

## Texas Symposium on Microwave and Wireless Circuits and Systems

### Winners of the Student Poster/Research Awards

#### 2011

##### *First Place*

Short Flow BEOL CMOs Process for mm-wave Passive Circuits  
Daniel Schlieter  
University of Texas at Dallas

#### 2012

##### *First Place (tie)*

Microwave Applications of  $\epsilon$ -Near-Zero Metamaterials  
Jason C. Soric  
University of Texas at Austin

##### *First Place (tie)*

Realizing Efficient Wireless Power Transfer in the Near-Field Region Using Electrically Small Antennas  
Ick-Jae Yoon  
University of Texas at Austin

##### *Second Place*

Design of Tunable Metamaterial Based On-Chip Spiral Inductor  
Bayaner Arigong  
University of North Texas

#### 2013

##### *First Place*

Transparent and Conformal Microstrip Antennas for CubeSat Applications  
Nicole Neveu, Mauricio Garcia, Richie Dettloff and Joseph Casana  
University of Houston

##### *Second Place*

Waveform and Load Impedance Optimization for Adaptive Radar  
Matthew Fellows and Lauren Hurley  
Baylor University

*Third Place (tie)*

System-in-Package Integration using FR-4 Laminates

Supreetha Aroor

University of Texas at Dallas

*Third Place (tie)*

Broadband Radiator for Antenna-in-Package and Antenna-on-Chip Applications

Richard Pierce

University of Texas at Dallas

**2014**

*First Place*

Magnet-less Non-Reciprocity Through Angular-Momentum Biasing

Nicholas Estep

University of Texas at Austin

*Second Place*

Alleviating Airport Wi-Fi Congestion: A Comparison of 2.8 GHz and 5 GHz Wi-Fi Usage and Capabilities

Zachary Hays and Grant Richter

Baylor University

*Third Place*

Design of 180° Directional Coupler with Arbitrary Branch Lengths

Bayaner Arigong, Jin Shao, Mi Zhou, Jun Ding, and Han Ren

University of North Texas

**2015**

*First Place*

Electrokinetic Actuation of Non-Toxic Liquid Metal for Reconfigurable RF Devices

Ryan Gough, Jonathan Dang, and Andy Morishita

University of Hawaii at Manoa

*Second Place*

An Investigation of Dual-band Fabry-Pérot Resonant Cavity Antennas

Krishna Kota

University of Houston

*Third Place*

Investigation of 433 MHz and 915 MHz On-Body Wave Propagations

Dong Xue

Baylor University

**2016**

*First Place*

Investigation of Human Micro-Doppler Features in Foliaged Environments

Willis Troy

Baylor University

*Second Place*

Electrically-Small Folded Cylindrical Helix Antenna for Wireless Body Area Networks

Dong Xue

Baylor University

*Third Place*

A Study on Linearity vs. LTE Signal Bandwidth and Supply Voltage for High Efficiency SiGe Power Amplifier Design with CW Load-Pull

Jerry Tsay

Texas Tech University

**2017**

*First Place*

Active Electromagnetic Devices for Next-Generation Wireless Communication Systems

Ahmed Kord

University of Texas at Austin

*Second Place*

Development of a Continuous Wave Radar for Short Range Doppler Measurements

Willis Troy

Baylor University

*Third Place*

A Dual-Mode Circularly Polarized Microstrip Antenna

Xinyu Liu

University of Houston

## 2018

### *First Place*

Development of a Passive Multistatic Weather Radar System

Andrew Byrd

University of Oklahoma

### *Second Place*

Classification of Human Head Motion Patterns using Creeping Wave Propagations

Drew Bresnahan

Baylor University

### *Third Place*

A Symmetrical Two-Way Power Divider with Impedance Transforming Property

Mi Zhou

University of North Texas

## 2019

### *First Place*

On-chip UWB Signal Generation for Complex Dielectric Spectroscopy System with a Near-field Contact-less Sensing Unit in 65 nm CMOS

Elif Kaya

Texas A&M University

### *Second Place*

Broadband High-Efficiency Mm-Wave 24-42.5 GHz SiGe PA Design Using Stacked vs. Cascaded Topologies

Jerry Tsay

Texas Tech University

### *Third Place (tie)*

SIW Microstrip Cavity Resonators with a Sensing Aperture

Chaoxian Qi

University of Houston

### *Third Place (tie)*

3D-Printed Tunable Helical Resonators for Miniaturized VHF Filters

Eivy Arroyo-Diaz

University of Oklahoma

## 2020

### *First Place*

Highly-Efficient Broadband Medium Power Amplifier Designs in 40 nm GaN and 22nm CMOS for mm-Wave 5G  
Jill Mayeda  
Texas Tech University

