

Time (Brisbane)	Michaelmus A	Michaelmus B	Reef	Urchins
Wednesday, July 22				
09:00 am-09:55 am	K1: <u>Keynote: MHz to THz Technologies Addressing Fundamental Science Questions - Goutam Chattopadhyay</u>			
10:00 am-11:00 am	P1: <u>Semi-Plenary 1</u>		P2: <u>Semi-Plenary 2</u>	
11:00 am-11:30 am	Break			
11:30 am-12:45 pm	W1: <u>Workshop: Recent Advancement in Emerging Materials and Processing Technologies</u>	S1: <u>CMOS and BiCMOS Power Amplifiers I</u>	S10: <u>Metamaterials and Metasurfaces I</u>	S19: <u>Biomedical and Wearable Sensing II</u>
12:45 pm-02:00 pm	L1: <u>Lunch</u>			
02:00 pm-03:15 pm	W2: <u>Workshop: Recent Advancement in Emerging Materials and Processing Technologies</u>	S2: <u>CMOS and BiCMOS Power Amplifiers II</u>	S11: <u>Terahertz Technologies and Systems IV</u>	S20: <u>Metamaterials and Metasurfaces III</u>
03:15 pm-03:45 pm	Break			
03:45 pm-05:00 pm	W3: <u>Workshop: Recent Advancement in Emerging Materials and Processing Technologies</u>	S3: <u>Terahertz Technologies and Systems I</u>	S12: <u>Biomedical and Wearable Sensing I</u>	S21: <u>Antenna Arrays and Beamforming II</u>
05:00 pm-06:00 pm	Welcome Reception @ Roof Top Pool Deck			
Thursday, July 23				

Time (Brisbane)	Michaelmus A	Michaelmus B	Reef	Urchins
09:00 am-09:45 am	K2: <u>Keynote: Reconfigurable Microwave and Millimeter-Wave Devices Enabled by Phase-Change Materials, BST and Liquid Crystal Technologies - Raafat Mansour</u>			
09:45 am-10:45 am	P3: <u>Semi-Plenary 3</u>		P4: <u>Semi-Plenary 4</u>	
10:45 am-11:15 am	Break			
11:15 am-12:30 pm	BPC: <u>Ask Us Anything</u>	S4: <u>Terahertz Technologies and Systems II</u>	S13: <u>Metamaterials and Metasurfaces II</u>	S22: <u>Antenna Arrays and Beamforming I</u>
12:30 pm-01:45 pm	L2: <u>Lunch</u>			
01:45 pm-03:00 pm	ISTP: <u>Meet the Editors</u>	S5: <u>CMOS and BiCMOS Power Amplifiers III</u>	S14: <u>Machine Learning in RF and Microwave Applications</u>	S23: <u>Terahertz Technologies and Systems V</u>
03:00 pm-03:30 pm	Break			
03:30 pm-05:00 pm	Panel <u>Discussion</u>	S6: <u>GaN and Compound Semiconductor Devices</u>	S15: <u>Dielectric and Magnetic Materials</u>	S24: <u>Antenna Arrays and Beamforming III</u>
06:00 pm-10:30 pm	Awards <u>Ceremony and Banquet @ Urchins 1</u>			
Friday, July 24				
09:00 am-09:45 am	K3: <u>Keynote: The Evolution of Guided-Wave Technologies: Driving the Future of Integrated Circuits and Systems - Ke Wu</u>			
09:45 am-10:45 am	P5: <u>Semi-Plenary 5</u>		P6: <u>Semi-Plenary 6</u>	
10:45 am-11:15	Break			

Time (Brisbane)	Michaelmus A	Michaelmus B	Reef	Urchins
am				
11:15 am-12:30 pm	<u>YP Session</u>	S7: <u>Low Noise Amplifiers and Receivers</u>	S16: <u>Millimeter-Wave and Terahertz Passives II</u>	S25: <u>Antenna Arrays and Beamforming IV</u>
12:30 pm-01:45 pm	L3: <u>Lunch</u>			
01:45 pm-03:00 pm	<u>WIM Session</u>	S8: <u>Terahertz Technologies and Systems III</u>	S17: <u>CMOS and BiCMOS Power Amplifiers IV</u>	S26: <u>Microwave Filters and Resonators I</u>
03:00 pm-03:30 pm	<u>Break</u>			
03:30 pm-04:45 pm	<u>BPC (Debabani-Mentoring Session)</u>	S9: <u>Microwave Filters and Devices</u>	S18: <u>Dielectric Characterisation</u>	
04:45 pm-05:00 pm	<u>Closing Ceremony</u>			

Wednesday, July 22

Wednesday, July 22 9:00 - 9:55

K1: Keynote: MHz to THz Technologies Addressing Fundamental Science Questions - Goutam Chattopadhyay

Room: Michaelmus A, Michaelmus B

Chair: Yang Yang (University of Technology Sydney, Australia)

Wednesday, July 22 10:00 - 11:00

P1: Semi-Plenary 1

Room: Michaelmus A, Michaelmus B

Chair: Konstanty S Bialkowski (The University of Queensland, Australia)

Printed VO₂ Tiles for Tunable Holographic Metasurface

Kamran Ghorbani (RMIT University, Australia)

Novel Design Strategies for Wideband Millimeter-Wave Switched-Type MMIC Phase Shifters

with Low Amplitude and Phase Errors

Wenquan Che (South China University of Technology, China)

P2: Semi-Plenary 2

Room: Reef, Urchins

Chair: Maral Ansari (CSIRO, Australia)

A Wide-Coverage End-Fire High-Gain Circularly Polarized Mobile Phone Antenna for Satellite Communication

Li-Bo Jia and Qing-Xin Chu (South China University of Technology, China)

Radiative Wireless Power Transfer with Advanced Materials

Naoki Shinohara (Kyoto University, Japan)

Wednesday, July 22 11:30 - 12:45

S1: CMOS and BiCMOS Power Amplifiers I

Room: Michaelmus B

A 300-GHz Broadband Power-Reconfigurable Load-Modulated Balanced Amplifier

Kaiyuan Du (Institute of Electronics, Chinese Academy of Sciences, China); Peng Wu (Chinese Academy of Sciences, China & University of Chinese Academy of Sciences, China); Juncheng Min (Aerospace Information Research Institute, Chinese Academy of Sciences, China); Zhongjun Yu (Aerospace Information Research Institute Chinese Academy of Sciences, China)

