Division of Nuclear Chemistry and Technology
American Chemical Society

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

NEWSLETTER
October 2023

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Topics

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:
Juilia 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 stake holder 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 or 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).

We are launching a Logo Competition!!!
Would you like to win $600?

In celebration of our 60th Anniversary, we are launching a ***LOGO Competition*** for our Division of Nuclear Chemistry and Technology (NUCL). We will be putting the winning logo up on our website. So, if you are creative and want to try and win the $600 prize, please consider submitting an entry.

- Please submit your design by **December 30th, 2023,** using this link: https://wkf.ms/46uHBBr
- You must be a member of ACS and the NUCL division.
- Each person can submit a maximum of 3 separate designs.
- A committee will select the winning entry in early January 2024.
- If you have questions please contact, Dustin Demoin (dustin.demoin@ezag.com) or Annie Kersting (Kersting1@llnl.gov)

Spread the word!!!! Tell a friend.

Now Hiring!

tenure-track cohort hire

The Department of Chemistry & Biochemistry at JMU is currently accepting applications for THREE tenure track positions to begin in Fall 2024. At least one position is in nuclear chemistry or nuclear-adjacent areas; the other positions are open. Priority will be given to candidates who fill department needs in environmental, inorganic and nuclear chemistry.

About the Department

Undergraduate-only program with ACS certified degrees | $10M in instrumentation | Nuclear facilities | Undergraduate research | ~200 majors | SAACS, AXE, NOBCChE | 25 full-time faculty | Committed to student success & inclusive excellence

Candidate Qualifications:

- Ph.D. in Chemistry or related field
- Candidates will be evaluated based on their potential to teach and conduct research in an equitable and inclusive environment at a primarily undergraduate institution

Learn more & apply!

See bit.ly/csmpositions for other open positions within the JMU College of Science & Mathematics

JMU Department of Chemistry and Biochemistry

General Information
The Department of Chemistry and Biochemistry at James Madison University invites applications for three tenure-track positions to begin in Fall 2024. At least one position is in nuclear chemistry or nuclear-adjacent areas; the other positions are open. Priority will be given to candidates who fill department needs in environmental, inorganic, and nuclear chemistry. This cohort hire will build on our history of undergraduate research training and leverage $10 million of existing instrumentation, including nuclear facilities. Successful candidates will work with existing faculty to expand our nuclear chemistry curriculum.

Our department is an undergraduate-only program at an R2 institution. The department currently serves approximately 200 majors and about 3000 undergraduate students each year. We offer a wide variety of courses for chemistry majors, other STEM majors, general education, and pre-health professionals. Majors are actively involved in SAACS, AXE, NOBCChE, and undergraduate research.

The Department of Chemistry and Biochemistry is actively committed to increasing the success of all of our students, attracting faculty and students with a range of backgrounds and experiences, and creating and sustaining a more inclusive work and learning environment. We are committed to excellence in undergraduate education, research, and mentoring undergraduates to help them reach their personal and professional goals. With 25 full-time faculty members, the department offers ACS certified degrees at the bachelors level, and teaches courses in all major areas of chemistry. The department houses facilities for nuclear chemistry, materials science, high performance computing, NMR, and mass spectrometry. Collectively, our facilities include over $10 million in state-of-the-art instrumentation (https://www.jmu.edu/chemistry/instrumentation.shtml). More information about the department can be found at http://www.jmu.edu/chemistry/.

Duties and Responsibilities
Teaching responsibilities include introductory and upper division courses and laboratories. Establishing an externally funded undergraduate research program is expected. Successful candidates will mentor undergraduates in research during the academic year and summer.

Qualifications
A Ph.D. in Chemistry or a related field is required. Candidates will be evaluated based on their potential to teach and conduct research in an equitable and inclusive environment at a primarily undergraduate institution.

Additional Posting Information
Our search follows an anonymized, multi-stage review process. For the initial review, all candidates will complete an application and attach a cover letter. The cover letter should be 3 pages or less and must briefly address the candidate's

- interest in the position;
- commitment to an equitable and inclusive environment, including examples;
- courses they prefer to teach;
- vision for their role in contributing to the department's mission;
- outline of proposed research and the role that undergraduates will play.