### *Second Place*

Performance Improvement of 300-GHz On-Chip Patch Antenna using a Low-Cost Quad Flat No-Leads (QFN) Packaging  
Harshpreet Singh Bakshi  
University of Texas Dallas

### *Third Place (tie)*

Partial Load-Pull Extrapolation Using Deep Image Completion  
Austin Egbert  
Baylor University

### *Third Place (tie)*

An Ink-jet Printed Flexible Monopole Antenna for Super Wideband Applications  
Md. Rabiul Hasan  
Washington State University Vancouver

### *Third Place (tie)*

Power Amplifier Load Impedance Sensing for Phased Arrays  
Devon Donahue  
University of Colorado Boulder

## 2021

### *First Place*

Resilience Against Eavesdropping Attacks through Antenna Subset Modulation  
Qiang Zhou  
Rice University

### *Second Place (tie)*

Driver Head Motion Monitoring Using a mm-Wave FMCW Radar  
Drew G. Bresnahan  
Baylor University

### *Second Place (tie)*

Design of A Robust Noncontact Vital Signs (NCVS) Monitoring System Using Software defined radio (SDR)  
Yang Liu  
Texas Tech University

*Third Place (tie)*

Black Phosphorus Photoconductive Terahertz Antenna - 3D Modeling and Experimental Reference Comparison  
Jose Santos Batista  
University of Arkansas

*Third Place (tie)*

Constraint Based Elementwise Array Impedance Tuning Optimization Algorithm for Dual-Beam Transmission  
Adam Goad  
Baylor University

**2022**

*First Place*

Acoustic Delay Lines in Thin-Film Lithium Niobate on Silicon Carbide  
Sinwoo Cho  
University of Texas at Austin

*Second Place (tie)*

A 410-GHz Detector using AC-coupled Substrate-Integrated Waveguide Slot Antenna in CMOS  
Md. Toaha Anas  
Oklahoma State University

*Second Place (tie)*

A Low Loss Reconfigurable Plasma Impedance Tuner for Real Time, Frequency Agile, High Power RF Applications  
Justin Roessler  
Baylor University

**2023**

*First Place*

Bandwidth Enhancement Techniques for Extended Efficiency Range Doherty Power Amplifiers  
Debatrayee Roychowdhury Arizona State University

*Second Place*

A Novel Direction of Arrival Estimation Planar Monopulse Receiver  
Hanxiang Zhang  
Florida A&M University – Florida State University

*Third Place*

Acoustic Resonator at 50 GHz with High  $Q$  and  $k^2$

Jack Kramer

University of Texas at Austin

**2024**

*First Place*

4×4 UWB Phased Array Antenna with >51° Far-field Scanning Range for Wireless Power Transfer Application

Adnan Basir Patwary

University of Texas at Dallas

*Second Place*

Nine-Dimensional Gradient Optimization for Automated RF Power Amplifier Design

Adam Goad

Baylor University

*Third Place*

Folded Reflectarray Antenna Design and Fabrication at 100 GHz

Farhat Abbas

University of Texas at Dallas

**2025**

*First Place*

A D-Band InP Power Amplifier Featuring Fully AI-Generated Passive Networks

Song Hang Chai

University of Texas at Austin

*Second Place (tie)*

Inverse Design Microwave and THz Tunable Device

Saeed Zolfaghary Pour

Florida A&M University - Florida State University

*Second Place (tie)*

A Blocker-Tolerant Mm-Wave Low-Noise Amplifier Utilizing Doherty Active Load Modulation for Linearity Enhancement

Hao Yu

University of Texas at Austin

**2026**

*First Place (tie)*

Foot Gesture Recognition using a FMCW Radar and Deep Convolutional Neural Networks

James Usher

Baylor University

*First Place (tie)*

Implantable Dual-Band Rectenna for Efficient Wireless Power Reception in Biomedical Applications

Nabanita Saha

University of Texas at Dallas

*Second Place (tie)*

Designing a UAV Micro-Doppler Signature Model at Millimeter Wave Frequencies for Machine Learning-Based Classification

Sanjay G. Patel

Texas A&M University

*Second Place (tie)*

On-wafer Broadband Extraction of Microwave-mmWave Anisotropic Complex Permittivity of Thin Film Lithium Niobate

Gautham Ramanarayanan

University of Texas at Austin