Wave-Based Triple-Band CMOS Voltage-Controlled Oscillator

Wen Cheng Lai (National Taiwan University of Science and Technology, Taiwan)

Bandwidth Reconfigurable Low-Noise Amplifier Based on Magnetic Coupling Effect

Guangbao Shan, Pan Zhang, Yanwen Zheng, Ruixin Wang and Wang Fangqian (Xidian University, China)

Exploiting LDMOS-PA for kW SSPA Applications

Xin Tong, Shiyang Luo, Xidi Hu, Hao Zhang and He Guan (Northwestern Polytechnical University, China)

An Energy-Efficient Reconfigurable BLE RF Receiving Front-End Based on Mixer-First Architecture for IoT Applications

Yan Zhao, Jiawen Zhang, Tongde Huang, Wenhua Gu and Wen Wu (Nanjing University of Science and Technology, China)

S10: Metamaterials and Metasurfaces I

Room: Reef

Chair: Yuanxi Cao (Xi'an Jiaotong University, China)

Space-Time Metasurface Antennas: Concept, Design, and Applications

Geng-Bo Wu (City University of Hong Kong, Hong Kong)

Broadband Phase-Dispersive Conformal Metamaterial for EM Backscattering Enhancement

Weizhi Chen (South China University of Technology, China); Xin Xiu (South China University of Technology & Nanjing University of Science and Technology, China); Yixi Tang (Nanjing University of Posts and Telecommunications, China); Kun Tang, Wenjie Feng and Wenquan Che (South China University of Technology, China)

Semantics-Guided End-to-End Intelligent Design Framework for Metasurface Absorbers

Yongqi Lv, Wenhua Gu and Yanghui Wu (Nanjing University of Science and Technology, China)

Absorptivity Evaluation of Broadband FSS Absorbers Considering Higher-Order Floquet Modes

Chonghuan Zhang, Liping Yan, Yanping Zhou and Changjun Liu (Sichuan University, China)

A Highly-Selective 3-D FSS with Exceptional Precision for Liquid Dielectric Constant Detection

Xiaojing Lv (University of Technology Sydney, Australia); Zhichao Sun (University of Technology Sydney, Australia); Jiexin Lai and Yang Yang (University of Technology Sydney, Australia)

S19: Biomedical and Wearable Sensing II

Room: Urchins

Chair: Amir Ebrahimi (RMIT University, Australia)

Materials-Aware Design Strategies for Wearable Antenna Design

Shengjian Jammy Chen (Flinders University, Australia & The University of Adelaide, Australia)

Dosimetric Assessment of a Birdcage-Coil Wireless Power Transfer at 6.78 MHz for Capsule Robots

Valerio De Santis, Riccardo Olivieri and Wassim Boumerdassi (University of L'Aquila, Italy); Tommaso Campi (Sapienza University of Rome, Italy); Francescaromana Maradei (University of Rome La Sapienza, Italy); Mauro Feliziani (Roma, Italy)

A Wideband Terahertz Interconnection Between Microstrip Line and Waveguide Using Novel Short-Circuited Stub

Juncheng Min (Aerospace Information Research Institute, Chinese Academy of Sciences, China); Peng Wu (Chinese Academy of Sciences, China & University of Chinese Academy of Sciences, China); Kaiyuan Du and Chao Xue (Institute of Electronics, Chinese Academy of Sciences, China)

2006-2026: Two Decades of Innovation with Metamaterial and Metasurfaces for an Array of Applications

Chinmoy Saha (Indian Institute of Space Science and Technology, India & Royal Military College of Canada, Canada)

Design of Millimeter Wave Ultra Wideband Solid-State LNA Module Based on Metal Cavity Packaging

Hui Peng (Kashi University, China); Zhongqian Niu (University of Electronic Science and Technology of China & School of Electronic Science and Engineering, China); Jincai Qiao (Chongqing Institute of Microelectronics Industry Technology, UESTC, China); Ya Fei Wu (UESTC, China); Bo Zhang and Zuqiang Ou (University of Electronic Science and Technology of China, China)

W1: Workshop: Recent Advancement in Emerging Materials and Processing Technologies

Room: Michaelmus A

Chair: He Zhu (Charles Darwin University, Australia)

Wednesday, July 22 12:45 - 2:00

Wednesday, July 22 2:00 - 3:15

S11: Terahertz Technologies and Systems IV

Room: Reef

Chair: Zong-Rui Xu (City University of Hong Kong, Hong Kong)

A Terahertz Scattering-Type Scanning near-Field Optical Microscopy for Single Cell Imaging

Zhaomin Peng and Jun Shi (National Space Science Center Chinese Academy of Sciences, China); Dehai Zhang (National Space Science Center, China)

Terahertz near-Field Scanning Microscopy for Nanoscale Imaging of Ovarian Cancer Cells

Dehai Zhang (National Space Science Center, China); Zhaomin Peng (National Space Science Center Chinese Academy of Sciences, China); Jin Meng (National Space Science Center, Chinese Academy of Sciences, China)

Research on Beam Steering Rectenna Array for Drone Microwave Wireless Power Supply

Liwei Song (Xidian University, China)

Microwave Beam-Steering Using near-Field Metasurfaces

Maira Islam Nabeel and Karu Esselle (University of Technology Sydney, Australia); Khushboo Singh (University of Technology Sydney, Australia & Macquarie University, Australia); Purna B. Samal and Dush Thalakatuna (University of Technology Sydney, Australia)

A Single Substrate Pancharatnam-Berry (PB) Phase Huygens' Metasurface for Dynamic Steering of Vortex Beams

Jiechen Wang (Tianjin University, China); Yuxi Hu (Hebei University of Technology, China); Xiaoxuan Guo and Yang Yang (University of Technology Sydney, Australia)

S2: CMOS and BiCMOS Power Amplifiers II

Room: Michaelmus B

Photo-Tunable Chip Scale THz Ring Modulator

Dingxuan Gu, Xuecou Tu, Yunjie Rui, Bingnan Yan, Zhanzhang Mai, Huilin Zhang, Zeyu Xu, Cheng Liang, Heng Tang and Xiaoqing Jia (Nanjing University, China); Jian Chen (Nanjing University & Research Institute of Superconductor Electronics, China); Lin Kang and Peiheng Wu (Nanjing University, China)

