

Monday April 9, 2018

7:00	Continental Breakfast					
	<b>M1A</b>	<b>Passive Components</b> Chairs: Hjalti Sigmarsson and Wesley Allen Location: Palm Room	<b>Authors</b>		<b>M1B</b>	<b>mm-Wave and 5G Challenges</b> Chairs: Larry Dunleavy and Kasyap Patel Location: Bay Room
8:00	Invited	Integrated Non-magnetic Non-Reciprocal Circuit	Ethan Y. Wang; <i>Univ. of California, Los Angeles</i>	8:00	Enabling Slotted Aloha-NOMA for Massive M2M Communication in IoT Networks	Mohamed Elkourdi, Asim Mazin, Eren Balevi, Richard D. Gitlin; <i>Univ. of South Florida</i>
8:30		Balanced Octave-Tunable Absorptive Bandstop Filter	Mohamed Hagag, Mahmoud Abdelfattah, Dimitrios Peroulis; <i>Purdue University</i>	8:20	Stochastic Gradient Descent for Reducing Complexity in Millimeter Wave Hybrid Precoding Design	Ahmed Mohammed, Ivica Kostanic; <i>Florida Inst. of Tech.</i>
8:50		Compact low cost 5G NR n78 band pass filter with silicon IPD technology	Ki Shin, Kim Eilert; <i>ON Semiconductor</i>	8:40	Reducing Overhead in Hybrid Precoding Design for Millimeter Wave MIMO Systems	Ahmed Mohammed, Ivica Kostanic; <i>Florida Inst. of Tech.</i>
9:10		A Passive RF Impedance Tuner for 2.4 GHz ISM Band Applications	Satyam Sinha, Abhishek Kumar, Sankaran Aniruddhan; <i>Birla Inst. of Tech. and Sci., India</i>	9:00	Hybrid Precoding for mmWave Massive MIMO Systems with Generalized Triangular Decomposition	Yasin Kabakci, Huseyin Arslan; <i>Nigde Omer Halisdemir Univ., Turkey</i>
9:30		Simultaneous Analog Tuning of the Series- and Anti-Resonances of Acoustic Wave Resonators	Wesley N Allen, Anming Gao, Songbin Gong, Dimitrios Peroulis; <i>Purdue University</i>	9:20	Cross layer-based intrusion detection based on network behavior for IoT	Amar Amouri, Vishwa Teja Alaparthi, Salvatore Domenic Morgera; <i>Univ. of South Florida</i>
9:50		A high precision embedded combine filter implementation in silicon IPD wafers for X Band	Kim Eilert, Ki Shin; <i>ON Semiconductor</i>	9:40	Position Location Based on Measurement Reports in LTE Cellular Networks	Zaenab Shakir, Josko Zec, Ivica Kostanic; <i>Florida Inst. of Tech.</i>
10:00	Break					
10:20	<p align="center"><b>Keynote Session</b>  <b>Bill Deal, Northrop Grumman</b>  <b>Technologies in Millimeter Wave and Beyond</b>  <b>Location: Palm and Bay</b></p>					
11:30	<p align="center"><b>Exhibitor's Spotlight</b>  <b>Location: Palm and Bay</b></p>					
12:00	Lunch Break					
	<b>M2A</b>	<b>mm-Wave Circuits and Systems</b> Chairs: Xiaoguang Liu and Ryan Baker Location: Palm Room			<b>Workshop</b> <b>Additive Manufacturing</b> Location: Bay Room	
