

Designing for Energy Efficiency: Advances in Wearable Sensing from NSF ASSIST Center

Alper Bozkurt

North Carolina State University

Email: aybozkur@ncsu.edu

Abstract:

This talk summarizes key research advances from the NSF ASSIST Engineering Research Center in developing energy-efficient wearable and implantable sensing technologies for continuous health monitoring. The presentation highlights innovations in ultra-low-power sensor design, energy harvesting, embedded artificial intelligence, wireless communication, and multimodal physiological monitoring that enable long-term, unobtrusive operation. Selected examples demonstrate the translation of these technologies into applications ranging from personalized healthcare and rehabilitation to human–animal interaction and environmental sensing.