Division of Nuclear Chemistry and Technology
American Chemical Society

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

NEWSLETTER
November 2024

Topics

FROM THE CHAIR

Justin Walensky

Happy Fall everyone! Thanks to the hard work of Annie Kersting, the Division was able to secure a grant from ACS for upgrading the website!

We have been busy getting together a great group of candidates to take over the NUCL division leadership. I am confident that they will great for advancing our visibility, outreach, and service. As Program Chair, we serve as ex-officio members of the Nuclear Science Advisory Committee (NSAC) which is an interesting experience as to advances in science as well as NSF and DOE priorities in funding nuclear-related projects. This is an eye-opening experience to get to engage with leaders in both academic and government communities.

The last part of this year will be analyzing our strategic plan. We will be looking at what is doing well, what needs to be supported more, and what needs to be let go in terms of priorities and mission. I look forward to any input you may have!

Greetings from Colorado*:* Fall 2024 Meeting Notes

Dustin Demoin, Deborah Penchoff, and Todd Bredeweg

The NUCL division symposia began with ACS Seaborg Award: Symposium in honor of Kenneth Nash. The symposium was led by Peter Zalupski who showed video messages to Ken from colleagues around the world. If you have a message you would like to send to Peter, he is attempting to compile them into a video for Ken. The sessions included tributes, stories, and interesting chemistry presentations.

The Young Investigators in Nuclear & Radiochemistry sessions were a great success showing off the talent of members of the division who are at the earlier stages of their education and careers. General Topics in Nuclear Chemistry & Technology also had a wide variety of offerings for types of chemical applications for study.

The Elevating Nuclear Chemistry Solutions to National & Global Challenges session included some big-picture conversations for where nuclear and radiochemistry might solve global problems. This included talks about nuclear forensics, using big data, and purifying and using the U-235 from "used" nuclear fuel. Embedded in this session, was a panel discussion about pitfalls and solutions members of the division have used to be successful outside of traditional Chemistry Academic Departments. We are seeing a shift of needs for more radiochemists who might get training and work outside of academia, which requires understanding of what might happen as nuclear and radiochemists join the workforce. Some interesting themes emerged, such as setting expectations for tenure, time to build out and set-up a radiochemical laboratory, and how those expectations might be different outside of a traditional Chemistry department. Alison Tamasi represented working in the U.S. government, Deborah Penchoff (and some members of the audience) provided the experience from nuclear engineering departments, Tyler Spano (and other members of the audience) provided the experience from working at national laboratories, and Dustin Demoin represented working in an industrial space.

Business meeting minutes are provided in the newsletter and through the website. We were also reminded throughout the meeting about the need for people who are interested to get involved with the division. Many members indicated their willingness to serve as officers and on standing committees within the division, which we hope will diversify perspectives and lead to continued growth of our division. Please let Amy Hixon know if you are interested in running for an office or contact any officer or committee coordinator to find out more information. Todd Bredeweg planned the social at *Earl's Kitchen + Bar*, which was also a great success. We had great conversations and networking opportunities that evening.

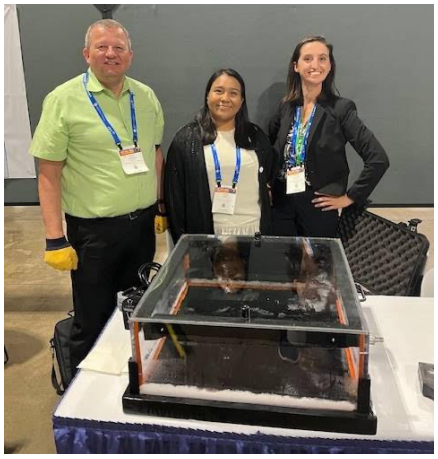
The Nuclear Forensics sessions closed out the programming and were a tremendous success with many individuals hoping that these sessions would be continued. From our understanding, this is aligned with the current plan from the programming committee and session organizers.

We were informed that the meeting format will be the same in the Spring of 2025, but that starting the Fall of 2025, we will change the meeting format to start on Mondays, removing programming from Sundays. A huge thank you to all the people who came, presented, organized, presided, and helped with the success of the Fall 2025 ACS National Meeting in Denver!

We hope to see you in San Diego (or Kona) in March!

