Topic: **BIOSENSING AT THE MICRO- AND THE NANOSCALE**

Speaker: **Dr. Carlos Escobedo**
Asst. Professor, Department of Chemical Engineering
Queen's University, Canada

Date: **23 May 2014, Friday**

Time: **10.00am to 11.00am**

Venue: **EA-06-02** *(map of NUS can be found at http://map.nus.edu.sg/)*

Host: **Prof. Nhan Phan-Thien**

Abstract

Biosensing technologies have been greatly advanced in the past decade due to the prosperous progress in materials and fabrication methodologies at the micro- and the nano-scales. This talk will comprise recent developments on biosensing technology at both length scales. On the 'nano' scale, I will discuss the use of metallic nanohole arrays as biosensors and key benefits of employing these nanostructures as nanochannels for biosensing. I will present a new method that exploits non-conventional characteristics of the nanohole arrays for towards the detection of ultralow concentrations of analyte. At the micro-scale, I will present integrated microfluidic-based system that allows for single-cell handling, electroporation and label-free analysis.

About the Speaker

Carlos Escobedo started as assistant professor at the Department of Chemical Engineering at Queen's University in May 2013. He received a B.Sc. from the National University of Mexico, M.A.Sc. from University of Toronto and Ph.D. from University of Victoria (2011). Between his Master's and Ph.D. studies, he worked 4 years in the medical R&D industry for Innovamedica as manager of the Mechanical Engineering Division, developing an artificial heart and other medical equipment. Most recently, he was an NSERC postdoctoral fellow at the Bioengineering Laboratory of the Department of Biosystems Science and Engineering of ETH Zürich, Switzerland. His current research involves the development of microfluidic systems, and micro- and nanostructures for analytical applications in biology and chemistry.

Admission is free. All are welcome to attend.