

# Technical Program At-A-Glance

Dec 10 (Tue)				
	Melati 4011	Melati 4111	Orchid 4211	Orchid 4212
8:30~12:00	SC-1 Practical Aspects for 5G Front End Module Design	SC-2 5G: System-Level and Component Level Demands and Solutions for Mobile and Infrastructure	SC-3 Multibeam Antennas and Beamforming Networks	SC-4 Resonant Measurement Methods of Dielectric and Ferromagnetic Materials in Microwave and mm-wave Spectra
13:30~17:15	WS-1 RF Front End Architectures and Technologies for 5G Mobile Applications	WS-2 Recent Developments in Negative Group Delay (NGD) Devices and Applications to RF/Microwave Communication System	WS-3 Trends in Maritime Broadband Communication System	WS-4 State-of-the-art Measurement Techniques for Microwave and Millimeter-wave Applications
17:30-19:00	Welcome Reception (Garden Walk 2 – Bayview)			

Dec 11 (Wed)								
8:30~10:15	Opening Ceremony and Keynote Talks (Melati)							
10:45~11:15	Coffee Break (Orchid Junior Ballroom)							
	Orchid Junior Ballroom	Melati 4011	Melati 4111	Orchid 4211	Orchid 4212	Orchid 4311	Orchid 4312	
11:15~12:15		W1-2 SS*: Wireless Power Transfer (1)	W1-3 CMOS Circuits	W1-4 SS: Signal and Power Integrity	W1-5 Antenna Design and Applications (1)	W1-6 IOT/RFID (1)	W1-7 Computational EM	
12:15~13:30	Lunch Break (Orchid Junior Ballroom)							
13:30~15:30	W2-1 Interactive Forum 1 (15:00-17:00)	W2-2 Active Circuits (1)	W2-3 Metamaterials and Metasurfaces (1)	W2-4 Antennas for Beam Scanning	W2-5 Artificial Intelligence for EM	W2-6 SS: Chipless RFID and Sensors for IoT	W2-7 WPT and Energy Harvesting	
15:30~16:00		Coffee Break (Orchid Junior Ballroom)						
16:00~18:00		W3-2 High Power Devices (1)	W3-3 Passive Components (1)	W3-4 Power Amplifiers (1)	W3-5 Microwave Biomedical applications (1)	W3-6 Filters (1)	W3-7 THz / mm-wave Applications	

Dec 12 (Thu)								
	Orchid Junior Ballroom	Melati 4011	Melati 4111	Orchid 4211	Orchid 4212	Orchid 4311	Orchid 4312	
8:30~10:15	T1-1 Interactive Forum 2 (10:00-12:00)	T1-2 Wireless Communication Systems	T1-3 Metamaterials and Metasurfaces (2)	T1-4 RF and Microwave ICs (1)	T1-5 SS: Antennas/Arrays Circuits/Systems	T1-6 5G Systems	T1-7 Antenna Design and Application (2)	
10:15~10:45		Coffee Break (Orchid Junior Ballroom)						
10:45~12:15		T2-2 SS: Wireless Body-Centric Systems	T2-3 EuMA Special Session	T2-4 SS: THz Technology	T2-5 SS: Recent Developments in EMC and SI/PI	T2-6 Antennas for mm-wave Systems (1)	T2-7 SS: EM Metasurfaces	
12:15~13:30	Lunch Break (Orchid Junior Ballroom)							
13:30~15:30	T3-1 Interactive Forum 3 (15:00-17:00)	T3-2 SS: Microwave Imaging Methods	T3-3 Antenna Arrays (1)	T3-4 SS: Modeling in High-Speed Circuits	T3-5 SS: Wireless Power Transfer (2)	T3-6 SS: MM Wave Radio for Wireless Communication	T3-7 SS: Microwave /mmWave Sensors	
15:30~16:00		Coffee Break (Orchid Junior Ballroom)						
16:00~18:00		T4-2 SS: Wireless Energy and Sensing	T4-3 SS: 5G and mm-wave IC	T4-4 Metamaterials and Metasurfaces (3)	T4-5 Filters (2)	T4-6 Semiconductor Devices and Composite Structures	T4-7 SS: WPT/Energy Harvesting	
19:00~22:00	Banquet & Awards (Peony Junior Ballroom)							

Dec 13 (Fri)								
	Orchid Junior Ballroom	Melati 4011	Melati 4111	Orchid 4211	Orchid 4212	Orchid 4311	Orchid 4312	
8:30~10:15	F1-1 Interactive Forum 4 (10:00-12:00)	F1-2 Microwave/mm-wave Applications (2)	F1-3 SS: Filtering Components	F1-4 Satellite and Radar Systems	F1-5 Scattering and Propagation	F1-6 Packaging	F1-7 Antenna Arrays (2)	
10:15~10:45		Coffee Break (Orchid Junior Ballroom)						
10:45~12:15		F2-2 SS: RF Wireless Power for Low Power Applications	F2-3 Device Modeling	F2-4 High Power Devices (2)	F2-5 MM Wave /THz Components	F2-6 IoT/RFID (2)	F2-7 Numerical Techniques	
12:15~13:30	Lunch Break (Orchid Junior Ballroom)							
13:30~15:30	F3-1 Interactive Forum 5 (15:00-17:00)	F3-2 Low Noise Circuits	F3-3 Radar Signal Processing	F3-4 Microwave Biomedical applications (2)	F3-5 Passive Components (2)	F3-6 Tunable and Reconfigurable Circuits	F3-7 5G Antennas	
15:30~16:00		Coffee Break (Orchid Junior Ballroom)						
16:00~18:00		F4-2 Measurement Techniques	F4-3 Power Amplifiers (2)	F4-4 Active Circuits (2)	F4-5 RF and Microwave ICs (2)	F4-6 Filters (3)	F4-7 Metamaterials and Metasurfaces (4)	

\*SS: Special Session

## Wednesday, December 11

Wednesday, December 11 11:15 - 12:15

W1-2: SS: Wireless Power Transfer (1)

Room: Melati 4011

**11:15 Discussion on Rectifier Models for Wireless Power Transfer Excitation Design**

[Pan Ning](#) (Huawei Corp., P.R. China); [Steven Claessens](#), [Mohammad Rajabi](#), [Sofie Pollin](#) and [Dominique Schreurs](#) (KU Leuven, Belgium)

**11:45 Generation of Non-diffractive Beam by Using Metasurface for Wireless Power Transfer (WPT) Applications**

[Ting Zeng](#), [Li Deng](#) and [Shufang Li](#) (Beijing University of Posts and Telecommunications, P.R. China)

**12:00 Lightweight and High-Efficiency Coupler Suitable for Underwater WPT System**

[Masaya Tamura](#), [Kousuke Murai](#) and [Daiki Fujii](#) (Toyohashi University of Technology, Japan)

W1-3: CMOS circuits

Room: Melati 4111

**11:15 CMOS Control Circuit for Robust MEMS Varactors**

[Mohammad Javad Asadi](#), [Renfeng Jin](#), [Zhibo Cao](#), [Guanghai Ding](#), [Vahid Gholizadeh](#), [Herman F. Nied](#) and [James C Hwang](#) (Lehigh University, USA); [Charles Goldsmith](#) (MEMtronics Corporation, USA)

