

**BROOKHAVEN NATIONAL LABORATORY**

Brookhaven National Laboratory is a multipurpose research institution funded primarily by the U.S. Department of Energy’s Office of Science. Located on the center of Long Island, New York, Brookhaven Lab brings world-class facilities and expertise to the most exciting and important questions in basic and applied science—from the birth of our universe to the sustainable energy technology of tomorrow. We operate cutting-edge large-scale facilities for studies in physics, chemistry, biology, medicine, applied science, and a wide range of advanced technologies. The Laboratory's almost 3,000 scientists, engineers, and support staff are joined each year by more than 4,000 visiting researchers from around the world. Our award-winning history, including seven Nobel Prizes, stretches back to 1947, and we continue to unravel mysteries from the nanoscale to the cosmic scale, and everything in between. Brookhaven is operated and managed by Brookhaven Science Associates, which was founded by the Research Foundation for the State University of New York on behalf of Stony Brook University, and Battelle, a nonprofit applied science and technology organization.

**Organizational Overview**

The mission of the Materials in a Radiation Environment (MRE) Program Office within the Nuclear Science and Technology Department is to increase access to synchrotron characterization techniques to researchers studying materials for nuclear energy applications. We develop unique experimental infrastructure and support a large user community dedicated to materials science for advanced nuclear reactors and extending the life of existing reactors. We use various beamlines at the National Synchrotron Light Source-II to study radioactive materials and radiation effects. We are designing a new facility with multiple high-energy x-ray beamlines capable of handling more highly radioactive materials.

**Job ID # 1420 – Post-Doctoral Research Associate – Materials Characterization**

The successful candidate will contribute to the department’s research programs in radiation damage and new materials development for nuclear applications. Materials of interest include structural materials and fuels for nuclear energy applications. The research involves applying synchrotron techniques including diffraction, spectroscopy and imaging for investigating radiation damage in materials. Strong analytical and computational skills are required for data analysis. Experience with other characterization techniques and microscopy (TEM, SEM and sample preparation) is highly desirable. Most importantly, the successful applicant will demonstrate an ability to work independently within broadly defined research directions, and to collaborate between research areas.

Essential Duties and Responsibilities:

* Support ion beam experiments designed to study materials in radiation environments
* Perform collaborative materials science research within the nuclear energy materials user community
* Support synchrotron characterization of radioactive materials through support for experiments at the beamline and data analysis

Required Knowledge, Skills and Abilities:

* Ph.D. in engineering, physics, material science or a related field
* Experience with operation of scientific instrumentation for materials characterization
* Experience with experimental design
* Familiarity with some of these techniques is required: X-ray diffraction and scattering, spectroscopy or imaging, ion beam irradiation
* Ability to work in a team environment and self-motivated

Preferred Knowledge, Skills and Abilities:

* Knowledge/publication record in ion beam techniques
* Experience in advanced data analysis software and techniques
* Experience in handling radioactive material
* Excellent verbal and written communication skills

OTHER INFORMATION:

BNL policy requires that research associate appointments be made to individuals who have received their doctorate within the past 5 years.

* Occasional travel
* Occasional shift and weekend work for supporting x-ray data collection

ENVIRONMENTAL, HEALTH, AND SAFETY CONSIDERATIONS:

* Must be willing to handle small quantities of radioactive materials

At Brookhaven National Laboratory, we believe that a comprehensive employee benefits program is an important and meaningful part of the compensation employees receive. Our benefits program includes, but is not limited to:

* Medical and Dental Plans
* Vacation
* Holidays
* Life Insurance
* 401(k) Plan
* Swimming Pool, Weight Room, Tennis Courts, and many other employee perks and benefits

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Brookhaven National Laboratory takes affirmative action in support of its policy and to advance in employment individuals who are minorities, women, protected veterans, and individuals with disabilities.

\*VEVRAA Federal Contractor

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**BROOKHAVEN NATIONAL LABORATORY or to apply, please visit us at**

<https://jobs.bnl.gov/job/upton/postdoctoral-materials-characterization/3437/9062683>

**Brookhaven National Laboratory offers an excellent benefits package, tuition reimbursement and a competitive salary.**

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