



Experimental High Energy/Nuclear Physicist – R&D Staff

Fundamental Nuclear & Particle Physics Section

Overview

We are seeking an exceptional R&D Staff Member with a strong instrumentation and/or particle physics background to help Oak Ridge National Laboratory (ORNL) extend its world leading reputation and capabilities in collider physics to lead the development of proposed upgrades of experiments at the Large Hadron Collider and lead the design and construction of major subsystems for a detector at the future Electron Ion Collider. Areas and technologies envisioned for our efforts are 5D-calorimetry as well as silicon-based tracking and timing detectors. This position is a full-time position based on-site at

Date: June 1, 2021

Location: Oak Ridge, TN, USA

Company: Oak Ridge National Laboratory

Requisition Id: 5936

ORNL and resides in the Relativistic Nuclear Physics Group, Fundamental Nuclear & Particle Physics Section, Physics Division, Physical Sciences Directorate (PSD), at Oak Ridge National Laboratory (ORNL).

The Relativistic Nuclear Physics Group (RNP) and the Physics Division have a strong track record in developing large scale instrumentation for particle and nuclear physics experiments. The group is currently collaborating on the ALICE Experiment at the CERN LHC, where it has recently completed the construction of the readout system upgrade of the Time Projection Chamber and contributed to the construction of the ALICE Inner Tracking System based on monolithic active pixel sensors. In collaboration with the sPHENIX experiment at RHIC, a similar tracker is being developed for which ORNL is developing the streaming read-out electronics. Additionally, the RNP group is currently involved in the conceptual design of one of the experiments, ECCE, for the future Electron Ion Collider situated at Brookhaven National Laboratory. In synergy with the foreseen upgrades at the LHC, the main focus of our R&D efforts are novel calorimetry and silicon-tracking and PID detectors. As an R&D Staff Member, you will be expected to provide leadership in your area of expertise within ORNL and within the scientific community for the analysis and publication of physics results from on-going experiments, operation of existing experimental systems, and development of detectors and physics programs for future experiments.

About ORNL and the Physics Division

Oak Ridge National Laboratory is the largest US Department of Energy science and energy laboratory, conducting basic and applied research to deliver transformative solutions to compelling problems in energy and security. ORNL hosts two of the most advanced neutron research facilities in the world: the Spallation Neutron Source (SNS) and the High Flux Isotope Reactor (HFIR). Co-located, these complementary facilities provide neutron scattering research capabilities unavailable elsewhere. ORNL hosts multiple petascale computing facilities including the Summit supercomputer which is the most powerful and capable supercomputer for compute and data intensive research within the United States. The CADES (Compute and Data Environment for Science) facility builds upon ORNL's key strengths in data system infrastructure and delivery of new capabilities through data intensive science to meet the mission needs of R&D projects at ORNL and beyond. This includes hosting a Tier 2 computing site for the CERN ALICE Experiment.

The Physics Division builds on ORNL strengths to perform outstanding leadership research for the Nation in nuclear science, isotopes, and related areas. Our focus is in the areas of Fundamental Symmetries, Nuclear Structure Physics,

Nuclear Astrophysics, Heavy Ion Collisions and Relativistic Nuclear Physics, and Isotope R&D and Production. Through a combination of frontier measurements and world-leading theory, we address questions of critical importance in the basic and applied research communities.

Major Duties/Responsibilities:

- Collaborate with the ORNL Relativistic Nuclear Physics team members in the design, proposal, funding, development, and construction of new experiments and new detector systems at the LHC and the Electron Ion Collider
- Contribute to the investigation and development of proposed agendas for future research initiatives
- Take on a leading role in the design and construction of a major subdetector for future research initiatives working closely with the RNP group as well as the Engineering Team of the Nuclear Science and Engineering Directorate
- Guide and manage physics analysis team efforts on existing experiments
- Represent the ORNL Relativistic Nuclear Physics Group and its mission well within the laboratory and scientific community
- Present and report research results and publish scientific results in peer-reviewed journals in a timely manner
- Maintain strong dedication to the implementation and perpetuation of values and ethics
- Ensure compliance with environmental, safety, and health regulations

Basic Qualifications:

- A PhD in Nuclear Physics or in a very closely related discipline (e.g. particle physics) with a minimum of 4 years of experience past PhD conferral

Preferred Qualifications:

- An excellent record of leadership in relativistic nuclear physics, including notable publications in peer-reviewed journals and invited presentations at major conferences in the field
- Demonstrated experience in the development of instrumentation for particle and nuclear physics experiments
- Experience leading the development of innovative detector technologies would be a distinguishing qualification.
- A creative and productive member of the international nuclear physics community with proven skills in team leadership and personnel organization
- Motivated self-starter with the ability to work closely with and help lead a large international collaboration
- Excellent written and oral communication skills

To Apply for this position please click here:

<https://jobs.ornl.gov/job/Oak-Ridge-Experimental-High-Energy-Nuclear-Physicist-R&D-Staff-TN-37830/749101500/>

Special Requirements:

Three letters of reference are required and can be uploaded to your profile or emailed directly to PSDrecruit@ornl.gov. Please include the title of the position in the subject line.

This position will remain open for a minimum of 5 days after which it will close when a qualified candidate is identified and/or hired.

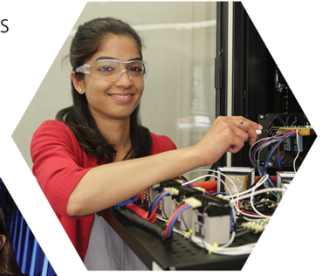
If you have trouble applying for a position, please email ORNLRecruiting@ornl.gov.

ORNL is an equal opportunity employer. All qualified applicants, including individuals with disabilities and protected veterans, are encouraged to apply. UT-Battelle is an E-Verify employer.

Life at Oak Ridge National Laboratory

ORNL is a thriving multiprogram research campus with world-leading facilities and talented employees from over 60 countries who are innovators in their fields. We offer opportunities to collaborate on cutting-edge scientific, operational, engineering, and support activities. In addition, ORNL provides professional development training at no cost to employees to help them grow in their careers. ORNL proudly supports numerous employee resource groups—for veterans, women, African Americans, and more—that support diversity and inclusion efforts across the lab and provide networking opportunities.

ORNL was established in 1943 during the Manhattan Project. Today, with over 5,000 research and mission support staff and 3,200 researchers visiting annually, ORNL is America's largest science and energy laboratory.



Ideal Location

Located near the Great Smoky Mountains, ORNL's campus is just 1 hour away from the 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, Tennessee, has 150 miles of shoreline for water recreation, rowing, and boating, and nearby Knoxville, Tennessee, 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 over 17 percent 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, including the Oak Ridge School District, one of two districts in the world that are K-12 STEM certified.

* bestplaces.net

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.



401(k) Retirement Plan



Generous Vacation and Holidays



Pension Plan



Parental Leave



Medical Plan (Dental, Vision, and Health Savings Accounts)



Employee Assistance Program



Wellness Programs



Employee Discounts



Flexible Working Hours



Life Insurance



Educational Assistance



Disability Benefits



Relocation Assistance



Legal Insurance with Identity Theft Protection



Bank



Coffee Shop



Cafeteria



Gym



Exercise Classes



On-Site General Medical Clinic



Walking Trails

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