



## University of Missouri Graduate Fellowship Program in Radiochemistry

The University of Missouri is pleased to announce the availability of the Graduate Fellowship Program in Radiochemistry to support of selected applicants for their doctoral studies in radiochemistry at MU. As a partnership of the MU Chemistry Department and the MU Research Reactor, the Graduate Fellowship in Radiochemistry Program is made possible by financial support provided through 2019 under a grant from the US Nuclear Regulatory Commission.

### **Background Information on the Need for Research and Education in Radiochemistry:**

The Radiochemistry Fellowship program is offered in response to documented national needs for well-trained radiochemists. For background information, we recommend the following two excellent resources:

1. The National Resource Council's 2013 report, "Assuring a Future U.S. Based Nuclear and Radiochemistry Expertise" (available for download at:

[http://nas-sites.org/nuclear-radiochemistry-expertise/?attachment\\_id=145](http://nas-sites.org/nuclear-radiochemistry-expertise/?attachment_id=145) ),

and

2. The US Department of Energy's Nuclear Science Advisory Committee's 2014 report, "Assessment of the Workforce Development Needs in the Office of Nuclear Physics Research Disciplines" ([http://science.energy.gov/~media/np/nsac/pdf/docs/2014/NSAC\\_workforce\\_jul-18-2014.pdf](http://science.energy.gov/~media/np/nsac/pdf/docs/2014/NSAC_workforce_jul-18-2014.pdf) ).

### **MU's Participating Radiochemistry Faculty and World-Class Specialized Research Facilities:**

MU's Radiochemistry program is widely regarded as one of the three top such academic programs in the country. Our faculty are engaged in national programs to develop undergraduate and graduate student interests and capabilities in nuclear chemistry and radiochemistry (e.g., the American Chemical Society's Summer School in Nuclear and Radiochemistry, offered annually in collaboration with two host sites – Brookhaven National Laboratory and San Jose State University) and in the approximately bi-annual hosting of the DOE/DNDO/DTRA Nuclear Forensics Summer Schools. Doctoral students selected to receive a Graduate Fellowship in Radiochemistry will mentor with our core Radiochemistry faculty (see the following summary of areas of specialization, or visit the MU Chemistry Department's Graduate Program web site: <https://chemistry.missouri.edu/grad/graduate-program> ).

- **J. David Robertson**, Director of the Graduate Fellowship Program in Radiochemistry; Professor of Chemistry; Associate Director of Research and Education at the MU Research Reactor (MURR). *Research Specialization: Radiochemistry; nuclear chemistry; analytical chemistry; radioisotope production; nuclear forensics.*
- **Silvia J. Jurisson**, Director of the Radiochemistry Graduate Program; Professor of Chemistry and Radiology; MURR Research Scientist. *Research Specialization: Inorganic and radiopharmaceutical chemistry, including targetry, separations and radiotracer synthesis; radiotracers in plant biology; nuclear forensics.*
- **Susan Z. Lever**, Associate Professor of Chemistry; MURR Research Scientist. *Research Specialization: Organic and bioconjugate chemistry; radiotracer synthesis; human and plant biological imaging agents; radiopharmaceutical development; boron analysis in plants.*

- **Justin R. Walensky**, Assistant Professor of Chemistry. *Research Specialization: Actinide coordination chemistry; radiochemical signature analysis and characterization; nuclear material detection; nuclear forensics; radiochemistry of the nuclear fuel cycle and waste stream.*

In addition to mentorship by nationally recognized faculty, doctoral studies in radiochemistry at MU is enhanced by specialized research laboratories in the Chemistry Department, as well as the world-class analytic and irradiation facilities available through the University of Missouri's Research Reactor (MURR) Center, the largest such research facility in the United States (10 MWth). For background on the MU Research Reactor, visit: <http://www.murr.missouri.edu/>.

#### **Radiochemistry Fellowship Benefits:**

- Stipend of \$1,916 per month, for each 12-month period;
- Tuition payment, and optional medical insurance support;
- Some supplies in support of research;
- Support for travel to a national conference.

#### **Fellowship Eligibility Criteria:**

- Fellowship and scholarship recipients must be United States citizens or noncitizen nationals of the United States, or have been lawfully admitted to the United States for permanent residence (i.e., in possession of a currently valid Alien Registration Receipt Card I-551, or other legal verification of such status). Noncitizen nationals are persons born in outlying possessions of the United States (i.e., American Samoa and Swains Island). Recipients must have and maintain full-time student status. Individuals on temporary or student visas are not eligible.
- Accepted for admission to the MU Chemistry doctoral program, indicating an emphasis in radiochemistry;
- Undergraduate GPA of 3.3 (on a 4.0 scale) or higher;
- Commitment to working six months in the nuclear industry for every year or partial year of support on the Radiochemistry Fellowship, as demonstrated by signing the NRC-required Service Agreement Form (a copy of which can be viewed at the NRC web site: <http://www.nrc.gov/about-nrc/grants/scholarship-svc-agreement.pdf>)  
[Note: The "nuclear industry" is defined as follows: "NRC, other Federal agencies, State agencies, Department of Energy laboratories, nuclear-related industry, or academia in the recipients' sponsored fields of study.]

#### **How to Apply:**

For undergraduate students and/or those from other schools interested in transferring to MU that meet the eligibility criteria, the process to apply for a Radiochemistry Fellowship is the normal process for all applicants for Chemistry Department graduate studies, with an two additional items required:

- Application for Graduate Studies – Department of Chemistry, the form for which is available at: <https://chemistry.missouri.edu/~chem/sites/default/files/gradfiles/chemgradapp.pdf>
- Three letters of recommendation from individuals able to assess applicant's academic preparation for doctoral level studies and career potential in the nuclear industry.
- GRE test scores, or TOEFL scores (for international students)
- Statement of purpose for graduate studies in radiochemistry, emphasizing career interests upon graduation

- Statement of how a Radiochemistry Fellowship would support the applicant's interest in working for the nuclear industry (as defined above under eligibility criteria). The statement (up to one page in length) should describe the applicant's intent to work in the nuclear industry. As applicable, the statement should include a summary of the relationship of any prior internships, summer schools, undergraduate research, and/or other experience in nuclear science and engineering areas to the applicant's interest in a career in radiochemistry.
- [Completed and signed Service Agreement](http://www.nrc.gov/about-nrc/grants/scholarship-svc-agreement.pdf). A copy of the Agreement Form can be viewed at: <http://www.nrc.gov/about-nrc/grants/scholarship-svc-agreement.pdf>

For questions or additional information regarding Chemistry Department graduate studies, please contact the Department at: (573) 884-6832, or email: [gradchem@missouri.edu](mailto:gradchem@missouri.edu) .

**Please Send All Requested Materials to:**

Graduate Admissions Committee / Radiochemistry Fellowship Program;  
Department of Chemistry; 125 Chemistry Building; Columbia, MO 65211-7600

**For inquiries and additional information about the Radiochemistry Fellowship Program:**

Please contact Dr. J. David Robertson (Director of the Radiochemistry Fellowship Program; [RobertsonJo@missouri.edu](mailto:RobertsonJo@missouri.edu)) or Gayla Neumeyer ([NeumeyerG@missouri.edu](mailto:NeumeyerG@missouri.edu)) at the MU Research Reactor's Research and Education Group.

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