**11:45 A W-band Frequency Doubler with Differential Outputs in 90-nm CMOS**

[Hong-Shen Chen](#), [Ho-Chun Chang](#), [Wen-Chieh Huang](#) and [Jenny Yi-Chun Liu](#) (National Tsing Hua University, Taiwan)

**12:00 Fully differential Ultra-wideband LNA-Mixer for K to Ka Band receiver in 45nm CMOS SOI technology**

[Yu Wang](#) and [Jie Cui](#) (Nanjing University of Science and Technology, P.R. China)

W1-4: SS: Signal and Power Integrity

Room: Orchid 4211

**11:15 A Ka-band dual-polarized microstrip antenna array with high isolation and low cross-polarization**

[Hang Cheng](#) (Anhui Institute of International Business, P.R. China)

**11:30 A Miniaturized HMSIW-SPP Guided-Wave Transmission Line with Mushroom-like Structure**

[Lei Ji](#) and [Zhu Yu](#) (Shanghai Jiao Tong University, P.R. China); [Xiaochun Li](#) (SHANGHAI Jiao Tong University, P.R. China); [Haoru Zhong](#) (Shanghai Jiao Tong University, P.R. China)

**11:45 A Novel 76 and 94GHz Dual Band Bandpass Filter Using Multilayer Step Impedance Resonators (SIRs)**

[Xiliang Cheng](#) and [Liang Zhou](#) (Shanghai Jiao Tong University, P.R. China); [Yuan Zhang](#) (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle, P.R. China); [Wen-Yan Yin](#) (Zhejiang University, P.R. China)

**12:00 Design Flexibility of SIR Coaxial Resonators for UHF Filters**

[Hakim Aouidad](#) (Elliptika, France); [Jean François Favennec](#) (Lab-STICC/ENIB, France); [Eric Rius](#) (Lab-STICC/Université de Brest, France); [Alexandre Manchec](#) (Elliptika, France)

W1-5: Antenna Design and Applications (1)

Room: Orchid 4212

**11:15 Polycarbonate based flexible antennas for mmWave 5G devices**

[Shiban K Koul](#) (Indian Institute of Technology Delhi, India); [Karthikeya GS](#) (IIT Delhi, India)

**11:45 Millimeter-Wave Metantennas for 5G Wireless Communications**

[Zhi Ning Chen](#) (National University of Singapore, Singapore); [Teng Li](#) (Southeast University, P.R. China); [Mei Jiang](#) (Shanghai Key Laboratory of Electromagnetic Environment Effects for Aerospace Vehicle, P.R. China); [Wei E. I. Liu](#) (National University of Singapore, Singapore); [Xianming Qing](#) (Institute for Infocomm Research, Singapore)

W1-6: IOT/RFID (1)

Room: Orchid 4311

**11:15 Small Conformal UHF RFID Tag Antenna for Labelling Fruits**

[Jun Ouyang](#) (University of Electronic Science and Technology of China, P.R. China); [Abubakar Sharif](#) (University of Electronic Science and Technology China, P.R. China); [Yi Yan](#) (University of Electronic Science and Technology of China, P.R. China); [Qammer H Abbasi](#) (University of Glasgow, United Kingdom (Great Britain))

**11:30 Novel Topologies of Resonators for Orientation-Insensitive Chipless Radiofrequency Identification Tags**

[Ying-Hsiu Cho](#), [Fei-Peng Lai](#) and [Yen-Sheng Chen](#) (National Taipei University of Technology, Taiwan)

**11:45 Read Accuracy Improvement by R/W Beam Scanning and Repeated Transmission for 920 MHz RFID**

[Sora Funayama](#) and [Yasushi Yamao](#) (The University of Electro-Communications, Japan)

**12:00 A 1.3- $\mu$ W -0.3/+0.27 °C Inaccuracy Fully-integrated Temperature Sensor Based on a Pre-Charge Relaxation Oscillator for IoT applications**

[Yi Tan](#), [Zexue Liu](#), [Xiucheng Hao](#), [Zhengkun Shen](#), [Haoyun Jiang](#), [Fan Tian](#) and [Junhua Liu](#) (Peking University, P.R. China)

W1-7: Computational EM

Room: Orchid 4312

**11:15 Full-wave Micro-modeling Circuit for Electromagnetic Problems**

[Ke-Li Wu](#) and [Yuhang Dou](#) (The Chinese University of Hong Kong, Hong Kong)

**11:45 The Variational Meshless Method: an Overview of the Theory and Applications**

[Luca Perregini](#), [Vincenzo Lombardi](#) and [Maurizio Bozzi](#) (University of Pavia, Italy)

Wednesday, December 11 13:30 - 15:30

W2-2: Active Circuits (1)

Room: Melati 4011

**13:30 Solutions to Varactor-less VCO Design for Both Higher and Lower Millimeter-wave Bands**

[Quan Xue](#) and [Chao Li](#) (South China University of Technology, P.R. China); [Liang Wu](#) (The Chinese University of Hong Kong, Shenzhen, P.R. China); [Wenquan Che](#) (Nanjing University of Science and Technology, P.R. China)

**14:00 A PVT Compensated Ring VCO with FVC-Assisted Digital Background Calibration**

[Jing Jin](#), [Yuekang Guo](#) and [Xiaoming Liu](#) (Shanghai Jiao Tong University, P.R. China); [Xiaopeng Yu](#) (Nanyang Technological University, Singapore); [Jianjun Zhou](#) (Shanghai Jiao Tong University, P.R. China)

**14:15 Design of a Hartley Image-reject Receiver with Improved Image Rejection and Spurious-Free Frequency Synthesizer Response**

[Hilmi Kayhan Yilmaz](#) (Roketsan Missiles Inc. & Yeditepe University, Turkey); [Hakan Caylak](#) (Ctech Information Technologies Inc., Turkey); [Serkan Topaloglu](#) (Yeditepe University, Turkey)

**14:30 A PVT Variation Tolerant 24-GHz FMCW Signal Generator for Automobile Radar Applications**

[Yusuke Wachi](#) (Hitachi, Ltd., Japan)

**14:45 A 40-nm CMOS Mixer with 36-GHz IF Bandwidth and 60 - 148 GHz RF Passband**

[Yi-Ching Wu](#) (Academia Sinica Institute of Astronomy and Astrophysics, Taiwan); [Yuh-Jing](#)

[Hwang](#) and [Chau-Ching Chiong](#) (Institute of Astronomy and Astrophysics, Academia Sinica, Taiwan); [Bo-Ze](#)

[Lu](#) and [Huei Wang](#) (National Taiwan University, Taiwan)

**15:00 L-Band SiGe HBT Clapp and Hartley VCOs Using Double Varactor Diodes and Dual-Band Resonators for High Frequency and Wide Bandwidth Oscillations**

[Yasushi Itoh](#) and [Omokawa Shiori](#) (Shonan Institute of Technology, Japan)

**15:15 10GHz Varactor-less VCO with Helium-3 Ion Irradiated Inductor**

[Hans Herdian](#) (Tokyo Institute of Technology, Japan); [Haosheng Zhang](#) and [Aravind Tharayil](#)

