Division of Nuclear Chemistry and Technology
American Chemical Society

NUCL Webpage – http://www.nucl-acs.org

NEWSLETTER
January 2018

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Topics

FROM THE CHAIR

Lynn Francesconi

Greetings and please accept my best wishes for a happy and prosperous new year! As the new Chair for 2018 I look forward to serving the NUCL Division. I admit that I am still learning the ropes. I would like to sincerely thank Laetitia Delmau, immediate past chair, for her leadership and for helping to bring me up to speed. I would like to extend a hearty welcome to new or re-elected officers: Vice-Chair Tori Forbes, Councilor Graham Peaslee, Alternative Councilor Paul Benny and Member at Large Justin Walensky.

The program chairs for the NUCL division are Amy Hixon for the spring meetings and John Auxier for the fall meetings. The NUCL division relies on the program chairs for basically everything involved in organizing the national ACS meetings: fielding the symposia, interacting with the symposium organizers, and interacting with the American Chemical Society to arrange for the venue.

We are very grateful to Amy and John for their hard work and supreme organization. You should contact them if you envision and/or would like to organize a symposium in the future. Symposia are rewarding mechanisms to bring together scientists in a subject, introduce young scientists, exchange ideas and initiate collaborations.

The program for the Spring, 2018 meeting in New Orleans is complete. The meeting will run from Sunday morning, March 18, through Thursday afternoon, March 22. All of the NUCL symposia will be in the Embassy Suites. Highlights of the NUCL program include a symposium honoring Suresh Srivastava from Brookhaven National Laboratory, as the winner of the 2018 Glenn T. Seaborg Award for Nuclear Chemistry. Other symposia include: Actinide Complexes & Nanoclusters, Computational Methods for Lanthanides & Actinides: Theory & Applications (oral and poster), General Topics in Nuclear Chemistry & Technology (oral and poster), Isotope Harvesting at Accelerator Facilities, and Young Investigators in Nuclear & Radiochemistry. In addition the Division of Fluorine Chemistry (FLUO) is sponsoring a Radiochemistry Symposium that is co-sponsored by the NUCL division. This will be in the Embassy Suites as well. The common location for FLUO and NUCL should help to promote interactions within the two divisions.

The Division Business Meeting will take place on Tuesday evening, March 20, after the close of the technical sessions at the Embassy Suites. Following the Business Meeting, we will walk to an off-site restaurant for the NUCL social hour. We encourage your colleagues and co-workers, who are already members of the ACS but are not NUCL members, to come for social time and to learn about the activities in our Division.

Presently, we have 7 symposia planned for the Fall, 2018 meeting in Boston. These are a Symposium in honor of the retirement of Dr. Leonard Mausner, Nuclear Forensics, Radioanalytical Methods in Public Health, Environmental Radiochemistry, Computational Methods for Lanthanides and Actinides, Radiochemistry Education, and General Topics in Radiochemistry. Please contact John Auxier if you would like to contribute ideas and organization for future Fall symposia.

I would like to draw attention to the need for financial support of the Glenn T. Seaborg Award in Nuclear Chemistry. We must develop a plan for continued funding for this important and prestigious ACS award. Please contact any of the NUCL officers if you have ideas for identifying future support.

One of the goals of the NUCL division, and a personal goal for me, is to promote Radiochemistry and Nuclear Chemistry Education. These areas are underserved and training is critically needed. Of course, a major setting for training of the next generation radiochemists and nuclear scientists is through the DOE Nuclear Chemistry Summer Schools. We all thank Dave Robertson, the current director of the Nuclear Chemistry Summer Schools, who has administered the program and retained funding in recent years. As Dave will step down from this position in 2019, the Division will be selecting a new director of the Nuclear Chemistry Summer Schools who can begin to work with Dave on the transition. Individuals with an interest in serving as the National Director for the summer schools are encouraged to contact Dr. Jen Shafer at jshafer@mines.edu.

Working at the City University of New York (CUNY), I and my colleagues, many of whom are NUCL members, work with a diverse and multi-cultural undergraduate and graduate

student body, faculty and staff. One of my goals during this year and following years is to emphasize increasing diversity in radiochemistry and nuclear chemistry. I sincerely invite your suggestions as to how to effectively accomplish this goal.

Finally, please do not hesitate to contact me with concerns, comments and information that will be useful to the NUCL Division.

NATIONAL MEETING PROGRAMMING

SPRING 2018 – New Orleans, LA
March 18-22, 2018 *(Amy Hixon)*
Theme: The Food, Energy, Water Nexus

The 255th ACS National Meeting & Exposition will be held March 18 - 22, 2018 in New Orleans, Louisiana. Please contact Amy Hixon (ahixon@nd.edu) with questions.

