

Syracuse University

EECS/CASE Seminar
Sponsored by the IEEE MTT Distinguished Lecturer Program

Dr. James J. Komiak

**BAE Systems Global Engineering/Scientific Fellow
Electronic Systems MicroElectronics Center (MEC) in Nashua, NH**

Friday, April 11, 2014

4-201 Center for Science and Technology – 1:00PM

**Microwave and Millimeter Wave Power Amplifiers: Technology,
Applications, Benchmarks, and Future Trends**

Abstract: Solid State Transistor Device Technologies covered include Si BJT, Si LDMOS, MESFET, HBT, PHEMT, InP HEMT, MHEMT, and GaN HEMT. Content includes principles of operation, structures, characteristics, classes of operation, and device state of the art benchmarks. Power amplifiers utilizing these device technologies covering UHF through Sub-Millimeter Wave are described including amplifier state of the art benchmarks. Applications include communications, radar, electronic warfare, and instrumentation.

Bio: James J. Komiak (M'89-SM'90-F'05) received a Ph.D. in Electrical Engineering from Cornell University in 1978. Dissertation research developed the "Real Frequency Technique" for broadband matching an arbitrary load to a resistive generator. He has 35 years of experience in system, module, and MMIC design for EW, communication, and radar applications. Currently he is a BAE Systems Global Engineering/Scientific Fellow at the Electronic Systems MicroElectronics Center (MEC) in Nashua, NH.

He has over 100 publications and 10 patents. Elected to the grade of IEEE Fellow in 2005 for "Contributions to Monolithic Microwave Integrated Circuits, High Power Amplifiers, and Transmit/Receive Modules." Received the Martin Marietta Jefferson Cup Award--"Outstanding Technical Leadership in Development and Demonstration of High Power and High Efficiency Monolithic Microwave Integrated Circuit Amplifiers and T/R Modules for Phased Array Radar (June 1993)" and his work is represented in the MTT Symposium MMIC Historical Exhibit--"World's First Octave Band MMIC with Power Output in Excess of 10 Watts (1989)". Silver Award Winner of the BAE Systems Chairman's Award for Innovation for "Blue Force Locator & Monitor" (2001) and "Next Generation Power Amplifiers" (2012). Received the BAE Systems Engineering Fellows Leave A Legacy Award (2007). Inducted into the Association of Old Crows Electronic Warfare Hall of Fame in 2008. MTT-S, IMS TPC/TPRC, MTT-5, GaAs IC Symposium (2000 Chairman), former ABET ECE PEV, CEEA.

Refreshments will be served.

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