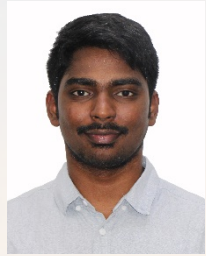


2020 Student Paper Finalists (1/3)



Aravind Nagulu¹, Mykhailo Tymchenko², Andrea Alù², Harish Krishnaswamy¹

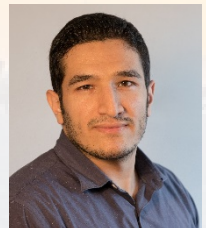
¹Columbia University, USA, ²University of Texas at Austin, USA

"Ultra Compact, Ultra Wideband, DC-1GHz CMOS Circulator Based on Quasi-Electrostatic Wave Propagation in Commutated Switched Capacitor Networks"



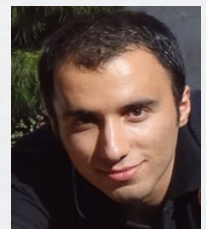
Chung-Ching Lin, Huan Hu, Subhanshu Gupta, Washington State University, USA

"A 66.97pJ/Bit, 0.0413mm² Self-Aligned PLL-Calibrated Harmonic-Injection-Locked TX with >62dBc Spur Suppression for IoT Applications"



Ali Binaie¹, Sohail Ahasan¹, Armagan Dascurcu¹, Mahmood Baraani Dastjerdi¹, Robin Garg², Manoj Johnson², Arman Galioglu¹, Arun Natarajan², Harish Krishnaswamy¹ ¹Columbia University, USA, ²Oregon State University, USA

"A Scalable 60GHz 4-Element MIMO Transmitter with a Frequency-Domain-Multiplexing Single-Wire Interface and Harmonic-Rejection-Based De-Multiplexing"



Milad Frounchi, John D. Cressler, Georgia Tech, USA

"A SiGe Millimeter-Wave Front-End for Remote Sensing and Imaging"

2020 Student Paper Finalists (2/3)



Nimrod Ginzberg¹, Dror Regev², Emanuel Cohen¹

¹Technion, Israel, ²Toga Networks, Israel

"A 1.5–3GHz Quadrature Balanced Switched-Capacitor CMOS Transmitter for Full Duplex and Half Duplex Wireless Systems"



Kun-Da Chu¹, Steven Callender², Yanjie Wang³, Jacques C. Rudell¹, Stefano Pellerano², Christopher Hull², ¹University of Washington, USA, ²Intel, USA

"A Dual-Mode V-Band 2/4-Way Non-Uniform Power-Combining PA with +17.9-dBm P_{sat} and 26.5-% PAE in 16-nm FinFET CMOS"



Ayman Eltaliawy¹, John R. Long¹, Ned Cahoon²

¹University of Waterloo, Canada, ²GLOBALFOUNDRIES, USA

"A DC to 43-GHz SPST Switch with Minimum 50-dB Isolation and +19.6-dBm Large-Signal Power Handling in 45-nm SOI-CMOS"



Minjae Jung, Hong-Jib Yoon, Byung-Wook Min, Yonsei University, Korea

"A Wideband True-Time-Delay Phase Shifter with 100% Fractional Bandwidth Using 28nm CMOS"

2020 Student Paper Finalists (3/3)



Rundao Lu, Christine Weston, Daniel Weyer, Fred Buhler, Michael P. Flynn

University of Michigan, USA

"A 16-Element Fully Integrated 28GHz Digital Beamformer with In-Package 4×4 Patch Antenna Array and 64 Continuous-Time Band-Pass Delta-Sigma Sub-ADCs"



Omar El-Aassar, Gabriel M. Rebeiz, University of California, San Diego, USA

"A Dual-Core 8–17GHz LC VCO with Enhanced Tuning Switch-Less Tertiary Winding and 208.8dBc/Hz Peak FoM_T in 22nm FDSOI"



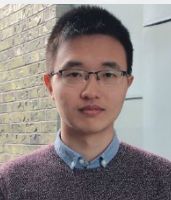
Muhammad Waleed Mansha, Mona Hella, Rensselaer Polytechnic Institute, USA

"A 7.4dBm EIRP, 20.2% DC-EIRP Efficiency 148GHz Coupled Loop Oscillator with Multi-Feed Antenna in 22nm FD-SOI"



Xuanyi Dong, Andreas Weisshaar, Oregon State University, USA

"Characterization of Partially Overlapped Inductors for Compact Layout Design in 130nm RFCMOS and 22nm FinFET Processes"



