selected George M. Bodner and Alan A. Hazari as District II candidates; and Rigoberto Hernandez and Larry K. Krannich as District IV candidates. N&E also announced the selection of the following candidates for Directors-at-Large for a 2014-2016 term: Susan B. Butts, Thom H. Dunning, Jr., Dorothy J. Phillips, and Kathleen M. Schulz.

Re-alignment of Electoral Districts

- At the 2012 fall meeting, Councilors called for a broader and long-lasting solution to requirements that Board electoral districts have parity in member populations. At the New Orleans meeting, N&E reported on their discussions of a revised redistricting proposal which brings all six election districts within 400-1,000 members of the mid-point of the permissible range. This proposed action is designed to eliminate the need for frequent small changes for some time to come. The proposal will be up for vote at the fall Council meeting in Indianapolis.

Society Finances

- Despite the sluggish economy, ACS generated favorable operating results in 2012. Total revenue was \$490.7 million, which was \$6.1 million or 1.3% greater than the approved budget, and 3.9% higher than 2011. The Net from Operations was \$20.2 million, or \$4.3 million favorable to budget. This was largely attributable to better-than-expected performance by ACS Publications and CAS, and represents the Society's 9th consecutive year of positive operating results. While operating performance was favorable, Unrestricted Net Assets declined \$1.4 million to \$100.6 million largely due to the Leadscope settlement and some retirement plan expenses. Finally, ACS ended the year in compliance with four of the five Board-established financial guidelines.

2014 Member Dues

- The Council VOTED to set the member dues for 2014 at the fully escalated rate of \$154. This rate is established pursuant to an inflation-adjustment formula in the ACS Constitution and Bylaws.

Petition to Amend the Constitution and Bylaws on National Election Procedures

- After discussion, a vote to approve the Petition to Amend National Election Procedures failed (85% against, 15% in favor). The petition sought to shorten the campaign period for candidates for President-Elect and to charge the Committee on Nominations and Elections (N&E) with proposing two candidates for President-Elect. Currently, N&E proposes four nominees from which Council selects two candidates. Under the petition, Council would no longer vote on a list of nominees. In collaboration with the Committee on Nominations and Elections, the Council Policy Committee authorized a joint task force on election timelines and

procedures. This task force will examine the entire election system.

Member Statistics

- Society membership at the end of 2012 was 163,322. This was 893 lower than the total for year-end 2011 despite recruiting 24,943 new members. The net loss occurred primarily in the Regular, full member category. There was continued growth in both the Student Member undergraduate and international categories, which helped mitigate the overall decline in membership. The Membership Affairs Committee approved five pilot market data tests to increase membership.

Attendance Report

- As of the Council meeting (April 10, 2013), the ACS spring national meeting had attracted 15,596 registrants, including 8,105 regular attendees and 5,793 students. The meeting had 11,232 papers presented.

Academic Professional Guidelines

- The Council voted to approve the Academic Professional Guidelines as submitted by the Committee on Economic and Professional Affairs. These guidelines apply to those members of the academic community whose job function impacts directly or indirectly on scientists practicing the profession of chemistry.

Local Section Allotment Formula

- The Council voted to approve a new formula for the distribution of allocations to individual Local Sections beginning in 2014. The new allocation will be divided as follows: base allotment (49%); per member allotment (43%), and LSAC program funds (8%).

Divisional Activities Name Change Request

- The Divisional Activities Committee (DAC) received a request from the Division of Colloid and Surface Chemistry to change its name to the Division of Colloids, Surfaces and Nanomaterials. Six divisions have registered opposition to the proposed name, largely due to the use of the term 'nanomaterials'. DAC will ask Council to vote on the new name in Indianapolis, with a recommendation to approve.

Revision to Charter Bylaws for the International Chemical Sciences Chapters

- The Council voted to approve changes to the Charter Bylaws for New International Chemical Sciences Chapters. These changes will guide the Committee on Constitution and Bylaws in reviewing bylaw changes before proposed changes are approved by the membership of the new chapter.

New International Chemical Sciences Chapter

- The Council voted, in concurrence with the Board of Directors, to approve the petition to charter the Romanian International Chemical Sciences Chapter, consisting of the Territory of Romania.

Special Discussion Item

- A special discussion item was put on the Council agenda for this meeting. ACS President Marinda Li Wu presented and moderated a discussion on "What else should ACS do to help members to thrive in the global chemistry enterprise?"