13:30	Invited	High Efficiency mmW Oscillator Design	Xiaoguang Liu; <i>Univ. of California, Davis</i>	13:30	State of the art tools and processes for additive manufacturing (AM) continue to expand the boundaries of what is achievable in terms of feature resolution, part complexity and system functionality. These capability advances make additive manufacturing increasingly important to RF/microwave applications, with performance that is on par with conventional hybrid and monolithic circuits but also enabling significantly greater versatility in form-factor.	Paul Deffenbaugh, nScript Inc.
14:00	Invited	A Recent Development of Antenna-in-package for 5G Millimeter-Wave Applications	Nathan Jeong; <i>Qualcomm</i>		This workshop will provide an introduction to the current best-in-class additive manufacturing approaches, and several examples of how AM is being used for microwave circuit and antenna fabrication. Perspectives on the importance and future impact of AM in the defense electronics and aerospace industries will also be discussed.	Alkim Akyurtlu, <i>Univ. of Massachusetts, Lowell</i> Tom Weller, <i>Univ. of South Florida</i> Gokhan Mumcu, <i>Univ. of South Florida</i> Mark Mirotnik, <i>Univ. of Delaware</i> Emily Heckman, <i>Air Force Research Lab</i>
14:30		Recent Developments Toward Reconfigurable mmWave Apertures and Components Using Vanadium Dioxide RF Switches	Joshua M Kovitz, Kenneth Allen; <i>Georgia Tech. Research Inst.</i>			
14:50		Direct Digital Manufacturing of mm-Wave Vertical Interconnects	Eduardo Rojas, Thomas Weller, Ramiro Ramirez; <i>Embry-Riddle Aeronautical Univ.</i>			
15:15	Break					
	<b>M3A</b>	<b>Power Amplifiers</b> Chairs: Kelvin Yuk and Morten Olavsbråten Location: Palm Room			<b>Workshop:</b> <b>Additive Manufacturing Cont'd</b> Location: Bay Room	
15:30	Invited	High-Efficiency Power Amplifier Design	Kenle Chen; <i>Univ. of Rhode Island</i>	15:30	Additive Manufacturing Workshop continued	Continued from above
16:00		Linearity and Efficiency Enhancement of GaN PAs using Bandwidth Reduced Dynamic Gate and Drain Supply Modulation (PET)	Morten Olavsbråten, Dragan Gecan; <i>Norwegian Univ. of Sci. and Tech., Norway</i>			
16:20		In-package Matching Network Validation for Improving Power Amplifier Performance	Sushia Rahimzadeh, Zoya Popović; <i>Univ. of Colorado, Boulder</i>			
16:40		A 460-Wpeak, High-Efficiency GPS-III L1-band GaN Power Amplifier with Envelope Tracking	Toshifumi Nakatani, Taoling Fu, Jonmei J. Yan, Houman Ghajari, Aly Fathy, Donald Kimball; <i>Maxentric Technologies, LLC</i>			
17:00		A 60GHz Stacked Injection Locking Power Amplifier	Ahmed Zamzam, Hani Ragai, Mohammed El-Nozahi; <i>Ain Shams University, Egypt</i>			
17:30	Buses available					
17:45	Buses take passengers to the ship					
18:00	Beverage service starts					
18:15	Interactive Forum Starts, 1st Deck					
18:30	Boat Leaves					
19:30	Dinner					
20:00	Awards Presented					
21:30	Boat Returns					
21:45	Delegates return to the hotel					
		<b>Cruise: Poster Session and Awards Banquet</b> <b>StarLite Majesty Dining Yacht - Slip #152</b> <b>Clearwater Beach Marina</b>				
		<b>Bus stop at Sheraton Sand Key Hotel</b>				

