Seminar Title: Design of power amplifiers employing GaN HEMTs

Time: 3:00-4:00 PM, Friday, April 11, 2014
Location: ECE 101 Lankford Lab

Speaker:
Mark Saffian  
Sr. Market Development Manager  
National Instruments

Abstract:
This presentation will concentrate on the design of power amplifiers employing GaN HEMTs to maximize power added efficiencies by the investigation of optimum source and load-pull at both fundamental and harmonic frequencies. The load-pull capabilities that are available in Microwave Office software have been used extensively to find the optimum trade-offs in power gain, efficiency, stability etc. The talk will specifically describe the basis of Class F PA design as well as inverse Class F and a relatively new approach called continuous Class F which allows greater bandwidths to be realized. Several practical design examples will be given including the inspection of voltage and current waveforms for both packaged and bare die transistors in the 10 to 25 watt power range for frequencies up to 2.5 GHz.

Speaker Bio:
Mark Saffian earned the BSEE degree from The University of Texas at Austin. Since graduation, he has accumulated 8 years of R&D experience (Texas Instruments, TriQuint Semiconductor, Anritsu) and over 22 years of field applications experience in EDA, first at Compact Software (acquired by Ansoft, then Ansys) and more recently at AWR Corp. AWR was acquired by National Instruments in 2011, and Mr. Saffian moved to NI last year to lead the AWR University Program. Mr. Saffian has authored numerous papers for publication and live presentations, has been a member of IEEE for 31 years, and served a 4-year term on the Editorial Technical Advisory Board for IEEE Spectrum. Outside of work, his hobbies include motorcycling, maintaining a 40 year old British car, and working on his property in the woods.