



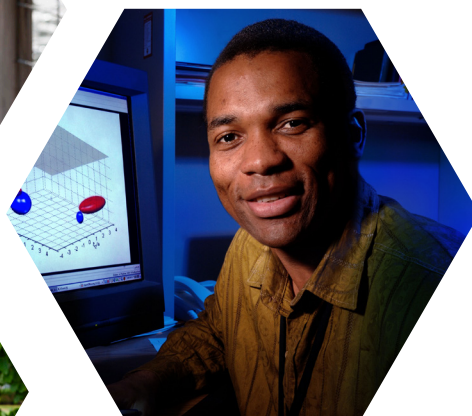
OAK RIDGE NATIONAL LABORATORY

# Big Science. Big Opportunity.

Postdoctoral Program

## Launch an Exciting Career in Science and Engineering

For 80 years, Oak Ridge National Laboratory (ORNL) has helped shape the world with discoveries in biology and environment, clean energy, fusion and fission, isotopes, materials, national security, neutron science, and supercomputing. ORNL offers dedicated mentors, world-leading scientific resources, and professional development opportunities to outstanding postdoctoral researchers, who work across the Laboratory in all our research directorates.



**\$2.78B**  
FY 2023 funding



**6,500+**  
employees



**3,200+**  
guest researchers  
annually



**75+**  
nationalities  
represented in  
ORNL's workforce



**2**  
Nobel  
Prizes



Contributed to the  
discovery of  
**10**  
elements (61, 104–106,  
and 113–118)



**260+**  
postdocs across  
the lab in FY2023



**2,600+**  
FY 2023 scientific  
journal publications

Apply at [jobs.ornl.gov](https://jobs.ornl.gov)

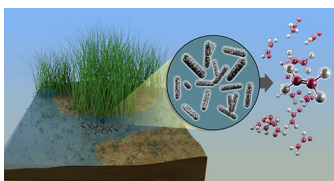


U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

# Solve Big Problems with International Impact

As a postdoctoral researcher at ORNL, you will have the opportunity to work with and be mentored by world-class scientists and engineers. You will work to solve today's tough scientific and engineering challenges while having an international impact.



## Biology and Environment:

ORNL leads convergence research in biology, ecology, engineering, data discovery, physical sciences, and computing to advance US competitiveness in the global bioeconomy and Earth system sustainability.



## Clean Energy:

ORNL and Gate Precast demonstrated that 3D-printed molds are more durable than traditional ones in producing precast concrete facades for a 42-story building at the Domino Sugar Factory site in New York.



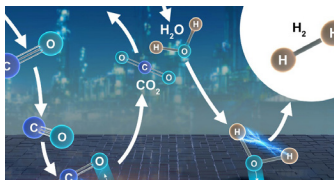
## Fusion and Fission:

ORNL has developed MiniFuel, a miniature irradiation vehicle for rapid nuclear fuel experiments. Conventional fuel test pellets have volumes more than 1,000 times the size of MiniFuel's pinhead-size fuel kernels.



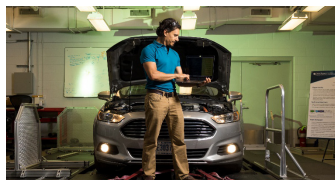
## Isotopes:

NASA's Perseverance rover, which started exploring the Mars in early 2021, is powered by ORNL-produced plutonium-238. The rover's radioisotope thermoelectric generator uses plutonium-238 decay to generate heat, which is converted to electricity to power lithium-ion batteries.



## Materials:

ORNL and university collaborators used neutron scattering and other advanced characterization techniques to study how a widely used catalyst enables the water-gas shift reaction to purify and generate hydrogen at an industrial scale.



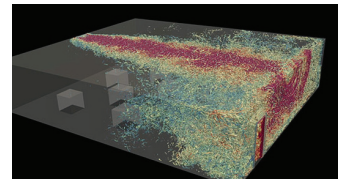
## National Security:

Using ORNL's Vehicle Security Laboratory, researchers are pioneering a set of algorithms and technology that will detect a cyberattack on a moving vehicle and alert the driver.



## Neutron Science:

Using the Spallation Neutron Source, ORNL researchers observed crystalline ice phases, enabling them to challenge previous theories about supercooled water and noncrystalline ice and promote better understanding of various ice phases found in outer space.



## Supercomputing:

Using ORNL's Summit supercomputer, scientists simulated the spread of aerosols throughout a model elementary school classroom layout to determine the best types of ventilation for such spaces and understand how social distancing requirements affect disease transmission indoors.

## World-Leading Equipment and Facilities



### Frontier

The world's most powerful supercomputer and the first to break the exascale barrier

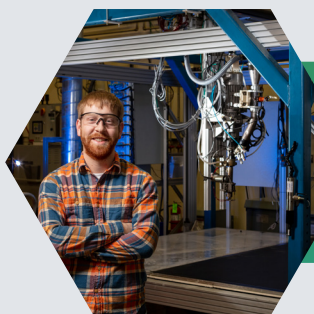
### Spallation Neutron Source and High Flux Isotope Reactor

Two of the world's most intense neutron sources



### Manufacturing Demonstration Facility

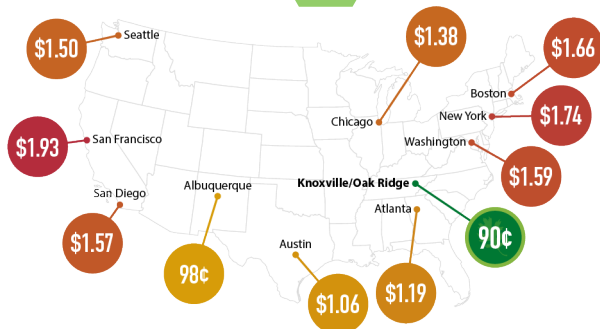
A state-of-the-art advanced manufacturing facility where researchers can 3D-print almost anything



