PhD Student Position Available at University of Pittsburgh Ohodnicki Lab:
"Soft Magnetic Materials and Applications for High Frequency Electric Power Conversion"

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 advanced magnetic materials and their applications in electric power conversion systems, with an emphasis on soft magnetic materials, through interdisciplinary collaborations. The position focuses on research and development of magnetic materials and will be carried out in close collaboration with industry and government partners through the Advanced Magnetics for Power and Energy Development (AMPED) consortium, a university – industry – government partnership focused on magnetic materials, components, and their applications in power electronics and electric power conversion systems.

Soft magnetic materials and components play a critically important role in applications spanning electric power conversion, electric power grid infrastructure, electric vehicles, and data center electric power conversion and integration amongst others. Magnetic materials of primary focus include amorphous and nanocrystalline alloys, ferrites, and electrical steels and applications include inductors, transformers, and electric motors. The Ohodnicki Lab has been active in research focused on novel magnetic materials and their applications and is seeking an interested PhD student to continue the research.

Additional Info:
www.engineering.pitt.edu/AMPED,
www.engineering.pitt.edu/OhodnickiLab,
www.tour.pitt.edu/tour/nanoscale-fabrication-and-characterization-facility

Key Objectives and Outcomes of PhD Research
- Synthesize and characterize magnetic materials for relevant applications
- Development of advanced manufacturing methods and techniques
- Characterization of magnetic properties relevant for applications including saturation magnetization, losses, permeability, magnetostriction, etc.

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 and manufacturing, electrical circuits
- Synthesis skills in metallurgy, ceramics, rapid solidification, powder processing, etc.
- Characterization skills including magnetometry, permeametry, scanning electron microscopy, x-ray diffraction, and related
- Publications and presentations in international technical conference and journals