[Narayanan](#) (Tokyo Institute of Technology, Japan); [Atsushi Shirane](#) and [Kenichi Okada](#) (Tokyo Institute of Technology, Japan)

W2-3: Metamaterials and Metasurface (1)

Room: Melati 4111

**13:30 Metamaterial Technology for Electromagnetic Compatibility Design**

[Tzong-Lin Wu](#) (National Taiwan University, Taiwan)

**14:00 Spoof Surface Plasmonic Graphene for Robust Waveguide**

[Pengfei Qin](#), [Er-Ping Li](#) and [Hongsheng Chen](#) (Zhejiang University, P.R. China)

**14:30 Circularly-Polarized Broadband Planar Parabolic Reflector Antenna**

[Vivien Taverny](#) (LEME, UPL, Univ Paris Nanterre, France); [Badreddine Ratni](#) (Univ Paris Nanterre, France); [Shah Nawaz Burokur](#) (LEME, France)

**14:45 A Novel 0.3-0.31 THz GaAs-Based Transceiver with On-Chip Slotted Metamaterial Antenna Based on SIW Technology**

[Mohammad Alibakhshikenari](#) (Università degli Studi di Roma "Tor Vergata", Roma - ITALY, Italy); [Bal](#)

[Virdee](#) (London Metropolitan University, United Kingdom (Great Britain)); [Chan H. Hwang See](#) (Edinburgh Napier University, United Kingdom (Great Britain)); [Raed A Abd-Alhameed](#) (University of Bradford, United Kingdom (Great Britain)); [Francisco Falcone](#) (Universidad Publica de Navarra, Spain); [Ernesto](#)

[Limiti](#) (University of Rome Tor Vergata, Italy)

**15:00 Transmission-Line Approach to Zero-Index Materials for Invisible Cloaks**

[Tsutomu Nagayama](#), [Shohei Kakoi](#), [Seiji Fukushima](#) and [Toshio Watanabe](#) (Kagoshima University, Japan)

**15:15 X-band Absorber Integrated with A Low-frequency Transmission Performance**

[Menglan Lin](#) and [Jianjia Yi](#) (Key Laboratory of Integrated Services Networks, Xidian University, P.R.

China); [Badreddine Ratni](#) (Univ Paris Nanterre, France); [Lina Zhu](#) and [Hailin Zhang](#) (Xidian University, P.R. China); [Shah Nawaz Burokur](#) (LEME, France)

W2-4: Antennas for Beam Scanning

Room: Orchid 4211

**13:30 Multi-beam scanning optical antenna for short range ultra high speed wireless system**

[Hiroyuki Arai](#) (Yokohama National University, Japan)

**14:00 Reconfigurable Leaky Wave Antennas for Fixed-Frequency Beam Scanning**

[Y. Jay Guo](#) (University of Technology Sydney, Australia); [Shu-Lin Chen](#) (University of Technology, Sydney, Australia); [Zheng Li](#) (Beijing Jiaotong University, P.R. China)

**14:30 A Hybrid 3D Printed K-Band Focal-Shifted Two-Dimensional Beam Scanning Lens Antenna with Non-Uniform Feed**

[Bing Zhang](#) and [Kama Huang](#) (Sichuan University, P.R. China)

**14:45 An Antipodal Vivaldi Antenna Array with Improved Beam Synthesis Accuracy and Scanning Performance**

[Shuangshuang Zhu](#) (Xi'an Jiaotong University, P.R. China); [Pin Wen](#) (East China Jiaotong University, P.R. China)

**15:00 Wideband Circular Polarization Metasurface-Antenna and Its Application in Scanning Array**

[Chen Zhang](#) (AEFU, University, P.R. China); [Xiangyu Cao](#) and [Jun Gao](#) (Air Force Engineering University of CPLA, P.R. China); [Jiangfeng Han](#) (AEFU University, P.R. China)

**15:15 Technologies for D band links with beam steering functionality**

[Vladimir Ermolov](#) and [Antti E. I. Lamminen](#) (VTT Technical Research Centre of Finland, Finland); [Pascal Roux](#) (Nokia-Bell-Labs/III-V Lab, France); [Juha Ala-Laurinaho](#) (Aalto University, Finland); [Jussi Säily](#) (VTT Technical Research Centre of Finland, Finland); [Maurizio Moretto](#) (Nokia, Italy); [Mario Giovanni Luigi Frecassetti](#) (NOKIA, Italy)

W2-5: Artificial Intelligence for EM

Room: Orchid 4212

**13:30 Radar Based Object Recognition with Convolutional Neural Network**

[Kin Chong Loi](#), [Pedro Cheong](#) and [Wai Wa Choi](#) (University of Macau, Macao)

**13:45 Failure Diagnosis of Microstrip Antenna Array Based on Convolutional Neural Network**

[Quankun Chen](#), [Hanzhi Ma](#) and [Er-Ping Li](#) (Zhejiang University, P.R. China)

**14:00 Mining Spatio-Temporal Features from mmW Radar echoes for Hand Gesture Recognition**

[Kang Zhang](#), [Shengchang Lan](#) and [Guiyuan Zhang](#) (Harbin Institute of Technology, P.R. China)

**14:15 Crack Profile Reconstruction from Eddy Current Signals with an Encoder-Decoder Convolutional Neural Network**

[Shaohua Li](#) (Institute of High Performance Computing, A\*Star, Singapore); [Ayesha Anees](#) (Institute of High Performance Computing, A\*STAR, Singapore); [Yu Zhong](#) (A\*STAR IHPC, Singapore); [Zaifeng Yang](#) (Institute of High Performance Computing, A\*STAR, Singapore); [Yong Liu](#) (Institute of High Performance Computing, Singapore); [Rick Siow Mong Goh](#) (A\*STAR Institute of High Performance Computing, Singapore); [En-Xiao Liu](#) (Institute of High Performance Computing, Singapore)

**14:30 Human Target Respiration Pattern Recognition Based on Vital-SAR-Imaging**

[Hanqing Chen](#), [Jiaming Yan](#), [Hong Hong](#) and [Xiaohua Zhu](#) (Nanjing University of Science and Technology, P.R. China)

**14:45 Capacity Estimation of MIMO Systems via Support Vector Regression**

[Xiaolin Hu](#) (Shanghai University, P.R. China); [Nicholas E Buris](#) (NEBENS, LLC, USA & Shanghai University, P.R. China)

**15:00 Micro-Doppler Analysis under Various Aspect Angles for Small UAVs classification**

[Takafumi Matsuda](#), [Ryoma Yataka](#), [Masato Gocho](#) and [Tai Tanaka](#) (Mitsubishi Electric Corporation, Japan)

**15:15 A Supervised Learning Detector for UHF RFID System**

[Qi Peng](#) and [Junlin Bao](#) (Xidian University, P.R. China)

W2-6: SS: Chipless RFID for (IoT)