Han Hao, Lin Du, Andrew G. Richardson, Timothy H. Lucas, Mark G. Allen, Jan Van der Spiegel, Firooz Aflatouni, University of Pennsylvania, USA

"A Hybrid-Integrated Artificial Mechanoreceptor in 180nm CMOS"

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Rundao Lu, C. Weston, D. Weyer, F. Buhler and M. P. Flynn

University of Michigan, USA

for the paper

A 16-Element Fully Integrated 28GHz Digital Beamformer with In-Package 4×4 Patch Antenna Array and 64 Continuous-Time Band-Pass Delta-Sigma Sub-ADCs

at the 2020 IEEE RFIC Symposium

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M. Johnson², A. Galioglu¹, A. Natarajan², and H. Krishnaswamy¹

¹Columbia University, USA; ²Oregon State University, USA

for the paper

A Scalable 60GHz 4-Element MIMO Transmitter with a Frequency-Domain-Multiplexing Single-Wire Interface and Harmonic-Rejection-Based De-Multiplexing

at the 2020 IEEE RFIC Symposium

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J. Van der Spiegel, and F. Aflatouni

University of Pennsylvania, USA

for the paper

A Hybrid-Integrated Artificial Mechanoreceptor in 180nm CMOS

at the 2020 IEEE RFIC Symposium

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Brian Floyd and Osama Shana'a
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2020 Industry Paper Finalists (1/3)



Vadim Issakov, Infineon Technologies

"Fully Autonomous System-on-Board with Complex Permittivity Sensors and 60 GHz Transmitter for Biomedical Implant Applications"



Ayssar Serhan, CEA-LETI

"A Reconfigurable SOI CMOS Doherty Power Amplifier Module for Broadband LTE High-Power User Equipment Applications"



Tatsunori Usugi, DENSO Corporation

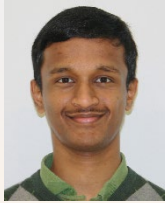
"A 77 GHz 8RX3TX transceiver for 250 m long range automotive radar in 40 nm CMOS technology"



Sang Gyun Kim, GRIT-Custom IC

"High Resolution CMOS IR-UWB Radar for Non-Contact Human Vital Signs Detection"

2020 Industry Paper Finalists (2/3)



Arun Paidimarri, IBM T.J. Watson Research Center

"3D Imaging using mmWave 5G Signals"



Masato Kohtani, DENSO Corporation

"77 GHz CMOS Built-In Self-Test with 72 dB C/N and less than 1 ppm frequency tolerance for a multi-channel radar application"



Daniel Schröegendorfer, IBM T.J. Watson Research Center

"A 1.2V, 5.5GHz Low-Noise Amplifier with 60dB On-Chip Selectivity for Uplink Carrier-Aggregation and 1.3dB NF"



Kathleen Muhonen, Qorvo

"Parasitic Model to Describe Breakdown in Stacked-FET SOI Switches"

2020 Industry Paper Finalists (3/3)



Junfeng Guan, IBM T.J. Watson Research Center

"Spatio-Temporal Filtering: Precise Beam Control using Fast Beam Switching"



Amit Singh, Nokia Bell Labs

"A D-Band Radio-on-Glass Module for Spectrally-Efficient and Low-Cost Wireless Backhaul"

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**High Resolution CMOS IR-UWB Radar for Non-Contact Human
Vital Signs Detection**

at the 2020 IEEE RFIC Symposium, USA

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A. Serhan, D. Parat, P. Reynier, M. Pezzin, R. Mourot,
Fabrice Chaix, R. Berro, P. Indirayanti, C. De Ranter,
K. Han, M. Borremans, E. Mercier, A. Giry

CEA-LETI

for the paper

**A Reconfigurable SOI CMOS Doherty Power Amplifier Module for Broadband
LTE High-Power User Equipment Applications**

at the 2020 IEEE RFIC Symposium, USA

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Industry Paper Award – 1st Place

to

Amit Singh, M. Sayginer, M. J. Holyoak, J. Weiner, J. Kimionis,
M. Elkhoully, Y. Baeyens, S. Shahramian

Nokia Bell Labs

for the paper

**A D-Band Radio-on-Glass Module for Spectrally-Efficient and Low-Cost
Wireless Backhaul**

at the 2020 IEEE RFIC Symposium, USA

Waleed Khalil
(General Chairman)

Brian Floyd and Osama Shana'a
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2020 Tina Quach Outstanding Service Award

Bertan Bakkaloglu, Arizona State University



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- TPC Co-Chair: 2013
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