A 110-150 GHz OOK Receiver for High-Speed Wireless Communication in 65-nm CMOS

Wangmin Liao and Shuang Song (South China University of Technology, China); Taotao Xu (Anhui University, China); Quan Xue and Pei Qin (South China University of Technology, China)

A 105 dB Ω High Gain, 1.5 mW Low Power Muti-Stage NRZ CMOS-TIA for Optical Receiver

Systems

Umar Mohammad (Nanjing University of Posts and Telecommunications, China)

An Isolated Ultra-Low Power Modulator for OOK/BPSK Backscatter Communication

Luchen Shen (Nanjing University of Science and Technology, Nanjing China & The University of Hong Kong, Hong Kong SAR China); Hao Zhang (Nanjing University of Science and Technology)

A Compact 24-to-30-GHz GaAs Series Doherty Power Amplifier Using a Three-Coupled-Line Balun

Xin He, Haoshen Zhu, Dingyuan Zeng, Zeqi Liu, Dayan Yuan and Quan Xue (South China University of Technology, China)

S20: Metamaterials and Metasurfaces III

Room: Urchins

Chair: Zhichao Sun (University of Technology Sydney, Australia)

W-Band Wide-Angle Coverage Pillbox Multibeam Antenna Based on Bifocal Phase Compensation

Yuanxi Cao, Cheng Guo, Jianxing Li, Juan Chen and Sen Yan (Xi'an Jiaotong University, China)

Non-Volatile Reflective Intelligent Surface Based on 2D Material Switches for 6G Wireless Communications

Xiaoyu Xiao (University of Manchester, United Kingdom (Great Britain)); Zixing Peng (The University of Manchester, United Kingdom (Great Britain)); Xuzhao Liu, Jiaqiu He, Yifan Zhang, Cinzia Casiraghi and Zhirun Hu (University of Manchester, United Kingdom (Great Britain))

A Curved Broadside-Coupled Stripline Phase Shifter and Its Application to Metasurface Designs

Jiexin Lai and Xiaojing Lv (University of Technology Sydney, Australia); Zhichao Sun (University of Technology Sydney, Australia); Yang Yang (University of Technology Sydney, Australia)

High-Frequency Narrowband to Low-Frequency Broadband Transition in an SMA-Actuated Bandpass Frequency-Selective Surface

Xiaojing Lv and Zhenlin Dai (University of Technology Sydney, Australia); Zhichao Sun (University of Technology Sydney, Australia); Zhiwei Yin and Yang Yang (University of Technology Sydney, Australia)

Liquid Crystal Tunable Phase Shifter Using Post-Wall Coplanar Waveguide

Haoyu Zhou and Lei Guo (The University of Queensland, Australia)

W2: Workshop: Recent Advancement in Emerging Materials and Processing Technologies

Room: Michaelmus A

Chair: He Zhu (Charles Darwin University, Australia)

Wednesday, July 22 3:45 - 5:00

S12: Biomedical and Wearable Sensing I

Room: Reef

Chair: Shengjian Jammy Chen (Flinders University, Australia & The University of Adelaide, Australia)

Integrated Microwave Photonics for Signal Processing and Sensing

Xiaoke Yi (University of Sydney, Australia)

A Communication Signal Based Vital-Sign Sensing Method for Consumer Electronic Devices

Chenming Li, Xingqi Xuan, Junhao Zhang, Yulin Zhou, Shilie Zheng, Xiaonan Hui and Xianmin Zhang (Zhejiang University, China)

Characterization of Knitted Textiles for Wearable Antennas

David Mitchell (University of Illinois at Urbana-Champaign, USA); Jennifer T. Bernhard (University of Illinois at Urbana-Champaign & Electromagnetics Laboratory, USA)

Ultra-Wideband Multi-Channel Millimeter-Wave Receiver for Solar Sensing

Jun Shi (National Space Science Center Chinese Academy of Sciences, China); Dehai Zhang (National Space Science Center, China); Zhaomin Peng (National Space Science Center Chinese Academy of Sciences, China)

PDMS-MWCNT Composite Material Properties, Preparation and Role in Wearable Antennas

Musa Hussain (Griffith University, Queensland, Australia); Hajra Khan (Comsats University Islamabad Abbottabad Campus, Pakistan); Syed Muzahir Abbas (Macquarie University, Australia)

S21: Antenna Arrays and Beamforming II

Room: Urchins

Chair: Muhammad Ali Babar Abbasi (Queen's University Belfast & Centre for Wireless Innovation (CWI), United Kingdom (Great Britain))

Power-Based Direction-Finding Enabled by a Null-Scanning Space-Time Leaky-Wave Antenna

Yiqing Sun, Geng-Bo Wu and Chi Hou Chan (City University of Hong Kong, Hong Kong)

Planar EBG Monostatic Antenna with Wideband Interport Isolation Characteristics for 5G in-Band Full Duplex Applications

Haq Nawaz (Military Technological College, Oman); Hajra Khan (Comsats University Islamabad Abbottabad Campus, Pakistan); Syed Muzahir Abbas (Macquarie University, Australia)

Low-Profile Broadband Beam-Scanning Antenna

Shuo Sun (Beijing University of Posts and Telecommunications, China); Xiuping Li (Beijing University of Post and Telecommunications, China); Zihang Qi (Beijing University of Posts and Telecommunications, China); Wenyu Zhao (Beijing University of Posts and Telecommunications, China & EE, China); Jianxun Su (Beijing University of Posts and Telecommunications, China)

Generation of Scanning Self-Accelerating Beam by Manipulating Phase Distribution

Qing You (University of Macau, Macao); Shi-Tong Wang (City University of Hong Kong, Hong Kong); Pui-In Mak, Rui P. Martins and Jun Yin (University of Macau, Macao)

Compact High-Gain 300 GHz Metasurface Antenna for Future 6G Terahertz Communications

Mohammad Nasrat Zaquimi, Syed Muzahir Abbas and Subhas Chandra Mukhopadhyay (Macquarie University, Australia)

S3: Terahertz Technologies and Systems I

Room: Michaelmus B

Chair: Safumi Suzuki (Institute of Science Tokyo, Japan)

Terahertz Microsystems Front-End Integration Technologies and Communication Application

Peng Wu (Chinese Academy of Sciences, China & University of Chinese Academy of Sciences, China)

