



Biomedical Engineering

Lecture Series Seminar

New Chemical Analyses and Sensors with Biological and Environmental Applications

Prof. Ziling (Ben) Xue

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1: 00 -2:00 PM, September 23rd (Thursday)

Location: EC 2300

Abstract: This lectures will focused on the developments of new analytical methods and sensors for inorganic and organic species. Novel electrochemical analysis has been employed to analyze biological chromium in blood samples at low-ppb to ppt level. There is a need to develop new reliable methods for the chromium analysis in biological fluids to assess Cr deficiency and the effect of Cr as adjuvant therapy for Type II diabetes. Our work to pretreat biological samples and subsequent Cr analysis will be presented. Developments of optical sensors for CO₂, metals, alcohols and concentrated strong acids and bases⁴ as well as their applications will also be discussed.

Zi-Ling (Ben) Xue received his BS degree in 1982 from Nanjing University-Nanjing College of Pharmacy, China. He was selected in 1983 as a Chemistry Graduate Program (CGP or William von E. Doering Program) fellow, and entered the Ph.D. program at the University of California at Los Angeles in 1984, studying inorganic-organometallic chemistry with Herbert D. Kaesz. After receiving his Ph.D. degree in 1989, he moved to Indiana University in 1990 as a postdoctoral fellow with Kenneth G. Caulton and Malcolm H. Chisholm, and in 1992 accepted a position as Assistant Professor at the University of Tennessee. He was promoted to Associate Professor in 1997 and Professor in 2001, and is now a Paul and Wilma Ziegler Professor of Chemistry. Professor Xue has received several awards including a National Science Foundation Young Investigator Award, NSF Special Creativity Extension Award, Camille Dreyfus Teacher-Scholar Award, DuPont Young Professor Award, Changjiang Lecture Professor, Distinguished Oversea Young Scholar Award (Chinese National Natural Science Foundation), and UK Royal Society Kan Tong Po Visiting Professorship.