Room: Orchid 4311

**13:30 Near-Field Chipless-RFID System Based on Tags Implemented with Organic Inks**

[Cristian Herrojo](#) (Universitat Autònoma de Barcelona, Spain); [Ferran Paredes](#) (Universitat Autònoma de Barcelona, Spain); [Roger Escudé](#) and [Eloi Ramon](#) (Institut de Microelectrònica de Barcelona IMB-CNM (CSIC), Spain); [Ferran Martín](#) (Universidad autónoma de Barcelona, Spain)

**13:45 Estimation of Backscattered Signals of Frequency-coded Chipless RFID Tag**

[Javad Aliasgari](#) (Monash University, Australia); [Nemai Karmakar](#) (MONASH University, Australia)

**14:00 Realisation of a High Spectral Efficient Chipless RFID Tag using Hairpin Resonators**

[Fatemeh Babaeian](#) and [Jiewei Feng](#) (Monash University, Australia); [Nemai Karmakar](#) (MONASH University, Australia)

**14:15 Chipless RFID Tags: Co- or Cross-Polar Tag?**

[Parya Fathi](#), [Javad Aliasgari](#) and [Fatemeh Babaeian](#) (Monash University, Australia); [Nemai Karmakar](#) (MONASH University, Australia); [Madhumita Bhattacharya](#) and [Sankar Bhattacharya](#) (Monash University, Australia)

**14:30 Design of a Chipless RFID Tag Using Split Ring Resonators (SRR)**

[Feng Yajing](#) (NUS, Singapore); [Karthik Thothathri Chandrasekaran](#) (Nanyang Technological University, Singapore); [Yang Zhenning](#) (NTU, Singapore); [Kye Yak See](#), [Arokiaswami Alphones](#) and [Faeyz Karim](#) (Nanyang Technological University, Singapore)

**14:45 Analysis of LoRa Link Quality for Underwater Wireless Sensor Networks: A Semi-empirical Study**

[Kaiqiang Lin](#), [Tong Hao](#), [Wuan Zheng](#) and [Wenchao He](#) (Tongji University, P.R. China)

**15:00 Hybrid Encoding of Chipless Radiofrequency Identification at the 2.4-GHz Unlicensed Band**

[Fei-Peng Lai](#) and [Yen-Sheng Chen](#) (National Taipei University of Technology, Taiwan)

**15:15 Miniaturized Circularly Polarized RFID Reader Antenna Based on Crossed-Vertical SRR**

[Zhan Wang](#) and [Yuandan Dong](#) (University of Electronic Science and Technology of China, P.R. China)

W2-7: WPT and Energy Harvesting

Room: Orchid 4312

**13:30 Backscatter Solutions for SWIPT Systems**

[Ricardo Correia](#) (Instituto de Telecomunicações & University of Aveiro, Portugal); [Nuno Borges Carvalho](#) (University of Aveiro/IT Aveiro, Portugal)

**14:00 920 MHz band low power rectenna with the dual loop antenna**

[Shogo Sakashita](#) (Kanazawa Institute of Technology, Japan)

**14:15 Series-Parallel Combination Design of Rectenna Array for Microwave Power Transmission**

[Dejun Song](#), [Liwei Song](#) and [Yi Yao](#) (Xidian University, P.R. China)

**14:30 A Design Window for Device Parameters of Rectifying Diodes in 2.4 GHz Micro-watt RF Energy Harvesting**

[Toru Tanzawa](#) (Shizuoka University, Japan); [Masakatsu Tsuchiaki](#) (Honda Research Institute Japan Co., Ltd, Japan); [Yutaro Yamazaki](#) (Shizuoka University, Japan)

**14:45 High Gain Planar Antenna using Symmetrically Distributed Magnetic Dipole Elements**

[Hyun-Jun Dong](#), [Gun-Hark Noh](#), [Young-Jun Kim](#) and [Hanlim Lee](#) (Chung-Ang University, Korea)

**15:00 Continuous Beam Steerable Parasitic Antenna Array**

[Amira Hasnul Hadi](#) (University of Malaya, Malaysia); [Mohd Yazed Ahmad](#) (University of Malaya & Faculty of Engineering, University of Malaya, Malaysia)

**15:15 Wide-band and Efficiency-Improved 0.18um CMOS RF Differential Rectifier for Wireless Energy Harvesting**

[Mohamed Mansour](#) and [Haruichi Kanaya](#) (Kyushu University, Japan)

Wednesday, December 11 15:00 – 17:00

W2-1: Interactive Forum 1

Room: Orchid Junior Ballroom

**IF-1 to IF-19 are candidates for Best Student Paper Awards**

**IF-1: A Ka-Band Power Amplifier with 22.9 dBm Psat, 22.5 dBm OP1dB and 21% PAE in 130 nm SiGe BiCMOS**

[Qingfeng Zhang](#) and [Kai Kang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-2: Exploiting 2nd Harmonic for Optimal Wireless Powered Implantable Medical Devices**

[Hao Zhang](#) (Northwestern Polytechnical University, P.R. China & National University of Singapore, Singapore); [Si-Ping Gao](#) (National University of Singapore, Singapore); [Wen Wu](#) (Nanjing University of Science & Technology, P.R. China); [Yongxin Guo](#) (National University of Singapore, Singapore)

**IF-3: Frequency Readjustment of Excitation Signals for Resonant Surface Acoustic Wave Sensors in the 2.45 GHz ISM Band**

[Benedict Scheiner](#), [Fabian Lurz](#) and [Fabian Michler](#) (Friedrich-Alexander University Erlangen-Nuremberg, Germany); [Robert Weigel](#) (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany); [Alexander Koelpin](#) (BTU & Chair for Electronics and Sensor Systems, Germany)

**IF-4: Transmit-Receive Cross-modulation Distortion Analysis in Full Duplex Wireless Quadrature Balanced Transceivers**

[Nimrod Ginzberg](#) (Technion, Israel); [Emanuel Cohen](#) (Technion Institute of Technology, Israel); [Dror Regev](#) (Toga Networks A Huawei Company, Israel)

**IF-5: Antenna Pattern Characterization with an Industrial Robot Assisted FMCW Radar System**

[Lukas Piotrowsky](#) (Ruhr University Bochum, Germany); [Vladimir Bernhardt](#) (Ruhr Universität Bochum, Germany); [Jan Barowski](#) and [Ilona Rolfes](#) (Ruhr-Universität Bochum, Germany); [Nils Pohl](#) (Ruhr-University Bochum & Fraunhofer FHR, Germany)

**IF-6: Hybrid Analog/Digital Linearization Based on Dual-Domain Decomposition of Nonlinearity**

[Peng Hao](#) (University of Electronic Science and Technology of China, P.R. China); [Songbai He](#) (University of Electronic Science and Technology of China, Chengdu, P.R. China); [Fei You](#) and [Caoyu Li](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-7: Synthetic Aperture Radar Surveillance Of Conveyed Materials At 144 GHz**

[Jonas Wagner](#), [Ilona Rolfes](#) and [Jan Barowski](#) (Ruhr-Universität Bochum, Germany)

**IF-8: Admittance Extraction of Loaded Grid Power Distribution Network with Arbitrary Shapes**

[Shi Yao](#) and [Xing-Chang Wei](#) (Zhejiang University, P.R. China)

