

MONDAY - APRIL 17, 2023

TRACK 1

TRACK 2

TRACK 3

7:00 AM

Breakfast (St. Martins/St. Lucia)

8:00 AM

M1A: Advances in Power Amplifiers - 1 (Aruba)

Session chairs: Prof. Lawrence Dunleavy (University of South Florida) and Dr. Yueying Liu (Wolfspeed)

M2A: Additive Manufacturing for RF Applications (Barbados)

Session chairs: Prof. Craig Armiento (UMass Lowell) and Prof. Eduardo Rojas (Embry-Riddle Aeronautical University)

8:00 AM

Invited Talk: Silicon-Based Millimeter-Wave Power Amplifiers with Efficiency-Enhancement, Sensen Li (University of Texas at Austin, USA)

Laser Enhanced Direct-Print Additive Manufacturing (LE-DPAM) of mm-Wave using LTCC Dielectric Paste for High Temperature Applications, Seng Loong Yu (Embry-Riddle Aeronautical University, USA); Christopher Curran and Anton Polotai (Vibrantz Technologies, USA); Eduardo Rojas (Embry-Riddle Aeronautical University, USA)

8:20 AM

Invited Talk: Towards High-Power and Multi-Way Silicon-Based mmWave Doherty Power Amplifiers, Taiyun Chi (Rice University, USA)

Ultra Wideband Powerdetector for W-Band Applications Using a Novel Additively Manufactured Wavemodetransducer, Tobias Bader (Friedrich-Alexander-Universität Erlangen Nürnberg, Germany)

8:40 AM

Co-Design of Doherty Power Amplifier and Post-Matching Bandpass Filter, Haifeng Lyu, Ricardo Lovato, Shakthi Priya Gowri, Xun Gong and Kenle Chen (University of Central Florida, USA)

3D-Printing with Conductive Filament for Electromagnetic Shielding Applications, Isabela Buitron Burbano (Universidad de Los Andes, Colombia); Alba Avila Bernal (Andes University, Colombia); Carlos Andres Perez-Lopez (Universidad de Los Andes, Colombia)

9:00 AM

Load-Modulated Double-Balanced Amplifier with Quasi-Isolation to Load, Jiachen Guo and Kenle Chen (University of Central Florida, USA)

Printed, Planar Microwave Connector with multiple signal lines, Jotham Kasule (University of Massachusetts, USA); Alkim Akyurtlu (University of Massachusetts Lowell, USA); Craig Armiento (1 University Ave & UMass Lowell, USA)

9:20 AM

A High-IP3 Harmonic Tuned Wideband 40 dBm RF Power Amplifier for 5G Applications, Heather Song (University of Colorado, Colorado Springs, USA); Tanghid Rashid (University of Colorado Colorado Springs, USA)

3D-Printed Low-Profile X-Band Tunable Phase Shifter, Hanxiang Zhang (Florida State University, USA); Ryan Bahr (Georgia Institute of Technology, USA); Bayaner Arigong (Florida State University, USA)

Workshop: Recent Developments in Millimeter-Wave Imaging for Short-Range Sensing, Prof. Stavros Vakalis (University of South Florida) (St. Thomas Boardroom)

9:40 AM

Break - Coffee with Exhibitors (St. Martins/St. Lucia)

10:00 AM

Plenary Session (Grand Caribbean Ballroom)

Energy sustainability for Net Zero Radio Communications

Prof. Nuno Borges Carvalho, Departamento de Electrónica, Telecomunicações e Informática, Instituto de Telecomunicações, Universidade de Aveiro, Portugal

11.10 AM

Exhibitor Spotlight (Grand Caribbean Ballroom)

11:50 AM

Lunch (Patio Pavilion)

1:10 PM

M1B: Active Circuits (Aruba)

Session chairs: Prof. Jing Wang (University of South Florida) and Prof. Suresh Venkatesh (North Carolina State University)

1:10 PM Dynamic Supply Modulation of a 6 - 12 GHz Transmit Array, Connor Nogales and Laila F Marzall (University of Colorado Boulder, USA); Gregor Lasser (Chalmers University of Technology, Sweden); Zoya Popovic (University of Colorado at Boulder, USA)

1:30 PM A Dual-Channel 15 Gb/s PRBS Generator for a D-Band PMCW Radar Transmitter in 22 nm FDSOI, Florian Probst, Andre Engelmann and Manuel Koch (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Robert Weigel (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany)

1:50 PM A Fully-Integrated Band-Switchable CMOS Low Noise Amplifier, Seyyed Babak Hamidi Perchehkolaei and Debasis Dawn (University of Washington, USA)

2:10 PM Sub-6 GHz GaAs pHEMT SPDT Switch with Low Insertion Loss and High Power Handling Capability Using Dual-Gate Technique, Jaehyun Kwon (Intelligent Microwave Systems Lab, Soongsil University, Korea (South)); Jinho Yoo and Jaeyong Lee (Soongsil University, Korea (South)); Taehun Kim (Intelligent Microwave Systems Lab, Soongsil University, Korea (South)); Changkun Park (Soongsil University, Korea (South))

2:30 PM

Break - Coffee with Exhibitors (St. Martin/St. Lucia)

2:50 PM

M1C: Antennas and Passives - 1 (Aruba)

Session chairs: Prof. Gokhan Mumcu (University of South Florida) and Craig Sapahe (Keysight)