Steve continues to serve on the ACS Committee on Meetings and Expositions

(M&E), and Graham participated in his initial ACS committee appointment in New Orleans on the Committee on Nomenclature, Terminology, and Symbols. Dawn Shaughnessy is the Alternate Councilor for the Division.

CORYELL AWARD – *Graham Peaslee*

REMINDER: If you have undergraduates engaged in research, please remember to nominate them for the Coryell Award in the Spring. The nomination deadline this year will be May 3 and the NUCL website will be updated with information about the award soon. Please contact Graham Peaslee if you have any questions.

IAC GLOBAL INNOVATION GRANT

ACS Committee on International Activities (IAC) has agreed to continue the Global Innovation (GI) grant program in 2013. The GI grant program (award up to US\$5,000) – initiated in 2012 – is intended to encourage ACS local sections, technical divisions, committees and international chapters to develop new activities that can advance IAC's strategic goals. They are:

- Goal #1: Fostering collaborations
- Goal #2: Extending international chemistry education and training
- Goal #3: Engaging developing countries
- Goal #4: Assuring support of ACS Science and human rights
- Goal #5: Supporting development and quality of the International Center
- Goal #6: Sustaining momentum of IYC 2011 (International Year of Chemistry)

To be eligible to be considered for these funds, by May 1, 2013 a form needs to be filled out and sent to intlacts@acs.org. Please

use this address for additional information. Awardees will be notified by May 15, 2013. All activities associated with 2013 awards will need to be completed by December 31, 2013.

CALL FOR PAPERS

Symposium in Honor of Norman Edelstein: **A Distinguished and Diverse Scientific Career in Actinide Chemistry**

Division of Nuclear Chemistry and Technology
American Chemical Society Spring Meeting 2014
16-20 March 2014 in Dallas, Texas USA



The colleagues of Norman M. Edelstein, an Emeritus Senior Scientist in the Actinide Chemistry Group of the Chemical Sciences Division of the Lawrence Berkeley National Laboratory (LBNL), are convening a special Symposium within the Nuclear Chemistry and Technology Division of the American Chemical Society to honor, recognize, and celebrate the scientific contributions of Norman to the field of actinide chemistry.

Edelstein spent most of his career at LBNL, 1964-2000, conducting fundamental research on the lanthanide and actinide elements. In 2000 he went on assignment to the Division of Chemical Sciences, Geosciences, and Biosciences at the U.S. Department of Energy as a full time advisor (detailee) for the Heavy Element Chemistry Program for one and a half years. Upon his return to LBNL he continued as a part time advisor to the DOE Heavy Element Chemistry program until 2010. He formally retired from LBNL in 2002 and was appointed an Emeritus Senior Scientist. The Actinide Chemistry Group was formed in 1975. Norman served as the Group Leader from its inception until 2000. During this time Edelstein also served as Deputy Director of the Chemical Sciences Division from 1991 to 1997 and in 1999. In 1997-1998 he was the Interim Division Director. Edelstein is a fellow of the American Physical Society and a member of the American Chemical Society and American Association for the Advancement of Science. He is well-known for his collaborative scientific efforts, both nationally and internationally. He remains extremely active and can be found in his office at LBNL nearly every day. Edelstein is the author of approximately 230 research articles and more than a half dozen book chapters. Notably, he is an Editor of the recent 3rd and 4th editions of the *Chemistry of the Actinide and Transactinide Elements* with Jean Fuger and Lester Morss.

Edelstein's research interests include the optical, magnetic, and electronic structure of the actinides and lanthanides, the general inorganic and solution chemistry of the actinides, and synchrotron radiation studies of actinides and other environmentally-relevant materials.

The organizers are encouraging abstract submission and look forward to seeing you in Dallas in the Spring of 2014. ***The anticipated deadline for submitting abstracts is in early November 2013.*** We expect the symposium consist of three to four days of oral presentations, posters, and a symposium banquet. For more information, please contact one of the symposium organizers David K. Shuh (DKShuh@lbl.gov), Dave L. Clark (DLClark@lbl.gov), Lynne Soderholm (LS@anl.gov), or Al Sattelberger (ASattelberger@anl.gov).

Plutonium Futures – The Science Conference

September 7-11, 2014



Chairs: Kerri Blobaum and Scott McCall (LLNL)