**IF-9: A 15-43.5 GHz Switched-Bit Phase Shifter for 5G Mobile Handsets**

[Eduardo Anjos](#) and [Dominique Schreurs](#) (KU Leuven, Belgium); [Guy Vandenbosch](#) (Katholieke Universiteit Leuven (KU Leuven), Belgium); [Marcel Geurts](#) (NXP Semiconductors, The Netherlands)

**IF-10: Research on 330GHz Subharmonic Mixer Based on Global Design Method**

[Huali Zhu](#), [Yong Zhang](#), [Quan Zheng](#), [Zhenyu Feng](#), [Ruimin Xu](#) and [Bo Yan](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-11: Design of a Planar Wideband Bandstop Filter with High Insertion Loss**

[Ching-Wen Tang](#), [Chieh-Hsuan Yang](#) and [Cheng-Han Wu](#) (National Chung Cheng University, Taiwan)

**IF-12: Development of the ultrathin microwave absorber composed of soft material**

[Ryoma Take](#) and [Yoshinobu Okano](#) (Tokyo City University, Japan); [Kazuhiro Noda](#) (GUNZE LIMITED, Japan)

**IF-13: A High-Gain Continuous Class-F Power Amplifier in 90-nm CMOS for 5G Communication**

[Zhi-Jia Huang](#), [Bo-Wei Huang](#), [Kun-Yao Kao](#) and [Kun-You Lin](#) (National Taiwan University, Taiwan)

**IF-14: Radiation Pattern Reshaping of High-order TM12 Mode and Its Application in Dual-band Design**

[Zhong-xun Liu](#) and [Lei Zhu](#) (University of Macau, Macao)

**IF-15: Systematic Design of a 1-W DC-6 GHz Distributed Amplifier in 0.25- $\mu$ m GaAs pHEMT Technology**

[Cha Liu](#) (University of Electronic Science and Technology of China, P.R. China); [Fanyi Meng](#) and [Kaixue Ma](#) (Tianjin University, P.R. China); [Shanshan Xu](#) and [Shouxian Mou](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-16: A Coherent 7 - 9 GHz CMOS UWB Radar Transceiver for Human Detection Application**

[Jun Young Yoo](#) (Kwangwoon University, Korea); [Sang Gyun Kim](#) and [Seung Hwan Jung](#) (Silicon R&D, Korea); [Yun Seong Eo](#) (Kwangwoon University, Korea)

**IF-17: Passive Radar for low Doppler targets detection using background estimation and subtraction**

[Lu Zhang](#) (University of Queensland, Australia); [Konstanty S Bialkowski](#) (The University of Queensland, Australia)

**IF-18: Phaseless Far-Field Gain Measurement of Circularly-Polarized Antennas Using Artificial Anisotropic Polarizers**

[Chen Ding](#) (City University of Hong Kong, P.R. China); [Wing Chi Mok](#), [Ka Fai Chan](#) and [Kwai-Man Luk](#) (City University of Hong Kong, Hong Kong)

**IF-19: A 1.2-V Triple-Mode Low-Power Receiver Front-End for 900-MHz SRD-Band Applications**

[Tim Schumacher](#) (Johannes-Kepler-Universität, Austria); [Thomas Faseth](#) and [Harald Pretl](#) (Johannes Kepler Universität, Austria)

**IF-20: Generalized Topology and Synthesis Design of Balanced Wideband Phase Shifters With Common-Mode Suppression**

[Lei-Lei Qiu](#) (University of Macau, P.R. China); [Lei Zhu](#) (University of Macau, Macao); [Yun-Peng Lyu](#) (Nanjing University of Posts and Telecommunications, P.R. China)

**IF-21: A Compact Wilkinson Power Divider with Negative Group Delay and Low Signal Attenuation**

[Zhongbao Wang](#), [Zheng Fu](#), [Shaojun Fang](#) and [Hongmei Liu](#) (Dalian Maritime University, P.R. China)

**IF-22: Composite L-Type TL for Spurious Band Suppression in Dual-Band Power Divider Studies**

[Fu-Xing Liu](#), [Xiao-Yu Zhang](#), [Chun-He Quan](#) and [Jong-Chul Lee](#) (Kwangwoon University, Korea)

**IF-23: An Automatic Design Approach for Microstrip Line Impedance Transformer for Triple-Band Application**

[Rusan Kumar Barik](#) and [Qingsha Cheng](#) (Southern University of Science and Technology, Shenzhen, P.R. China); [Karthikeyan Sholampettai Subramanian](#) (National Institute of Technology Tiruchirappalli, India)

**IF-24: Design and Implementation of 5.8 GHz LC Bandpass Filter in 0.18  $\mu$ m HR-SOI Technology**

[Venkata Narayana Rao Vanukuru](#) (Globalfoundries, India)

**IF-25: Compact Microstrip Wideband Bandpass Filter Using Open- And Short-Circuited Stubs With Improved Stopband Response**

[Ruei-Yi Chen](#), [Chi-Feng Chen](#), [Guo-Yun Wang](#), [Kai-Wei Zhou](#) and [Yi-Hua He](#) (Tunghai University, Taiwan)

**IF-26: GaN-based SSD structure for THz applications**

[Manvi Agrawal](#) (School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore); [Dharmarasu Nethaji](#) (Temasek Laboratories@NTU, Nanyang Technological University); [K Radhakrishnan](#) (School of Electrical and Electronic Engineering, Nanyang Technological University); [Christophe Gaquiere](#), [Guillaume Ducournau](#) and [Marie Lesecq](#) (IEMN, University of Lille, France); [Javier Mateos](#), [Tomás González](#), [Ignacio Iñiguez-de-la-Torre](#), [Sergio García](#) and [Susana Pérez](#) (University of Salamanca, Spain)

**IF-27: A Vector Sum Phase Shifter with Active PPF using Transconductance of Transistors**

[Akihito Hirai](#), [Takanobu Fujiwara](#), [Kazutomi Mori](#), [Masaomi Tsuru](#) and [Mitsuhiro Shimozawa](#) (Mitsubishi Electric Corporation, Japan)

**IF-28: Dual-Gate Switch-HEMT Large-Signal Modeling**

[ZhiFu Hu](#) (Tianjin University, P.R. China); [Yuan Tao](#) (University of Electronic Science and Technology of China, P.R. China); [MeiLin He](#) and [YaNan Liu](#) (Hebei Semiconductor Research Institute, P.R. China); [Qijun Zhang](#) (Carleton University, Canada)

**IF-29: Small-Signal Modeling of mm-Wave MOSFET up to 110 GHz in 22nm FDSOI Technology**

[Quang Huy Le](#) (Fraunhofer IPMS & Brandenburg University of Technology, Germany); [Dang Khoa Huynh](#) (Fraunhofer IPMS, Germany); [Defu Wang](#) (Fraunhofer Institute for Photonic Microsystems, Germany); [Thomas Kämpfe](#) (Fraunhofer IPMS, Germany); [Matthias Rudolph](#) (Brandenburg University of Technology, Germany)

**IF-30: A 1.2V, 0.6-dB NF, CMOS Low Noise Amplifier with Current-Reuse Broadband Output Stage**

[Daniel Christos Schrögendorfer](#) and [Thomas Leitner](#) (Infineon Technologies AG, Austria); [Harald Pretl](#) (Johannes Kepler Universität, Austria)

