

2015 Texas Symposium on Wireless and Microwave Circuits and Systems

Baylor University

April 23-24, 2015

Agenda and Technical Program

Thursday, April 23

Cashion Academic Building, Hankamer School of Business

12:00 **Registration (Cashion 5th Floor Lobby)**

1:00 **Welcome and Introduction**

Dr. Charles Baylis, General Chair

Luci Lamers, President, Baylor IEEE Student Chapter

Dr. Oren Eliezer, Technical Program Chair

Session A: Active Circuits and RF Systems

Chair: Bryant Baker, *Qorvo*

Co-Chair: Taylor Barton, *University of Texas at Dallas*

1:20 **A Tunable Amplifier Using Reconfigurable Liquid-Metal Double-Stub Tuners**

Andy Morishita, Jonathan Dang, Ryan Gough, Aaron Ohta, Wayne Shiroma, *University of Hawaii at Manoa*

1:40 **Simplified Doherty Power Amplifier Structures**

Han Ren, Jin Shao, Bayaner Arigong, Zhou Mi, Song Fu, Jun Ding, Hyoungsoo Kim, Hualiang Zhang, *University of North Texas*

2:00 **Doherty Power Amplifier with Lumped Non-Foster Impedance Inverter**

Luis Ledezma, *Qorvo*

2:20 **Bandwidth of Transmission-Line Resistance Compression Network for Microwave Outphasing Power Transmitters**

Joseph McFarland, Taylor Barton, *University of Texas at Dallas*

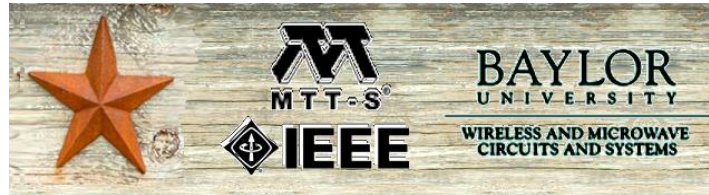
2:40 **A 0.8 dB NF, 4.6 dBm IIP3, 1.8-2.2 GHz, Low-Power LNA in 130 nm RF SOI CMOS Technology**

Hossein Noori, Miles Sanner, *Peregrine Semiconductor Corp.*, Naveen Yanduru, *Qualcomm Technologies, Inc.*

3:00 **An Ultra-Low Power, Low Cost, Multi-Standard Transceiver**

Sudipto Chakraborty, *Texas Instruments*

3:20 **Break**



Session B: Spectrum Forum

Chair: Charles Baylis, *Baylor University*

Co-Chair: Oren Eliezer, *EverSet Technologies*

- 3:40 **Keynote Presentation: Evolving Spectrum Policy and Radio Technology**
Douglas C. Sicker, *Carnegie Mellon University*
- 4:10 **Optimizing Radar Waveforms Using Generalized Alternating Projections**
Dylan Eustice, Charles Baylis, Robert J. Marks II, Casey Latham, *Baylor University*,
Lawrence Cohen, *Naval Research Laboratory*
- 4:30 **Throughput Optimization for Cognitive Radio under Random Access ALOHA Networks**
Jin Yuan, Ting Li and Murat Torlak, *University of Texas at Dallas*
- 4:50 **An Interference Suppression Technique for RF Envelope Detection Transceivers**
Xiongchuan Huang, Guido Dolmans, *Holst Centre/IMEC*, John Long, *Delft University of Technology*
- 5:10 **Invited: Role of Interference Thresholds for Spectrum Management**
Douglas C. Sicker, *Carnegie Mellon University*
- 5:30 **Student Poster Session and Reception (Cashion 5th Floor)**
Chair: David Jackson, *University of Houston*
- 7:00 **Conference Dinner and Industry Panel Session (Cashion 5th Floor)**
Chair: Charles Baylis, *Baylor University*

Friday, April 24

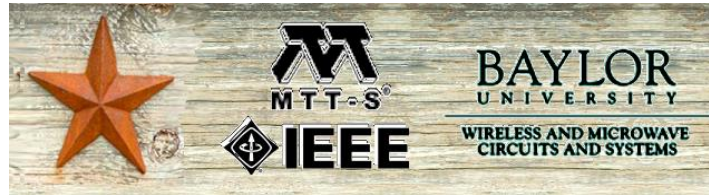
Theater, Mayborn Museum

Session C: Antennas and Propagation

Chair: Hualiang Zhang, *University of North Texas*

Co-Chair: Alan Davis, *University of Texas at Arlington*

- 8:00 **High Gain Dual-Resonance Microstrip Antenna**
Taha Imeci, Safak Yavuzoglu, Hakan Cayan, Gokhan Atilla, *Istanbul Commerce University*
- 8:20 **Simulation and Measurement of Dynamic On-Body Wave Propagations**
Andrew Hoeckel, George Lee, Erik Forrister, Dong Xue, Brian Garner, Yang Li, *Baylor University*,
Garrison Benton, *Baylor Scott & White Hillcrest Medical Center*
- 8:40 **Investigation of 433 MHz and 915 MHz On-Body Wave Propagations**
Dong Xue, Brian Garner, Yang Li, *Baylor University*
- 9:00 **An Investigation of Dual-Band Fabry-Perot Resonant Cavity Antennas**
Krishna Kota, David Jackson, Stuart Long, *University of Houston*