Sci-Mix Success at Fall 2024 ACS Meeting

The NUCL Division participated in Sci-Mix this year as part of Division Row. The Sci-Mix attempts to get people enthused about joining divisions, learn what is available, and celebrate chemistry (as part of the associated poster session). At the Spring Meeting, Donivan Porterfield and Ralf Sudowe proposed to bring a cloud chamber and natural radioactive sources to excite people about nuclear and radiochemistry. Donivan—a Councilor for the Central New Mexico Local Section—helped to coordinate the specific requirements for our table and to co-locate our Division table near the local section table to increase support to help explain what we were displaying. Ralf and his students Raissa Chunko and Anilu Diaz set up a cloud chamber (photo below!) with a Uranium-containing rock inside and everything that could go well did. Students, Postdocs, and Scientists from all ages were drawn into the chance to see a working cloud chamber IRL (in real life). This was a great success, and we were busy the entire event answering questions and helping people get pictures and videos. We hope to continue this at the Spring 2025 meeting. If anyone has suggestions or could help out with an interesting demonstration (or even the same demonstration) at the Spring 2025 meeting in San Diego or the Fall 2025 meeting in Washington, D.C., then please contact Dustin Demoin (dustin.demoin@ezag.com).



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 2024 ACS National Meeting was held live from 18-22 August in Denver. The ACS Council meeting was held in hybrid format during the ACS meeting, on Wednesday 21 August 2024. There were 11,569 registered attendees (10,245 in-person and 1,324 online). A new ACS Meeting App was used at the Denver meeting. 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 in hybrid format at the Denver ACS meeting on Saturday, 17 August. I would like to remind all of the NUCL members that resources are available at no cost 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. Graham Peaslee is your second NUCL Councilor.

By electronic ballot, the Council elected Donna Friedman, Matthew Grandbois, Diane Grob Schmidt and Kimberly Woznack to the Council Policy Committee for 3-year terms (2025-2027). Sheila Murphy was elected for a 2-year term to fill an unexpired term (2024) and the following full 3-year term (2025-2026). By electronic ballot, the Council elected Allison Aldridge, Mary Engelman, Katherine Johnson, Daniel Rabinovich, and Brian Mathes for 3-year terms (2025-2027) on the Committee on Committees (ConC).

By electronic ballot, the Council elected Peter Dorhout, Holly Davis, Kevin Edgar and our own Donivan Porterfield for 3-year terms (2025-2027) on the Committee on Nominations and Elections (N&E).

The Council approved the Petition for Global Representation on Council by 90.58%. The floor amended petition maintains the 80:20 split of Councilors and does not reduce the number of local section councilors and adds division councilors to maintain the 20% to divisions.

Council approved the petition to amend the name of the Committee on Technician Affairs (CTA) to the Committee on Chemical Technical Professionals (CTP).

Council approved the continuance of the Committees on Ethics; Nomenclature, Terminology and Symbols; and Project SEED and, subject to the approval by the ACS Board of Directors, the Committees on Chemical Safety; Chemistry and Public Affairs; Community Activities; Minority Affairs; Professional Training; Senior Chemists; Women Chemists; and Younger Chemists.

Council approved the Academic Professional Guidelines, as amended to reflect the shared responsibility and accountability with the academic institution, faculty, and other mentors in creating a safe environment, and the Chemical Professional's Code of Conduct.

Council approved the creation of the following International Chemical Sciences Chapters: Bangladesh, East and Northeast India, West India.

ACS Board actions of interest:

- The ACS Spring 2028 meeting was changed from San Diego (5-8 March) to Houston (19-23 March).
- The ACS Fall 2029 meeting was changed from Boston to Los Angeles (19-23 August).
- The advance member registration fee for 2025 spring and fall meetings will be $549 for in-person and $249 for virtual.

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.

UPDATING WEBSITE

We are in the process of updating the NUCL division website. If anyone has pictures that they think would be a great addition, please email them to Annie Kersting at: Kersting1@llnl.gov. Please tell us something about the pictures and a date if possible. Thank you.

LINKEDIN GROUP

Did you know there is a NUCL Division LinkedIn group? You can find the group by group by searching "ACS-NUCL" or use the following link:
https://www.linkedin.com/groups/12060429/

CORYELL AWARD WINNER

The NUCL Division was proud to recognize the Coryell Award recipient, David Russell, from the University of Alabama at Birmingham, at the 2024 Fall National Meeting. This award is given to the top undergraduate nuclear chemistry research student. The picture above, from left, includes Dr. Jonathan Burns (advisor), David Russell, and Jennifer M. Pyles (postdoctoral researcher).

NATIONAL MEETING PROGRAMMING

If you are interested in proposing a symposium or working with someone to organize a new symposium at an upcoming meeting, contact Todd Bredeweg (toddb@lanl.gov).

Spring 2025
The 269th ACS National Meeting & Exposition will be held **March 23 - 21, 2025** in **San Diego, CA**. Please contact Deborah Penchoff (deborah.penchoff@ucf.edu) for more information.

