

# **Postdoctoral Research Associate in Experimental Plasma Physicist (JET)**

**Fusion Energy Division  
Energy and Engineering Sciences Directorate  
Oak Ridge National Laboratory  
Oak Ridge, Tennessee**

ORNL09-12-FED

## **Project Description:**

The Fusion Energy Division at the Oak Ridge National Laboratory (ORNL) seeks applications for a post-doctoral experimental plasma physicist. ORNL's Experimental Plasma Physics Group carries out research in nearly all areas of magnetic fusion energy development and related technology development. The program is a strong and vital component of both the U.S. fusion program and the international fusion community. The successful candidate will work with a multidisciplinary team of experimental and theoretical physicists in the area of tokamak plasma transport, as part of the ORNL collaboration on the JET tokamak in the United Kingdom, as well as, on various domestic fusion collaborations in the United States. Employer will assist with relocation costs. Competitive postdoctoral salary depending on qualifications.

## **Major Duties and Responsibilities:**

The successful candidate will be involved in conceptualizing, leading, and performing experimental research and development in the area of particle transport for the plasma core and scrape-off layer in tokamaks and other toroidal confinement devices. The selected candidate will be responsible for interaction with division staff and the many external collaborators that the group works with. The candidate will be expected to work independently, lead R&D activities, develop diagnostic measurements for the plasma transport, compare data with existing theoretical models of plasma transport, fully document work in technical reports and publications, effectively interface with project sponsors, and participate in the identification and development of research proposals.

## **Qualifications:**

The successful candidate must have a Ph.D in Plasma Physics or related fusion relevant area and publications in the area of plasma physics. Initially, the successful candidate will work with a multi-disciplinary team of experimental and theoretical physicists as part of the ORNL collaboration on the JET tokamak in the United Kingdom. The applicant is expected to have experience in some area of spectroscopy and in the absolute calibration of optical systems. Experience in charge exchange recombination (CER) spectroscopy would be a plus. We are especially interested in applicants with experience in fast ion physics, in interactions of RF heating with plasmas, in electronic instrumentation, and in developing software for data acquisition and analysis. The candidate should also be familiar with impurity transport mechanisms in fusion devices and have experience with impurity transport modeling. The ability to interact with theorists and to plan and interpret experiments in light of theoretical

models is a major consideration. Excellent verbal, presentation, and writing skills are required to enable effective interaction and communication with technical peers, program managers, collaborators, and sponsors. Applicants cannot have received the most recent degree more than five years prior to the date of application.

**How to Apply:**

Qualified applicants must apply online at [https://www2.ornl.gov/ORNL\\_POST/](https://www2.ornl.gov/ORNL_POST/). All applicants will need to register before they can begin the online application. For complete instructions, on how to apply, please see the instructions at <http://www.ornl.gov/orise/edu/ornl/ornl-pdpm/application.htm>. When applying for this position, please reference the position title and number.

This appointment is offered through the ORNL Postgraduate Research Participation Program and is administered by the Oak Ridge Institute for Science and Education (ORISE). The position is open to citizens or legal permanent residents of the US without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.