



Division of Nuclear Chemistry and Technology
American Chemical Society

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

Program Chair, 2023
RICHARD WILSON
Argonne National Lab
Lemont, IL 60439
Phone: (630) 252-1288
rewilson@anl.gov

Vice Chair, 2022
Chair Elect, 2023
Program Chair, 2024
JUSTIN WALENSKY
University of Missouri
Columbia, MO 65211
Phone: (573) 882-0608
walenskyj@missouri.edu

Vice Chair, 2023
Chair Elect, 2024
Program Chair, 2025
ANNIE KERSTING
Lawrence Livermore Nat'l Lab
Livermore, CA 94550
kersting1@llnl.gov

Secretary, 2023-2025
AMY HIXON
University of Notre Dame
ahixon@nd.edu

Treasurer, 2022-2024
BRIAN POWELL
Clemson University
bpowell@clemson.edu

Councilors
SILVIA JURISSON, 2022-2024
University of Missouri
jurissons@missouri.edu
GRAHAM F. PEASLEE, 2021-2023
University of Notre Dame
gpeaslee@nd.edu

Alternate Councilors
PAUL BENNY, 2021-2023
JULIE EZOLD, 2021-2023

Members-at-Large, Executive Committee
GLENN FUGATE, 2022-2024
DEBORAH PENCHOFF, 2021-2023

NEWSLETTER

October 2023

Newsletter Editor: *Andrew Klose*
Email: andrew.m.klose@gmail.com

Topics

- > FROM THE CHAIR
- > UPCOMING PROGRAMMING
- > COUNCILOR'S REPORT
- > NUCL ELECTION CANDIDATES
- > HIGH HONOR FOR SYED M. QAIM
- > AWARDS NOMINATIONS COMMITTEE
- > LOGO DESIGN CONEST
- > ANNOUNCEMENTS AND JOB OPENINGS

FROM THE CHAIR

Richard E. Wilson

Greetings. From what I have been told, the San Francisco meeting was quite a success with the Division's programming. I want to thank all of those who participated, particularly our programming chair Gian Surbella and those who organized and presided at our Division's symposia. Our programming provides value to our membership.

As an offshoot of the San Francisco meeting, quite a bit of discussion was had on the Division's website and a desire to update, refresh, and relaunch the website. Several volunteers have stepped forward to assist with this effort and that is much appreciated. The refresh of our website is particularly pressing as we begin the process of soliciting, collecting, and evaluating candidates for the Nuclear Chemistry Summer Schools, perhaps among the most impactful programming our Division does in efforts to maintain a talented, educated, and enthusiastic workforce in nuclear science.

As we begin to wind to the end of the calendar year, we will vote on new officers for the Division's executive committee. I encourage all of you to cast your votes for the candidates who are offering their time and talents in these service positions. Thank you to all that have volunteered for these positions.

NATIONAL MEETING PROGRAMMING

**SPRING 2024 – New Orleans, LA
March 17 - 21**

Theme: Many Flavors of Chemistry

The 267th ACS National Meeting & Exposition will be held March 17 - 21, 2024 in New Orleans, La. Please contact Tara Mastren (Tara.Mastren@utah.edu) for more information, or if you have any suggestions where the NUCL Division Happy Hour could take place near the conference center in New Orleans. Below are the planned symposia for the meeting.

Panel Session/Contributed: Embracing Diversity in NUCL: The Many Flavors of LGBTQ+ Research in Nuclear Chemistry

*Organizers: Tyler Spano (spanotl@ornl.gov),
Brodie Barth (bbarth@nd.edu)*

General Topics in Nuclear Chemistry and Technology

Organizers:

*Dustin Demoin (Dustin.Demoin@ezag.com),
Laetitia Delmau (delmaulh@ornl.gov),
and Teagan Sweet (tsweet@nd.edu)*

The Many Flavors of Radiochemical Separations

Organizers:

*Dustin Demoin (Dustin.Demoin@ezag.com)
and Laetitia Delmau (delmaulh@ornl.gov)*

Computational Science Applications in Rare Earth Elements and Actinides

Organizers:

*Deborah Penchoff (dpenchof@utk.edu),
Charles C. Peterson
(Charles.Peterson@unt.edu)
and Theresa Windus (twindus@iastate.edu)*

Bridging Computational and Experimental Research in NUCL

Organizers:

*Ashley Shields (shieldsae@ornl.gov)
and Sarah Finkeldei (sfinkeld@uci.edu)*

The Many Flavors of Radiopharmaceutical Chemistry – from Academia to Industry

Organizers:

*Ivis Chaple (ichaple@utk.edu),
Suzanne Lapi (lapi@uab.edu)
and Neil Vasdev (neil.vasdev@utoronto.ca)*

f-Element Reactivity at Interfaces

Organizers:

*Julia Neumann (jneumann@anl.gov)
Amanda J. Carr (carraj@anl.gov)*

**Fall 2024 - Denver, CO
August 18 - 24**

Theme: Elevating Chemistry

The 268th ACS National Meeting & Exposition will be held August 18-24, 2024 in Denver, CA.

Final Programming for this meeting is due December 1, 2024; if you have any thoughts on programming, please contact Gian Surbella (robert.surbella@pnnl.gov) to discuss. Suggestions on the location for the NUCL Division Happy Hour are also welcomed. Below are the planned symposia for the meeting.

Computational Science Applications in Rare Earth Elements and Actinides

Nuclear Forensics

Young Investigators in Nuclear and Radiochemistry

General Topics in Nuclear Chemistry and Technology

**ACS Seaborg Award Symposium Honoring Kenneth Nash
Spring 2025, San Diego, CA
March 23-31**

The 269th ACS National Meeting & Exposition will be held March 23 - 21, 2025 in San Diego, CA. Please contact Tara Mastren (Tara.Mastren@utah.edu) for more information.

If you are interested in proposing a symposium or working with someone to create a new symposium at an upcoming meeting, contact Todd Bredeweg (toddb@lanl.gov). Below are the planned symposia for Spring 2025:

Computational Science Applications in Rare Earth Elements and Actinides

Radiochemical Separations

Spectroscopy & Synchrotron Techniques for Radioisotopes

General Topics in Nuclear and Radiochemistry

COUNCILOR'S REPORT

Silvia Jurisson, Graham Peaslee

The ACS governance structure is largely comprised of elected councilors that represent either Technical Divisions (20%) or Local Sections (80%). The Nuclear Division is large enough to have two ACS councilors who represent our interests at the Council Meeting held at every national meeting as well as on several sub-committees that discuss matters that impact the Division. Together with Nuclear Division members that represent local sections the Councilors funnel information from the ACS governance to the Nuclear Division members and they also can convey concerns from the membership to the ACS leadership.

The Fall 2023 ACS National Meeting was held live from 13-17 August. The ACS Council meeting was held in hybrid format during the ACS meeting, on Wednesday 16 August 2023. As of 16 August, there were 15,019 registered

attendees (13,363 in-person and 1,656 online) and including 3,577 international attendees. The ACS Meeting App was again used exclusively at the San Diego meeting. Members do not need to upload a new app for each meeting, but will be able to open the current meeting within this app. If you had any difficulties that you would like to have relayed to the ACS Staff, let us know. Improvements are being made regularly. Silvia Jurisson continues as a Member of the Committee on Economic and Professional Affairs (CEPA) and is a member of SMRV (Subcommittee on Marketing, Research and Volunteers). We met virtually in July and in hybrid format at the San Francisco ACS meeting on Saturday, 12 August. A nice piece appeared in CE&N on 24 July from CEPA's Chair, John Gavenonis about resources available to members including the Career Consultants program and Virtual Office Hours (www.acs.org/careers/html and www.cenm.ag/careerconsultants). The virtual office hours were begun during the pandemic but have continued since many members do not attend the ACS National Meetings. Career Development classes (open to all ACS members but must register) and Career Consultant zoom virtual office hours continue. There has been good feedback from participants regarding the Career Consulting initiatives.