- 9:20 **Investigation of Surface Wave Propagation along a Folded Cylindrical Helix Array**
Bin Xu, Randall Jean, Yang Li, *Baylor University*
- 9:40 **A Small-Size High-Gain 16 GHz Tri-Resonance Bow-Tie Microstrip Antenna**
Taha Imeci, Baris Emrah, *Istanbul Commerce University*
- 10:00 **Double E-Shaped Multi-Resonance High-Gain Patch Antenna**
Ylli Rama, Abdullah Çerkezi, and Ş. Taha İmeci, *Istanbul Commerce University*
- 10:20 **Break**

Session D: Communication and Sensing Systems

Chair: Ranjit Gharpurey, *University of Texas*

Co-Chair: Sidharth Balasubramanian, *Texas Instruments*

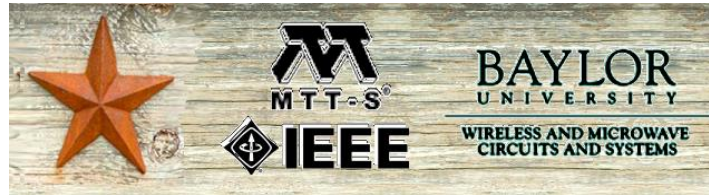
- 10:40 **A Method for Intercepting and Demodulating Slow Frequency Hopping DPSK Signals**
Scott Koziol, *Baylor University*, Steve Russell, *Iowa State University*
- 11:00 **Using Gradient Descent to Optimize Paths for Sustaining Wireless Sensor Networks**
Srikanth Kandanuru Venkata Sudarshan, Aaron Becker, *University of Houston*
- 11:20 **Improving the Performance of RSS Detection Using Wireless Open-Source Platforms**
Yan Shi, *Baylor University*
- 11:40 **Woodward's Ambiguity Function: From Foundations to Applications**
Robert J. Marks II, Dylan Eustice, Charles Baylis, *Baylor University*
- 12:00 **ISAR Imaging of Rotating Blades with a UWB Radar**
Willis Troy, Michael Thompson, Yang Li, *Baylor University*
- 12:20 **Lunch**

Session E: Millimeter-Wave to Optical Applications

Chair: Jonathan Hu, *Baylor University*

Co-Chair: Benjamin Eynon, *Samsung*

- 1:20 **Invited: Overcoming Optical Lithography Limitations in Advanced Mobile IC Device Fabrication**
Benjamin Eynon, *Samsung*
- 1:40 **Demonstration of an Optical Cavity Sensor with a Differential Detection Method by Refractive Index Measurements**
DongGee Rho, SaiHim Cho, Cody Joy, and Seunghyun Kim, *LeTourneau University*



- 2:00 **Properties of Microwave and Optical 2-D Periodic Leaky Wave Antennas**
Sohini Sengupta, David Jackson, Stuart Long, *University of Houston*
- 2:20 **Multi-Wavelength Near Infrared Cross Polarization Converters**
Jun Ding, Bayaner Arigong, Han Ren, Jin Shao, Zhou Mi, Yauankun Lin, Hualiang Zhang,
University of North Texas
- 2:40 **Low Power CMOS Parametric Passive Mixers for Millimeter Wave**
Sherry Huang, Tianzuo Xi, Ping Gui, *Southern Methodist University*,
Daquan Huang, Rakesh Taori, *Samsung Research America*
- 3:00 **Break**

Session F: Passive Circuits

Chair: Rahul Prakash, *Texas Instruments*

Co-Chair: Luis Ledezma, *Qorvo*

- 3:20 **Experimental Demonstration of a Tunable Marchand Balun at K Band in Silicon Germanium (SiGe) Technology**
Luciano Boglione, Joel Goodman, *Naval Research Laboratory*
- 3:40 **Ultra-Wideband Balun using a Multiaperture Ferromagnetic Core**
Bryant Baker, *Qorvo*, Richard Campbell, *Portland State University*
- 4:00 **System Applications of Planar Couplers**
Bayaner Arigong, Zhou Mi, Han Ren, Jin Shao, Jun Ding, Song Fu, Hyoungsoo Kim, Hualiang Zhang,
University of North Texas
- 4:20 **Modeling of Planar Transformer with a Unified CPW Model**
Wen Shu, Rashaunda Henderson, Sam Shichijo, *University of Texas at Dallas*
- 4:40 **Conference Concludes**