As much as possible, personal information should be removed. Cover letters will be anonymized by the candidate liaison. In addition to the requested cover letter, candidates will also submit a curriculum vitae and the names of three references with the application. CV and references will be consulted later in the review process. Selected candidates will be asked to submit a research plan and a statement on teaching and inclusive excellence. Any questions about the search can be addressed to the candidate liaison at chemsearch@jmu.edu.

To apply, go to https://joblink.jmu.edu/hr/postings/15491 or go to joblink.jmu.edu and reference posting number 15491. Applicants must apply via JobLink. Review of applications will begin October 23, 2023.

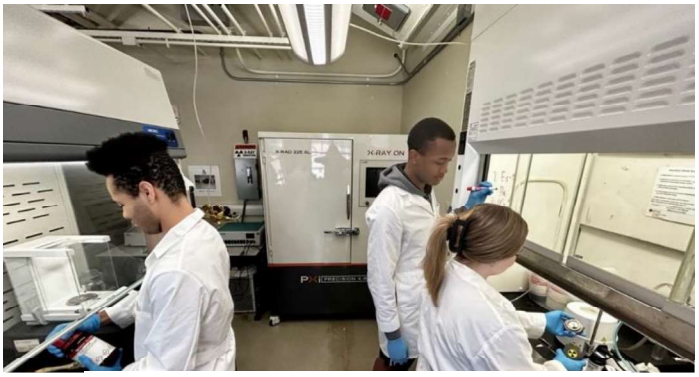
VCU College of Engineering

Seeking Applicants for Post-Doctoral Research Scholars

The Department of Mechanical and Nuclear Engineering (MNE) at Virginia Commonwealth University (VCU) has established The ***M**inority **S**erving **I**nstitutions for **M**anufacturing **S**ustainable **I**sotopes and **M**ainstreaming **S**cientific **I**nclusion (**MSI**^{3})* and is seeking a **post-doctoral research scholar to perform and lead radiochemistry research** in isotope production science.

Eligibility and Requirements

- Must have a Ph.D. in Radiochemistry or related field
- Must be willing to mentor students
- Must be willing to co-teach a summer course
- U.S. citizenship **NOT** required



Example of a VCU MNE laboratory

Job Responsibilities

MSI^3 will develop methods to optimize isotope production while training 70 students. This work encompasses the complete process from initial modeling to final assay of produced isotopes. The post-doctoral research scholar will be responsible for leading the radiochemistry aspects of this work, including setting up a radiochemistry laboratory, training undergraduate and graduate students, co-teaching a summer course on isotope production, performing research on more efficient methods to extract isotopes, and publishing results. Writing grants for additional funding is not required but is welcomed.

Collaboration facility (HFIR) to produce radionuclides

Benefits

- Salary of $65,000/yr
- Retirement
- Health insurance
- 5 years of secured research funding
- 462 ft^2 of radiochemistry laboratory space
- Undergraduate and graduate research support

Richmond, VCU, and MNE

Richmond is the capital city of Virginia and is host to a wide variety of living, dining, and recreational options. The primary university within Richmond is VCU, which has an enrollment of 31,000 students across 14 Schools/Colleges. The Department of Mechanical and Nuclear Engineering has 560 students and 28 faculty, offering B.S., M.S., and Ph.D. degrees.

VCU's College of Engineering

Downtown Richmond with the James River next to it

Interested applicants should contact Dr. Braden Goddard (bgoddard@vcu.edu) or Dr. Jessika Rojas (jvrojas@vcu.edu) and apply at: https://vcu.csod.com/ux/ats/careersite/1/home/requisition/4566?c=vcu