**IF-31: The New Variant of Super Reltron High Power Microwave Oscillator**

[Prabhakar Tripathi](#) (Indian Institute Of Technology BHU, India); [Arjun Kumar](#) (Indian Institute Of Technology (IIT) Varanasi, India); [Smrity Dwivedi](#) (Indian Institute of Technology, BHU, Varanasi, (India), India); [Pradip Jain](#) (Indian Institute of Technology (IIT) BHU, India)

**IF-32: Elliptical UWB Monopole Antenna with Low cross Polarization using Non-Concentric slotted Open-ended rings**

[G Shrikanth Reddy](#) (IIT Mandi, India)

**IF-33: A Wideband High Gain Circularly Polarized Antenna for Satellite Applications**

[N Nasimuddin](#) and [Xianming Qing](#) (Institute for Infocomm Research, Singapore)

**IF-34: A Circularly Polarized Antenna Element Based on Open-ended Waveguide**

[Ningxin Mao](#) (UESTC, P.R. China)

**IF-35: Millimeter-wave Magneto-electric Dipole Antenna**

[Jingtao Zeng](#) and [Kwai-Man Luk](#) (City University of Hong Kong, Hong Kong)

**IF-36: Randomly Arranged Scatterers Monte-Carlo Simulation for a Large-Scale MIMO Antenna**

[Taiki Fukushima](#) (University of Toyama, Japan); [Nana Narukawa](#) (Toyama University, Japan); [Koichi Ogawa](#) (University of Toyama & Faculty of Engineering, Japan); [Kazuhiro Honda](#) (University of Toyama, Japan)

**IF-37: Overcome the Limitations of Performance Parameters of On-Chip Antennas Based on Metasurface and Coupled Feeding Approaches for Applications in System-on-Chip for THz Integrated-Circuits**

[Mohammad Alibakhshikenari](#) (Università degli Studi di Roma "Tor Vergata", Roma - ITALY, Italy); [Bal Virdee](#) (London Metropolitan University, United Kingdom (Great Britain)); [Chan H. Hwang See](#) (Edinburgh Napier University, United Kingdom (Great Britain)); [Raed A Abd-Alhameed](#) (University of Bradford, United Kingdom (Great Britain)); [Francisco Falcone](#) (Universidad Publica de Navarra, Spain); [Ernesto Limiti](#) (University of Rome Tor Vergata, Italy)

**IF-38: RCS and Side Lobe Reduction for OAM Vortex Beam of Antenna Array Using EBG Structures**

[Wengqing Xie](#) (A-INFO Inc., P.R. China)

**IF-39: A Design of 94GHz Millimeter Wave Individual Soldier Array Antenna**

[Jinghui Qiu](#), [Xiaoxue Guo](#) and [Shuang Qiu](#) (Harbin Institute of Technology, P.R. China); [Nannan Wang](#) (Harbin Institute of Technology, P.R. China)

**IF-40: Coupling Impedance/admittance of Characteristic Modes of Two Coupled Antennas: Extraction and Verification**

[Jiang-Feng Lin](#) and [Lei Zhu](#) (University of Macau, Macao)

**IF-41: Improved Design of a Narrowband 3-Channel Monopulse Reflector Feed**

[Kwok K Chan](#) (Chan Technologies Inc., Canada)

**IF-42: The Design of S band Low Sidelobe Rectangular Waveguide Slots Phased Arrays Antenna**

[Zhengxin Fang](#) (ECRIEE, P.R. China)

**IF-43: Switch Deployment Optimization of Pattern Reconfigurable Antenna with Massive Switches**

[Congxiang Li](#) (Northwestern Polytechnical University, P.R. China)

**IF-44: On-wafer Non-fifty Ohm X-parameter Model Verification Measurement System for Active Device**

[Hsu-Feng Hsiao](#), [Chih-Ho Tu](#), [Hann-Huei Tsai](#) and [Ying-Zong Juang](#) (Taiwan Semiconductor Research Institute (TSRI), National Applied Research Laboratories (NARL))

**IF-45: Full-Solid Angle Angle-of-Arrival Estimation Using the Phase Reversal Weighting Method**

[Nana Narukawa](#) (Toyama University, Japan); [Koichi Ogawa](#) (University of Toyama & Faculty of Engineering, Japan)

**IF-46: Development of the tagged test tube location detector with the matrix-like fabricated microstrip line**

[Shinji Matsuoka](#) (Tokyo City University, Japan); [Atsuya Kadono](#) (Tokyo City University Graduate School, Japan); [Yuki Toriya](#) and [Yoshinobu Okano](#) (Tokyo City University, Japan)

**IF-47: Material Parameter Extraction in THz Domain, Simplifications and Sensitivity Analysis**

[Alireza Kazemipour](#) (METAS - Switzerland, Switzerland); [Martin Hudlička](#) (Czech Metrology Institute, Czech Republic)

**IF-48: Wideband measurement of impulsive magnetic field caused by micro-gap ESD using a shielded loop probe**

[Kento Kato](#) and [Ken Kawamata](#) (Tohoku Gakuin University, Japan); [Shinobu Ishigami](#) (Tohoku Gakuin Univ, Japan)

**IF-49: RF Switch Linearization via Envelope Tracking**

[Yu Zhu](#), [Alex Klimashov](#) and [Dylan Bartle](#) (Skyworks, USA); [Paul DiCarlo](#) (Skyworks Solutions, USA)

**IF-50: The basic study on the security camera loading to the glass with wireless power transmission technology**

[Ryota Ohata](#) and [Yoshinobu Okano](#) (Tokyo City University, Japan)

**IF-51: Stacked Microstrip Antennas on Thin Dielectric Substrate for Power Harvesting Applications**

[Hina Yadav](#) and [Sheetal Yadav](#) (University of Delhi, India); [KP Ray](#) (DIAT, Pune, India); [Mridula Gupta](#) (Semiconductor Device Research Laboratory, India)

Wednesday, December 11 16:00 – 18:00

W3-2: High Power Devices (1)

Room: Melati 4011

**16:00 Multicarrier Multipactor Analysis for High-power Passive Microwave Devices**

[Xinbo Wang](#) (China Academy of Space Technology(Xi'an), P.R. China); [Wanzhao Cui](#) (China Academy of Space Technology Xi'an, P.R. China); [Ming Yu](#) (Chinese University of Hong Kong, Hong Kong)

**16:30 GaN/Si Ka-band SPDT for observation payloads**

[Giorgio Polli](#) (University of Rome Tor Vergata, Italy); [Patrick Ettore Longhi](#) (University of Roma Tor Vergata, Italy); [Sergio Colangeli](#) (University of Rome Tor Vergata, Italy); [Silvio Fenu](#) and [Ferdinando Costanzo](#) (University of Roma Tor Vergata, Italy); [Walter Ciccognani](#) (Università of Rome Tor Vergata, Italy); [Ernesto Limiti](#) (University of Rome Tor Vergata, Italy)

