

UNIVERSITY OF CENTRAL FLORIDA & THE SCHOOL OF EECS

present the Spring 2009

## EECS Distinguished Seminar Series



### Mr. Ronald J. Olson, Jr.

*Team Leader, Micro and Nano Fabrication at GE's Global Research Center*

“Micro and Nano R&D Performance and Productivity - A Lean Six-Sigma Approach”

Wednesday, March 18, 2009 • 2:00 p.m. • Harris Center (HEC) 101

During the last two decades, there has been a rapid increase in funding for micro and nano device research resulting in a number of exciting commercialization successes. MEMS, microfluidics, planar light circuits and photonic devices, nano devices, advanced packaging, and wide band gap (WBG) semiconductor devices are just a few examples of the technologies under active research and commercialization.

At General Electric's Global Research Center (GRC) micro and nano R&D opportunities have increased 25% annually over the last 5 years. This growth is due to the unprecedented levels of performance and functionality these devices offer. In addition, micro and nano devices, if produced in volume, add a small percentage to overall product cost.

A significant business challenge confronting this industry is the high cost of R&D in preparation for early phase pilot and high volume production. GRC is leading initiatives aimed to minimize this barrier and allow for the transition of more micro and nano technologies into products. GRC is reducing development costs by successfully conducting multi-technology research (advanced packaging, WBG semiconductors, nano structures, photovoltaics, and MEMS devices) in a common cleanroom facility.

#### **MR. RONALD J OLSON JR.**

Ron Olson is the Team Leader, Micro and Nano Fabrication at GE's Global Research Center. He is responsible for the management of a 25,000 sq. ft. Class 100 clean room that supports advanced research and development for a diverse range of technologies including, advanced packaging, wide band gap semiconductors, MEMS, photonics, photovoltaics and nanotechnology. Ron has over 20 years of progressive experience as an innovator in fab operations and process and device development. Prior to his current role, he spent 2½ years as the Micro and Nano Fab Operations Supervisor focusing on optimizing the productivity of the MNST Fab Operations. Before joining GE in 2005, Ron was Director of Fab Operations at Xanoptix, Inc. In addition he has held various Process Development and Engineering positions at Sanders, A Lockheed Martin Company, Quantum, and Raytheon's Research Division and Microwave Device Research Laboratory.

Ron received his Bachelor of Science degree in Physics from Allegheny College and a Master of Science degree in Material Science and Engineering from Northeastern University. Ron has presented and published several papers related to advanced process development of infrared detectors, low damage etch processes, and research and development productivity. Ron also has been awarded multiple patents for his developments in the area of optical interconnect transceivers and manufacturing techniques.