Below are the symposia for Spring 2025:

- ✓ **Computational Science Applications in Rare Earth Elements and Actinides**
  Organizers:
  - *Deborah Penchoff and Charles Peterson*
- ✓ **Radiochemical Separations**
  - *Organizers:*
  - *Dustin Demoin, Lætitia Delmau, and Ivis Chaple Gore*
- ✓ **Spectroscopy & Synchrotron Techniques for Radioisotopes**
  - *Organizers:*
  - *Rebecca Abergel, Stefan Minasian, and Korey Carter*
- ✓ **Environmental Radiochemistry**
  - *(co-sponsoring with ENVR)*
    Organizers:
    Sarah Saslow and Julia Neumann
- ✓ **f-Element Chemistry and Non-Equilibrium Phenomena: Dissolution, Adsorption and Radiolysis Kinetics in Nuclear Wastes**
  - *(co-sponsoring with COMP, PHYS, I&EC)*
    Organizers:
    Vanda Glezakou, Richard Mayes, and Roger Rousseau
- ✓ **General Topics in Nuclear and Radiochemistry**
  - *Organizers:*
    Dustin Demoin and Thibaut Lécrivain
- ✓ **ACS Seaborg Award: Symposium in honor of Betty Tsang**
  - *Organizers:*
    Romualdo Desouza, Deborah Penchoff, and Lee Sobotka

Below are the currently proposed symposia for the Fall 2025 meeting, which will be held August 17 – 21 in Washington, D.C.:

- **Data Science and Artificial Intelligence Applications in Nuclear and Radiochemistry**
- **Future Vistas in the Physical and Chemical Chemistry of Heavy Element Chemistry**
- **NUCL-ACS Has Got Talent**
- **Nuclear Forensics**
- **Session to honor Prof. George Schweitzer**
- **Young Investigators**
    - *Could use more organizers*
- **General Topics**
    - *Possibly use another organizer*

Below are the currently proposed symposia for the Spring 2026 meeting, which will be held March 22 – 26 in Atlanta, GA:

- **Computational Science Applications in Rare Earth Elements and Actinides**
- **Data Science and Artificial Intelligence Applications in Nuclear and Radiochemistry**
- **Empowering Actinide Science and Talent through the Glenn T. Seaborg Institutes**
- **Horizon-broadening Isotope Production Pipeline Opportunities Program (HIPPO)**
- **Facilitating Advances in Nuclear and Radiochemistry through Computational Science**
- **Radiopharmaceutical Chemistry**
- **General Topics**
    - *Could use organizers*

NUCL ELECTION CANDIDATES

Vice-Chair/Chair Elect/Chair:
Tyler Spano
Ralf Sudowe

Treasurer:
Daniel Felton

Member at large:
Jordan Roach
Thibaut Lecrivain

Councilor:
Matt Gott
Matthew Christian

CANDIDATE BIOGRAPHIES

Dr. Tyler L. Spano, *Oak Ridge National Laboratory*, is a Research and Development Staff member in the Nuclear Nonproliferation Division at ORNL. Tyler obtained her B.A. in Earth Science and Chemistry in 2012 from Kean University, and her Ph.D. in Uranium Mineralogy and Nuclear Forensics at the University of Notre Dame in 2017. Following her graduate research and a postdoctoral fellowship at the University of Notre Dame, Tyler completed a postdoctoral appointment at ORNL where she investigated synthetic pathways and spectroscopic signatures of exotic uranium oxide phases and phase transitions in uranyl peroxides. Tyler's current research includes material synthesis, optical vibrational spectroscopic, and X-ray diffraction investigations of structure-property relationships of nuclear fuel cycle materials and related phases for nuclear forensics and nonproliferation. Tyler has been a member of the Nuclear Science and Technology Division for over 10 years, she regularly contributes to technical programming at ACS and Geological Society of America annual meetings and is actively involved in numerous outreach and service activities. She currently serves as Chair of the

Early Career Committee for the Mineralogical Society of America, Co-Chair of the Diversity, Equity, Inclusion and Belonging Committee for the ACS NUCL division, and Vice President of the East Tennessee Chapter of the ACS Women Chemists Committee. Tyler is excited for the opportunity to put her dedication to nuclear science and passion for outreach to work for the NUCL division.

