

## Prof. Sanket Goel Distinguished Lecture (DL) Talk 1

### **Title:**

Miniaturized Wearable, Implantable and Self-powered Electrofluidic devices for Multi-domain Sensing Applications

### **Summary:**

Wearable and implantable sensors have relied largely on replaceable batteries or external powering mechanisms, hampering their continued use for prolonged durations. The proliferation of innovative materials and improvised fabrication methods has significantly increased the demand for improved and compact power sources. The lecture intends to showcase the developments towards realizing self-powered miniaturized sensing devices for a multitude of sensing applications. Electrode integration with microfluidic flow systems, which has served as the pivotal point in the introduction of these autonomous electrofluidic devices, will also be discussed. The lecture would emphasize on the successful implementation of bio-fuel cells and bio-supercapacitors as means of harnessing and storing energy. The lecture will cover a wide range of applications, including applications for implantable fuel cell electrodes and band-aid sensors.