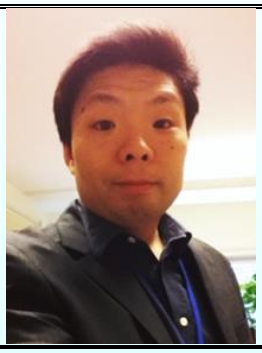
The Chinese University of Hong Kong

Department of Biomedical Engineering

Time: 10:00 am, 20 December 2018 (Thursday)
Venue: Room 222, Ho Sin-Hang Engineering Building

Advance design and fabrication strategies to improve biosensor performance



Professor Wing Cheung MAK (Martin)

Associate Professor, Docent

Head of Unit Biosensors and Bioelectronics

Abstract

Biosensors are analytic devices that composed of a biological sensing element and a transducer. Since the development of first glucose biosensor in 1962 by Leland Clark, various biosensors were reported for applications including healthcare diagnostics, drug discovery, environmental, food safety and process control monitoring. The promise demonstrated by various examples of biosensor technologies is very appealing, however, there are still many hurdles to develop commercial biosensors for real practice. The success of biosensors rely mainly on their ease of use, portability, sensitivity, selectively and cost, while emerging technologies on new material design and fabrication techniques create new impacts on the development of biosensors. This seminar will present various technologies developed in our team to improve analytical performance of electrochemical and optical biosensors focused on material science, biolabel technique, processable materials for printed and flexible bioelectronics and advanced fabrication methods, as well as examples on successful commercialization of our developed technologies.

Biography

Dr. Mak's research activities focus on the development of advance functional materials with particular interest on understanding the chemical and morphological effect of micro-structured materials for applications in biosensors, regenerative medicine, drug delivery and energy. He has considerable experience on industrial R&D as technical manager and entrepreneur (founder and holder of Sentervia AB, shareholder of Jupiter Diagnostics Ltd.). He is the lead investigator of IF Sensing Ltd. based in Manchester focus on the development of innovative diagnostic solutions for kidney care. He has authored over 50 peer-reviewed publications with publications covering the fields in biosensors, bioelectronics, materials science, biomaterials and surface engineering. He is the inventor of seven patent families and more than fifteen patents in the field of biosensors and healthcare diagnostics.

***** ALL ARE WELCOME *****

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