Metatronics for High-Performance Terahertz Integrated Circuits

Mohammad Samizadeh Nikoo (NTU Singapore, Singapore)

Design of a High-Performance Terahertz Multiplier Based on Thin-Film Technology

Li Wang (National Space Science Center, China); Jin Meng (National Space Science Center, Chinese Academy of Sciences, China); Dehai Zhang (National Space Science Center, China)

Design and Analysis of Circular Hollow Polymer Waveguide at THz Frequency Band

Shengjie Zhou (Shanghai Jiaotong University, China); Changsheng Sun, Xiaochun Li and Junfa Mao (Shanghai Jiao Tong University, China)

Hybrid Modeling Method of FT-Transformer and XGBoost for TFsurface

Yihao Li (Nanjing University of Science and Technology, China); Shijie Wang (National University of Singapore, Singapore); Wen Lyu (Nanjing University of Science and Technology, China)

W3: Workshop: Recent Advancement in Emerging Materials and Processing Technologies

Room: Michaelmus A

Chair: He Zhu (Charles Darwin University, Australia)

Wednesday, July 22 5:00 - 6:00

Welcome Reception @ Roof Top Pool Deck

Room: Michaelmus A, Michaelmus B, Reef, Urchins

Thursday, July 23

Thursday, July 23 9:00 - 9:45

K2: Keynote: Reconfigurable Microwave and Millimeter-Wave Devices Enabled by Phase-Change Materials, BST and Liquid Crystal Technologies - Raafat Mansour

Room: Michaelmus A, Michaelmus B

Chair: Yang Yang (University of Technology Sydney, Australia)

Thursday, July 23 9:45 - 10:45

P3: Semi-Plenary 3

Room: Michaelmus A, Michaelmus B

Chair: Amir Ebrahimi (RMIT University, Australia)

Semiconductor Electronics for High Power/High Speed Reconfigurable RF and Microwave Electronics

Robert Caverly (Villanova University, USA)

Filters for Space Applications: CNC Milling and Additive Manufacturing Perspectives

Cristiano Tomassoni (University of Perugia, Italy)

P4: Semi-Plenary 4

Room: Reef, Urchins

Chair: He Zhu (Charles Darwin University, Australia)

A Review of Microwave Beam-Steering Using near-Field Metasurfaces

Karu Esselle (University of Technology Sydney, Australia)

Printable Nonlinear Tags and Handheld Devices for Clutter-Resilient Contactless Monitoring and Tracking

Changzhi Li and Leya Zeng (Texas Tech University, USA)

Thursday, July 23 11:15 - 12:30

BPC: Ask Us Anything

Broadening Participation Committee: Ask Us Anything

Room: Michaelmus A

Chair: Sulekha Chattopadhyay (Chattopadhyay, USA)

S13: Metamaterials and Metasurfaces II

Room: Reef

Chair: Geng-Bo Wu (City University of Hong Kong, Hong Kong)

Terminating Magnetostatic Surface Waves with Metallic Patterns

Zequn Zeng (National University of Singapore, Singapore); Si-Ping Gao (Nanjing University of Aeronautics and Astronautics, China); Yongxin Guo (City University of Hong Kong, Hong Kong)

Ultra-Wideband Energy Selective Surface Based on Symmetrical Bow-Tie Topology for High-Power Electromagnetic Protection

Tianyu Shi, Shaobin Liu and Meng Xing (Nanjing University of Aeronautics and Astronautics, China)

Reflection-Type TTD Phase Shifter Based on Propagation-Controlled Reflective Loading

Yang Xu (University of Technology Sydney, Australia); He Zhu (Charles Darwin University, Australia); Yang Yang (University of Technology Sydney, Australia)

A Wideband Ultra-Large-Angle Dual-Polarized Bandpass Frequency Selective Surface

Jiaxin Wang and Xin Xiu (South China University of Technology, China); Ye Han (Nanjing University of Posts and Telecommunications, China); Bao Wang (AVIC Research Institute for Special Structures of Aeronautical Composites, China); Mengzhu Yan and Wenquan Che (South China University of Technology, China)

Design of 3-D Frequency Selective Surface Based on Spatial Coupling

Jun Ma, Kai-Ran Xiang, Zhihong Tu and Fu-Chang Chen (South China University of Technology, China)

S22: Antenna Arrays and Beamforming I

Room: Urchins

Chairs: Xiaoxuan Guo (University of Technology Sydney, Australia), Qing You (University of Macau, Macao)

Invited Talk: Plasma-Based Reconfigurable FSS for Adaptive High-Power Microwave Shielding

Krushna Kanth Varikuntla (Queen's University Belfast, United Kingdom (Great Britain) & Queens's University Belfast, United Kingdom (Great Britain)); Okan Yurduseven (Queen's University Belfast, United Kingdom (Great Britain)); Muhammad Ali Babar Abbasi (Queen's University Belfast & Centre for Wireless Innovation (CWI), United Kingdom (Great Britain))

A Reconfigurable Transmit-Reflect-Array Antenna Based on Tightly Coupled Dipole

Shangsen Huang, Wei Hu, Yuchen Gao and Zhaoling Wang (Xidian University, China)

Reconfigurable Bandpass Ultrathin Angular-Selective Surfaces

Hao Jiang (City University of Hong Kong, Hong Kong); Mei Qian (South China University of Technology, China)

Modal Expansion Analysis and Inverse-Design of Reconfigurable AIS-Loaded Antennas

Mengyuan Bie and Zhi Hao Jiang (Southeast University, China)

A Data-Efficient and Physics-Constrained Deep Learning Framework for Reflectarray Antenna Inverse Design

Qinghua Liu and Xue Ren (Shenzhen University, China)

S4: Terahertz Technologies and Systems II

Room: Michaelmus B

Chair: Zhaomin Peng (National Space Science Center Chinese Academy of Sciences, China)

Semiconductor-grade Dry Nano-Island Coating Technology: Translating Advanced Materials from Lab Scale to Next-Gen 6G mm-Wave Substrates

Hung-Wei Wu, Shuai Sun and Muhammad Waqas (Institute of Semiconductors, Guangdong Academy of Sciences, China); Deniz Eren Erisen (Laboratory for New Materials in Nano and Millimeter Waves Institute of Semicondu, China)

D Band Terahertz Driving Source Based on GaN Monolithic Integrated Frequency Multiplier