**16:45 A Dual Band Gysel Power Divider with Wide Band Ratio**

[Aijaz Zaidi](#) (Jamia Millia Islamia, Delhi, India); [Binod Kanaujia](#) (Jawaharlal Nehru University, India); [Mirza Tariq Beg](#) (Jamia Millia Islamia New Delhi, India); [Vikrant Kaim](#) (Jawaharlal Nehru University, India); [Mainuddin Mainuddin](#) (Jamia Millia Islamia, India)

**17:00 Efficiency Enhancement of GaN Doherty Power Amplifier at Large Power Back-Off with Virtual Short Stub Technique**

[Satoru Honda](#), [Shuichi Sakata](#), [Yuji Komatsuzaki](#) and [Shintaro Shinjo](#) (Mitsubishi Electric Corporation, Japan)

**17:15 Large-Signal Characterization of Power FinFETs Based on X-Parameter Model**

[Kun-Ming Chen](#) (Taiwan Semiconductor Research Institute, Taiwan); [Zhi-Xin Yang](#) and [Hsin-Hui Hu](#) (National Taipei University of Technology, Taiwan); [Ting-Yi Tsai](#), [Bo-Yuan Chen](#) and [Chia-Wei Chuang](#) (Taiwan Semiconductor Research Institute, Taiwan); [Chia-Sung Chiu](#) (Taiwan Semiconductor Research Institute, Taiwan); [Guo-Wei Huang](#) (Taiwan Semiconductor Research Institute, Taiwan)

**17:30 An intra-expansion trap surface suppress multipactor**

[Guobao Feng](#) (China Academy of Space Technology, P.R. China)

**17:45 A High Power Integrated Passive Frontend**

[Tao Ba](#) and [Letian Guo](#) (Northwest Institute of Nuclear Technology, P.R. China); [Kaijun Song](#) (University of Electronic Science and Technology of China, P.R. China)

W3-3: Passive Components (1)

Room: Melati 4111

**16:00 S-Parameter Characterization of Nonuniform Microstrip Lines via Perturbative Technique**

[Xiaokang Liu](#), [Flavia Grassi](#), [Giordano Spadacini](#) and [Sergio A Pignari](#) (Politecnico di Milano, Italy)

**16:30 Multi-isolation Resistors in Coupled Line Section for Wilkinson Power Divider and Its Optimization**

[Xiaolong Wang](#) (Jilin University, P.R. China); [Zhe Wang Ma](#) and [Masataka Ohira](#) (Saitama University, Japan); [Chun-Ping Chen](#) (Kanagawa University, Japan)

**16:45 A Compact Balanced Filtering Crossover with Wide Stopband Rejection**

[Chia-I Lu](#) and [Yi-Hsin Pang](#) (National University of Kaohsiung, Taiwan)

**17:00 A Power Divider Utilizing Stepped Impedance Transformers For Real/Complex Port Terminations**

[Rahul Gupta](#) (IIIT Delhi, India); [Vikas V Singh](#) (IIIT-Delhi, India); [Mohammad Hashmi](#) (Nazarbayev University, Kazakhstan & IIIT Delhi, India)

**17:15 High Frequency Spiral RF Termination**

[Moamer Hasanovic](#) and [Michael Kettner](#) (Smiths Interconnect Inc., USA)

**17:30 Investigation of the Structural Mode of Scattering of a Dielectric Resonator**

[Ali Alhaj Abbas](#) (Duisburg-Essen University, Germany); [Mohammed El-Absi](#) (University of Duisburg-Essen, Germany); [Ashraf Abuelhaija](#) (Applied Science Private University, Jordan); [Klaus Solbach](#) (UDE, Germany); [Thomas Kaiser](#) (Universität Duisburg-Essen, Germany)

**17:45 Wideband Characterization of Specific Polymers for Novel MID Antenna Applications**

[Gildas Bengloan](#) (University of Nantes IETR & LACROIX Electronics Solutions, France); [Anne Chousseaud](#) (unkown, France); [Bruno Froppier](#) (University of Nantes, France); [Eduardo Motta Cruz](#) (Université de Nantes IETR, France); [Heba El-Shaarawy](#) (LACROIX Electronics Solutions, France)

W3-4: Power Amplifiers (1)

Room: Orchid 4211

**16:00 Gate-Lag Characterization for GaN HEMT-Based Power Amplifier Modeling**

[Jose Pedro](#) (Instituto de Telecomunicações - Universidade de Aveiro); [Luis Nunes](#) (Universidade de Aveiro - Instituto de Telecomunicações, Portugal); [João L. Gomes](#) (Instituto de Telecomunicações - Universidade de Aveiro)

**16:30 Pulse-Modulated Polar Transmitter Technology for High-Efficiency Linear Power Amplification**

[Yi-Jan Emery Chen](#) (National Taiwan University, Taiwan)

**17:00 New Architecture Elements for 5G RF Front End Modules**

[Florinel Balteanu](#) (Skyworks Solutions, USA)

**17:15 Harmonic-Tuned High-Efficiency GaN HEMT Doherty Power Amplifier Based on Two-Power-Level Impedance Optimization**

[Takuya Seshimo](#) and [Yoichiro Takayama](#) (The University of Electro-Communications, Japan); [Ryo Ishikawa](#) (The University of ElectroCommunications, Japan); [Kazuhiko Honjo](#) (The University of Electro-Communications, Japan)

**17:30 A W-band Diode-Based Analog Predistortion Linearizer for Traveling Wave Tube Amplifiers**

[Zhifei Qin](#), [Lei Xia](#), [Shengyang Lv](#) and [Bin Kong](#) (University of Electronic Science and Technology of China, P.R. China)

**17:45 1.2V sub-2dB NF Quasi-differential Wideband LNA using Complementary Post-distortion**

[Hari Kishore K](#) (National Institute of Technology, Tiruchirappalli, India); [B Venkataramani](#) (NIT - Trichi, India)

W3-5: Microwave Biomedical applications (1)

Room: Orchid 4212

**16:00 Batteryless Wireless Implants for Closed-loop Symptom Control**

[Jung-chih Chiao](#) (Southern Methodist University, USA)

**16:30 Microwave Doppler Radar with Self-Injection-Locking Technology for Biomedical Applications**

[Tzyy-Sheng Jason Horng](#) (National Sun Yat-sen University, Taiwan)

**17:00 Innovative Methodologies for Chest Medical Imaging**

[Marco Salucci](#) (ELEDIA Research Center, Italy); [Federico Boulos](#) (ELEDIA@UniTN - DISI, University of Trento, Italy); [Maokun Li](#) (Tsinghua University, P.R. China); [Giulia Mansutti](#) (Università degli Studi di Padova, Italy); [Davide Marcantonio](#) (ELEDIA Research Center, Italy); [Andrea Massa](#) (University of Trento, Italy)

**17:15 A Microwave Perturbation-Injection-Locked Sensor for Wrist Pulse Detection**

[Cheng-Zhou Wu](#) and [Chao-Hsiung Tseng](#) (National Taiwan University of Science and Technology, Taiwan)

