|  |  |
| --- | --- |
| **TITLE:** | Soft Magnetics and Power Electronics Device Scientist |
|  |  |
| **DEPARTMENT:** | U.S. Department of Energy/National Energy Technology Laboratory (NETL) |
|  |  |
| **NETL CONTACT:** | Paul Ohodnicki, Paul.Ohodnicki@netl.doe.gov |
|  |  |
| **DUTY LOCATION:** | Pittsburgh, PA; Morgantown, WV; Albany, OR |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ACADEMIC LEVEL:** | **X** | PhD | **X** | MS |  | BS |  | Undergrad |  | Faculty |

|  |  |
| --- | --- |
| **POSITION**  **INFORMATION:** | 1-year appointment; full time (40 hours per week) with the possibility of extension |
|  |  |
| **CLOSING DATE:** | 5/31/2019 |
|  |  |
| **WHO MAY BE**  **CONSIDERED:** | United States Citizens, LPRs, & Foreign Nationals with appropriate approval which includes F-1 OPT with EAD (STEM extension not valid), J-1 Exchange Visitor, and LPR with EAD |

**SUMMARY:**

A scientist is sought to participate in the research and development of soft magnetic devices and components for high-frequency and high-power transformer and inductor applications. The scientist will collaborate on an interdisciplinary team spanning industry, academic, and national laboratory partners that seeks to demonstrate advantages of advanced alloys at component level in emerging power electronics and power conversion applications. An ideal candidate would be capable of researching within the team to (1) develop and apply novel measurement methodologies for estimating core losses under application-relevant operational conditions, (2) characterize prototype cores and magnetic components, and (3) simulate the performance of magnetic components in power electronics converter applications. The ideal candidate would also be capable of leveraging analytical models, finite element modeling, and other simulation tools

**KEY REQUIREMENTS:**

1. An advanced degree in Electrical Engineering, Applied Physics, Materials Science, or a related field (MS or PhD preferred).
2. Experience with designing and applying electronics and electrical test equipment including impedance measurement systems, LCR meters, network analyzers, oscilloscopes, function generators, current and voltage probes, DSP and PWM.
3. Experience with core-loss measurements and physical / magnetic property measurement techniques
4. Experience with Comsol or related finite element, multi-physics modeling packages.
5. An understanding of circuit design and analysis.

**HOW TO APPLY:**

Applicants should apply through the Oak Ridge Institute for Science and Education (ORISE) program. The ORISE program provides opportunities for undergraduate students, recent graduates, graduate students, postdoctoral researchers, and faculty researchers to apply classroom knowledge in a real-world setting to learn about NETL’s core mission areas.

* Interested applicants should complete the online application at <http://www.orau.gov/netl/>. For questions or issues, please email both [Terry.Howard@orau.org](mailto:Terry.Howard@orau.org) and [Kerri.Fomby@orau.org](mailto:Kerri.Fomby@orau.org) .
* In the online application, **list** **Paul Ohodnicki as your requested mentor.** This will associate your application with this research opportunity. Please send a CV to [Paul.Ohodnicki@netl.doe.gov](mailto:Paul.Ohodnicki@netl.doe.gov).
* If you have additional questions, please contact Patricia Adkins-Coliane, [Patricia.adkins-coliane@netl.doe.gov](mailto:Patricia.adkins-coliane@netl.doe.gov), who is the NETL Graduate Education Program Manager.

The participant(s) will be assigned to the program solely for the educational benefit it provides. The assigned project should not include activities that are reserved for federal employees nor should it require a participant to perform inherently governmental functions such as: supervise or mentor federal employees or federal contractor staff, hire or fire anyone; have budget, program management, or signature authority; carry an official job title; or function in any way as a representative of the federal government.