2:50 PM A Miniaturized UHF RFID Tag Antenna Attached to a Container of Filled Liquid, Minh-Tan Nguyen (National Kaohsiung University of Science and Technology, Taiwan); Hua-Ming Chen (National Kaohsiung University of Applied Sciences, Taiwan); ChienHung Chen (ROC Air Force Academy, Taiwan); Yi-Fang Lin (National Kaohsiung University of Science and Technology, Taiwan)

3:10 PM Computation of Input Impedance of Rectangular Waveguide-backed Metasurface Arrays with Feed Networks using Coupled Dipole Framework, Insang Yoo (Duke, USA); David Smith (Duke University, USA)

3:30 PM Advanced Cascaded Filter Synthesis, Wael M Fathelbab (Northrop Grumman Corporation, USA)

3:50 PM A New Axial Mode Helix Antenna "The Archimedean Screw Antenna", Francis Parsche (Harris Corporation & Special Antennas Group, USA)

4:10 PM

Exhibitor Showcase (St. Martin/St. Lucia)

M2B: Sensors and Systems (Barbados)

Session chairs: Prof. Thomas Weller (Oregon State University) and Dr. Arya Menon (Texas A&M University)

Invited Paper: Gas-Liquid Two-Phase Flow Monitoring Using Sub-THz Radar Imaging, Davi V. Q. Rodrigues and Daniel Rodriguez (Texas Tech University, USA); Victor J Pugliese (Universidad del Norte, Colombia); Marshall Watson (Texas Tech University, USA); Changzhi Li (Texas Tech University, USA)

A Hybrid Skin, Fat, and Muscle Human Body Tissue-Mimicking Biological Phantom and Antenna Testbed, Michael Grady (Georgia Tech Research Institute, USA); Thomas Weller (Oregon State University, USA)

Frequency Characterization for Glucose Detection with Software Defined Radio, Faheem Shaikh (California State University Fresno, USA); Soumyasanta Laha (California State University, Fresno, USA)

Real Time Monitoring of Helicopter Turbine Blade Temperature Using Passive Wireless Sensor, Sreekala Suseela, Taofeek Orekan, Swadipta Roy and Joshua McConkey (Sensatek Propulsion Technology, Inc., USA); Reamonn Soto (Sensatek Propulsion Technology, Inc, USA)

M2C: Emerging Applications (Barbados)

Session chairs: Dr. Michael Grady (Georgia Tech Research Institute) and Prof. Jay W McDaniel (University of Oklahoma & Advanced Radar Research Center)

Invited Paper: Millimeter-Wave Silicon Photonics Circuits with Automatic Calibration for Wireless Communications, Kamran Entesari (Texas A&M University, USA); Ramy Rady, Samuel Palermo and Christi Madsen (Texas A&M University, USA)

Invited Paper: Active and Passive Reconfigurable Intelligent Surfaces at mm-Wave and THz bands enabled by CMOS Integrated Chips, Suresh Venkatesh (North Carolina State University, USA)

An Inkjet-Printed Capacitive Sensor for Ultra-Low-Power Proximity and Vibration Detection, Steven D Gardner (University of Alabama at Birmingham (UAB), USA); M Muklasur R Opu (University of Alabama at Birmingham, USA); Mohammad R Haider (University of Alabama at Birmingham (UAB), USA)

A Low-Cost Consumable Radio Frequency Emitter for Adversary Threat Emulation, Timothy Graziano (Instructor, United States Military Academy); Zachary Wolsborn, Sebastien Wilkinson and Samuel Della-Santina (United States Military Academy, USA); Kirk Ingold (Instructor, United States Military Academy, USA)

Workshop: PA design with the latest GaN technology using Wolfspeed large signal GaN HEMT model, Dr. Yueying Liu, Wolfspeed
(St. Thomas Boardroom)
Moderator: Dr James Culver, Raytheon

4:40 PM

Poster Session (Barbados)

**#1 Magnetic-Less Simultaneous Transmit and Receive Front End using Highly Efficient GaN-Based Quadrature Balanced Amplifier
(Student Paper Competition Finalist)**

Niteesh Bharadwaj Vangipurapu (University of Central Florida & INSPIRE GROUP, USA)

**#2 Dynamic Supply Modulation of a 6 - 12 GHz Transmit Array
(Student Paper Competition Finalist)**

Connor Nogales (University of Colorado Boulder, USA)

**#3 Intelligent Spectrum Sharing Between LTE and Wi-Fi Networks using Muted MBSFN Subframes
(Student Paper Competition Finalist)**

Merkebu Girmay (Ghent University - Imec, Belgium)

**#4 Laser Enhanced Direct-Print Additive Manufacturing (LE-DPAM) of mm-Wave Antenna using LTCC Dielectric Paste for High Temperature Applications
(Student Paper Competition Finalist)**

Seng Loong Yu (Embry-Riddle Aeronautical University, USA)

**#5 A Dual-Channel 15 Gb/s PRBS Generator for a D-Band PMCW Radar Transmitter in 22 nm FDSOI
(Student Paper Competition Finalist)**

Florian Probst (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)

**#6 Wide Band CMOS Power Amplifier with High Flatness Using Inter-Digit Transformer and RC-Feedback
(Student Paper Competition Finalist)**

JaeHeon Cho (Intelligent Microwave Systems Lab. & Soongsil University, Korea (South))

**#7 An Inkjet-Printed Capacitive Sensor for Ultra-Low-Power Proximity and Vibration Detection
(Student Paper Competition Finalist)**

Steven D Gardner (University of Alabama at Birmingham (UAB), USA)

6:00 PM

6:30 PM

Reception and Banquet

7:30 PM