- **Actinide Complexes and Nanoclusters**
  Organizers: Karah Knope
  (kek44@georgetown.edu)
  and Tori Forbes
  (tori-forbes@uiowa.edu)

- **Computational Methods for Lanthanides and Actinides: Theory and Applications**
  (Both Oral and Poster)
  Organizer: Deborah Penchoff
  (dpenchof@utk.edu)

- **General Topics in Nuclear Chemistry and Technology**
  (Both Oral and Poster)
  Organizer: Lynn Francesconi
  (lfrances@hunter.cuny.edu)

- **Young Investigators Symposium**
  Organizers: Ralf Sudowe
  (Ralf.Sudowe@colostate.edu)
  and Todd Bredeweg
  (toddb@lanl.gov)

- **General Topics**
  Organizers: Lynn Francesconi
  (lfrances@hunter.cuny.edu)

- **Isotope Harvesting at Accelerator Facilities**
  Organizers: Todd Bredeweg,
  (toddb@lanl.gov)
  Gregory Severin,
  (severin@nscl.nsu.edu)
  and Graham Peaslee
  (gpeaslee@nd.edu)

- **Seaborg Award Symposium in Honor of Suresh C. Srivastava**
  Organizer: Cathy Cutler
  (ccutler@bnl.gov)

FALL 2018 – Boston, MA
August 19-23, 2018 *(John Auxier II)*
Theme: Nanotechnology

The 256th ACS National Meeting & Exposition will be held August 19-23, 2018 in Boston, MA. We are looking for symposium ideas and symposium chairs for this meeting. Please contact John Auxier II (jauxier@utk.edu) if you are interested.

- **Nuclear Forensics**
  Organizer: John Auxier II
  (jauxier@utk.edu)
  Todd Bredeweg,
  (toddb@lanl.gov)
  and Robert Serbella
  (robert.surbella@pnnl.gov)

- **Radioanalytical Methods in Public Health**
  Organizer: John Brockman
  (brockmanjd@missouri.edu)
  and Roy Planalp
  (Roy.Planalp@unh.edu)

- **Symposium in Honor of Dr. Leonard Mausner**
  Organizers: Cathy Cutler,
  (ccutler@bnl.gov)
  and Silvia Jurisson
  (JurissonS@missouri.edu)

- **Environmental Radiochemistry**
  Organizer: Don Reed,
  (dreed@lanl.gov)
  Xavier Gaona,
  (xavier.gaona@kit.edu)
  Marcus Altmaier,
  (marcus.altmaier@kit.edu)
  Amy Hixon,
  (ahixon@nd.edu)
  Brian Powell,
  (bpowell@clemson.edu)
  and Mavrik Zavarin
  (zavarin1@llnl.gov)

- **Radiochemistry Education**
  Organizers: Donna McGregor
  (donna.mcgregor@lehman.cuny.edu)
  and Melissa Deri
  (melissa.deri@lehman.cuny.edu)

- **Computational Methods for Lanthanides and Actinides: Theory and Applications**
  Organizers: Deborah Penchoff
  (dpenchof@utk.edu)
  and Charlie Peterson
  (charles.peterson@unt.edu)

- **General Topics**
  Organizers: Lynn Francesconi
  (lfrances@hunter.cuny.edu)

SPRING 2019 – Orlando, FL
March 31 – April 4, 2019 *(Amy Hixon)*
Theme: Chemistry for New Frontiers

The 257th ACS National Meeting & Exposition will be held March 31 - April 4, 2019 in Orlando, Florida. We are looking for symposium ideas and chairs beyond those listed below. Please contact Amy Hixon (ahixon@nd.edu) if you have any ideas.

- **Crosscutting Research in Environmental Radiochemistry and Nuclear Forensics**
  Organizers: Luther McDonald
  (luther.mcdonald@utah.edu)
  and Amy Hixon
  (ahixon@nd.edu)

- **Young Investigators Symposium**
  Organizers: Alison Tamasi
  (tamasi.alison@epa.gov)
  and Melissa Deri
  (melissa.deri@lehman.cuny.edu)

FALL 2019 – San Diego, CA
August 25 - 29, 2019 *(John Auxier II)*
Theme: Chemistry of Water

The 258th ACS National Meeting & Exposition will be held August 25-29, 2019 in San Diego, CA. We are seeking symposium ideas and chairs for this meeting. Please contact John Auxier II (jauxier@utk.edu) if you are interested. Tentatively planned symposia include:

- **Celebration of the centennial of Rutherford's first nuclear reaction**
  Organizers: TBD

Nuclear Chemistry Summer School
J. David Robertson

We are currently recruiting for the 2018 ACS Summer Schools in Nuclear and Radiochemistry at San Jose State University and Brookhaven National Laboratory. The program seeks curious and highly motivated students with strong science and engineering backgrounds. Information about the Summer Schools and an on-line application can be found at http://chemistry.missouri.edu/nucsummer. The deadline for applications is February 1, 2018. Please encourage students that you know to apply. Feel free to contact David Robertson (robertsonjo@missouri.edu) with any questions you have about the program.

