**Title:**

Solid-State Quantum Optics Postdoctoral Researcher

**Job Summary:**

A Postdoctoral Researcher position is available in Institute for Molecular Engineering (IME) at the University of Chicago and Nanoscience and Technology Division (NST) at Argonne National Laboratory, with a focus on developing and optical spectroscopic characterization of semiconductor quantum materials.

The successful candidate will be highly motivated and have a strong track record. He/she will be responsible for conducting researches related to chemical/molecular engineering of semiconductor quantum materials to tune their electronic structures and optical properties. The successful candidate will also perform advanced spectroscopic studies of the materials in magnetic, electric, and/or microwave fields at cryogenic temperatures. Candidates with strong background in nanophotonics and cavity quantum electrodynamics are also highly encouraged to apply. The selected individual will have access to state-of-the-art research facilities and gain in-depth knowledge of the research frontiers in the fields of quantum materials and optics. He/she will also have the opportunity to be a part of a world-class scientific team and involved in vigorous research programs.

A strong background in quantum optics, confocal laser microscopy, magneto-optical spectroscopy, or optically detected magnetic resonance (ODMR) techniques is preferred. Hands-on experience with low-dimensional materials is highly desirable. Previous experience in conducting measurements at cryogenic temperatures is a plus. Additional expertise in semiconductor physics and spin physics is beneficial but not required. Knowledge of nanofabrication, nanophotonics and the related simulation tools (FDTD, COMSOL etc), and programing languages such as LabVIEW, Python, Matlab is a plus.

Education: A PhD degree completed within the last three years or soon to be completed in material science, physics, chemistry, electrical engineering, or a related discipline.

Interested candidates should send a detailed curriculum vitae including a list of publications and the names and addresses of three professional references directly to Dr. Xuedan Ma (xuedan.ma@anl.gov). Outstanding candidates may be considered for the prestigious Maria Goeppert Mayer or Enrico Fermi Named Fellowship of Argonne National Laboratory.