Dr. Ralf Sudowe, *Colorado State University*, is a Professor for Radiochemistry & Health Physics in the Department of Environmental & Radiological Health Sciences at Colorado State University. He received a M.S. in Chemistry and a Ph.D. in Nuclear Chemistry from the Philipps-University Marburg in Germany. He spent two years as a Visiting Postdoctoral Fellow in the Nuclear Science Division at Lawrence Berkeley National Laboratory and worked for five as a staff scientist in the Nuclear Science and Chemical Sciences Division at LBNL. From 2006 to 2016, he was a faculty member in the Department of Health Physics & Diagnostic Sciences at University of Nevada Las Vegas, where he held positions as Assistant & Associate Professor. From 2014 – 2016 he was the program director for the Radiochemistry Ph.D. program at UNLV. In 2016 he joined the faculty at Colorado State University, where he was promoted to full professor in 2020. His research focuses on the development and optimization of advanced radioanalytical techniques for environmental monitoring, emergency response, nuclear forensics, nuclear safeguards, and isotope production.

Dr. Daniel E. Felton, *Oak Ridge National Laboratory (ORNL),* obtained his undergraduate degree from the University of Idaho (B.S., Chemistry and Physics, 2018) where he was first exposed to radiochemistry. He obtained his graduate degree from the University of Notre Dame (Ph.D., Chemistry, 2023) where he studied uranium containing clusters and the effect of radiation on uranium compounds and solutions. He is currently a postdoctoral researcher at ORNL where he works on uranium chemistry related to the front end of the nuclear fuel cycle. Daniel is passionate about mentoring, having guided students for four years at both Notre Dame and ORNL. He is eager to further contribute to the ACS Nuclear Division by fostering the next generation of nuclear scientists and promoting the division's goals.

Dr. Thibaut Lecrivain is a senior radiochemist for an Inorganic Radioanalytical Laboratory and Uranium Nuclear Fuel Cycle consulting expert at Material and Chemistry Laboratory Inc., in Oak Ridge, TN. He joined MCLinc. in 2024 as lead of the Radioanalytical division, and isotope analysis performing analytical projects for DOE and DOE subcontractors in the ORNL and Y-12 area. He also works on the mentoring of new employees on radioactive material handling, analytical methods of radioactive substances, and analytical separation methods. Dr. Lecrivain is also periodically a guest lecturer at local community colleges and out-of-state universities and also in France on nuclear science-related topics. Previously, Dr. Lecrivain worked as a Glen Seaborg Distinguished Fellow Postdoctoral Scientist at Idaho National Laboratory, where he served also for 3 years as the vice chair and chair of the INL Early Career Researcher Association and was part of the mentoring program. He completed his Ph.D. at Washington State University under Prof. Nash's supervision and worked for the Commissariat à l'énergie atomique in Saclay, France, and the Commissariat à l'énergie atomique in Marcoule, France.

As a *member-at-large,* Lecrivain will participate in helping to develop the future of the ACS-NUCL division. He will focus his attention on improving the division's communication strategy to promote the inclusion of all current members while recruiting new members. At the same time, Lecrivain will work on increasing the number

of co-sponsor symposia during the ACS national meeting with pertinent potential other ACS division partners, with the objective of breaking barriers. For examples, he believes not only that NUCL could be an optimum co-sponsor for the INOR symposia "coordination: lanthanides actinides", but also that PHYS could co-sponsor our computational and/or spectroscopy symposia.

Dr. Jordan M. Roach, *Oak Ridge National Laboratory (ORNL)*, obtained his B.Sc. in Chemistry from Saint Michael's College, VT in 2018. An ACS member since 2014, he served Treasurer and Co-President of the college's student affiliates chapter. He earned his Ph.D. in inorganic chemistry from the University of Notre Dame in 2023. The topic of his thesis work focused on the combustion synthesis of actinide oxides and their mechanisms. In 2022, he spent three months as a Glenn T. Seaborg Institute graduate research assistant fellow in the Center for Integrated Nanotechnologies at Los Alamos National Laboratory. He joined the Materials and Chemistry Group within the Nuclear Nonproliferation Division at ORNL in 2023 as a postdoctoral research associate. His current research includes the hydrolysis and morphological changes of uranium/ uranyl fluorides and the development of combustion synthesis capabilities at ORNL.

