

Day 1 – Monday:

Workshop Session Chair: Xi Forest Zhu

- 09:30** - W1 - New Developments In Microwave Josephson Photonics
 - Maja Cassidy, University of New South Wales
- 10:10** - W2 - P-Cells for Efficient Layout of Monolithic MMICs
 - Sudipta Chakraborty, Defence Science and Technology Group
- 11:10** - W3 - Microwave Photonics Enabled by Photonic Chips
 - Andy Boes, University of Adelaide
- 11:50** - W4 - Miniaturised and Passive-Inspired mmWave IC in Si Technology
 - Xi Forest Zhu, University of Technology Sydney
- 13:30** - W5 - Substrateless Integrated Platform for Terahertz Systems
 - Withawat Withayachumnankul, University of Adelaide
- 14:10** - W6 - Microwave and mmWave Circuits at National Taiwan University
 - Huei Wang, National Taiwan University
- 15:10** - W7 - Noncontact Radar Sensors for Connected Environments
 - Mehmet Rasit Yuce, Monash University
- 15:50** - W8 - Wideband Solutions from Cellular Receiver to Bio-Telemetry
 - Jusung Kim, Hanbat National University

Day 2 – Tuesday:

Location: M2 and M3

Opening Ceremony

10:30 – 12:00

Chair: Kamran Ghorbani

S1A – Devices and Simulation

Location: M2

Chair: Sheng Huang and Tao Yang

13:20 - Design of CMOS Reconfigurable Filter Based on Transformer-Type Resonators (Invited)
- Tao Yang

14:00 – A Novel and Simplified Topology for Vector-Sum Phase Shifters
- Trong Khoa Ho, Yang Yang, Xi Zhu, Nemaï Karmakar

14:20 – Shared Aperture Phased Array Antenna Radiometers for Remote Sensing (Invited)
– Nemaï Karmakar

S1B - Passive Components for mm-Wave and THz Applications

Location: M3

Chair: Withawat Withayachumnankul & Yang Yang

13:20 – Performance Enhancement and Defect Diagnosis Using Fourier Optics for Automotive Radar Covers at Millimeter-Waves (Invited)
– Wonbin Hong

14:00 A 3D Printed Beam-Shaping Transmissive Metasurface for Antenna-In-Package Applications
- Zhiwei Yin, Jiaqi Cai, Jianfeng Zhu, Jiexin Lai, Yang Yang

14:20 - 3D-Printed Quasi-Optical Components for Terahertz Applications (Invited)
- Withawat Withayachumnankul, Daniel Headl and, Bryce Chung

S2A - Integrated Systems I

Location: M2

Chair: Tao Yang and Noriharu Suematsu

15:30 - Q/V-Band Direct Digital RF Transceiver Design for LEO Constellation On-Board DBF Antenna (Invited)
- Noriharu Suematsu

16:10 - Design of 100 GHz Heterogeneous IPD Integrated Antenna and Bandpass Filter

- Ta-Yeh Lin, Shuw-Guann Lin, Yin-Cheng Chang, Chaoping Hsieh, Da-Chiang Chang

16:30 – High-Power and Small-Size CMOS T/R Switch Using Stacked Inductor

- Chia-Chun Chen, Jia-Wei Yei, Zi-Hao Fu, Kun-You Lin

16:50 - Automatic Dual-Box Digital Predistortion Calibration With Residual Elimination for Quadrature Digital Transmitters

- Luyi Guo, Yun Yin

S2B – Amplifiers

Location: M3

Chair: James Scott and Xi Forest Zhu

15:30 - Research Progress of Silicon-Based Millimeter Wave Amplifiers (Invited)

- Peigen Zhou, Dawei Tang, Jiayang Yu, Jixin Chen, Zhe Chen, Wei Hong

16:10 - Broadband CMOS Power Amplifier Using Novel Current Mode Combiner for Ka-Band Applications

- Anik Batabyal, Santosh Kumar Khyalia, Rajesh Zele, Huei Wang

16:30 - A 1.4-mW Ka-Band Low Noise Amplifier Using Self-Resonant Transformer Matching in 90-nm CMOS Process

- Yu-Hua Cheng, Chau-Ching Chiong, Yunshan Wang, Huei Wang

16:50 - A Ka-Band Three-Stage GaN MMIC Doherty Power Amplifier With Wideband Tee-Line Doherty Network for 5G Applications

- Keigo Nakatani, Yutaro Yamaguchi, Ko Kanaya, Shintaro Shinjo, Akihito Hirai

Day 3 – Wednesday:

S3A – 5G and Future Technology

Location: M2

Chair: Naoki Hasegawa and Minoru Fujishima

09:00 - Techniques for Cooperating WPT With Mobile Communication for Beyond 5G/6G (Invited)
- Naoki Hasegawa

09:40 - Wideband 5-Bit Vector-Sum Phase Shifter for 5G Millimeter-Wave Applications
- Wen-Chen Lee, Zi-Hao Fu, Jia-Wei Ye, Kun-You Lin

10:00 - Ultrahigh-Speed Wireless Communications in the 300-GHz Band and Its Future (Invited)
- Minoru Fujishima

S3B - Device Technologies I

Location: M3

Chair: Jae-Sung Rieh and Sheng Huang

09:00 - THz Oscillators and Heterodyne Receiver for 600-GHz Applications (Invited)
- Jae-Sung Rieh, Jungsoo Kim, Heekang Son

09:40 - A 60 GHz Up-Conversion Mixer in 22 nm FD-SOI CMOS With Back-Gate Mode Switching
- Xin Xu, Jens Wagner, Frank Ellinger