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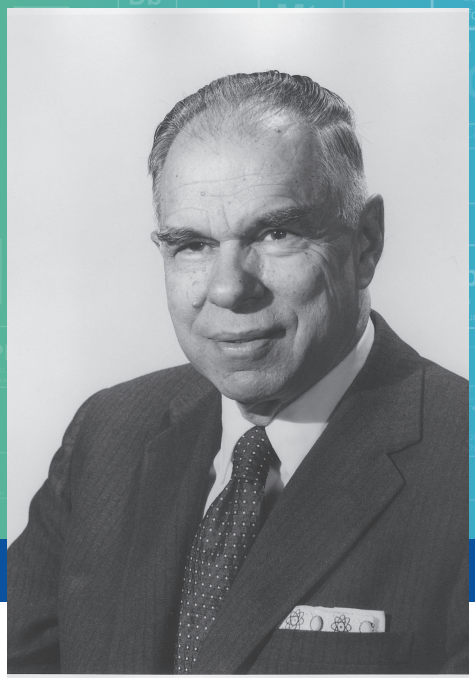

GLENN T. SEABORG
Distinguished Postdoctoral Associate

For more than six decades, Idaho National Laboratory scientists and engineers have helped solve some of the nation's most pressing energy, environment and national security challenges. The advancement of actinide chemistry and physics is a fundamental part of the INL mission. To support that effort, the laboratory is offering a valuable opportunity for top early-career Ph.D. researchers in related fields.

The Glenn T. Seaborg Distinguished Postdoctoral Associate program is designed to nurture early-career scientists and engineers with a specific focus on the actinide elements in support of nuclear energy, nuclear fuel cycle, waste treatment, proliferation, and fundamental science topics. This highly competitive appointment will provide the candidate with outstanding opportunities focused on specific programmatic research topics but also allowing flexibility to further the candidate's research interests. The full support of the national laboratory along with energetic and talented colleagues will offer the chosen candidate an excellent opportunity to develop a rewarding career in this field.

Ideal candidates will have exceptional talent, scientific track records and potential to become impact players in the field of actinide studies. Preferred candidates will have experience and interest in solid state chemistry and physics, materials science, nuclear physics, solution chemistry and separations, radiation chemistry, forensics and standards, and other related fields as they apply to the actinides.

The Glenn T. Seaborg Distinguished Postdoctoral Associate appointment provides up to two years of research support to the selected candidate with a possible one-year extension. The mission of INL's Glenn T. Seaborg Institute is to help the candidate develop a potential long-term career relationship following a successful appointment.

Glenn T. Seaborg

Glenn T. Seaborg (1912-1999) is widely recognized as the father of the modern Periodic Table of Elements after he suggested that elements 89-103 be placed in a series below the lanthanide elements. This breakthrough allowed him to predict the properties of new elements and led to his discovery of multiple new elements including plutonium, americium, and the element that bears his name, seaborgium, among others.

His work significantly impacted modern society. His discoveries, along with those of many other important researchers, ushered in the modern nuclear age and led to the widespread use of nuclear energy and countless radiological advancements in medical, household, and military applications. He served as an advisor to multiple U.S. presidents and organizations that shaped nuclear policy and research directions.

In his later career, Seaborg became concerned with the lack of new researchers entering the fields of actinide and transactinide studies. He was instrumental establishing the first Glenn T. Seaborg Institute with the twofold mission of encouraging the development of new researchers and advancing the scientific understanding of the f-block elements.

Distinguished Postdoctoral Associate Program:

- Opportunity to develop and build independent research while helping advance INL, the Department of Energy, and national agendas for energy and security.
- Access to cutting-edge instrumentation and facilities.
- Mentors include top INL researchers and leaders.
- A prestigious and competitively compensated position.

Candidate Requirements

- Attained a doctorate degree in nuclear or mechanical engineering, physics or comparable discipline.
- Completed Ph.D. prior to distinguished postdoctoral appointment and within the previous five years.
- Demonstrated leadership and potential for independent research.
- Demonstrated oral and written scientific communication skills in English.

Preferred Candidates

- Possess a Ph.D. degree from a prestigious university.
- Graduate of a prestigious program in their field.
- Completed a research experience or Postdoc appointment at a premier institution.

Application Deadline

The application is open October through January with reviews and selections performed on an as-received basis, with the latest announcements in May.

