

Postdoctoral Research Associate in Power Semiconductor Device Research

**Energy and Transportation Science Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee**

ORNLO9-112-ETSD

Project Description:

The Power Electronics and Electric Machinery (PEEM) Group in the Energy and Transportation Science Division (ETSD) at the Oak Ridge National Laboratory (ORNL) is seeking applicants for a power semiconductor designer postdoctoral position to conduct projects, expand research, and manage research and development to support the power electronics research program in the areas of hybrid, plug in hybrid, battery electric and fuel cell vehicle propulsion technologies. The PEEM Group supports the U.S. Department of Energy's Vehicle Technology Program as well as other customers in the development of advanced electric traction drives for automotive applications. The individual must also be capable of providing technical guidance to support the Vehicle Technologies Program goals.

The successful candidate will be capable of performing design and simulations of semiconductor devices as well as contributing to the development of innovative device packaging concepts through his/her knowledge of device processing techniques.

The successful candidate will:

- Work independently and with senior technical staff to model and simulate semiconductor devices at both the module and system levels.
- Be proactive in working with others within the Laboratory to develop new device packaging concepts focused on achieving specified targets, both at a device and system level.
- Be versant in various modeling and simulation programs as well as knowledgeable in methods for device testing and evaluation.
- Be familiar with the state of the art in semiconductor technology.
- Capable of carrying designs through to prototype build and test.
- Lead and manage technical projects with minimal oversight.
- Have good oral and written skills so that they might present research results to sponsors, peer reviewers, and others and at national and international technical society meetings such as IEEE.
- Interact with various sponsors in pursuit of new and additional research funding.
- Develop research proposals to support new and ongoing work in the electrical machinery research program.
- Publish original work in peer reviewed journals and professional society magazines.
- Mentor junior staff and students in the area of electrical engineering power systems

Qualifications:

- A Ph.D. in electrical engineering with a focus on characterization, modeling and application of a wide variety of devices used in power electronics applications.
- Proficiency in device processing techniques.
- Knowledge of multiple modeling and simulation software tools. Hands on laboratory experience performing testing and analysis.
- Excellent oral and written communication skills to make presentations to sponsors and others and to prepare reports, proposals, and publications/journal articles.
- Strong interpersonal skills to support team building and leadership.
- A publication history in prestigious international conferences and journals.
- Demonstrated publication record in of scientific results in either peer-reviewed journals, or presentations at national meetings, are expected.
- A strong commitment to scientific integrity is an important requirement.

Note: Some travel will be required for this position and no clearance is required.

Applicants cannot have received the most recent degree more than five years prior to the date of application and must complete all degree requirements before starting their appointment.

Technical Questions:

For technical questions regarding the position, please contact Laura Marlino marlinold@ornl.gov. Please reference the position title and number, when corresponding about this position.

How to Apply:

Qualified applicants may apply online at 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>.

This appointment is offered through the ORNL Postgraduate Research Associates Program and is administered by Oak Ridge Associated Universities (ORAU) (<http://www.ornl.gov/orise/edu/ornl/ornl-pd/ornlpdoc.htm>). These positions is open to all qualified candidates without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.