“Conflicting Agendas – Advanced Sensing Systems and the Right to Privacy”

In this talk I will explore the privacy concerns arising from the use of sensing systems to collect data in public and residential contexts. I will focus on the collection of power consumption data for demand response systems, though the results of our work are readily generalized. I begin with a discussion of the “right to privacy” from both a philosophical and a legal perspective. This portion of the talk will depend heavily on recent Supreme Court decisions that appear to prohibit the use of advanced sensing technology, without a warrant, to collect data that would otherwise have been unavailable without intruding into the home. As we will see, this is a thin, blurry line at best. I will then discuss the advanced metering systems that have been deployed in California for use in Demand-Response systems. I will show that the data being collected in these systems can be used to derive detailed information about activities within the home. Privacy metrics will be introduced that detect and quantify personally identifiable information within sensed data. I conclude by showing that power consumption data falls within the Court’s Kyllo precedent, and discuss the implications for the handling and re-use of power consumption data by utilities.