Dr. Matt Gott, *Oak Ridge National Laboratory (ORNL),* is a senior research scientist and the Stable Isotope Materials and Chemistry group leader within the Enrichment Sciences and Engineering Division at ORNL (2022-present). In this role, he leads a team of experts responsible for maintaining and dispensing materials from the Nation's Repository of Stable Isotopes. Our team performs chemical conversions and custom material fabrications to support medical, security, defense, and nuclear physics efforts for customers worldwide. Previously, Matt worked at and led the Center for Accelerator Target Science within the Physics Division at Argonne National Laboratory (2018-2022), where he focused on making a variety of isotopic targets supporting the ATLAS user facility and DOE Nuclear Physics facilities nationwide.
Matt earned his B.S. and M.S. degrees (2009 and 2010) in Chemistry from Tennessee Technological University, completing his thesis work under Dr. Dale Ensor studying chromatographic separations for nuclear waste remediation. He completed his Ph.D. (2015) in Radiochemistry at the University of Missouri, studying accelerator production of several medically relevant radionuclides under Dr. Silvia Jurisson. Matt was a postdoctoral researcher (2015-2017) at Helmholtz-Zentrum Dresden-Rossendorf developing chelators for medically relevant radionuclides.
Matt is a member of the NUCL division of the ACS and serving on the board of directors for the International Nuclear Target Development Society. He is actively pursuant of student outreach, hosting a target development workshop in 2022 and supporting the Horizon-broadening Isotope Program Pipeline Opportunity (HIPPO) program since 2022. I look forward to the opportunity to help serve the NUCL division.

Dr. Matthew S. Christian, *Sandia National Laboratories*, obtained his undergraduate degree from the University of California Santa Barbara (BS Chemistry, 2010) and his graduate degree from Dalhousie University (2018) where he studied density-functional theory approaches to model van der Waals interactions on surfaces. After graduation, he took a post-doctoral position at the University of South Carolina where he developed high-throughput modeling algorithms for nuclear waste forms and for thermochemical properties for molten salt reactor fuels. In 2021, he moved to Sandia National Laboratories as a post-doc to work on simulating gas capture in metal-organic frameworks (MOFs) before converting to a

staff scientist in 2023. He currently is a developer of the MELCOR nuclear reactor simulator working on implementing radionuclide transport and reaction models focused on non-light-water reactors, such as molten salt reactors and sodium fast reactors. As a relatively young researcher, he has a commitment to help guide students the complicated route through school to start a career, reflected in curricula development for the MELCOR software package.

AWARDS NOMINATIONS COMMITTEE OF NUCL

Deborah Penchoff and Nathalie Wall

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

NextGen

Nonproliferation Leadership Development Program

BERKELEY LAB

HOFFMAN FELLOWS WILL HAVE THE OPPORTUNITY TO:

- Gain a deeper technical knowledge in their field of expertise
- Engage in research within nonproliferation fields of study
- Network and establish connections with fellows & other senior staff throughout the DOE national lab complex
- Advance their professional and career growth

PROGRAM HIGHLIGHTS & BENEFITS

- Two-year prestigious postdoctoral appointment
- Salary of $110,000/year
- $25,000 stipend for research and travel
- Opportunity to work on projects related to the nonproliferation mission such as nuclear safeguards, nuclear forensics, nuclear test detection, quantum physics, AI/ML, arms control, and treaty verification

REQUIREMENTS & APPLICATION MATERIALS

- PhD in revelant displine
- One-page summary of PhD thesis
- Curriculum Vitae
- Two (2) letters of recommendation
- Cover letter detailing your background, research, experience and interest in nuclear nonproliferation
- Now accepting applications through January 31, March interviews with decisions made by April, flexible start date of June—October 1
- Ability to obtain and maintain a U.S. DOE Q-level security clearance which requires **U.S. citizenship**

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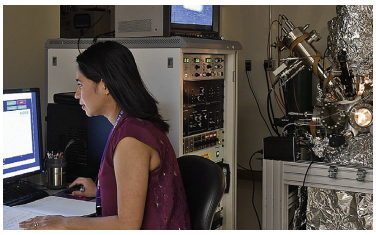
Please email us at nextgen@lbl.gov for more information.

NNSA National Nuclear Security Administration

NextGen is supported by the National Nuclear Security Administration's (NNSA) Office of Defense Nuclear Nonproliferation Research and Development (NA-22) through the Nonproliferation Stewardship Program (NSP).

24-LD-24509

G. T. Seaborg Institute at LANL
Graduate Research Program



We are pleased to announce a nationwide search for outstanding graduate student candidates to participate in the Seaborg Institute Graduate Research Program at Los Alamos National Laboratory, sponsored by the Department of Energy and the G. T. Seaborg Institute for Transactinium Science. Research fellowships will be offered in two major areas:

Nuclear and Radiochemistry — *nuclear forensics, homeland security, nuclear medicine, isotope production, nuclear physics, and related areas.*

Actinide Science — *f-element chemistry and physics, spectroscopy, surface science, materials science, metallurgy, and related areas*

The research program generally runs 10-12 weeks and gives students an opportunity to join Los Alamos scientists in independent research projects that can contribute to their thesis or advanced degree. **Start dates can be between March and August and hybrid or on-site options are available**. While at Los Alamos, students are encouraged to attend our lecture series on a wide variety of current research topics presented by experts in the fields. Students are expected to present their research results at a poster session at the end of the their experience.

