

Spring 2015 Seminar Series

Presented by the ECE Division

EMERGING DEVICES BEYOND MORE THAN MOORE CMOS

MONDAY FEBRUARY 9, 2015

10:45 AM – HEC 101

As MOSFETs are scaled down to sub-20nm and below, power consumption is the major limitation to maintain device performance well. Thus, how to suppress the device's sub-threshold leakage and gate leakage is the key issue for sub-20nm MOSFET especially for high performance/lower power system. In order to scale MOSFET following Moore's law continuously, there are some candidates are introduced to replace conventional MOSFET structure including UTBBSOI FET, FinFET and nano-wire transistor. This talk will explain semiconductor device trend and related advanced technology development especially for coming 7nm technology regime. And other possible device for more than Moore application including Internet on Thing (IoT) will be also explained.

DR. WEN-KUAN YEH

Director General of National Nano Device Laboratories, Taiwan



Wen-Kuan Yeh received the Ph. D. degrees in electronics engineering from National Chiao-Tung University, Taiwan, in 1996. In 1989 he joined Taiwan Semiconductor Manufacturing Corporation (TSMC) Research and Development Division to research advanced semiconductor technology. He also joined Unite Microelectronic Corporation (UMC) Technology & Process Development Division in 1996 to develop 0.25 to 0.09 μm CMOS technology. He is currently a full Professor of Electrical Engineering Department in National University of Kaohsiung and Director General of National Nano Device laboratories. Dr. Yeh is also the Chair of IEEE EDS Tainan Chapter. He has published 4 edited books, over 100 peer reviewed papers, 3 book chapters, and over 100 patents. His recent work is in the field of nano-scaled CMOS, SOI MOSFET, and FinFET.

Hosted by: Dr. Jiann-Shiun Yuan, NSF MIST Center Director