YH Li, S Jun and XM Zheng (National Space Science Center Chinese Academy of Sciences, China); Dehai Zhang (National Space Science Center, China); Jin Meng (National Space Science Center, Chinese Academy of Sciences, China)

Resonant Tunneling Diodes for Terahertz Sensing

Safumi Suzuki (Institute of Science Tokyo, Japan)

An Efficient Unconditionally Stable Time-Domain Framework for Modeling Terahertz DFG in Nonlinear Metallic Metasurfaces

Jian Feng (Anhui University, China); Ming Fang (no. 111 Jiulong Rd. & Anhui University, China); Ke Xu (Anhui University, China)

Dual-Wideband Antenna Decoupling via Hybrid Conduction-Radiation Mitigation

Meng Xing, Shaobin Liu and Tianyu Shi (Nanjing University of Aeronautics and Astronautics, China)

Thursday, July 23 12:30 - 1:45

Thursday, July 23 1:45 - 3:00

ISTP: Meet the Editors

Intersociety Technology Panel: Meet the Editors

Room: Michaelmus A

Chairs: Robert Caverly (Villanova University, USA), Imran Mehdi (Jet Propulsion Laboratory, California Institute of Technology, USA)

S14: Machine Learning in RF and Microwave Applications

Room: Reef

Surface Mount Radiator - Intelligent AiP for Physical AI and Edge Eevices

Yifan Wang (Millibeam, Australia)

Deep Learning-Based Electromagnetic Parameter Inversion via Physics-Informed Feature Engineering

Yutao Yang (School of Integrated Circuits and Electronics Beijing Institute of Technology, China); Xiue Bao (Beijing Institute of Technology, China & KU Leuven, Belgium); Chenhao Yin (School of Integrated Circuits and Electronics Beijing Institute of Technology, China); Yuying Huang, Lili Fang, Liming Si and Houjun Sun (Beijing Institute of Technology, China)

A Classification of Scattering Characteristics for Typical Artificial Structures via Attention-Augmented Dual-Branch Convolutional Neural Network

Shuxin Wu, Yancheng Li, Meijun Qu and Jianxun Su (Communication University of China, China)

Improved Hybrid Quantum Models for More Accurate Phase Prediction of Expansion Coefficients in Large Finite Periodic Structures

Bingbing Song, Zhuoyue Zhao and Tian Liu (Southeast University, China); Fei Guo (Southeast University, China); Zijun Hu, Wu Yang and Wei Bing Lu (Southeast University, China)

Machine Learning-Assisted End-to-End Synthesis of RF Transformer-Based Matching Networks

Tao Wang, Li Gao, Yao Fo Chen and Xiuyin Zhang (South China University of Technology, China)

S23: Terahertz Technologies and Systems V

Room: Urchins

Chair: Zong-Rui Xu (City University of Hong Kong, Hong Kong)

High Q Terahertz Detector in Hybrid Metal–Optical Tamm State Cavity

Zhanzhang Mai, Xuecou Tu, Bingnan Yan, Hongshan Jing, Dingxuan Gu, Yunjie Rui, Zeyu Xu, Cheng Liang, Baoran Lai, Xiaoqing Jia and Lin Kang (Nanjing University, China); Jian Chen (Nanjing University & Research Institute of Superconductor Electronics, China); Peiheng Wu (Nanjing University, China)

A High-Performance Hybrid FBAR Chip Based on TGV Technology

Keyan Li and Yongle Wu (Beijing University of Posts and Telecommunications, China); Zhiguo Lai and Qinghua Yang (HunterSun Electronics Company Ltd., China); Weimin Wang (Beijing University of Posts and Telecommunications, China)

Geometry Scalable Model of on-Chip Multilayer Interdigital Capacitors

Yiwen Liu, Huanpeng Wang, Yunqiu Wu, Jie Liu, Huihua Liu, Yiming Yu, Chenxi Zhao, Qingfeng Zhang and Kai Kang (University of Electronic Science and Technology of China, China)

High-Tc Superconducting Josephson Mixers from X- to Sub-THz Band

He Zhu (Charles Darwin University, Australia)

Metasurface Antenna Applied in Millimeter-Wave Imaging Systems

Panpan Zuo, Lan Longpeng, Keyan Wei and Bin Gao (Civil Aviation University of China, China); Xiaoxuan Guo (University of Technology Sydney, Australia); Lei Yang (Civil Aviation University of China, China)

S5: CMOS and BiCMOS Power Amplifiers III

Room: Michaelmus B

Chair: Fatemeh Norouzian (University of Birmingham, United Kingdom (Great Britain))

A 30-W Tri-Mode GaN Power Amplifier Based on Reconfigurable Multi-Network Architecture

Tang Bowen, Chi Chen, Zhan Zhao and Yuehang Xu (University of Electronic Science and Technology of China, China)

A Fully Integrated Low-Cost 5-GHz Doherty Power Amplifier Using Compact Triple-Coil Splitter-Combiner in 180-nm CMOS

Zhuoyin Chen, Yongle Wu, Shuchen Zhen, Zhixuan Gong, Xiaopan Chen and Weimin Wang (Beijing University of Posts and Telecommunications, China)

A Compact Wideband Filtering Power Dividers Using D-CRLH Resonators

Xueyu Huang, Wenjie Feng, Wenquan Che, Kun Tang and Haoshen Zhu (South China University of Technology, China)

Optimized Design of Compact Multi-Coil Arrays for Misalignment-Tolerant Wireless Power Transfer

Zihang Huang and Jingchen Wang (Xi'an Jiaotong-Liverpool University, China); Zhao Wang (Xi'an Jiaotong Liverpool University & University of Liverpool, China); Rui Pei (Xi'an Jiaotong-Liverpool University, China); Binta Hu (University of Liverpool, United Kingdom (Great Britain)); Wenzhang Zhang (Xi'an Jiaotong-Liverpool University, China & University of Liverpool, United Kingdom (Great Britain)); Qian Dong and Eng Gee Lim (Xi'an Jiaotong-Liverpool University, China)

Study on the Design of 50-75GHz Up-Conversion Module

Jincai Qiao (Chongqing Institute of Microelectronics Industry Technology, UESTC, China); Zuqiang Ou, Zhongqian Niu and Bo Zhang (University of Electronic Science and Technology of China, China); Hui Peng (Kashi University, China); Ya Fei Wu (UESTC, China)

