

BullDog Mote: Low Power Design Technologies for Wireless Sensor Networks

Dr. Nan Wang

Wireless Sensor Networks (WSNs) have been widely employed in numerous real world applications, from air pollution monitoring and landslide detection to structural health monitoring. However, its limited battery life span and data transmission throughput of small sensor nodes majorly hinders its further development. In most cases, WSNs are composed of a significant number of nodes deployed in a widespread area in which not all nodes are directly connected. Several attractive low power design techniques, such as energy harvesting, clock scheduling, dynamic voltage scheduling and low power design methods at all of WSNs multiple layers will be discussed in this talk. The same low-power design techniques can be employed for a variety of other power-constrained applications such as consumer electronics and medical devices.