

Title: Ultra Low Power Sensor Interfaces for IoT

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Abstract:

This talk will review the integration of oxides and fully printable organics for newly emerging application areas related to wearables and the Internet of Things. We will discuss the critical design considerations to show how device-circuit interactions should be handled and how compensation methods can be implemented for stable and reliable operation. In particular, the quest for low power and high-resolution sensing becomes highly compelling in wearable devices. We will discuss transistor operation in the different regimes, and review device properties when operated in the deep sub-threshold regime or in near-OFF state, addressing the pivotal requirement of low supply voltage and ultralow power leading to potentially battery-less operation.