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## **S E M I N A R**

**Room 118 Civil Engineering**

Monday, September 27, 2004, 2:00 p.m. 2:50 p.m.

### **Taming Complexity Through Abstraction and Hierarchy: Applications to Manufacturing Test Generation**

**Jacob A. Abraham**  
**Computer Engineering Research Center**  
**The University of Texas at Austin**  
**Austin, Texas, U.S.A.**

**Abstract:** Complexity is the primary stumbling block to the effective analysis of electronic designs. This talk will describe research in the Computer Engineering Research Center in dealing with complexity. A novel hierarchical technique which focuses on one module of the design at a time and abstracts the rest of the design into reduced logic will be discussed in detail. The underlying theory will be described with applications to manufacturing test generation. Results of applying this technique to complex designs demonstrate improvements, in time and quality of solution, several orders of magnitude better than conventional approaches.

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**Jacob A. Abraham** is a Professor in the Department of Electrical and Computer Engineering at the University of Texas at Austin. He is also director of the Computer Engineering Research Center and holds a Cockrell Family Regents Chair in Engineering. He received the Bachelor's degree in Electrical Engineering from the University of Kerala, India, in 1970. His M.S. degree, in Electrical Engineering, and Ph.D., in Electrical Engineering and Computer Science, were received from Stanford University, Stanford, California, in 1971 and 1974, respectively. From 1975 to 1988 he was on the faculty of the University of Illinois, Urbana, Illinois.