EXHIBITION 9:30am-4:30pm Island Room

**Monday April 9, 2018****Interactive Forum**

<b>Title</b>	<b>Authors</b>
Energy Selected Transmitter RF Fingerprint Estimation in Multi-Antenna OFDM Systems	Dong Wang, Chengyuan E, Linning Peng, Hu Aiqun; <i>Southeast Univ., China</i>
Stochastic Geometry Analysis of IEEE 802.15.6 UWB WBAN Performance with Game Theoretical Power Management	Eren Balevi, Richard D. Gitlin; <i>Univ. of South Florida</i>
Hybrid Beamforming for Link Recovery in Millimeter Wave Communications	Mohammed Jasim, Majdi Ababneh, Nazli Siasi, Nasir Ghani; <i>Univ. of South Florida</i>
Implementation of Wideband Channel Modeling Based on Extended Kalman Filter Interpolation for MIMO-OFDM WLAN Channels	Mahdi Nouri, Farbod Setoudeh, Sajjad Abazari Aghdam; <i>Michigan Univ. of Tech., Iran</i>
Reliable and Resilient Coordinated Multi Point Fronthaul Networks	Nabeel Sulieman, Eren Balevi, Richard D. Gitlin; <i>Univ. of South Florida</i>
Leveraging tripolar antenna diversity to improve link reliability in severe multipath environments	Sakil Chowdhury, James Jamison, Jeff Frolik; <i>Univ. of Vermont</i>
A Software-Defined Radio Approach to Multi-Link Channel Characterization	James Jamison, Jeff Frolik; <i>Univ. of Vermont</i>
Efficient and Low Complex Uplink Detection for 5G Massive MIMO Systems	Robin Chataut, Robert Akl; <i>Univ. of North Texas</i>
Ultra-Reliable NFV-based 5G Networks using Diversity and Network Coding	Nazli Siasi, Nabeel Sulieman, Richard D. Gitlin; <i>Univ. of South Florida</i>
Dual-Band Branch-Line Coupler With Orthogonal Coupled Branches	Lamin Zhan, Zuwei Li, Guoan Wu, Patrick Roblin; <i>Huazhong Univ. of Sci. and Tech., China</i>
Temperature Dependent Noise System Verification and the Relationship of Passive Noise Parameters to Available Gain Calculations	Larry Dunleavy, Kevin Kellogg, Arthur Snider; <i>Modelithics, Inc.</i>
3D Surface Mount Component Modeling for HFSS	Isabella Bedford, Scott Skidmore, Larry Dunleavy; <i>Modelithics, Inc.</i>
Measurement-Based Temperature-Dependent X-Parameter Models from High-Power MMIC Power Amplifiers	Neil Craig, Valiallah Zomorrodian, Shawn Warren, Jeff Gengler; <i>Qorvo</i>
A High Power Inverse Class-F GaN Amplifier for L-band GPS Applications	Can Cui, Kelvin Yuk, Hemin Wu, George Branner; <i>Univ. of California, Davis</i>
A Novel CMOS RF Energy Harvester for Self-Sustainable Applications	Arka Biswas, Seyyed Babak Hamidi Perchehkolaei, Chitrakha Biswas, Palash Roy, Dipankar Mitra, Debasis Dawn; <i>North Dakota State Univ.</i>

**Student Paper Competition**

S-Band GaN LNA with OIP3 >50dBm using Parallel Independently Biased Gates	Kanika Saini, Amin Ezzeddine, Waleed Joudeh, Ho Huang, Sanjay Raman; <i>Virginia Tech.</i>
A 2.2 - 4.2 GHz Low-loss Tunable Bandpass Filter Based on Low Cost Manufacturing of ABS Polymer	Michael Sinanis, Mahmoud Abdelfattah, Mukerrem Cakmak, Dimitrios Peroulis; <i>Purdue Univ.</i>
Stochastic Gradient Descent for Reducing Complexity in Millimeter Wave Hybrid Precoding Design	Ahmed Mohammed; <i>Florida Inst. of Tech.</i>
Balanced Octave-Tunable Absorptive Bandstop Filter	Mohamed Hagag, Mahmoud Abdelfattah, Dimitrios Peroulis; <i>Purdue Univ.</i>
In-package Matching Network Validation for Improving Power Amplifier Performance	Sushia Rahimizadeh, Zoya Popović; <i>Univ. of Colorado, Boulder</i>

