



13<sup>th</sup> Annual IEEE Wireless and Microwave Technology Conference  
**WAMICON 2012**  
 April 16 - 17, 2012

Wamicon 2012 Technical Program Draft (Note: This is subject to change based on final paper submission. Please check the website for update frequently.)

April 16, 2012 Monday Morning Sessions			
	Session 1 (Emerging Technology-1)	Tutorial Session 1	Special Session
	Advanced Circuit and Analysis Techniques - Chairs: Joel Johnson	Chair: Raymond Pengelly	CAD 1 (a) - Chairs:
8:30 AM	Invited: In Vivo Wireless Communication Channels (Richard D. Gitlin, 30 min)	Linearization: Reducing Distortion in Power Amplifiers (Prof. Allen Katz, The College of New Jersey, 2.5 hours)	Recent Advances in RF/MW Electronic Design Automation (Craig Sapashe, Agilent, 40 min)
8:50 AM			
9:10 AM	DC-Coupled Doppler Radar Sensor with Software-Configured Fine-Tuning Architectures for Precise Monitoring of Complex Motion Patterns		
9:30 AM	Wireless Interrogation of Antenna Sensor to Detect Hidden Cracks		
9:50 AM	Design and Analysis of Multi-Mode Metamaterial Structures For X-Band Guided Waves TE <sub>10</sub> Transmission Enhancement		
Coffee Break			
	Session 2 (Wireless-1)	Tutorial Session 1 (continued)	Special Session
	Wireless 1 - Chairs:	Chair:	CAD 1 (b) - Chairs: Raymond Pengelly
10:25 AM	Single Antenna Full Duplex Communications using a Common Carrier	Continue with Tutorial Session 1	Efficient Large Scale Electromagnetic Simulations with a Hybrid Finite Elements Boundary Integral Technique (Dr. Matthew H. Commens, Ansys, 40 min)
10:45 AM	Coded-Sequence Self-Encoded Spread Spectrum over Rayleigh Fading Channel		
11:05 AM	Evaluation of antenna configuration for aeronautical WiMAX at 5.1GHz		
11:25 AM	Compressive Sensing with Frequency Domain Based Random Sequences		
11:45 AM	Cell Splitting based on active antennas: performance assessment for LTE system		
			CAD tools for Multi-Radio Design (Dr. Yasser Hussain, PedaSoft, 40 min)



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April 16, 2012 Monday Afternoon Sessions			
<b>Lunch</b>			
	Session 3 (PA-1)	Tutorial Session 2	Session 4 (Wireless-2)
	Power Amplifiers 1 - Chairs: Joel Johnson	Chair: Raymond Pengelly	Wireless 2 - Chairs:
1:05 PM	Invited: Practical Considerations for High-power X-parameter Measurements for Power Amplifier Design (T.S. Nielsen, 30 min)	Software Defined Radio for Microwave Applications: Explanation, Evolution, Design Details, Your Role in SDR, and Several Live Demonstrations (Dr. Jeffrey Pawlan, Pawlan Communications, 3.5 hours)	A Centralized Algorithm for Prolonging the Lifetime of Wireless Sensor Networks using Particle Swarm Optimization
1:25 PM			An Efficient Medium Access Control Protocol with Parallel Transmission for Wireless Sensor Networks
1:45 PM	Steady State and Transient Thermal Analyses of GaAs pHEMT Devices		Localization of WSN node based on Time of Arrival using Ultra Wide Band Spectrum
2:05 PM	A High Gain SiGe-GaN Switching Power Amplifier in the GHz-Range		Software Defined Radio on Digital Communications: a New Teaching Tool
2:25 PM	A Novel Darlington Cascode Broadband Drive Power Amplifier in 2um InGaPGeAs HBT Technology		A Hybrid Routing Technique to Establish Security in MANET using Multipath and Friend-Based AD HOC Routing
<b>Coffee Break</b>			
	Session 5 (Passive)	Tutorial Session 2 (continued)	Session 6 (PA-2)
	Passive Components, Systems, and Numerical Methods - Chairs:	Chair:	Power Amplifiers 2 - Chairs:
3:00 PM	Temperature and Voltage Impact on Intermodulation Distortion of Planar Barium Strontium Titanate Varactors	Continue with Tutorial Session 2	Invited PA paper (30 min)
3:20 PM	Optimum Wireless Power Transmission to Buried Sensors in Reinforced Concrete Structures		Reduced Bandwidth Class H Supply Modulation for Wideband RF Power Amplifiers
3:40 PM	Robust Near Field Broadband Beamforming in the Presence of Steering Vector Mismatches		A New High Efficiency RF Switch-mode Power Amplifier Architecture for Pulse Encoded Signals
4:00 PM	Efficient Large Scale Simulations with a Hybrid Finite Element Boundary Integral Technique		Driver Amplifier Design Considerations for High Efficiency Envelope Tracking Power Amplifier Line-Up
4:20 PM	Investigation and Design of X-Band Slotted Waveguide Antenna with TE <sub>10</sub> Transmission Enhancement Using Multi-Mode Metamaterial Array and Multi-Mode		



