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Dr. Amanda K. Petford-Long is the Director of Argonne's Center for Nanoscale Materials, a Department of Energy national user facility that provides capabilities explicitly tailored to the creation and characterization of new functional materials on the nanoscale. She holds a D.Phil in Materials Science from University of Oxford (1985) and a Bachelor's degree in Physics from University College, London (1981). The Center's portfolio includes research on Electronic & Magnetic Materials & Devices, Nanobio Interfaces, Nanofabrication, Nanophotonics, Theory & Modeling, and X-Ray Microscopy.

Dr. Petford-Long's research interests include the dependence of magnetic, transport and optical properties of layered ferroic films on microstructure and fabrication parameters. The physical properties of the films have been correlated with microstructure, magnetic domain structure and composition profile, determined using a range of high-resolution electron-microscopy and position-sensitive atom probe techniques, including Lorentz microscopy for imaging magnetic domains. She has published over 270 papers in the scientific literature.

As a full professor at Northwestern University, she teaches a graduate course: Nanoscale Magnetic Materials for Information Storage. Teaching experience while at the University of Oxford included tutoring a wide range of courses within the Materials Science course and giving lecture courses at both undergraduate and graduate levels on Magnetic Materials and on Electron Microscopy. Successfully supervised seventeen Ph.D students in addition to many postdoctoral researchers.

Other Activities:

- Member of IEEE Trans Mag Publications committee.
- Advisory Editor for Journal of Magnetism and Magnetic Materials.
- Referee manuscripts for Applied Physics Letters, Journal of Applied Physics, Advanced Materials, Phys. Rev. Lett., J. Phys. D, and Journal of Magnetism and Magnetic Materials.
- At Argonne, she serves on the Energy Sciences and Engineering Directorate Advisory Board on the Materials and Molecular Design and Discovery strategic planning panel and on the lab-wide RIF panel.
- Was chosen to participate in the Strategic Lab Leadership Program, taught by the University of Chicago Business School as part of their executive training program.