Application Procedure

A complete application package will include a completed Google Form Application, CV, two letters of recommendation, and current transcripts (official or unofficial).

Application forms can be accessed by clicking ***here*** or by scanning the QR code below. Submit your application and supporting documents via the Google form. Your letters of recommendation may be emailed separately to ***seaborg@lanl.gov*** or uploaded directly with your Google Form package; please include the applicant name in the subject email when submitting.
The deadline for 2025 applications is January 8, 2025.

Eligibility

Students must be enrolled full-time at the time of application. Selection will be made on the basis of the applicant's academic record, recommendation letters, and research interests.

Salary

Students are paid a competitive salary based on Laboratory guidelines. Graduate student temporary employee salaries are based on the number of academic school years completed. More information can be found on LANL's ***education page***.

Apply here:

2025 APPLICATION DEADLINE : 8 JANUARY

Now Hiring!

Lecturer Cohort Hire

The Department of Chemistry & Biochemistry at JMU is currently accepting applications for a RTA lecturer position to begin in Fall 2025. This is a 10-month, full-time, fully benefitted, non-tenure track position that is renewed annually, with no limit on the number of terms. Teaching responsibilities include introductory and lower division courses and laboratories. Service and scholarship is also expected.

About the Department

Undergraduate-only program with ACS certified degrees | >$10M in instrumentation | Nuclear facilities | Undergraduate research | ~200 majors | SAACS, AXE, NOBCChE | 28 full-time faculty | Committed to student success & inclusive excellence

Candidate Qualifications:

- An M.S. in Chemistry with at least 18 hours of graduate coursework or a Ph.D. in Chemistry or related field
- Candidates will be evaluated based on their potential to create an equitable and inclusive environment for teaching and learning at a primarily undergraduate institution

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

Learn more & apply!

JMU Department of Chemistry and Biochemistry

Now Hiring!

Tenure-Track Cohort Hire

The Department of Chemistry & Biochemistry at JMU is currently accepting applications for an assistant professor tenure track position to begin in Fall 2025. The successful candidate will join recent cohort hires with nuclear, environmental, inorganic, and materials chemistry expertise. The aim of this cohort is to expand our nuclear chemistry curriculum. Individuals with complementary expertise in any discipline of chemistry are encouraged to apply.

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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

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

Learn more & apply!

https://bit.ly/JMU-CHEM-Cohort

JMU Department of Chemistry and Biochemistry

Department of Civil and Environmental Engineering
Assistant/Associate/Full Professor
Nuclear Engineering

The University of Utah's Nuclear Engineering Program (UNEP) invites applications to immediately fill two full-time, tenure-track faculty positions in Nuclear Engineering with an anticipated start date of August 1, 2025. One of the positions is to be filled at the Assistant Professor level, and the other is open rank. Full and Associate Professor level applicants may be considered for the Energy Solutions Presidential Endowment. These positions are part of the University of Utah's 2024 initiative to grow the Nuclear Engineering Program.

UNEP is housed in the University of Utah's Civil and Environmental Engineering Department (CVEEN) with four current tenure-track faculty lines augmented by affiliated faculty from other departments from the College of Engineering, College of Science, and School of Medicine. UNEP maintains strong collaborations with U.S. national laboratories, industry, and universities around the world. UNEP offers an undergraduate minor, M.S., and Ph.D. degrees. UNEP maintains an NRC-licensed 100 kW Modified Mark I TRIGA Reactor with newly upgraded controls, cooling, and monitoring systems, as well as laboratory facilities to enable advanced nuclear research, in addition to state-of-the-art laboratories for radiochemistry, radiation detection and measurement, optical microscopy, nuclear medicine, nuclear forensics, and neutron activation analysis. UNEP faculty also have access to world-class user facilities at the University of Utah, including the Nanofab facility for materials characterization. The university is licensed by the state of Utah to perform research within its laboratories with a wide range of radioactive materials. Research opportunities span a broad range of topics, including nuclear safety and forensics, power, nuclear fuel storage and disposal, nuclear fuel cycle, nuclear materials, nuclear detection, nuclear medicine, advanced numerical modeling, simulation and visualization, signal processing, and fundamental nuclear physics.

Position Description – Hired applicants will be expected to develop an externally-funded research program, mentor undergraduate and graduate students, produce scholarly publications, collaborate with other faculty on professional development interests, and provide departmental, college, and university service. They will be required to teach undergraduate and graduate courses in nuclear engineering. An earned Ph.D. degree in Nuclear Engineering or a closely related discipline (before the date of hire) is required. Strong communication skills and the ability to work collegially and collaboratively with diverse internal and external constituencies are also expected.