Thursday, July 23 3:30 - 5:00

Panel Discussion

Room: Michaelmus A

S15: Dielectric and Magnetic Materials

Room: Reef

Chair: David Mitchell (University of Illinois at Urbana-Champaign, USA)

Formula-Based Design of Bias Tees with Wide DC-Path Bandwidth and Transmission Zeros

Keebaek Lee, Jongheun Lee and Juseop Lee (Korea University, Korea (South))

Electromagnetic-Thermal-Fluid Multiphysics Coupling Simulation of Electronic Packaging Based on the FDTD Method

Yan Peng, Guo Song, Tiancheng Zhang, Huaguang Bao and Dazhi Ding (Nanjing University of Science and Technology, China)

Rapid Analysis of Scattering Problem for LFPSS with Physics-Informed Attention Network

Tian Liu (Southeast University, China); Fei Guo (Southeast University, China); Wenzhe Song (Southeast University, China); Yanzhe Luo (Southeast University, China); Wu Yang and Wei Bing Lu (Southeast University, China)

Characteristic Mode-Based Efficient Analysis Method for Electromagnetic Scattering of Complex Electromagnetic Structures with Lossy Dielectric Materials

Yutong Qiu, Jihong Gu, Zhaoyuan Wang and Zhou Cong (Nanjing University of Science and Technology, China); Chao-Fu Wang (National University of Singapore, Singapore); Dazhi Ding (Nanjing University of Science and Technology, China)

Background Separation and Cancellation in Complex Indoor Testing Environments Based on the TTP Algorithm

Wei Gao, Wen Jiang, Tao Hong, Wei Hu, Kun Wei and Yuchen Gao (Xidian University, China)

S24: Antenna Arrays and Beamforming III

Room: Urchins

Chair: Zhichao Sun (University of Technology Sydney, Australia)

S Parameters Matrix Estimation for E-MIMO-Based Beamforming

Qiaowei Yuan (Tohoku Institute of Technology, Japan)

Modelling Clock Stability to Enabling Synchronisation for Multi-Static Passive Radar

Konstanty S Bialkowski (The University of Queensland, Australia)

Multi-Template Differential Correction for Subarray-Based Pattern Reconstruction of Large Phased Arrays

Yuqing Yang, Weimin Wang and Yongle Wu (Beijing University of Posts and Telecommunications, China); Yuanan Liu (Beijing University of Posts and Telecom, China)

E-Band Broadband Low-Loss Vertical Interconnection Structure Based on Multi-Layer Silicon-Based SiP

Hong Bin Wang (UESTC, China)

Multi-Material Additively Manufactured Wideband Dual-Linear Polarized Antenna with High Isolation

Zhichao Sun (University of Technology Sydney, Australia); Xiaojing Lv, Jiexin Lai and Yang Yang (University of Technology Sydney, Australia)

General-Purpose Terahertz Quasi-Optics and Mechanical Beamformers Enabled by 3D-Printing

Bryce Chung, Daniel Headland and Withawat Withayachumnankul (Terahertz Engineering Laboratory, Adelaide University, Australia)

S6: GaN and Compound Semiconductor Devices

Room: Michaelmus B

Chair: Yuehang Xu (University of Electronic Science and Technology of China, China)

Phase-Tapered Bus-Bar Combiner for Efficiency Enhancement in C-Band GaN MMIC Power Amplifier

Nupur Sood (Defence Research and Development Organization, India); Pinaki Sen (Defence Electronics Applications Laboratory & DRDO, India); Karun Rawat (Indian Institute of Technology Roorkee, India)

Design of Titanium SAW Phononic Crystal on Lithium Niobate LiNbO₃/Si Structure

Bao Jingfu, Mohammed Awad Ahmed Mohammed, Zijiang Yang, Taiyu Jiang and Ken-Ya Hashimoto (University of Electronic Science and Technology of China, China)

High-Efficiency Broadband S-Shaped Thin-Film Lithium Niobate Electro-Optic Modulator

Xupeng Gu (University of Electronic Science and Technology of China, China); Ya Fei Wu (UESTC, China)

Characterisation of Dynamic Particulate Media Using Broadband FMCW Spectrometry

James Elgy (University of Birmingham, United Kingdom (Great Britain)); Stephan Reschke (Toptica Photonics SE, Germany); Edward Hoare (University of Birmingham, United Kingdom (Great Britain)); Marina S. Gashinova (University of Birmingham, United Kingdom (Great Britain)); Fatemeh Norouzi (University of Birmingham, United Kingdom (Great Britain))

From Language to Structure: Semantic-Guided Cross-Modal End-to-End Intelligent Design of High-Performance Metasurface Absorbers

Yihao Li (Nanjing University of Science and Technology, China); Shijie Wang (National University of Singapore, Singapore); Wen Lyu, Yanghui Wu and Huanyu Yang (Nanjing University of Science and Technology, China)

Towards Fully Integrated Terahertz Frontends: Silicon Photonics Meets Resonant Tunneling Diodes

Weijie Gao and Nguyen Hoai Ngo (Osaka University, Japan); Daiki Ichikawa (The University of Osaka, Japan); Yuta Inose and Masayuki Fujita (Osaka University, Japan)

Thursday, July 23 6:00 - 10:30

Awards Ceremony and Banquet @ Urchins 1

Room: Michaelmus A, Michaelmus B, Reef, Urchins

Friday, July 24

Friday, July 24 9:00 - 9:45

K3: Keynote: The Evolution of Guided-Wave Technologies: Driving the Future of Integrated Circuits and Systems - Ke Wu

Chair: Yang Yang (University of Technology Sydney, Australia)

Friday, July 24 9:45 - 10:45

P5: Semi-Plenary 5

Room: Michaelmus A, Michaelmus B

Chair: Withawat Withayachumnankul (The University of Adelaide, Australia)

Sources and Detectors for Space THz Communication Systems

Imran Mehdi (Jet Propulsion Laboratory, California Institute of Technology, USA)

High-Sensitivity Terahertz Sensing with Quadrature Self-Homodyne Detection

Bryce Chung, Nontawat Amnuayphol, Harrison N Lees and Withawat Withayachumnankul (The University of Adelaide, Australia)

P6: Semi-Plenary 6

Room: Reef, Urchins

Chair: Shengjian Jammy Chen (Flinders University, Australia & The University of Adelaide, Australia)