Coryell Award for Undergraduate Research in Nuclear Chemistry
Graham Peaslee

The winner of the 2017 Coryell Award is Samantha Pandelus, of Flinders University in Australia. Her development of methods for analysis and quantification of radionuclides in wastewater streams was found to be original and has led to first-authorship on a manuscript submitted for publication. Her advisor is Prof. Rachel Popelka-Filcoff.

NUCL MEMBER HIGHLIGHT
Alison Tamasi, Editor and Author

Dr. Justin Walensky
University of Missouri, Associate Professor and Associate Chair for Undergraduate Studies

Dr. Walensky is often the first to say that he is the product of many dedicated and inspirational mentors – and that those mentors are the ones to "blame" for his success. From work with Annie Kersting at Lawrence Livermore National Laboratory who sparked his interest in radiochemistry, to his graduate advisor Bill Evans who molded him into the chemist that he is today, to his great friendships with numerous collaborators, each of whom has influenced his research in positive ways, Justin has benefitted from the network of great chemists that are drawn to him. As the first PhD student to graduate from his lab, I can speak from personal experience when I say that Justin is as dedicated to his research as he is to the people he connects with (and also that he likes to play Nicki Minaj at full volume in the lab). With the strong community support and tireless work ethic, it's no wonder that Dr. Walensky is already well-known for his work in actinide synthesis, having received a DOE Early Career Award and also having reported the shortest thorium-carbon bond. In addition to his love of chemistry, he has had a lifelong love of both bowling and baseball, though he doesn't have as much time for any of them these days since he and his wife just had their first child, a daughter named Violet.

AWARDS NOMINATIONS COMMITTEE OF NUCL
Paul Mantica

The Awards Nominations Committee of the Division was formed to encourage and facilitate nominations for national ACS awards. The Awards Nominations Committee members will be approaching members to encourage nominations for ACS Fellows. The American Chemical Society (ACS) Fellows Program was created by the ACS Board of Directors in December 2008 to recognize members of ACS for outstanding achievements in and contributions to science, the profession, and the Society. Additional information is available at:

https://www.acs.org/content/acs/en/funding-and-awards/fellows.html

The nomination deadline is expected to be the first week of April 2018.

AMERICAN CHEMICAL SOCIETY
DIVISION OF NUCLEAR CHEMISTRY AND TECHNOLOGY
DIVISION OF ENVIRONMENTAL CHEMISTRY

Environmental Radiochemistry Symposium
256th ACS National Meeting and Exposition, August 19-23, Boston
Jointly Sponsored by the Division of Nuclear Chemistry and Technology and the Division of Environmental Chemistry

(Organizers: Marcus Altmaier, KIT/INE, marcus.altmaier@kit.edu;
Xavi Gaona, KIT/INE, Xavier.gaona@kit.edu; Amy Hixon, University of Notre Dame, ahixon@nd.edu; Brian Powell, Clemson University, bpowell@clemson.edu;
Don Reed, LANL, dreed@lanl.gov; Mavrik Zavarin, LLNL, zavarin1@llnl.gov)

The fate and transport of radionuclides in the environment continues to receive worldwide attention as we deal with the cleanup of contaminated sites and the siting of permanent geologic nuclear repositories. In the United States, for example, significant subsurface contamination remains at many of the sites linked to past and present activities in the weapons complex and the potential migration of these contaminants is of concern as the DOE moves toward decommissioning and restoration of these sites. Internationally, there are also many nuclear repository concepts (e.g., in salt, clay and granitic geologies) at various stages of development and there remain research needs associated with these concepts.
In the Environmental Radiochemistry Symposium we are seeking presentations in the broad area of new and ongoing research that address the subsurface fate and transport of actinides/radionuclides. Specific areas solicited include:

- Actinide/radionuclide solubility studies and associated thermodynamics
- Redox reactions of actinides/radionuclides
- Sorption of actinides/radionuclides
- Actinide/radionuclide colloid formation and transport
- Analytical techniques for the trace-level detection of actinides/radionuclides
- Modeling of transport and speciation of actinides/radionuclides
- Forensic environmental actinide studies

Please feel free to address questions about this session to any of the listed organizers. We strongly encourage participation by students and younger scientists in the field. Although our goal to encourage oral presentations, a poster session will be considered depending on the level of interest expressed.

