

Prof. Sanket Goel Distinguished Lecture (DL) Talk 2

Title:

Portable Optofluidic devices for Autonomous and Diversified Sensing Applications: Cyber Physical System Approach

Summary:

The lecture revolves around the advancement of compact and adaptable sensing instruments that combine fluidics and time-tested optical sensing mechanisms to serve a wide range of bioanalytical sensing applications. By utilizing the benefits of integrated microfluidics, the devices function on a vast array of sensing phenomena, including electrochemistry, colorimetry, chemiluminescence, and electrochemiluminescence. The focus will be on a wide variety of portable devices that can operate independently, allowing for a wide range of detection capabilities to be implemented, including biomarker analysis and environmental pollutant quantification. By implementing a cyber-physical system approach, such devices have experienced substantial enhancements in functionality, flexibility, and autonomy. Furthermore, the interdisciplinary endeavors will illustrate the potential applications of sophisticated and versatile sensing technologies.