10:00 - A Single-Ended 4-38 GHz SiGe Dual-Modulus Prescaler for Wide-Band Frequency Synthesizers
- Zongxiang Wang, Jixin Chen, Debin Hou, Zhe Chen, Peigen Zhou, Wei Hong

10:20 - A -193.1dBc/Hz FOM 1.08mW Low Power 10GHz VCO in 22nm CMOS Technology
- Xiao Luo, Songping Mai, Xian Tang, Haigang Feng

S4A – Passive Circuits and Antennas for Radars and Transceivers

Location: M2

Chair: Naoki Hasegawa and Noriharu Suematsu

11:00 - Additively Manufactured Wideband Millimeter-Wave Sidelobe Suppression of Metalens Antenna
- Jiaqi Cai, Weiping Chen, Xuehan Wang, Shufang Li, Li Deng, Yang Yang

11:20 - 20GHz-Band Low Backlobe Vivaldi Endfire Antenna Array for Digital Beamforming Transmitter Antenna Module
- Junhao Zhang, Koki Furuuchi, Noriharu Suematsu

11:40 - Brief on PCB Modeling for Sub-THz Transceiver Module Design
- Mohamed Habashy Mubarak, Shinsuke Hara, Satoru Tanoi, Tatsuo Hagino, Issei Watanabe, Akifumi Kasamatsu

S4B – Radio Frequency Integrated Circuits

Location: M3

Chair: Forest Xi Zhu and Sudipta Chakraborty

11:00 - High Efficiency and Multi-Band GaN Doherty Power Amplifier Module for Sub-6GHz 5G Massive-MIMO Base-Stations (Invited)
- Shuichi Sakata

11:40 - Design of Low Power Ka-Band Frequency Doubler in 45-nm CMOS-SOI With 45dBc Fundamental Rejection at Center Frequency
- Robert Nericua, Jim Darrell Ang, Xi Zhu

S5A – Integrated Systems II

Location: M2

Chair: Dmitry Kholodnyak and Yang Yang

13:20 – A 24-GHz Miniaturized FMCW Radar With TX-RX Shared Antenna and 4TX-4RX Transceiver (Invited)
- Goo-Han Ko, Zhenbo Jin, Seung Jin Moon, Donghyun Baek

14:00 - A Ka-Band Low-Noise High-Gain Frontend Receiver in Monolithic E-Mode PINHEMT Technology for Millimeter-Wave Radiometers
- Wei-Cheng Chen, Hong-Yeh Chang

14:20 – Signal Processing and Sensing Based on Microwave Photonics (Invited)
– Xiaoke Yi

S5B – Antennas, Devices and Simulation II

Location: M3

Chair: Amir Ebrahimi and Sheng Huang

13:20 – Novel Antennas for Microwave and mm-Wave Modern Systems (Invited)
- Rodica Ramer, King Yuk Chan, Sheng Huang and Yunhao Fu

14:00 - Sub-Terahertz-Band On-Chip 2×2 Beam-Forming Array Antenna Using a Compact 2-D BFN on 45nm SOI CMOS
- Jean Temga, Mizuki Motoyoshi, Noriharu Suematsu

14:20 - I-V Global Parameter Extraction for Industry Standard FinFET Compact Model Using Deep Learning
- Fredo P Chavez, Jen-Hao Chen, Chien-Ting Tung, Chenming Hu, Sourabh Khandelwal –

14:40 - A Distributed Model With a High Scaling Accuracy for GaN HEMTs Up to 100 GHz
- Yutaro Yamaguchi, Ken Kudara, Shintaro Shinjo, Koji Yamanaka, Yasuyuki Miyamoto

S6A – Device Technologies II

Location: M2

Chair: Minoru Fujishima and James Scott

15:30 - A 286-299GHz Dual-Core Push-Push VCO With Harmonic Enhancement in 130-nm SiGe BiCMOS Technology
- Zhu Wentao, Rui Zhang, Jixin Chen, Wei Hong

15:50 - A D-Band Wideband Double-Balanced Source-Driven Up-Conversion Mixer in 40-nm CMOS
- Toshiaki Abe, Shinsuke Hara, Akifumi Kasamatsu, Yohtaro Umeda, Kyoya Takano

16:10 - A 5 to 11.1 GHz Quad-Core Quad-Mode Octave Tuning-Range CMOS LC VCO
- Dawei Wang, Jian Zhang, Ruitao Wang, Chenguang Li, Yan Wang

16:30 - An Ultra-Wide Tuning Range SiGe VCO With 192.5dBc/Hz FoMT Using 6-Bit Switched Capacitor Bank and Centrosymmetric Core Layout
- Rui Zhang, Zhe Chen, Jixin Chen, Wei Hong

S6B - Modelling and Simulation

Location: M3

Chair: Dmitry Kholodnyak and Xi Forest Zhu

15:30 - A Straightforward Equivalent Circuit Approach for Characteristic Evaluation of Capacitor-Based Loaded-Line Phase Shifter

- Zulfi Zulfi, Trasma Yunita, Achmad Munir

15:50 - Design Method for Negative Refractive Index Metasurface Lenses by Using a One-Dimensional Distributed Transmission-Line Model

- Tsutomu Nagayama

16:10 - Varactor Diode Tunability Enhancement by Means of a Non-Foster Negative Capacitor on Linvill's NIC

- Alexander Leontyev, Nikita Kalmykov, Dmitry Kholodnyak

16:30 - Development of Compact Unequal Power Divider Based on Wilkinson Topology for Wireless Navigation System

- Arinil Haq Salsabila, Zulfi Zulfi, Efrina Hamid, Achmad Munir

17:00 – 17:15 Closing Ceremony /Awards