Application Process

Please submit the following materials:

1. Letter of interest that details long-term professional goals, dates of availability, and development goals that include descriptions of strengths and disciplinary areas for research (two pages maximum, 8.5-by-11-inch paper, single-sided)
2. Current curriculum vitae
3. Unofficial transcripts
4. Bibliography of publications, preprints and significant presentations
5. One peer-reviewed publication preprint or reprint of your choice
6. Abstract of doctoral dissertation
7. Proposed research plan (maximum of two pages, 8.5-by-11-inch paper, single-sided) that includes:
   - Research to be addressed
   - Conjectures or hypotheses to be tested
   - Proposed methods of investigation
   - Guiding relevant theoretical frameworks
   - Research schedule
   - Unburdened budget
   - Major equipment needs and other necessary resources
8. Three letters of recommendation, one must be from Ph.D. advisor

Applicants must submit all required materials through www.inl.gov/careers

Applications that do not follow all submission instructions may be deemed ineligible.

Finalists may be asked to provide additional information.

Contact Information:

Postdoctoral Specialist
Idaho National Laboratory
2525 N. Fremont Avenue
Idaho Falls, ID 83415-3790
postdocoffice@inl.gov

University of Missouri-Columbia

College of Arts and Science

Department of Chemistry

Assistant Professor

The Department of Chemistry at the University of Missouri, Columbia is seeking to fill an Assistant Professor tenure track position in radiopharmaceutical chemistry beginning in Fall 2024. It is expected that the successful candidate will have the potential to build a funded, nationally, and internationally recognized, research program. A research focus on the use of radionuclides produced at the MU Research Reactor (MURR) to enable development of new theranostic agents is preferred. Finally, the successful candidate will demonstrate the promise of establishing a strong record of teaching organic, inorganic and / or radiochemistry at both the undergraduate and graduate levels.

The University of Missouri, Columbia (Mizzou) is in the midst of a $1.5B initiative called Mizzou Forward MizzouForward // Office of the Provost (missouri.edu), a transformational program designed to increase its visibility and standing as a flagship research university. Mizzou also boasts the largest research reactor, MURR, MU Research Reactor - Home (missouri.edu) a 10 MW light water reactor, a 16 MeV cyclotron, and the Medical Imaging and Theranostic Center (MITC) Home | Molecular Imaging and Theranostics Center - Molecular Imaging and Theranostics Center (missouri.edu).

Qualifications
Minimum Qualifications:
Ph.D. in Chemistry by time of appointment.

Candidates will be evaluated on:
Potential for research excellence in radiopharmaceutical chemistry, teaching, and mentoring experience and potential, and ability to contribute to the University's mission of teaching, research, and engagement.

Application Materials
Please apply online at: https://hr.missouri.edu/job-openings (Job Opening ID 48670). Use the online application and be prepared to upload your CV, statements of research accomplishments and interests, and teaching and mentoring philosophy.

We value the uniqueness of every individual and strive to ensure each person's success. Contributions from individuals with diverse backgrounds, experiences and perspectives promote intellectual pluralism and enable us to achieve the excellence that we seek in learning, research, and engagement. This commitment makes our university a better place to work, learn and innovate. In your application materials, please discuss your experiences and expertise that support these values and enrich our missions of teaching, research, and engagement.

Applicants may contact the Chair of the Search Committee Justin Walensky (walenskyj@missouri.edu) with any questions about the job duties. Contact Human Resource Services (muhrs@missouri.edu) for any questions about the application process. Review of applications will begin on December 1, 2023 and will continue until the position is filled.

Benefit Eligibility
This position is eligible for University benefits. The University offers a comprehensive benefits package, including medical, dental and vision plans, retirement, and educational fee discounts. For additional information on University benefits, please visit the Faculty & Staff Benefits website at http://www.umsystem.edu/totalrewards/benefits

Equal Employment Opportunity
Equal Opportunity is and shall be provided for all employees and applicants for employment on the basis of their demonstrated ability and competence without unlawful discrimination on the basis of their race, color, national origin, ancestry, religion, sex, pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, or any other status protected by applicable state or federal law. This policy shall not be interpreted in such a manner as to violate the legal rights of religious organizations or the recruiting rights of military organizations associated with the Armed Forces or the Department of Homeland Security of the United States of America. For more information, call the Director of Employee and Labor Relations at 573-882-7976.

