Man-Made Nanomachines

GUEST SPEAKER

Prof Joseph Wang
University of California, San Diego
When: **6th August 2010, 3.00 p.m. to 4.00 p.m.**
Where: **Institute of Microelectronics, Singapore**
11 Science Park Road Singapore Science Park II Singapore 117685

Abstract

The remarkable performance of biomotors is inspiring scientists to create synthetic nanomachines that mimic the function of these amazing natural systems. This presentation will discuss the challenges and opportunities facing the design and operation of artificial nanomotors. Particular attention will be given to catalytic nanowire and microtube motors propelled by the electrocatalytic decomposition of a chemical fuel. While artificial nanomotors still pale compared to nature biomotors, recent advances indicate significant improvements in the velocity, power, motion control, cargo-towing force, scope and versatility of such catalytic nanomotors. The greatly improved capabilities of chemically-powered artificial nanomotors could pave the way to exciting and important applications and to sophisticated nanoscale devices performing complex tasks.

Speaker Biography

Joseph Wang is a Professor in Department of Nanoengineering at University of California, San Diego (UCSD). He received Ph.D. from the Technion in 1978. From 1978 to 1980 he served as a research associate at the University of Wisconsin (Madison) and joined New Mexico State University (NMSU) at 1980. In 2001-2004 he held a Regents Professorship and a Manasse Chair positions at NMSU, and from 2004 to 2008 served as the director of Center for Bioelectronics and Biosensors of Arizona State University (ASU). San Diego (UCSD). Prof. Wang has published more than 790 papers and he holds 12 patents. He became the most cited electrochemist in the world and received the 4th place in the ISI's list of 'Most Cited Researchers in Chemistry' in 1996-2006. Since 1980, 20 Ph.D. candidates and 75 research associates have studied with Professor Wang. Prof. Wang is the Editor-in-Chief of *Electroanalysis*. His scientific interests are concentrated in the areas of nanosensors, nanomachines, bioelectronics, bionanotechnology and electroanalytical chemistry.

Registration

Pre-registration is required. Closing date is 4th August 2010. To register, please log on:
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