Council approved the Petition to Amend the Council Executive Function, which codified the current practice in the Standing Rules, removing the requirement for non-elected Society Committees to report orally to Council but allows all Committees to report orally if they choose to do so. The Council also approved the Petition to Amend the Duties of the Committee on International Activities and the Petition to Add International Representation to the Board of Directors.

Council approved the creation of the Singapore International Chemical Sciences

Chapter.

ACS President Judith Giordan led a special discussion on “ACS Council: Equitable Governance for the Future.” She asked for Councilor input on ideas to improve representation, broadly defined, on Council and across ACS governance. There was a very good discussion with input from Councilors.

The following committee members were elected by electronic ballots as follows:

Council Policy Committee (CPC): Martha G. Holloman, Elizabeth M. Howson, Jeanette M. Van Emon and Lydia E. M. Hines (2024-2026) and James C. Carver (2024-2025).

Committee on Committees (ConC): Anna G. Cavinato, Andrea B. Twiss-Brooks, Thomas R. Gilbert, Jeanne R. Berk and W. Matthew Reichert (2024-2026)

Committee on Nominations & Elections (N&E): Linette M. Watkins, Arlene A. Garrison, Zaida C. Morales Martinez, Amber F. Charlebois, and Jetty L. Duffy-Matzner (2024-2026) and Kevin J. Edgar (2024-2025)

If you have any additional suggestions for the ACS, or concerns about anything ACS-related, please don't hesitate to contact your councilors who will do their best to let your voice be heard.

NUCL ELECTION CANDIDATES

Vice Chair/Chair Elect/Chair (2024 – 2026)

Dustin Demoin – Eckert & Ziegler
Luther McDonald – University of Utah

Councilor (2024 – 2026)

Graham Peaslee – University of Notre Dame

Member at Large (2024 – 2026)

Deborah Penchoff – University of Tennessee

Alternate Councilor (2024 – 2026)

Julie Ezold – Oak Ridge Nat. Lab

CANDIDATE BIOGRAPHIES

Dr. Dustin Wayne Demoin, *Eckert & Ziegler Isotope Products*, is Director of Radiochemistry and has a rich background in research and education that complements his industry experience. He holds a BS in Chemistry from Trinity University, MA in Chemistry from UC Berkeley, and MA in Teaching (Grades 4-8 Science and 8-12 Physical Science) from Trinity University. Dustin attained a PhD in Radiochemistry from the University of Missouri in 2014 working with Silvia Jurisson on Tc/Re chelators; was a postdoctoral researcher in Jason Lewis' lab at MSKCC from 2014-2016 working on in vivo imaging projects using PET and SPECT radiopharmaceuticals; and taught university courses in general chemistry, organic chemistry, and organic physiological chemistry before joining Eckert & Ziegler Isotope Products in 2019. As Director of Radiochemistry, Dustin applies his research and teaching skills to lead projects that involve making radioisotopes, determining how to make or purchase radioactive materials to meet company needs, converting incoming radionuclides into useable products, improving production and quality assurance processes, and supporting the professional development of his team. He is an active member of I&EC (SS&T subdivision), NUCL, ANYL (SCSC) and PROF (ACS Pride) divisions of the ACS, regularly organizing symposia and programming, and he recently joined the programming committee for the NUCL division. He also stays active in scholarship by regularly peer-reviewing radiochemistry journal articles. By serving in division leadership, Dustin would like to support the completion of existing strategic goals for the division – like updating our website and bylaws – while continuing long-term strategic planning to identify additional goals. He is keen to secure long-term funding

for the ACS Seaborg award and to ensure continued growth of diversity, equity, and inclusion initiatives and support for professional development of early career scholars. During the three years of Vice-Chair, Chair-Elect, and Chair, Dustin can use the skills and flexibility gained from his current industry role to help steer these objectives to completion.

Dr. Luther McDonald, *University of Utah (UU)*, is an associate professor in the Department of Civil and Environmental Engineering and the Nuclear Engineering Program at UU. He joined the UU in January 2014 and has led the development of a radiochemistry laboratory, mentoring over forty students and managing research projects from DOE, DoD, and DHS, including the Nuclear Forensics Undergraduate Summer School in 2016 – 2017. Previously, McDonald worked as a guest scientist at the Australian Nuclear Science and Technology Organisation, performed a post-doctoral fellowship at Pacific Northwest National Laboratory, worked as a visiting scientist at the Commissariat à l'énergie atomique in Saclay, France, and completed his Ph.D. at Washington State University in Radiochemistry. He previously served as the Secretary of the American Chemical Society's Division of Nuclear Chemistry and Technology from 2013 – 2016.