Tuesday April 10, 2018

7:00 Continental Breakfast						
IoT and mmW Applications Chairs: Thomas Weller and Kelvin Yuk Location: Palm Room			Authors	Active Components and Systems Chairs: Morten Olavsbråten and Xiaoguang Liu Location: Bay Room		
T1A				T1B		Authors
8:00	Pulse Skipping Modulation Method for Multiple Input Buck Boost Converter	Son Nguyen, Kelvin Yuk, Rajeevan Amirtharajah; <i>Univ. of California, Davis</i>	8:00	Invited	5G Ka band FEM Design with SiGe BICMOS and RF-SOI	Chaojiang Li, <i>GlobalFoundries</i>
8:20	Ultra-Reliable and Energy Efficient Wireless Sensor Networks	Nabeel Sulleman, Richard D. Gitlin; <i>Univ. of South Florida</i>	8:30		S-Band GaN LNA with OIP3 >50dBm using Parallel Independently Biased Gates	Kanika Saini, Amin Ezzeddine, Waleed Joudeh, Ho Huang, Sanjay Raman; <i>Virginia Tech.</i>
8:40	An 18-26 GHz Range Calibrated Linear Synthetic Aperture Radar Prototype Suitable for Security Applications	Arya Menon, Arthur Snider, Gokhan Mumcu, Thomas Weller; <i>Univ. of South Florida</i>	8:50		High Power Class F GaN HEMT Power Amplifier in L band for Global Positioning Systems Application	Hemin Wu, Kelvin Yuk, Can Cui, George Branner; <i>Univ. of California, Davis</i>
9:00	Inherent self-interference cancellation at 900 MHz for in-band full-duplex applications	Seiran Khaledian, Besma Smida, Farhad Farzami, Danilo Erricolo; <i>Univ. of Illinois, Chicago</i>	9:10		A Broadband Envelope-Tracking Push-Pull GaN Power Amplifier Using Grounded-Coplanar Ring Marchand Balun	Hamed Gheidi, Donald Kimball, Jonmei J. Yan, Paul Theimann; <i>Anokiwave Inc.</i>
9:20	A 2.2 - 4.2 GHz Low-loss Tunable Bandpass Filter Based on Low Cost Manufacturing of ABS Polymer	Michael Sinanis, Mahmoud Abdelfattah, Mukerrem Cakmak, Dimitrios Peroulis; <i>Purdue Univ.</i>	9:30		70% Improvement in Q-factor of spiral inductor and its application in K-band VCO in 0.18 μm CMOS Technology	Islam Mansour, Ahmed Sayed Ahmed Abdelhamid Allam, Adel Bedair, Mohamed Abozohad, Ramesh K Pokhare; <i>E-JUST, Egypt</i>
9:40	Efficient Rectifier for Wireless Power Transfer in VHF Band	Alden Fisher, Dimitrios Peroulis; <i>Purdue Univ.</i>	9:50		Wearable Humidity Sensing Antenna for BAN Applications over 5G Networks	Xiaoyou Lin, Boon-Chong Seet, Frances Joseph; <i>Auckland Univ. of Tech.</i>
10:00 Break						
10:15 Plenary Session Bill Chappell, DARPA The Future of Intelligent Radio Location: Palm and Bay						
11:15 Plenary Session Thomas Cameron, Analog Devices Radio Architectures and Technologies for 5G mm-wave Systems Location: Palm and Bay						
12:15 Lunch						
13:30 Panel Session Title: mmWave expectations – meeting the hype! Location: Palm and Bay						
15:00 Break						
Educator's Forum RF/Microwave Education: Where are we headed? Location: Palm Room				T2B	Antennas Chairs: William Dorsey and Joshua Kovitz Location: Bay Room	
15:20	The purpose of this special session is to have an open discussion, and hopefully debate, about the future of RF/microwave education. Numerical computing environments, such as Matlab, and CAD tools are making it possible for students to perform complex computations and create complicated RF/EM designs extremely quickly - possibly without a solid understanding of the underlying math and EE concepts. At the same time the intellectual domain of electrical engineering is rapidly expanding, and as educators it is challenging to stay well-versed and competent enough to teach related courses. Shifts in the market, and high profile trends such as "5G" and "IoT" further complicate decisions as to where emphasis and limited teaching resources should be placed. How do we know how much of the fundamentals to cover, and still provide exciting educational opportunities to attract the best students? And, how do we produce the type of graduates that industry needs?	Linda Katehi, <i>Univ. of California, Davis</i>	15:20	Invited	Antenna development for space applications	Joshua Kovitz; <i>Georgia Tech Research Inst.</i>
		Steve Ellingson, <i>Virginia Tech</i>	15:50		Polygonalization of mm-Wave Dual-Band Circular Phased Arrays for Multi-Mode Beamforming	Gregory Huff, William Dorsey, David Grayson, Francisco Espinal, Karl White, Anna Stumme; <i>Texas A&amp;M Univ.</i>
		Yong-Kyu Yoon, <i>Univ. of Florida</i>	16:10		Compact Planar Broadband CPW-Fed Circularly Polarized Antenna for Universal UHF RFID Reader	Marwa Rezeg, Mondher Dhaouadi; <i>ISIMG, Tunisia</i>
		Bill Deal, <i>Northrop Grumman</i>	16:30		A 4 by 10 Series 60 GHz microstrip Array Antenna Fed by Butler Matrix for 5G Applications	Yueqiao Liu, Oday Bshara, Ibrahim Tekin, Kapil Dandekar; <i>Drexel Univ.</i>
			16:50		Innovative E and H Probe Use for Evaluation of 5G Modulated Signal Devices	Maryna Nesterova, Yuliya Nesterova; <i>Aprel Inc.</i>
17:30 IEEE Young Professional Workshop Sand Key Room "Career Options for RF Engineers" 17:30-18:30						
18:30						

EXHIBITION 9:30am-3:30pm Island Room