|  |  |
| --- | --- |
| **TITLE:** | RF and Microwave Sensor 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 |

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

|  |  |
| --- | --- |
| **POSITION**  **INFORMATION:** | 1-year appointment; full time (40 hours per week) with the possibility of extension (anticipated at least 2 years project duration) |
|  |  |
| **CLOSING DATE:** | 2/28/2018 |
|  |  |
| **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:**

An opportunity exists to join an interdisciplinary team developing new sensor technology for a range of energy applications spanning power generation, advanced manufacturing, and infrastructure monitoring.

The team seeks a candidate with a strong background in microwave and wireless sensor devices and systems for chemical sensing, with a focus on wellbore integrity monitoring applications. The research associate will model the responses of devices and their interactions with surrounding media and external stimuli in wellbore environments. The candidate will also assist with development of antennae and interrogator system designs for real-time wireless measurements. Knowledge of microwave sensing technologies and techniques and hands-on experience working with RF and microwave propagation systems are highly desired. Strong collaborative interactions are expected with chemists and material scientists as well as other device level scientists focused on chemical sensing. Publications in high quality scientific peer-reviewed journals, presentations at national and international technical meetings, and development of new intellectual property are all expected outcomes of the research to be performed.

Technical experience of interest for the position in question includes:

1. Design and fabrication of microwave devices and antennaes using L-Edit, CST, and cleanroom techniques.
2. Finite element and couple of modes modeling devices using simulation software such as MATLAB and COMSOL.
3. Experience with the microwave measurement techniques and hands-on familiarity with laboratory equipment such as network analyzers, impedance analyzers, oscilloscopes, spectrum analyzers.
4. Experience with interrogator development, data acquisition, and processing systems using LabVIEW/MATLAB.

A successful applicant will have an advanced degree in Electrical Engineering, Applied Physics, or a related field of study. Excellent communication skills and a willingness and interest to collaborate in an interdisciplinary team environment to drive towards overall project and team objectives is also highly desired.

**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 Research and Innovation Center’s (R&IC) core mission areas.

* Interested applicants should complete the online application at <http://www.orau.gov/netl/>.
* In the online application **list** **Paul Ohodnicki as your requested mentor.** This will associate your application with this job posting. Please send a CV to [paul.ohodnicki@netl.doe.gov](mailto:paul.ohodnicki@netl.doe.gov), and [jagannath.devkota@netl.doe.gov](mailto:jagannath.devkota@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.