

# WAMICON 2019 Technical Program

Monday April 8, 2019				
	Horizon	Sawgrass	Sea Oates	
7:00	Continental Breakfast (Sea Shore)			
	<b>M1A Passives I</b> <i>Chair: Jay McDaniel</i> <i>Co-Chair: Ethan Wang</i>	<b>M1B Tutorials I</b> <i>Chair: Larry Dunleavy</i> <i>Co-Chair: Xiaoguang Liu</i>		
8:00	Demystify nonlinear RF magnetic devices with circuit models coupling electromagnetic waves to spin waves <i>Ethan Wang (UCLA, USA)</i> <b>Invited</b>	8:00 Understanding method of moments /3D planar simulations and co-simulation with SMT components  <i>Brian Rautio, Sonnet</i>	<b style="color: red;">Exhibitors (Sea Shore)</b>	
8:30	Simulations of a New Design Concept for Hybrid Ladder Filters <i>Michael Wagner (University of Erlangen-Nuremberg &amp; Intel Deutschland GmbH, Germany), Timo Gossmann, Jakob Tomasik, Robert Weigel, Amelie Hagelauer</i>			
8:50	Simulation Guidelines for Wideband Ground Backed Coplanar Waveguide Transmission Lines <i>Jay W McDaniel (University of Oklahoma, USA)</i>	8:50 Understanding FEM for 3D electromagnetic analysis  <i>Matt Commens, ANSYS</i>		
9:10	Frequency-Agile Coplanar-Waveguide-Fed Miniaturized Helical Resonator Filters <i>Eivy Arroyo-Diaz (University of Oklahoma, USA), Shahrokh Saeedi, Hjalti Sigmarsson</i>			
9:30	A practical approach to the design and implementation of scalable, high-performance custom SMT packages for mmWave applications <i>Benjamin Kahtan (Mini-circuits), Camilo Gomez, and Aaron Vaisman</i>			
9:50	Break (Sea Shore)			
10:20	<b>Keynote: Design and Simulation of Advanced Packaging Platforms for High Volume RF System Applications (Sea Oates)</b>  <i>Dr. Robert Weigel, Professor, Friedrich-Alexander-University of Erlangen-Nuremberg, Germany</i>			
11:20	Exhibitor Spotlight (Sea Oates)			
12:00	Lunch			
	<b>M2A Wireless and Microwave Applications</b> <i>Chair: Nathan S. Jeong</i> <i>Co-Chair: Quenton Bonds</i>	<b>M2B Tutorials II</b> <i>Chair: Xiaoguang Liu</i> <i>Co-Chair: Larry Dunleavy</i>		
13:20	RF Data Conversion for Software Defined Radios <i>Steven Norsworthy, (RF2BITS, Inc., USA)</i> <b>Invited</b>	13:20 Software challenges in support of new PA design methodologies: From network synthesis to advanced load pull  <i>John Dunn, AWR</i>		
13:40	Evaluation of Physical Layer Secret Key Generation for IoT Devices <i>Marko Jacovic (Drexel University, USA), Martin Kraus, Geoffrey Mainland, Kapil Dandekar</i>			
14:00	Least Square Regressor Selection based detection for Uplink 5G Massive MIMO Systems <i>Robin Chataut (University of North Texas, USA), Robert Akl, Utpal Kumar Dey</i>	14:10 Leveraging a system-level design methodology to achieve RFIC performance goals  <i>John Dunn, AWR; Yuval Shay, Cadence; Sutirtha Kabir, Cadence</i>		
14:20	Loosely Coupled Wireless Charging of Footwear-based Sensor System <i>Nathan Seongheon Jeong (The University of Alabama, USA), Edward G Hackett, Jr., Jun Youp Lee</i>			
14:40	A New Wireless Power Transmission (WPT) System for Powering Wireless Sensor Networks (WSNs) in Cavity-Based Equipment <i>Ahmed Abdelraheem (Purdue University, USA), Michael Sinanis, Dimitrios Peroulis</i>			
15:00	Posters, Passports, and Paper Competitions (Sea Shore & surroundings)			
17:00	Load Shuttles to Kennedy Space Center			
18:00	Tour, Reception, and Banquet at Kennedy Space Center			

