

THURSDAY
APRIL 22, 2004

Scaife Hall Auditorium
Room 125

4:00 PM
Refreshments—3:30 PM



Gabriel Rebeiz
PROFESSOR OF EECS
UNIVERSITY OF MICHIGAN

Gabriel M. Rebeiz (Fellow, IEEE) earned his Ph.D. degree in electrical engineering from the California Institute of Technology, Pasadena, and is currently a professor of electrical engineering and computer science at the University of Michigan, Ann Arbor. His research interests include applying micro-electro-mechanical systems (MEMS) for the development of novel components and sub-systems for radars and communication systems. He is also interested in SiGe RFIC design for receiver applications, and in the development of planar antennas and microwave/millimeter-wave front-end electronics for communication systems, automotive collision-avoidance sensors, and X- to W-band phased arrays.

Prof. Rebeiz was the recipient of the National Science Foundation Presidential Young Investigator Award in April 1991 and the URSI International Isaac Koga Gold Medal Award for Outstanding International Research in August 1993. Prof. Rebeiz was selected as the 1997-1998 Eta-Kappa-Nu EECS Professor of the Year. He also received the 1998 Amoco Foundation Teaching Award, given yearly to one faculty at the University of Michigan, for best undergraduate teaching. Prof. Rebeiz is the co-recipient with his student Scott Barker, of the IEEE 2000 Microwave Prize, and the IEEE MTT 2003 Outstanding Young Engineer Award.

For more information:
<http://www.ece.cmu.edu/seminar/>

C. Patrick Yue, ECE Seminar Host
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SIGe FOR MM-WAVE APPLICATIONS

This talk will present the hobby of Prof. Rebeiz, mainly how to combine good electromagnetic design with SiGe transistors to develop state-of-the-art SiGe chips for mm-wave radar applications. The talk will present the development of a SiGe 0.1 ns 10-30 GHz switch (yes, this is not a mistake), which is capable of single-cycle waveform generation for UWB systems. Also, some nice SiGe phase shifters for phased-array applications and very low noise oscillators at 12 and 24 GHz. The goal of the talk is to show that SiGe is a viable technology for mm-wave applications. 