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### **Description:**

The [AlChemey Lab](#) is looking for a **Postdoctoral Scholar** in molten salt synthesis for actinide ceramics, focusing on product speciation, thermodynamic evaluations of reaction pathways and products, as well as general scientific support and mentorship. The selected individual will focus on synthesis of actinide ceramics suitable for advanced nuclear reactor fuels. Analytical techniques that are of value include TGA-DSC, scanning and transmission electron microscopy, X-ray diffraction, solid-state NMR, and ICP-OES or ICP-MS. Expertise in gamma spectroscopy is also desirable. The candidate is expected to have extensive experience in at least one method described, or experience in multiple methods, as well as molten salt or molten metal experience.

This is a 12-month full-time position, with an expected salary of \$5,000/month, in the [School of Nuclear Science and Engineering](#). It is preferred that a candidate can begin January 1, 2024. The position is renewable by mutual agreement, after successful completion of an [Individual Development Plan](#). The AlChemey Lab has diverse interests, encompassing the materials science and synthesis of actinide-bearing compounds, actinide separations, and fundamental nuclear physics of the actinides. The hired individual must bring a willingness to learn, and be a leader capable of training and working with others.

### **Position Duties:**

#### **80% Research and Communication**

The Postdoctoral Scholar will be expected to synthesize and characterize metal ceramics synthesized in molten salts using appropriate methods. The Scholar will be expected to produce novel results (by synthesis, analysis, and interpretation of results) in collaboration with others. A major consideration is the ability to communicate results to peer-reviewed journals, conference presentations, and in other venues.

#### **20% Maintenance, Safety, and Mentorship**

The Postdoctoral Scholar will be expected to be a safe handler of radioactive materials, assist with laboratory maintenance, and mentor other scientists. The Scholar will be expected to assist with the implementation of Standard Operating Procedures and other safety processes. Other duties may be assigned as appropriate.

### **Qualifications:**

The ideal candidate will have a recent PhD in inorganic, nuclear, radio-, or actinide chemistry.

#### **Preference will be given to applicants with experience in multiple of the following areas:**

- Molten salt or molten metal synthesis
- Air-sensitive inorganic chemistry
- Actinide chemistry
- Radioactive materials safety and handling
- Thermophysical analysis of inorganic syntheses in non-aqueous media
- Demonstrated ability to work in diverse, interdisciplinary teams

### **Application Process:**

Qualified applicants should email their application documents as a single PDF to [chemeya@oregonstate.edu](mailto:chemeya@oregonstate.edu). Please include a subject header of "**Postdoctoral Scholar in Actinide Ceramics**" and include the following:

- 1) A two-page cover letter and research statement outlining your background, relevant experience, career goals, future research plans. Please also include a description of why you believe this position will help you achieve your goals, and how you believe your experience matches the qualifications set forth for this position.
- 2) Full Curriculum Vitae. Please include at least three (3) references as a separate page at the end of the CV, with names, contact information, and a few sentences on why they were selected to provide a reference for you (eg: prior work experience).
- 3) Two copies of first-author publications in peer-reviewed journals that demonstrate relevant expertise.
- 4) If your papers in the prior section do not include a [CRediT author statement](#) (or similar), please write a paragraph describing your role in the experimentation, analysis, and authorship of the papers.