## Interactive Forum (Monday April 8, 2019; 3:00-5:00 PM)

Title	Authors
Compact 5G n77 Band Pass Filter with Through Silicon Via (TSV) IPD Technology	Ki Shin, Jennifer Arendell and Kim Eilert (ON Semiconductor, USA)
Concurrent Gain and Bandwidth Improvement of a Patch Antenna with a Hybrid Particle Swarm Optimization Algorithm	Holden Clark and Nathan Seongheon Jeong (The University of Alabama, USA)
Coupling-Cancellation-Antenna for Improving Doppler Radar Motion Measurement Accuracy	Songjie Bi (Apple Inc., USA); Xiaonan Jiang (University of California, Davis, USA); Xiaomeng Gao (University of California, Davis & Cardiac Motion LLC, USA); Xiaoguang Liu (University of California, Davis, USA)
A compact 100W, 68% Class F GaN Power Amplifier for L-band GPS	Hemin Wu (University of California, Davis, USA); Kelvin Yuk (Echoic RF, USA); George Branner (University of California, Davis, USA)
Ku band Metal Strip-Loaded Dielectric Rod Waveguide Filter	Denise Lugo, Ramiro Ramirez and Jing Wang (University of South Florida, USA); Thomas Weller (Oregon State University, USA)
Differentially-fed directional filter with differential edge-coupled-line sections	Slawomir Gruszczynski and Krzysztof Winca (AGH University of Science and Technology, Poland)
Modeling and Performance Analysis of the IEEE 802.11 MAC for VANETs under Capture Effect	A. F. M. Shahen Shah, Haci Ilhan and Ufuk Tureli (Yildiz Technical University, Turkey)
Enabling chip, package and PCB system co design and analysis in a heterogeneous integration environment- An EDA approach	Ritabrata Bhattacharya, Ashish Gupta and Vikas Aggarwal (Cadence Design Systems, India); Taranjit Kukal (Cadence, India); Jagdish Lohani and Harmohan Singh (Cadence Design Systems, India)
Optimal-Capacity, Shortest Path Routing in Self-Organizing 5G Networks using Machine Learning	Chetana V Murudkar and Richard D. Gitlin (University of South Florida, USA)
Radar Cross Section Measurement Comparison of UAVs at C-band and V-band	Oday Bshara, Yuqiao Liu and Kapil Dandekar (Drexel University, USA)
A Three-Coil Coupled High-Efficiency Power Link for Wireless Power Transfer Application	Ruikuan Lu and Mohammad R Haider (University of Alabama at Birmingham (UAB), USA); Yehia Massoud (Stevens Institute of Technology, USA)
A 5/10/20/40 MHz 5th Order Active-RC Chebychev LPF for 802.11abg IF Receiver in 0.18 $\mu$ m CMOS Technology	Siamak Delshadpour (NXP Semiconductors, USA)
Analysis of Resource Allocation for Real time Traffic in Cognitive Radio Internet of Things	Fazlullah Khan (Abdul Wali Khan University, Pakistan); Irshad Ahmad (Bacha Khan University Charsadda, Pakistan); Shah Nawaz (Abdul Wali Khan University Mardan, Pakistan)
Building your own VNA	Atharva Powale (Mini-circuits)
Enabling Discrete Optimization of Surface Mount Component Values in Microwave Circuit Design	Laura Levesque, Eric O'Dell, Joshua Lowe and Larry Dunleavy (Modelithics, USA)

