

Research Opportunities for Current UC Students

(Applied Electromagnetics and Hardware Cybersecurity for Wireless CPS)

Current UC undergraduate and M.S. students interested in gaining advanced research experience are encouraged to reach out.

Opportunities may be available for students interested in applied electromagnetics, antennas and RF/microwave systems, wireless technologies, hardware cybersecurity, radar and sensing technologies, and other related areas. Depending on the student's background and interests, projects may involve:

- Electromagnetic and circuit simulation
- Antenna/RF hardware design and prototyping
- RF/microwave measurements and experimental validation
- EMC/EMI design and analysis
- Software-defined radio (SDR) and wireless experimentation
- Hardware security, RF fingerprinting, and physical unclonable functions
- Data analysis, signal processing, and AI/ML for RF applications

These projects are intended to provide hands-on research and technical experience relevant to graduate study and careers in the RF, wireless, semiconductor, defense, and technology industries.

Students interested in pursuing a senior/capstone project, research co-op, thesis/project-based M.S. research, or preparation for future graduate study are particularly encouraged to contact the group.

Funding is not guaranteed. When appropriate, motivated students may work with the advisor to explore relevant university research fellowships, research programs, or other funding opportunities.

About the advisor – Dr. Duc Pham is an incoming tenure-track Assistant Professor in the Department of Electrical and Computer Engineering at the University of Cincinnati (UC). His research focused on developing secure and intelligent electromagnetic hardware for next-generation wireless cyber-physical systems. He has authored journal and conference publications in venues including IEEE Internet of Things Journal, IEEE Transactions on Antennas and Propagation, IEEE Transactions on Vehicular Technology, and IEEE Transactions on Instrumentation and Measurement. He was a finalist for the Young Scientist Award at 2025 ICEAA/IEEE-APWC and currently serves as a Chair Officer of the IEEE Chicago APS/MTT-S Joint Chapter (AP03/MTT17). More details can be found [here](#).

About EMAGINE laboratory – At EMAGINE, we advance the frontiers of applied electromagnetics to enable the next generation of intelligent, secure, and trustworthy wireless systems. Our research bridges fundamental electromagnetic theory with cutting-edge engineering to address emerging challenges in antennas, RF systems, wireless communications/sensing, and hardware cybersecurity.

How to apply – Interested students are encouraged to contact Prof. Pham at ducpham.mmw@gmail.com with a brief introduction, CV/resume, unofficial transcript, and a short description of their research interests and career goals.