UNEP invites applications with one or more of the following areas of expertise: nuclear reactor physics and radiation transport methods/analysis; nuclear reactor kinetics; nuclear fuel cycles for conventional and advanced nuclear energy systems; nuclear fusion science and technology; nuclear systems analysis and optimization; development, testing, evaluation, and performance assessment of advanced nuclear fuels, alloys, molten salts, and materials for harsh

environments and advanced nuclear systems; nuclear monitoring, and imaging methods; non-proliferation technologies and nuclear forensics; nuclear reactor cyberinfrastructure and development of digital twins, advanced artificial intelligence and deep learning techniques in nuclear applications; power engineering informatics related to intelligent and sustainable systems, health physics, nuclear physics, radiochemistry or dosimetry.

Candidates with strong core fundamentals that allow them to work across multidisciplinary areas are particularly encouraged to apply. We seek highly motivated team players who want to help advance our nuclear engineering program.

Part of the Big 12 Conference, the University of Utah is an R1 university located in Salt Lake City at the foothills of the beautiful Wasatch Mountains. Founded in 1850, the University of Utah now enrolls over 32,000 undergraduate and graduate students. The area experiences the four seasons and is known for world-class outdoor recreational activities including skiing, hiking, and biking. The State of Utah has more national parks and scenic areas than any other state. Growth in transportation, energy, mining, software, semiconductors, finance, education, healthcare, and business job sectors have contributed to the State's prosperity, despite the challenging national economy. US News and World Report ranks Utah as the Best State to Live In (2024) and the Wall Street Journal ranks University of Utah #1 Public University in the West (2024).

The CVEEN department is one of seven rapidly growing departments within the John and Marcia Price College of Engineering. In the past decade, the number of tenure-track faculty positions has grown by 50%, and research expenditures have more than tripled to $81.5 million per year, placing our College in the top 30 engineering universities in the country for research volume (2022). The CVEEN Department currently has 21 tenure track faculty members and three lecturing faculty, plus we are actively searching for four positions, including these vacancies. The department has an active research program with over $19 million in external funding in 2023. Additional information about the Department is available at: **www.civil.utah.edu**.

Application Process – Electronic application materials (pdf format) should include a cover letter, curriculum vitae, statement of research interests, statement of teaching interests, up to three (3) relevant publications, and contact information for three references. Applications should be submitted online at **https://utah.peopleadmin.com/postings/171469**. Initial screening of applicants will begin December 2, 2024, although applications will be accepted and reviewed until the position is closed.

The University of Utah is an Equal Opportunity/Affirmative Action employer and educator. Veteran's preference. Reasonable accommodations are provided. For additional information: http://www.regulations.utah.edu/humanResources/5-106.html.

Post-Doctoral Position at the University of South Carolina

There is an immediate opportunity for a post-doctoral fellow at the University of South Carolina to support a significant effort on the development and assessment of novel high temperature materials including structural materials and solid and molten salt nuclear fuels. The research involves developing thermochemical models for complex, multi-element systems to assess material behavior; contribution to the continuing development and expansion of a widely used molten salt thermodynamic database; and evaluation and modeling of materials compatibility in extreme environments. Experimental efforts include the use of a growing suite of instruments including a Calvet DSC; DSC/TGA; room, high temperature, and single-crystal XRD; and a variety of material preparation and testing methods. Extensive training is provided along with frequent opportunities for publication, conference participation, and workshop attendance. There is also the possibility of on-site work with collaborators at one or more U. S. Department of Energy national laboratories.

The positions require a PhD in chemistry, physics, materials science, or engineering, with experience in high temperature materials being helpful.
For further information, or to provide a CV for consideration to Prof. Ted Besmann, Director of the General Atomics Center (besmann@sc.edu)

In addition, it will speed the process if applicants as well respond to the university posting at ***https://uscjobs.sc.edu/postings/175253***

Faculty Opening at the University of Alabama at Birmingham

The Department of Chemistry at the University of Alabama at Birmingham (UAB) seeks candidates for a tenure-track faculty position at the anticipated rank of Assistant Professor. Candidates with demonstrated research expertise in the area of radiochemistry are encouraged to apply.

We seek applications who demonstrate a commitment to teaching excellence at both the undergraduate and graduate levels to a diverse student body, and the expectation of establishing or continuing an outstanding, externally funded research program. The College of Arts and Sciences (CAS) are committed to the success of our student body and maintaining our respectful culture. Members of the CAS community are expected to reflect excellence in our efforts to serve and engage the community.