To request ADA accommodations, please call the Director of Accessibility and ADA at 573-884-7278.

FULLY FUNDED POST-DOCTORAL RESEARCH FELLOWSHIP

Determining the presence of radioactivity in projects involving natural resources *via* the development of new radioanalytical tools. (*Reference number: 2023-04*)

Natural resources directly and indirectly accounted for a significant portion of Canada's gross domestic product and accounted for millions of jobs in Canada. Yet, the sustainable growth of this economic sector is conditional to social acceptability. Been ubiquitous to our world, natural radioactivity is amongst the parameters that create apprehension of the population even if the radioactive emitters are already present in the environment before any anthropogenic activities occur. To tend towards the sustainable development of our natural resources for all three pillars (economic, environmental, and social), accurate, publicly available, and reliable data on the presence and behavior of radioactivity are therefore necessary. As environmental and health effects of an exposure to radioactivity are of concerns for the public, monitoring of the presence radioactivity prior, during and after the exploitation of natural resources is amongst the strongest argument to demonstrate the limited impacts to surrounding communities. Sadly, due to radioanalytical limitations, a monitoring of this parameter is not systematically performed. This is caused by the limited number of laboratories performing such analyses due to cost and trained qualified personnel issues which need to be overcome. The partnership between the academia and the governmental organizations aims towards addressing these issues.

The postdoctoral fellow will be responsible for the development of new tools to accelerate and improve the quantification of Ra and Po at environmental levels by adapting analytical methodologies (resin separation and cloud point extraction) recently developed in our laboratory. In this context, the candidate will have the opportunity to use a wide range of equipment for sample preparation and radiochemical characterization (ICP-MS/MS, alpha spectrometry). In addition, the postdoc will also have the possibility to interact with our partner's organization (Centre d'Expertise en Analyse Environnementale du Québec) for the preparation of reference materials, and the design and validation of new separation resins.

Your profile:

• Your background includes relevant experience in inorganic mass spectrometry and/or radioanalytical chemistry.

• You hold a Ph.D. in either chemistry, environmental sciences, separation sciences, or a closely related field. The PhD should have been obtained after January 2021.

• You possess exceptional theoretical and practical expertise in one or more of the following areas: radiochemistry, separation science, and inorganic mass spectrometry.

• Your impressive scientific portfolio demonstrates a history of well-organized research design and execution.

• Your communication skills in both spoken and written English are strong, and you exhibit the ability to work independently and collaboratively within a team. Your CV and cover letter should emphasize your leadership capabilities, and how this project will contribute to your professional growth.

• You are highly motivated to engage in collaborative efforts with researchers and industry professionals, and you have a keen interest in participating in technology transfer activities.

The selected candidate will have the role of overseeing graduate students, as well as presenting and deliberating over research findings with our provincial collaborators. This position will be based at Laval University, a French-speaking institution (Quebec City, Canada).

Laboratoire de Radioécologie

Admission Department
Chemistry department

Research Supervisor
Dominic Larivière, Université Laval, Québec

Expected profile of the candidate
PhD in analytical or environmental chemistry, separation science, chemistry, or equivalent.

Requirements

- Experience with ICP-MS or radioanalytical techniques
- Autonomy in research
- Excellent writing skills
- Supervision of research staff

Start date
Fall 2023 / Winter 2024

Additional information
35h/week, holidays: 20 days/year
1-year contract, possibility to renew for a second year

Salary
Between 22$/h and 26.30$/h depending on the experience

To apply
Send your cover letter (please provide the reference number) describing research interests and goals, your motivation (max. 2 pages), list of publications highlighting your most relevant peer reviewed works, CV, and academic transcript to: dominic.lariviere@chm.ulaval.ca

For this project, we will encourage applications of members of equity seeking groups.