Diverse Semiconductor Integrated Microelectronics in the Application-Oriented AI Era

Debabani Choudhury (SeraTech, LLC, USA)

Microwave Sensors Exploiting Nonlinear Dynamics

Almudena Suarez (Universidad de Cantabria, Spain)

Friday, July 24 11:15 - 12:30

YP Session

Room: Michaelmus A

Chair: Syed Muzahir Abbas (Macquarie University, Australia)

S16: Millimeter-Wave and Terahertz Passives II

Room: Reef

Chair: Xiaojing Lv (University of Technology Sydney, Australia)

Millimeter-Wave and Sub-Terahertz Antenna and Metasurface Applications Using Screen Printed Vanadium Dioxide Switches

Junghyeon Kim, Minjae Lee and Hyunwoo Koo (Chung-Ang University, Korea (South)); Duc Anh Pham (University of Illinois at Chicago, USA); Eiyong Park and Sungjoon Lim (Chung-Ang University, Korea (South))

Meta-Screen: Full-Space EM Environment Reconfiguration for mmWave Communications

Jiatong Wu (Xi'an Jiaotong Liverpool University, China); Rui Pei (Xi'an Jiaotong-Liverpool University, China); Zhao Wang (Xi'an Jiaotong Liverpool University & University of Liverpool, China); Jingchen Wang, Mark Leach and Eng Gee Lim (Xi'an Jiaotong-Liverpool University, China)

A Low-Rate Digital Predistortion with Single Real Undersampling Feedback Using Switch-Estimated Method Excited by 400 MHz Sub-6 GHz Signals

Xiaoyu Lu and Jianfeng Zhai (Southeast University, China); Zuofeng Zhang, Dongfang Ning and Yanru Cao (ZTE Corporation, China); Peng Chen and Chao Yu (Southeast University, China)

Ultra-Broadband 3D-Printed Metalens Using Height-Controlled Meta-Atoms

Xuyi Zhu and Bing Zhang (Sichuan University, China)

A Switchable Dual CP Array System for CubeSat Communications Based on Collocated RHCP/LHCP 4×4 Patch Arrays

Zi-Huan Lu (University of Technology Sydney, Australia); Zhichao Sun (University of Technology Sydney, Australia); Xiaojing Lv and Yang Yang (University of Technology Sydney, Australia)

S25: Antenna Arrays and Beamforming IV

Room: Urchins

Chair: Maral Ansari (CSIRO, Australia)

Pattern-Reconfigurable Metasurface for Dynamic Switching Between OAM Beam and Dual-Beam

Xiaoxuan Guo (University of Technology Sydney, Australia); Yue Shi (Beijing Chenzhong Technology, China); Yang Yang (University of Technology Sydney, Australia)

A Textile Antenna for ON-/off-Body Communication

Yu-Fei Wang, Zhe Chen, Shuai Gao, Yu-Xiang Sun and Tao Yuan (Shenzhen University, China)

A Compact Wideband Dual-Circularly Polarized Millimeter-Wave Antenna with Isolation Enhancement

Zhichao Sun (University of Technology Sydney, Australia); Xiaojing Lv, Jiexin Lai and Yang Yang (University of Technology Sydney, Australia)

Broadband Circularly Polarized Glass Antenna with Surface Wave Suppression

Xiaofeng Hou, Keying Huang, Zhipeng Zhang, Wenhai Zhang and Yilin Zheng (Soochow University, China); Chi-Hou Chio and Kam-weng Tam (University of Macau, Macao); ZhiXing Chen (Fuyao Glass Industry Group CO., LTD, China)

A Low Profile and High Front-to-Back Ratio Millimeter-Wave Array Based on Electromagnetic Band Gap Ground

Yu-Qi Ma, Zhihong Tu, Huan-Bin Wang and Fu-Chang Chen (South China University of Technology, China)

S7: Low Noise Amplifiers and Receivers

Room: Michaelmus B

Chair: Xupeng Gu (University of Electronic Science and Technology of China, China)

A 19.3-23.7-GHz RTWO with Common-Mode Resonance and Distributed Varactors

Yuan Tian, Xiaosi Zhu, Pei Qin and Quan Xue (South China University of Technology, China)

A 8.8-12.5 GHz Dual-Core Series Resonance VCO with 201.3-dBc/Hz FoMT in 28-nm CMOS Technology

Shuai Huang, Li Gao and Xiu Yin Zhang (South China University of Technology, China)

Super-Mode-Group Based Reduced-Order Analysis of Multi-Mode Antenna Decoupling

Yuqi Wang (South China University of Technology, China); Hao Jiang (City University of Hong Kong, Hong Kong); Yinglu Wan (Guangxi University, China)

A V-Band LNA with Pole-Tuning and Gm-Boosting Technique in 40-nm CMOS

Xiangjie Li, Hetai Zhang, Pei Qin and Quan Xue (South China University of Technology, China)

A High-Sensitivity Rectifier Employing a Low-ESR Distributed Spiral Inductor

Pai-Dong Lin (South China University of Technology); Jun-Hui Ou (South China University of Technology, China); Zhi-Xia Du (Guangdong University of Technology, China)

Friday, July 24 12:30 - 1:45

Friday, July 24 1:45 - 3:00

WIM Session

Room: Michaelmus A

Chair: Wenquan Che (South China University of Technology, China)

S17: CMOS and BiCMOS Power Amplifiers IV

Room: Reef

Chair: Jingchen Wang (Xi'an Jiaotong-Liverpool University, China)

A Continuously Tunable Silicon-Based 3D Matching Network for Heterogeneous RF Transceiver

Yanwen Zheng, Guangbao Shan and Xiang Fan (Xidian University, China); Chunyu Yang (Xidian university, China); Pan Zhang (Xidian University, China)

A Broadband Tunable Matching Network Based on Magnetic Coupling

Wang Fangqian, Guangbao Shan and Yanwen Zheng (Xidian University, China)

Design of Filtering Power Amplifier Based on TGV-IPD Filtering Matching Network

Shiyu Zhu (South China University of Technology, China); Jin-Xu Xu (Pazhou Lab, China); Xiu Yin Zhang (South China University of Technology, China)

Wideband High-Precision Resonator-Based Phase Shifters via Lossy Electric and Magnetic Coupling

Ji Na (South China University of Technology, China); Guangxu Shen (Nanjing University of Posts and Telecommunications, China); Wenquan Che (South China University of Technology, China)