More information on the position can be found at: https://uab.peopleadmin.com/postings/23230

Full Professor Opening at the University of Tennessee

The Tickle College of Engineering (TCE) at the University of Tennessee, Knoxville (UTK) is seeking applications to fill a faculty position at the Full Professor level in 2025. This initiative is part of an approved Radioisotopes Cluster hire to bolster UTK's strength in the development and use of radioisotopes in all related fields, such as but not limited to, isotope production, radiochemistry, and applications of radioisotopes. Preference will be given to candidates with demonstrated research success in one or more of these areas with the vision to develop collaborative research activities, and are committed to high-quality undergraduate and graduate student education.

The Radioisotopes Cluster was approved and launched in 2022, and several hires have been completed since its inception. In continuation of these recent hires, the Radioisotopes Cluster is seeking to fill its senior-level faculty vacancy. The TCE recently opened the Zeanah Engineering Complex, which is a new $129M building that houses 27 nuclear engineering laboratories. This includes over 4500 square feet of radiochemistry research laboratory space and a radiochemical teaching laboratory suite that will be available to the successful candidate. UTK Nuclear Engineering (NE) has continued to make investments in the radioisotopes research areas including a new $1M small animal PET/CT as well as radioanalytical chemistry instrumentation (ICP-MS, HPLC, iTLC, etc.).

This search aligns well with the current initiatives at Oak Ridge National Laboratory (ORNL) and UT-Oak Ridge Innovation Institute (UT-ORII), including the recently funded $20M Convergent Research Initiative (CRI) in Development and Advancement of Radiopharmaceutical Therapies (DART). The selected candidate will choose which TCE department participating in the Radioisotopes Cluster (Nuclear Engineering, Biomedical Engineering, or Chemical Engineering) they will join. The long-term plan for hires within this cluster include 1) development of new radiochemistry labs, 2) development of enhanced radioisotope curriculum and establishment of a summer school in collaboration with partners at ORNL and UT-ORII, 3) expand partnerships with local hospitals, veterinary centers, and/or businesses with interests in isotope use and research, and 4) establishment of transformational campus-based research center(s). Additional information can be found here: https://apply.interfolio.com/156534

Assistant Professor Opening at the University of Tennessee

The Department of Nuclear Engineering at the University of Tennessee, Knoxville (UTK) is seeking applications to fill a tenure-track faculty position at the Assistant Professor level starting on August 1, 2025. Duties include teaching undergraduate and graduate courses in nuclear engineering-related subjects, generating externally funded research, advising graduate students, writing scholarly journal articles, and providing service to the department, college, university, and professional community.

The University of Tennessee Nuclear Engineering Department is part of the Tickle College of Engineering, which has the fastest growing PhD program among the Top 40 public colleges of engineering. The department has a diverse research portfolio and is the largest Nuclear Engineering PhD program in the United States with over 120 PhD students and over $17M in annual research expenditures. According to ASEE, it also has the second largest undergraduate program. In 2021 we moved into a new $129M building, which houses more than 23 new nuclear engineering laboratories and computational resources. In the past 3 years, our undergraduate program has experienced an unprecedented ~100% growth in first-year enrollment with 97 new freshman. UTK has close collaborations with ORNL, Y-12, and more than 150 nuclear-related companies within 50 miles of campus and is located close to the beautiful Smoky Mountains. The Nuclear Engineering Department is committed to cultivating work/life balance and a family-friendly work environment for faculty, staff, and students.

The Tickle College of Engineering is in the midst of an unprecedented period of growth and success including adding over 30 new faculty as part of ambitious cluster hiring campaigns led by Chancellor Donde Plowman and Dean Matthew Mench. The college has set records in research expenditures, enrollment, incoming student GPA, diversity, intellectual property development, and USNWR rank in the past three years. New facilities include the state-of-the art Zeanah Engineering Complex, the University of Tennessee Manufacturing and Design Enterprise (TN-MADE) facility, and the Innovation South building now under construction that will house UTK's Fibers and Composites Manufacturing Facility (FCMF). TCE currently has 185 Tenure/Tenure Track and 67 Non-Tenure Track faculty in its seven academic departments and offers 12 undergraduate, 16 MS, and 15 PhD degree programs. Affiliated with TCE and located in Tullahoma, Tennessee, the UT Space Institute is a hub of aerospace and defense research. The college is also home to eight research centers and three interdisciplinary institutes. With approximately 3,800 undergraduate and 1,150 graduate students, the college sits 29th among public universities in the most recent U.S. News and World Report graduate rankings. Faculty in the college have won 21 early career awards (NSF, DoE, DARPA, AFOSR, and ARO) since 2016. In FY22, the college had NSF HERD research expenditures of $109 million.

Additional information on the opening can be found here: https://apply.interfolio.com/156670