

**Thursday, April 8th**Scaife Hall Auditorium  
Room 1254:30 p.m.  
Refreshments at 4:00 p.m.**Martin D.F. Wong**  
**Professor**Department of Electrical and Computer Engineering  
University of Illinois at Urbana-Champaign

Martin D.F. Wong obtained the Ph.D. degree in computer science from the University of Illinois at Urbana-Champaign (UIUC) in 1987. He is currently Professor of Electrical and Computer Engineering at UIUC. He has published over 350 technical papers and has graduated 37 Ph.D. students in the area of computer-aided design (CAD) of VLSI. He has won a few best paper awards in CAD. He has served on numerous technical program committees of leading CAD conferences and has served as an associate editor for several IEEE/ACM journals (e.g., IEEE Transactions on computer-aided design, ACM Transactions on Design Automation of Electronic Systems). He was an IEEE Distinguished Lecturer in 2005-2006. He is a Fellow of IEEE.

**Design for Manufacturing****Abstract:**

With on-chip minimum feature size down to nanometer range, there are substantial challenges to the design and manufacturing of very-large scaled integrated (VLSI) circuits. In the current 45nm technology node, manufacturing process variations have become a major factor that affects circuit performance and could lead to excessive yield loss. This manufacturability problem will get significantly worse in future technology nodes of 32nm/22nm and beyond. In order to cope with manufacturing process variations, a major paradigm shift is required in the way we design VLSI circuits. To handle random variations, we need to develop a new generation of computer-aided design (CAD) software that manipulates statistical random variables rather than deterministic values. To handle systematic variations, we need to develop a new generation of CAD software that understands how these variations are compensated during the downstream manufacturing steps. In this talk, we give an overview of our contributions in design for manufacturing.

**ECE Seminar Hosts**

Jeyanandh Paramesh	paramesh@ece.cmu.edu
Onur Mutlu	onur@cmu.edu
Gabriela Hug	ghug@ece.cmu.edu