



TEXAS A&M UNIVERSITY
Department of Electrical Engineering
College Station, Texas 77843-3128
TEL (409) 845-7498 FAX (409) 845-7161
sanchez@ee.tamu.edu
<http://amsc.tamu.edu/>

S E M I N A R

Room 223B ZEC

Monday, April 26, 2004, 3:00 p.m. 3:50 p.m.

TOWARDS HIGH PERFORMANCE SYSTEM-ON-CHIP DESIGN AUTOMATION

by

Dr. Yehia Massoud
Rice University
Houston, Texas

Abstract: The recent advancements in process technology have enabled the idea of a system on a chip (SOC) to become a reality, allowing designers to pack over 200 million devices on a single chip. However, with this density of integration, and increase in performance, a slew of second and third order effects that were little understood and that were safely ignored in the past came to the forefront of the SOC realization and posed challenges that are yet to be addressed. Another aspect of this SOC integration is that SOCs are increasingly containing analog, RF, Micro-sensors, and MEMS.

In this talk, I will address some of the challenges and opportunities that arise in high performance SOCs. The talk will address the main problems introduced by the SOC integration and the technology scaling, such as signal integrity, substrate coupling, inductive effects, analog design automation.

Dr. Yehia Massoud received the BSc. (with honors) and the MSc. degree in Electronics and Telecommunication from Cairo University, Egypt. He received his PhD degree in EECS from the Massachusetts Institute of Technology in 1999. He was a member of the Technical Staff at the Advanced Technology Group at Synopsys Inc., Mountain View, CA from 1999 to 2003. He joined Rice University as an Assistant Professor of Electrical and Computer Engineering in July 2003. He is interested in the modeling and design automation of high performance Systems-on-Chip and applications of Electromagnetics to Nano- and Bio- technology.