Tuesday April 9, 2019			
Horizon		Sawgrass	
7:00 Continental Breakfast (Sea Shore)			
<b>T1A Power Amplifiers</b> <i>Chair: Kenle Chen Co-Chair: Patrick Roblin</i>		<b>T1B Tutorials III</b> <i>Chair: Tom Weller Co-Chair: Quenton Bonds</i>	
8:00 Automatic design of doherty, chireix and novel hybrid PAs <i>Patrick Roblin, (The Ohio State University, USA)</i> <b>Invited</b>		8:00 Understanding your simulation toolbox: How to identify the right method for your application  Shu Li, CST	
8:30 Physics-based compact models for GaN HEMTs: An emerging trend in simulation-based PA design <i>Sourabh Khandelwal, (University of South Florida, USA)</i> <b>Invited</b>		8:50 SATCOM Wideband System Analysis Mission Requirements and Channel Impairments  Wilfredo Rivas-Torres, Keysight Technologies	
9:00 Wideband Doherty Power Amplifier in Quasi-Balanced Configuration <i>Yuchen Cao (University of Central Florida, USA), Haifeng Lyu, Kenle Chen</i>			
9:20 High Power and High Bandwidth Digital Three-Way Doherty Power Amplifier <i>Daniel Popp (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany), Georg Fischer</i>			
9:40 Break (Sea Shore)			
<b>T2A Active Components and Systems</b> <i>Chair: Jim Culver Co-Chair: Wesley Allen</i>		<b>T2B Passives II</b> <i>Chair: Hjalti Sigmarsson Co-Chair: Eduardo Rojas</i>	
10:20 Simplified Tapped Delay Line Architecture for Active Cancellation in a 2x2 IBFD MIMO Transceiver <i>Michael E. Knox (New York University Tandon School of Engineering, USA)</i>		10:20 Low-Loss Suspended Crossover Interconnects using Laser Enhanced Direct Print Additive Manufacturing <i>Omer Faruk Firat (University of South Florida, USA), Mohamed M Abdin, Jing Wang, Thomas Weller</i>	
10:40 The Phase Noise and Clock Synchronous Carrier Frequency Offset based RF Fingerprinting for the Fake Base Station Detection <i>Arslan Ali (Friedrich-Alexander-Universität (FAU) Erlangen-Nürnberg, Germany), Georg Fischer</i>		10:40 3D Microstrip Line Taper on Ultra-low Dielectric Constant Substrate <i>Nawaf Almuqati (University of Oklahoma, USA), Hjalti Sigmarsson</i>	
11:00 Design Technique for Ultra-Wideband Balanced Frequency Doublers <i>Mantas Sakalas (Technische Universität Dresden, Germany), Niko Joram, Frank Ellinger</i>		11:00 Characterization of Microdispensed Dielectric Materials for Direct Digital Manufacturing Using Coplanar Waveguides <i>Seng Loong Yu (Embry-Riddle Aeronautical University, USA), Eduardo Rojas</i>	
11:20 A 310-GHz Fundamental Oscillator with 0.4-mW Output Power and 3.2% dc-to-RF Efficiency in 65-nm CMOS <i>Jingjun Chen (University of California Davis, USA), Hao Wang, Xiaoguang Liu</i>		11:20 Design of Cladded Dielectric Rod Antennas <i>Gabriel Saffold (University of South Florida, USA), Thomas Weller</i>	
11:40 A NEW Approach to 5G/LTE OTA Production Testing <i>Matthew B. Diessner (Wireless Telecom Group, USA)</i> <b>Invited</b>		11:40 Toward a High-Power High-Isolation Wideband Plasma Limiter <i>Zach Vander Missen (Purdue University, USA), Abbas Semani, Dimitrios Peroulis</i>	
12:00 Lunch			
13:20 Plenary Speaker: The Future of High-Frequency Design and Test (Sea Oates)  <i>Todd Cutler, VP &amp; GM of Keysight Technologies Design and Test Software Organization</i>			
14:05 Panel Session: Emerging Simulation Technology (Sea Oates) Can today's EDA tools solve tomorrow's designer challenges?  <i>Matt Commens, ANSYS; John Dunn, AWR; John Park, Cadence; Theunis Beukman, Dassault Systèmes (CST); Todd Cutler, Keysight Technologies</i>			
15:10 Break (Sea Shore)			
<b>T3A Sensors</b> <i>Chair: W. Joel D. Johnson Co-Chair: Michael Grady</i>		<b>T3B Special Session: CAD of High-Complexity RF</b> <i>Chair: Larry Dunleavy Co-Chair: Xiaoguang Liu</i>	
15:30 A Generalized Radiometer System Equation That Includes Temperature-Dependent System Losses <i>Arya Menon (Oregon State University, USA), Michael Grady, Thomas Weller</i>		15:30 Challenges of designing heterogeneous (multi-PDK) packages <i>John Park (Cadence Design Systems, USA)</i> <b>Invited</b>	
15:50 Measurement of the Complex Human Atrial-Ventricular Motions using Contact-Based Doppler Radar <i>Xiaomeng Gao (University of California, Davis &amp; Cardiac Motion LLC, USA), Xiaonan Jiang, Songjie Bi, Dennis Matthews, Saul Schaefer, Xiaoguang Liu</i>		16:00 Next-generation fast algorithms for electromagnetics-based design and analysis of high-performance integrated circuits, packages, and boards <i>Dan Jiao (Purdue University, USA)</i> <b>Invited</b>	
16:10 A Microwave Sensor Array for Water Quality Testing <i>Reza K. Amineh (New York Institute of Technology, USA), Kunyi Zhang, Ziqian (Cecilia) Dong, David Nadler</i>			
16:30 Design of a Novel THz Sensor for Structural Health Monitoring Applications <i>João Pedro Pavia (ISCTE-IUL &amp; Instituto de Telecomunicações, Portugal), Marco Ribeiro, Nuno Souto, Hakan Altan</i>		16:30 Simulation enabled design for filters and multiplexers <i>Theunis Beukman (Dassault Systèmes, Germany)</i> <b>Invited</b>	
17:00 Awards Presentation and Joint Young Professionals & Women in Microwaves Reception			

Exhibitors  
(Sea Shore)