



Department of Chemical Engineering presents

Professor Yu Lei



Professor and P.E.

Department of Chemical and Biomolecular Engineering

University of Connecticut

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Gavett Hall 202 @ 3:25pm

*"Functional Nanomaterials Enabled High-Performance
(Bio)Sensors for Medical and Homeland Security Applications"*

A (bio)sensor is an analytical device which integrates a chemical or biological recognition element with a physical transducer to generate a measurable electrochemical, optical, acoustical, mechanical, calorimetric, or electronic signal proportional to the concentration of the analytes. It has been studied intensively and utilized extensively in various applications ranging from public health and environmental monitoring to homeland security and energy-related area. The rapid development of nanotechnology in recent years has further fostered research in (bio)sensors. In this presentation, we will discuss recent research progress of various (bio)sensors developed in our group with an emphasis on two specific topics: 1. non-enzymatic glucose monitoring using nano-engineered materials for combating diabetes; and 2. advanced fluorescent nanomaterials enabled sensitive and selective explosives detection for homeland security.

BIO: Yu Lei is a Professor of Chemical and Biomolecular Engineering at the University of Connecticut (UConn). Dr. Lei obtained his BS degree and MS degree from Sichuan University-China in 1993 and 1996, respectively. He earned his Ph.D. degree in 2004 at the University of California-Riverside in Chemical and Environmental Engineering. Before he joined in UConn in 2006, he was an assistant professor at Nanyang Technological University, Singapore. Professor Lei has published over 140 peer-reviewed journal papers with over 6900 citations and h-index of 43 (Google Scholar). He also delivers over 120 presentations nationally and internationally. He has been serving on various journals as associate editor or editorial board member, including "Nanomaterials and Nanotechnology", "Frontiers in Environmental Chemistry", "Applied Biochemistry and Biotechnology", "Analytical Letters" and so on. Dr. Lei also receives numerous awards and honors including elected member of Connecticut Academy of Science & Engineering (2018), elected Fellow of American Institute of Medical and Biological Engineering (2017), First place award of 2017 EPA Advanced Septic System Nitrogen Sensor Challenge, 2017 Prof. Rudolph A. Marcus Award, UConn School of Engineering Dean's Excellent Award (2016), Castleman Professorship (2012-2015), two times of *Biosensors and Bioelectronics* Top Cited Articles awards, etc.. His (bio)sensor research has been extensively supported by various federal funding agencies such as National Science Foundation, Department of Energy, USGS and Department of Homeland Security.