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5:00-7:00		Monday Poster Session Chair:	
	Paper #	Title	
Active	125	S-band Wideband Bandpass Filter (BPF) with Improved Upper-Stopband Performance for Satellite Communicatio	
Emerging	152	Low Power Silicon Neuron-based Capacitive Biosensor	
Passive	162	Radio-Frequency Properties of Teflon Amorphous Fluoropolymer Deposited on Gold CPW Transmission Lines	
P	124	A Full Ka-Band Microstrip-to-Waveguide Transition Using Side-Inserted Magnetic Coupling Semicircular Ring	
P	151	A Low Profile Multilayer Seventh Order Band-pass Frequency Selective Surface (FSS) for Millimeter-Wave Applica	
P	176	Rings Containing Microstrip Antennas used for Obtaining Adjustable Bandwidth Array Antennas	
P	142	Design and simulation of conformal array structure for traffic surveillance concept	
PA	108	A High performance Current Differencing Buffer Amplifier (CDBA) Employing All NMOS Mirrors	
PA	164	Double Gate MOSFET Based Efficient Wide Band Tunable Power Amplifiers	
PA	163	An Ultra-Low Power Current Reused CMOS Low Noise Amplifier for X-band Space Application	
PA	133	Implementation of a current-mode Class-S RF Power Amplifier with GaN HEMTs for LTE-Advanced	
W	159	A Wide Band Reconfigurable Radio based on the Random Demodulator	
W	110	Comparative Performance Analysis LTE and A-WCDMA	
W	129	An Improved Path Loss Model for Wireless Backhaul in E Band	
W	174	Estimation of Wave Attenuation Due to Dust and Sand Storms in Southern Libya Using Mie model	
W	106	Design of a WiMedia/MBOA 0.13 $\mu$ m CMOS Front-End	
W	141	Performance Analysis of Vertical Handoff between UMTS and WLAN in Tightly Coupled Architecture of Wireless	



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April 17, 2012 Tuesday Morning Sessions			
Plenary Session			
8:30 AM	'Wide Bandgap Semiconductor Electronics – from DC to Light!', by Dr. John W. Palmour (Chief Technology Officer, Cree Inc.)		
Coffee Break			
	Session 7 (Emerging Technologies-2)	Tutorial Session 3	Session 8 (Active-1)
	Radar, Transponder and Analysis - Chairs:	Chair: Raymond Pengelly	Modeling and Analysis of Active Components - Chairs: Mohamed Sayed
10:25 AM	Invited: A Basic Mathematical Formalism for Representation and Analysis of RF/Microwave EDA and Design Flows (Michael Heimlich, 30 min)	New Directions in MEMS for RF Front-Ends and Sensors (Prof. Dimitrios Peroulis, Purdue University)	Invited: Multiband Millimeter Wave Transceiver Analysis and Modeling (Jon Martens, 30 min)
10:45 AM			
11:05 AM	Radar Chirp Waveform Selection and Circuit Optimization Using ACPR Load-Pull Measurements		Invited: What's New in Digital Pre-Distortion (John Wood, 30min)
11:25 AM	Optically Biased Frequency Doubler for Non Contact Harmonic Transponders		Performance Analysis of Distributed HEMT Model with Geometry
11:45 AM	Non-Contact Measurement of Rotational Movement Using Miniature Doppler Radar		Use of the overdrive voltage in the design of an internally matched MMIC low noise amplifier



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April 17, 2012 Tuesday Afternoon Sessions			
Lunch			
	Special Session	Tutorial Session 4	Session 9 (PA-3)
	CAD 2 (a) - Chairs: Ryan Baker	Chair:	Power Amplifiers 3 - Chairs: Mohamed Sayed
1:05 PM	Advances in Linear and Non-Linear Modeling for Improved Microwave Design (Dr. Tom Weller and Dr. Larry Dunleavy, Modelithics, Inc, 40 min)  Stability Analysis of Microwave Circuits (Dr. Stephane Dellier, AMCAD Engineering, 40 min)	High-Efficiency Power Amplifiers and Transmitters (Frederick Raab, Green Mountain Radio Research)	Invited: Low Frequency Parasitic Effects in RF Transistors and Their Impact on Power Amplifier Performances (Raymond Quere, 30 min)
1:25 PM			
1:45 PM			Concurrent Dual-Band GaN-HEMT Power Amplifier at 1.8 GHz and 2.4 GHz
2:05 PM			A Novel Circuit to Achieve High Linearity in Power Amplifiers for WCDMA Cellular Base Transceiver Stations
2:25 PM			Concurrent Tri-Band GaN HEMT Power Amplifier Using Resonators in Both Input and Output Matching Networks
Coffee Break			
	Special Session	Session 11 (Active-2)	Session 10 (Emerging Technologies-3)
	CAD 2 (b) - Chairs: Ryan Baker	Advanced Active Building Blocks - Chairs: Mohamed Sayed	Wireless Power and Implantable Systems - Chairs:
3:00 PM	Spiral Inductor Model Extraction and Utilization (Dr. Serhend Arvas, Sonnet, 40 min)  Combining Differential/Integral Methods and Time/Frequency Domain Analysis to Solve Complex Antenna Problems (Ian Wood, CST, 40 min)	Invited: Pulsed-Waveform Oscillator with Short Nonlinear Transmission Lines (Almudena Suarez, 30 min)	Novel Band-Pass Filter Model for Multi-Receiver Wireless Power Transfer via Magnetic Resonance Coupling and Power Division
3:20 PM			Low-Loss Rectifier for RF Powering of Implantable Biosensing Devices
3:40 PM		Invited: Digital Pre-Distortion for Envelope Tracking Power Amplifiers (Paul Draxler, 30 min)	Wireless Powering of Biomedical Device via Magnetic Resonance
4:00 PM		Miniaturized GaAs Image Reject Mixers for 60 GHz Wireless Personal Area Network	Cost Optimization of Wireless-Enabled Metering Infrastructures
4:20 PM		An Area-Efficient 3.5GHz Fractional-N Frequency Synthesizer with Capacitor Multiplier in Millimeter-Wave Gigabit Wireless Communication	Optimal Helices for Wireless Power Transfer via Magnetic Resonance