

Intelligent Remote Sensing for Urban Warfare Operations Phase II

Principal Investigator: Dr. Ahmad Hoorfar

*Co-Principal Investigators: Drs. Moeness Amin, Fauzia Ahmad,
Bijan Mobasseri, and Yimin Zhang*

Project Summary:

There are many unique challenges that must be addressed to make through-the-wall sensing and imaging from airborne synthetic aperture radar (SAR) platforms operationally viable. Our research efforts consider these challenges with the objective to advance the solutions of detection, localization, tracking, and classification of targets of interest inside enclosed structures and to understand the phenomenology guiding the intricacy of urban sensing operations from airborne platforms. The approach is multi-faceted and integrates various techniques from electromagnetics (EM), antenna design, signal processing, communications, and target classifications to provide comprehensive solutions to some of the current challenges in urban sensing.