UNIVERSITY OF PITTSBURGH INSITES INFRASTRUCTURE SENSING for INTELLIGENT TRANSPORTATION and ENERGY SYSTEMS CONSORTIUM

University of Pittsburgh

PhD Student Position Available at University of Pittsburgh Ohodnicki Lab:

"Electromagnetic Field Sensing Using Photonic Sensing Platforms"

Position Opening: Available Beginning **Summer or Fall 2026**.
Application Process: Provide updated resume and a statement of interest by email, also submit a formal application to Swanson School of Engineering here: Graduate Applications
Contact: Prof. Paul Ohodnicki (pro8@pitt.edu)

Description:

Opportunity exists to join a research group focused on solving problems at the interface between optical sensor hardware and data analytics through interdisciplinary collaborations. The position focuses on electromagnetic field sensing using photonic sensing platforms with emphasis on optical fiber sensing and will be carried out in close collaboration with industry and government partners through INSITES consortium, a newly established university – industry – government partnership focused on distributed sensing and enabling digital technologies (AI, ML, digital twins) applied to critical infrastructure.

Electromagnetic field sensing plays a critically important role in applications spanning electric power conversion, electricity infrastructure, biomedical, and infrastructure health monitoring applications amongst others. Optical sensing platforms have inherent advantages for such applications through the capability to deploy remotely and without adverse impacts of energized electrical systems, biological systems, and harsh environments. The Ohodnicki Lab has been active in research focused on novel electromagnetic field sensing modalities combining advanced functional materials with optical sensing platforms and is seeking an interested PhD student to continue the research.

Additional Info:
www.engineering.pitt.edu/INSITES
www.engineering.pitt.edu/UPISC,
www.engineering.pitt.edu/OhodnickiLab

Key Objectives and Outcomes of PhD Research

- Synthesize and characterize materials with unique optical and electromagnetic properties relevant for sensing applications
- Optical modeling of sensor devices integrated with novel sensing materials
- Fabrication, characterization, and benchmarking of sensor performance
- Fundamental studies of sensing response mechanism

Desired Qualifications and Experience

- An undergraduate or MS degree in a relevant field such as materials science, applied physics, electrical engineering or related
- Prior experience in magnetic materials, optical materials, photonics
- Characterization skills including optical spectroscopy, scanning electron microscopy, x-ray diffraction, and related
- Synthesis skills including thin film deposition and nanofabrication
- Publications and presentations in international technical conference and journals