

## Project: RF Sensing, Location, Communication, and Control of Drones

Professor: Hui Wu

Description: As drones become ubiquitous in a wide range of civilian and defense applications, how to detect and interact with owned, friendly, and hostile drones become critical. In this project, students will work with the professor to build software-defined radios (SDR) that (a) detect the presence of drones and locate their positions; (b) communicate and control our own or friendly drone; and (c) disrupt and jam hostile drones. The research work involves both hardware build (system integration, mechanical assembly, etc), software development (SDR programming, phased array, communication link, and drone flight control) and field tests. 1 to 2 students are needed. Prior experience in FPGA programming, small electronics work, radio applications, and/or robotic controls are desired. Strong motivation and work ethics is required.