Dr. Graham F. Peaslee, *University of Notre Dame*, obtained his undergraduate degree from Princeton University (AB, Chemistry, 1981) and his graduate degree from SUNY – Stony Brook (Ph.D., Chemical Physics, 1987). He took post-doctoral appointments at Lawrence Berkeley Laboratory (1988-1990) and the National Superconducting Cyclotron Laboratory (1990-1993). In 1993 he joined the Chemistry Department at Hope College in Holland, MI. He was promoted to Associate Professor in 2000, and promoted to full Professor in 2007. In 2011 he was named the Hartgerink Professor of Chemistry. In 2016, he was hired as a Professor of Experimental

Nuclear Physics at the University of Notre Dame, in order to lead their applied nuclear physics program. In 2000-2001 he was a visiting scientist at the Center of Accelerator Mass Spectrometry at Lawrence Livermore National Laboratory, and in 2007-2008 he was a visiting scientist at the Counterterrorism and Forensic Science Research Unit in the Laboratory Division of the FBI. He is a member of both the NUCL division of the ACS and the APS DNP and has served on the Coryell Award committee from 2003 to 2017. He has been a councilor for the NUCL division for the past eleven years and he was selected as an ACS Fellow in 2019. His research interests include: Heavy ion reactions with radioactive nuclear beams, isotope harvesting of long-lived radioisotopes, ion beam analysis and development of environmental applications of nuclear analytical techniques.

Dr. Deborah Penchoff, *University of Tennessee, Knoxville (UTK)*, holds a joint appointment, where she is the Associate Director of the Innovative Computing Laboratory, a faculty member in the Department of Nuclear Engineering (UTNE), and fellow of the Baker School of Public Policy and Public Affairs, where she serves in the Center for National Security and Foreign Affairs, and the Center for Energy, Transportation and Environmental Policy. Prior to her current role, she was the Director of the Scientific Fellows Program at the Institute for Nuclear Security. Penchoff is a strong supporter of students and early career scientists and engineers, and she is passionate about contributing to the development of the workforce of the future. In particular, she focuses on increasing student participation in radiochemistry, including current educational efforts in the recently awarded DOE-NNSA Consortium for Nuclear Forensics, where she leads the High Performance Computing (HPC) and Artificial Intelligence (AI) cross-cutting thrust, and educational activities for workforce development. As an active member

of the ACS-NUCL division, she is thankful for the welcoming nature of the division and is grateful for the career-changing collaborations the ACS-NUCL fosters, which resulted in direct advances in nuclear and radiochemistry. She looks forward to creating an environment that provides engagement and career-growth opportunities for students, and early career scientists and engineers. As a member of the executive committee, she is committed to applying her vast leadership experience and multidisciplinary background to represent the ACS-NUCL division and its members' interests, enhance the division's recognition in the ACS, foster relationships with other ACS divisions, and internal and external partners to increase participation and membership in the division. She has a PhD in Physical Chemistry and is a graduate from the UTK Interdisciplinary Graduate Minor in Computational Sciences. Penchoff research efforts include nuclear forensics, environmental remediation, HPC-enabling capabilities for domain sciences, and separations of rare earth elements and actinides, including applications in critical minerals and radiotherapeutics. She is the Chief Editor of the 2021 ACS book *Rare Earth Elements and Actinides: Progress in Computational Science Applications*, which was based on topics in the ACS-NUCL programming, and provided publishing opportunities for ACS-NUCL members and collaborators. In addition to chairing recurring symposia in ACS-NUCL, including *Computational Science*, *Data Science*, and *Artificial Intelligence* sessions, and various interdisciplinary sessions, she is involved in the ACS-NUCL strategic planning committee, and programming committee. Penchoff is a member of the Workforce Development and Retention Action Group (HPC-WDR) for the Department of Energy (originally developed by the DOE Exascale Computing Project). She is an advisor for the UTNE Diversity, Equity, and Inclusion Action Committee, a member of the UTK Chancellor's Commission for Black

