

## **Aline Eid**

**Title:** New Backscatter Horizons: The Emergence of mmID Technology

**Abstract:**

The UHF RFID tags that we have become familiar with have come as the fruits of incremental improvements made over 20th-century technology. Stirred by the advent of mm-wave 5G cellular networks and automotive and industrial Radar systems, Edge-Computing, and AI, mm-wave RFID or mmID technology is leaping into the 21st century to offer specifications unattainable to current RTLS and tagging systems. During this talk, Prof. Aline Eid will present breakthrough hardware developments, on the path leading towards the permeation of the physical into the digital, where mmID technology, fully empowered by 5G/mm-waves, will be demonstrated to be the enabler of zero-power long-range sensing and localization for digital twins. This outcome is the product of reported advances allowing the design and demonstration of printed, conformal, and smart wireless devices that can fully-autonomously communicate, at long ranges, and over a wide angular coverage.