



The Department of Electrical and Electronic Engineering, University of Hong Kong and
The IEEE Hong Kong Joint Chapter of Electron Devices and Solid-State Circuits Society



Jointly organizes an EDS Distinguished Lecture on

2D Carbon-Based Device, Interconnect, and Circuit

by

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ABSTRACT

Discovered only seven years ago, 2D carbon-based nanostructures (graphene and its derivative material systems) have received significant amount of research interest from both academia and industry community. Graphene, a mono-, bi-, or a few layer of carbon atoms packed into two-dimensional honeycomb lattice, has emerged as promising candidate of the “platform material” for a broad spectrum of applications in electronics, optoelectronics, and energy conversion. These emerging 2D carbon nanostructures exhibit unique physical, electrical, and mechanical properties due to their special structural configuration, electronic band diagram, and the associated physical phenomena such as massless Dirac fermion transport and quantum confinement. This seminar introduces basic structure, material preparation methods, and key properties of graphene, as well as the potential areas of major technological impacts. Some latest research results in my lab will be reported, particularly in graphene-based logic switch devices, interconnects, and circuits. Challenges and near-future research opportunities will be highlighted.

SPEAKER BIOGRAPHY

Dr. Bin Yu received B.S. from Zhejiang University and M.S./Ph.D. from University of California at Berkeley, all in Electrical Engineering. He is Professor in the College of Nanoscale Science & Engineering, State University of New York, Albany, with research interest in emerging nano-inspired materials and devices. He co-authored 5 book/book chapters, published over 150 research papers, and was speaker of 60+ invited talks to international conferences, academia, industry, and professional societies. A prolific inventor in nano/microelectronics, he has over 200 U.S. patents under his name. He is Fellow of IEEE, Editor of IEEE Electron Devices Letters, Associate Editor of IEEE Transactions on Nanotechnology, Editor of Nano-Micro Letters, Recipient of IBM Faculty Award, IEEE EDS Distinguished Lecturer, Consulting Professor of Electrical Engineering at Stanford University, and Guest Professor of Microelectronics at Beijing University. He served on technical committees, advisory committees, and invited panels of many international conferences and organizations. He also served as senior consultant to venture capital, technology law firm, nanotech startup, and semiconductor chip companies in Silicon Valley of California.

Date: June 30th, 2011 (Thursday) Time: 11:00am to 12:00pm

Venue: Room 603, Chow Yei Ching Building

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