Communities, and a member of the Chancellor's Asian American and Pacific Islander Commission. She is the recipient of the 2023 UTK Tickle College of Engineering Commitment to Inclusive Community Award, two outstanding teaching awards from the ACS Student Affiliates and UTK, was selected for the Early Career Program at the *International Conference for High Performance Computing*, and is the ACCESS (formerly XSEDE) Campus Champion for UTK. She has also chaired the *Gordon Research Seminar in Computational Chemistry* and co-organized the *Radiobioassay and Radiochemical Measurements Conference*. Prior to her career in science, she was an analyst at IBM.

Dr. Julie G. Ezold, *Oak Ridge National Laboratory*, has over 30 years' experience in the nuclear sciences and is currently a Technical Advisor for the DOE Isotope Program (IP) providing technical support to all aspects of the DOE IP. The DOE IP produces critical radioactive and stable isotopes in short supply for the nation or that no domestic entity has the infrastructure or core competency to produce. She was previously the Section Head for Radioisotope Production and Operations in the Radioisotope Science and Technology Division and the Program Manager for the Cf-252 Production Program. Her responsibilities included the technical and project management of the radiochemical campaigns that produced Cf-252, Bk-249, Es-253, and other trans-curium products. These trans-curium products have recently been used in the discovery of the newest elements, Element 117, Tennessine and Element 115, Moscovium. She has been responsible for the planning and overseeing of other industrial isotopes including: C-14, Ni-63, Se-75, Sr-90 and Np-237. She has supported isotope R&D program development and production efforts via development of cost estimates, process planning, and stakeholder presentations. She received the 2019 E. Gail

de Planque Medal from the American Nuclear Society which recognizes exemplary accomplishments by a woman in the fields of nuclear science and engineering. In 2018 she was presented with the UT-Battelle Awards Night Science Communicator Award for leadership in communicating the importance and impact of nuclear science to numerous groups through interactive presentations, program coordination, and community outreach. Prior to joining ORNL, she earned her Master's in Nuclear Engineering at North Carolina State University on a DOE Fellowship. Her research was conducted at ORNL at the High Flux Isotope Reactor using their neutron activation analysis facility for the study of radioiodine, specifically, Iodine-129.

HIGH HONOR FOR SYED M. QAIM.

The article below regarding an award given to NUCL Division Associate Member Prof. Syed Qiam was printed in IAEA July 2023 Nuclear Data Newsletter.

Professor Syed M. Qiam of the Forschungszentrum Juelich (FZJ) and University of Cologne in Germany recently received the President's Award of the World Council on Isotopes (WCI) in recognition of his sustained pioneering work on nuclear data related to development of accelerator-based radionuclides for medical applications. The award was presented to him during the 11th International Conference on Isotopes, organized by his Canadian colleagues under the umbrella of WCI, in July 2023, in Saskatoon, Saskatchewan, Canada.

Syed Waim has been in contact with several sections of IAEA for the last 40 years. He taught at several training courses, undertook expert missions, and trained 14 IAEA Fellows at FZJ. With the NDS he maintained a special relationship. HE was the German Member in the International Nuclear Data Committee (INDC) for 14 years, therefrom for about five years as its Chairman. During this period, he advised the NDS in its efforts to diversify its nuclear data program by including non-energy related applications as well. In particular, he provided strong guidance and support with nuclear data for medical applications. He also co-directed three Workshops on this topic held at ICTP Trieste.

Prof. Gaim officially retired many years ago, but he is still active both in teaching and research. In recent years he has received many honors. The present award is implicitly a recognition of his lifetime of work. The NDS Congratulates him and wishes him all the best in the future.

AWARDS NOMINATIONS COMMITTEE OF NUCL

Thomas Albrecht-Schoenzart

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 (<https://www.acs.org/content/acs/en/funding-and-awards/awards/national.html>).