# ORNL Postdoctoral Association

ORNL has an active postdoc association that fosters a sense of community among our postdoctoral research staff and connects our postdocs to the community outside ORNL. The Oak Ridge Postdoctoral Association (ORPA) advocates for the postdoctoral community with ORNL leadership; facilitates career development; plans well-being and social events; and creates opportunities, such as the annual postdoc research symposium, for postdocs and scientists across the Laboratory to interact and share information.

ORPA accomplishes its activities through an Executive Committee (ORPEX) whose members head the New Hire, Social, Outreach, and Research committees. ORPEX members also lead communication, advocacy, and cross-lab networking and collaboration initiatives and develop onboarding resources for postdocs. ORNL encourages all postdocs to be active in ORPA. To reach the current Executive Committee, email [ORPEX@ornl.gov](mailto:ORPEX@ornl.gov).



## Ideal Location

Located near the Great Smoky Mountains of Tennessee, ORNL's campus is just 1 hour away from the nation's most visited national park. Within a day's drive of all major cities on the East Coast, ORNL provides the best of both worlds: proximity to the great outdoors and growing urban centers with diverse cultural attractions. The city of Oak Ridge has 150 miles of shoreline for water recreation, rowing, and boating. Nearby Knoxville is home to the thriving research campus of the University of Tennessee and a historic downtown known for its dining, theaters, shopping, and cultural and music festivals.

In addition, East Tennessee is affordable, with a cost of living 8% lower than the national average\* and no state income tax. It is one of the safest areas in the United States and has excellent school systems. Oak Ridge Schools is a top rated school system in Tennessee and maintains various STEM certifications.

\* According to data provided by [erieri.com](http://erieri.com) on 1/1/2023.

Learn More: [www.ornl.gov/who-we-are](http://www.ornl.gov/who-we-are)

## Total Rewards and Amenities

Combined with competitive salaries, ORNL offers employees and their families a comprehensive and valuable benefits program. ORNL also has numerous on-site amenities that make life more convenient.



### Pay & Perks



Competitive salaries



Bonuses and awards



Flexible work schedule



Professional society membership dues



Cell phone discount



Club ORNL discounts



HP discount



Apple discount



Employee club sports



### Benefits



Medical plan (dental, vision, HSA)



Educational assistance



Life insurance



Legal insurance



Employee Assistance Program



Generous vacation and holidays



Wellness programs



Disability benefits



Pet insurance



### Amenities



Medical clinic



Bank



Coffee shop



Cafeteria



Gym



Exercise classes



Walking/running trails

ORNL is a sustaining member of the National Postdoctoral Association (NPA), which entitles our postdocs to individual NPA membership. For more information, visit [nationalpostdoc.org](http://nationalpostdoc.org).

“I enjoyed being a postdoc at ORNL because it is located in a beautiful and affordable area with lots to do—and because I had the opportunity to learn from and collaborate with leading scientists and visiting researchers from around the world. Nowhere else could I spend my day shooting lasers and x-rays at uranium materials to gain new insights and solve challenging problems related to its fundamental chemistry while being exposed to new science, fresh ideas, and potential connections for my next career step.”

—Tyler Spano, Nuclear Security Scientist, ORNL



“During my time as a postdoc at ORNL, I got the opportunity to work with some of the best minds in my field of research. Their curiosity in science and willingness to answer fundamental questions has driven me to understand research more profoundly. As the president of ORPA, I had a unique learning opportunity while interacting with my fellow postdoctoral colleagues, inside and outside the lab, and the ORNL administration.”

—Indranil Roy, Lead Scientist, Materials Science and Engineering, General Electric Research



“My postdoc position at ORNL offered me opportunity to build a strong network with a broad group of scientists, which will help me in my long-term career in research. I enjoyed the positive working environment, collaboration opportunities, and the natural beauty of Tennessee.”

—Biva Talukdar, Postdoctoral Research Associate, Pacific Northwest National Laboratory



“As a postdoc at ORNL, I have contributed to research in a new field that is much different from my PhD experience and is a hot topic of current research. Through this experience, I have developed the expertise to contribute in this field and compete for jobs across the world.”

—Phil Lotshaw, Research Scientist, ORNL



“My work as a postdoc in the Fusion Energy Division allowed me to work in multidisciplinary teams and afforded me the opportunity to learn from leading scientists and engineers. I gained new perspectives and developed new expertise to contribute to the design of safe and efficient nuclear fusion technologies.”

—Sunday Aduloju, Blanket, Fuel Cycle, and Fusion Engineer, ORNL



“My work as a postdoc at Spallation Neutron Source allowed me to apply powerful neutron techniques to study battery materials. This invaluable experience enhanced my skill set and really allowed me to find a job in industry, where I could apply my knowledge to solve real-world problems.”

—Bohang Song, Senior Chemist, BASF Corporation



**Find your Big Science Opportunity  
with a postdoctoral appointment at ORNL!**

**Apply at [www.ornl.gov/postdoc](http://www.ornl.gov/postdoc)**

Questions? Contact [postdocrecruitment@ornl.gov](mailto:postdocrecruitment@ornl.gov)