Ultra-Wideband RCS Reduction Metasurface with Tunable Transmission Window

Cong Zhang, Yuchen Gao, Hui Xin and Tao Hong (Xidian University, China)

S26: Microwave Filters and Resonators I

Room: Urchins

Chair: Jing-Yu Lin (University of Birmingham, United Kingdom (Great Britain))

3D-Printed Copper Waveguide Bandpass Filter for Q-Band Ground Station Application

Lu Qian (University of Birmingham, United Kingdom (Great Britain)); John Robinson and Arun Arjunan (University of Wolverhampton, United Kingdom (Great Britain)); Yi Wang (University of Birmingham, United Kingdom (Great Britain))

A Broadband Unequal Power Divider Based on an H-Plane Height-Reduced Waveguide T-Junction

Bo Li (Chengdu Polaris Information and Communication Technology, China)

Low-Loss Millimeter-Wave Wideband Bandpass Filter in InP Technology with Cryogenic Performance Analysis

Hongliang Tian (Shenzhen University, China); Haiwen Liu (Dalian University, China); Junfa Mao (Shanghai Jiao Tong University, China)

A Broadband High-Selectivity Bandpass Filter Branch-Line Coupler Operating in the C-Band

Yiyang Han, Kun Wei, Wei Hu and Wen Jiang (Xidian University, China)

Ultrahigh-Sensitivity Microwave Biosensor Based on a CPW Loaded with a Modified Complementary Electric-LC Resonator

Shaghayegh Chamani and Xiaojing Lv (University of Technology Sydney, Australia); Trevor S. Bird (Antengenuity, Australia & University of Technology, Sydney, Australia); Yang Yang (University of Technology Sydney, Australia)

S8: Terahertz Technologies and Systems III

Room: Michaelmus B

Chair: Daniel Headland (The University of Adelaide, Australia)

Reconfigurable Millimetre-Waves and Terahertz Devices Using Phase Change Materials

Aurelian Crunteanu (XLIM, CNRS/ University of Limoges, France); Wilfrid Renkanga Mbatchi (XLIM, France); Eduard-Nicolae Sirjita (XLIM Research Institute, CNRS- University of Limoges, France); Cyril Decroze (XLIM, France); Georges Humbert (Xlim, France); Alexandre Boulle (Institute of Ceramic Research IRCER, France); Jean-Christophe Orlianges (XLIM, CNRS/ Université de Limoges, France)

Design of a Pattern Reconfigurable Amplifier Antenna with Gain Amplification Using Transistors

Minghuan Wang (Nanjing University of Science and Technology, China); Hao Wang (Nanjing University of Science & Technology, China); Yan Wang and Jianyin Cao (Nanjing University of Science and Technology, China)

Characterization of 32 GT/s UCle-Compatible Package Interconnects for Reconfigurable RF Chiplet Integration

Baoping Meng, Guangbao Shan, Guoliang Li, Yanwen Zheng, Wenbin Wei and Jiaxu Cao (Xidian University, China)

A Sub-THz Conductive-Bridging Memristive Switch for Reconfigurable RF Front-Ends

Zong-Rui Xu and Yongxin Guo (City University of Hong Kong, Hong Kong)

On-Body Characterization of a Planar Horseshoe-Slot MXene Microstrip Antenna with an Elevated Ground Plane for Wearable Applications

Purna B. Samal (University of Technology Sydney, Australia); Shengjian Jammy Chen (Flinders University, Australia & The University of Adelaide, Australia); Christophe Fumeaux (University of Queensland, Australia)

Friday, July 24 3:30 - 4:45

BPC (Debabani-Mentoring Session)

Room: Michaelmus A

Chair: Debabani Choudhury (SeraTech, LLC, USA)

S18: Dielectric Characterisation

Room: Reef

Chair: Aurelian Crunteanu (XLIM, CNRS/ University of Limoges, France)

THz Material Characterization of Rough Samples

Miguel Navarro-Cía (University of Birmingham, United Kingdom (Great Britain))

A Branch-Independent Computational Method for Dielectric Material Characterization

Yunhao Fu (The University of New South Wales, Australia); Rodica Ramer (University of New

South Wales, Australia)

Application of Q-Chokes for Enhanced Characterization of Materials in FR3 Band

Malgorzata Celuch (QWED, Poland); Wojciech Gwarek (QWED Sp. z O. O., Poland); Lukasz Nowicki (Warsaw University of Technology, Poland & QWED, Poland); Marzena Olszewska-Placha (QWED Sp. z o. o, Poland)

Microwave Probe with Enhanced Sensitivity for Wideband Dielectric Characterizations

Amir Ebrahimi (RMIT University, Australia); Syed Akbar Raza Naqvi and Amin Abbosh (The University of Queensland, Australia)

A High-Sensitivity Dielectric Characterization Method for Thin-Film Materials Using Ridge Gap Waveguide Resonator

Jiamin He (University of Electronic Science and Technology of China, China)

S9: Microwave Filters and Devices

Room: Michaelmus B

Chair: Bo Li (Chengdu Polaris Information and Communication Technology, China)

A Low-Loss Tunable Bandpass Filter Based on Boundary-Reconfigurable Patch Resonators

Huihui Fei, Ren Rong Zhao, Peng Chen and Chao Yu (Southeast University, China)

A Multi-Mode Tunable Bandpass Filter with the Continuous Transmission Zero

Guangbao Shan, Chunyu Yang and Yanwen Zheng (Xidian University, China)

Wideband Phased-Array Meta-Antenna Without Air Cavity for Ku-Band Satellite Communication

Qing You (University of Macau, Macao); Dianxin Luan (University of Edinburgh, United Kingdom (Great Britain)); Pui-In Mak, Rui P. Martins and Jun Yin (University of Macau, Macao)

A Hexagonal Six-Port Hybrid Coupler for Beamforming Applications

Zhiwei Yin (University of Technology Sydney, Australia); He Zhu (Charles Darwin University, Australia); Xiaojing Lv and Yang Yang (University of Technology Sydney, Australia)

Short-Circuit Ring Patch Bandpass Filter on Glass Substrate with MLP-Based Optimization

Jing-Yu Lin (University of Birmingham)

Friday, July 24 4:45 - 5:00

Closing Ceremony

Room: Michaelmus A, Michaelmus B