Thermochemical Database (TDB) Project course: Thermodynamic data collection and assessment

18 August 2018, Boston, USA

About the course

A one-day course, sponsored by Los Alamos National Lab (LANL, USA) and the Nuclear Energy Agency (NEA) TDB project, on the topic of thermodynamic data collection and assessment is being offered in conjunction with the 256th ACS National Meeting (Boston, USA). This overview course is designed to familiarise scientists with current NEA TDB activities and standards, provide an overview of data collection and analysis techniques, and work through some real system examples to demonstrate the critical evaluation and data assessment process. Retaining high scientific standards for the collection, interpretation, critical review and application of thermodynamic data is a key goal of the NEA TDB, and will help assure that a strong scientific basis for the safety case is maintained to support international nuclear waste management options.

Target audience and venue

This one-day course is ideally designed for graduate students, young scientists (typically postdocs) or any scientists who are new to the nuclear chemistry field and its application to nuclear waste management (repository science as well as environmental remediation/containment of near-surface contamination sites). It also further targets scientists interested in broader environmental applications of the NEA TDB and the collection and application of thermodynamic data. The course will be offered on the Saturday immediately before the opening of the Fall ACS Meeting in Boston.

Practical information

Instructors: Xavier Gaona (KIT-INE, Germany), Don Reed (LANL, USA), Marcus Altmaier (KIT-INE, Germany) and Marilena Ragoussi (OECD NEA, France) – All have extensive experience working with the NEA TDB.

Date and time: Saturday, 18 August 2018 from 9:00-18:00 (to be confirmed)

Location: At a TBD Boston Hotel in the immediate vicinity of the Quincy Market/Faneuil hall area (to be confirmed)

Meals: Coffee breaks and a working lunch will be provided.

Registration fee: $ 50

Preliminary program

Topic 1: Overview of the NEA and NEA TDB activities and projects

Topic 2: Overview of guidelines for the collection and analysis of thermodynamic data

Topic 3: Critical evaluation and assessment exercise

Further details to be announced.

Registration

Registration instructions will be announced soon.

Contact

For updated information on the workshop or any questions please contact us at nea-tdb-course2018@oecd-nea.org.

Faculty Position
Associate/ Full Professor
Washington State University

Washington State University is seeking qualified candidates for a permanent full-time tenure track faculty position as an Associate Professor or Full Professor in the Department of Chemistry at the WSU Main Campus in Pullman, Wash.

In this renewable joint position with Pacific Northwest National Laboratory, you will also serve as the Director of the Institute of Nuclear Science and Technology. This recently formed Institute consolidates the national and international leadership found at WSU and PNNL within the domain of nuclear science and technology, particularly as it pertains to nuclear forensics, environmental remediation and waste storage, and the fate of materials in radiation environments. With major institutional investments, the Institute is elevating the scientific and technical impact of nuclear research by leveraging the unique facilities and complementary capabilities between WSU and PNNL to build leadership and signature programs in nuclear science.

The Director will help shape the direction and lead the growth of the Institute, engaging with partners, recruiting a diverse group of new members, and establishing and nurture collaborative relationships with non-WSU members.

Applicants with a Ph.D. in Chemistry or a related discipline, an academic research program related to Chemistry in Nuclear Science and Technology, the ability to teach graduate and undergraduate courses in chemistry (including service courses), and excellent management and communication skills are strongly encouraged to apply.

The full posting is at:

https://www.wsujobs.com/postings/35783

Please forward this opportunity to your colleagues!

Inquiries are welcome. Please call/email acting Director and Chair of the Search Committee, Prof Aurora Clark (auclark@wsu.edu, 509-335-3362) if you have any questions.

Postdoctoral Research Associate Opening
Florida International University
11200 SW 8th Street
Miami, FL 33199

The Dares Research Group at Florida International University in Miami currently has an opening for a highly motivated inorganic chemist, preferably one with electrochemistry experience. Funding for this position is provided by the U.S. Department of Energy, with the member becoming a part of the Center for Actinide Science and Technology (CAST), which is a newly funded DOE Energy Frontier Research Center (EFRC). This is a multi-institution research center, directed by Prof. Albrecht-Schmitt at Florida State University, and includes researchers at National Labs and other academic institutions. Our involvement in CAST includes the electrochemical and spectroscopic characterization of actinide coordination complexes both in solution and at electrode surfaces. No experience with lanthanide/actinide chemistry is necessary. The selected candidate may commence work on this project immediately.

Contact Prof. Chris Dares at cdares@fiu.edu