**17:30 A Compact Base Station System for Biotelemetry and Wireless Charging of Biomedical Implants**

[Wonseok Lee](#), [Joonseong Kang](#) and [Jaechun Lee](#) (Samsung Advanced Institute of Technology, Korea); [Young-Jun Hong](#) (Samsung Electronics Co., Ltd. & Samsung Advanced Institute of Technology, Korea); [Junyeub Suh](#) and [Sang Joon Kim](#) (Samsung Advanced Institute of Technology, Korea)

**17:45 A Sensor Based on Complementary Split Ring Resonator of Fractal Geometry for Glucose Monitoring at Microwave Frequencies**

[Greeshmaja Govind](#) and [Mohammad Jaleel Akhtar](#) (Indian Institute of Technology Kanpur, India)

W3-6: Filters (1)

Room: Orchid 4311

**16:00 Design of a CRLH CPW Wideband Filter Operating in the VHF Band with Flexible Thin Substrate**

[Changhyeong Lee](#), [Heejun Park](#) and [Gwang-Gyun Namgung](#) (Incheon National University, Korea); [Yejune Seo](#) (Inchoen National University, Korea); [Sungtek Kahng](#) (University of Incheon, Korea)

**16:30 A Compact Quad-band Bandpass Filter Based on Dual-mode Isosceles Right-Angled Triangular Resonator**

[Qiao Zhang](#), [Qingyuan Zhang](#), [Lingyun Zhou](#) and [Chang Chen](#) (University of Science and Technology of China, P.R. China); [Weidong Chen](#) (University of Science & Technology of China, P.R. China)

**16:45 A Preconditioner for Synthesizing Dispersive Bandpass Filters Using Isospectral Flow Method**

[Yan Zhang](#) and [Ke-Li Wu](#) (The Chinese University of Hong Kong, Hong Kong); [Fabien Seyfert](#) (FACTAS, INRIA, France)

**17:00 Principle Demonstration of a Mechanically Tunable UHF Bandpass Filter Based on SIR Coaxial Resonators**

[Eric Rius](#) (Lab-STICC/Université de Brest, France); [Jean François Favennec](#) (Lab-STICC/ENIB, France); [Alexandre Manchec](#) (Elliptika, France); [Jessica Benedicto](#) (Lab-STICC - UBO Brest, France); [Fabien Le Borgne](#) and [Kilian Donnart](#) (Elliptika, France); [Ludovic Carpentier](#) (Centre National d'Etudes Spatiales, France)

**17:15 A Novel Canonical Triband Substrate Integrated Waveguide Bandpass Filter**

[Kenneth S. K. Yeo](#) (Universiti Teknologi Brunei, Brunei Darussalam)

**17:30 A Compact Split-Type Quad-Band Filter Based on Open- and Short-Circuited Stepped-Impedance Resonators With Flexible Passband Allocation**

[Kai-Wei Zhou](#), [Chi-Feng Chen](#), [Ruei-Yi Chen](#) and [Yi-Hua He](#) (Tunghai University, Taiwan)

**17:45 Design of a dual-band rejection filter based on spoof surface plasmon polaritons and its conversion from lower frequency band to higher band**

[Asad Aziz](#), [Hao Zhang](#) and [Tie Jun Cui](#) (Southeast University, P.R. China)

W3-7: THz / mm-wave Applications

Room: Orchid 4312

**16:00 Spectrum regulation above 275 GHz**

[Hiroyo Ogawa](#) (National Institute of Information and Communications Technology, Japan)

**16:30 PIC Simulation of a Periodically Dielectric Loaded Millimeter Wave Gyro-twystron Amplifier**

[Shyam Gopal Yadav](#) and [Anshu Sharan Singh](#) (Indian Institute of Technology (BHU), India); [Thottappan M](#) (IIT (BHU), India)

**16:45 A 16/32 Gb/s Dual-Mode Transmitter with Eye Level Pre-Distortion in 22nm CMOS FDSOI**

[Jing Jin](#), [Li Ding](#), [Bo Xie](#) and [Jianjun Zhou](#) (Shanghai Jiao Tong University, P.R. China)

**17:00 Microwave system with sensor utilizing CuO-based gas-sensitive layer for acetone detection**

[Artur Rydosz](#), [Kamil Staszek](#), [Krzysztof Wincza](#) and [Sławomir Gruszczynski](#) (AGH University of Science and Technology, Poland)

**17:15 Obstacle detection with MIMO 60 GHz radar for fall prevention**

[José G Argañarás](#), [Yan Wong](#) and [Gita Pendharkar](#) (Monash University, Australia); [Rezaul Begg](#) (Victoria University, Australia); [Nemai Karmakar](#) (MONASH University, Australia)

**17:30 Highly-Integrated Radar Transceiver with 2 TX and 4 RX Channels for Range, Azimuthal and Polar Angle Measurements**

[Herman J Ng](#) and [Wael Abdullah Ahmad](#) (IHP, Germany); [Dietmar Kissinger](#) (Ulm University, Germany)

**17:45 Analytical Drain-current Model for RF Flexible Graphene Filed-Effect Transistors**

[Yan Wang](#) (University of Electronic Science and Technology of China, P.R. China)

## Thursday, December 12

Thursday, December 12 8:30 – 10:15

T1-2: Wireless Communication Systems

Room: Melati 4011

**8:30 A 120 GHz Wireless Radio Link for High-speed Chip-to-Chip Communication**

[Seung Hun Kim](#), [Dongmin Kang](#) and [Tae Hwan Jang](#) (Korea Advanced Institute of Science and Technology, Korea); [Chae Jun Lee](#) and [Hyuk Su Son](#) (Samsung Electronics, Korea); [Chul Soon Park](#) (Korea Advanced Institute of Science and Technology (KAIST), Korea)

**9:00 A Semi-Virtual Measurement Platform for Investigation of Car-to-Car/Car-to-X Multi-Antenna-System Performance at 5.9 GHz**

[Anton Dobler](#) (Universität der Bundeswehr, Germany); [Olha Voitsun](#) (Universität der Bundeswehr München & Faculty of Electrical Engineering and Information Technology, Germany); [Stefan Lindenmeier](#) (Universität der Bundeswehr, Germany)

**9:15 Interference Suppression by Selecting Full Duplex Passive Relays for Spectrum Sharing System**

[Riku Ohmiya](#) (NTT Cooperation, Japan); [Tomoki Murakami](#) and [Koichi Ishihara](#) (NTT Corporation, Japan); [Takafumi Hayashi](#) (NTT Cooperation, Japan); [Yasushi Takatori](#) (NTT Network Innovation Laboratories, Japan)

**9:30 Performance Comparison of Channel Estimation Algorithms Based on Near-Field Signal Model**

[Hongmin Zhao](#) (Beijing University of Posts and Telecommunications, P.R. China); [Huaqiang Gao](#) (Beijing University of Post and Telecommunication, P.R. China); [Weimin Wang](#) (Beijing University of Posts and Telecommunications, P.R. China)

**9:45 Verifying the Performance of a Correlation-Based Channel Sounder in the 3.5 GHz Band with a Calibrated Vector Network Analyzer**

[Jeffrey Jargon](#) (National Institute of Standards and Technology, USA); [Jeanne Quimby](#), [Kate A. Remley](#), [Amanda Koepke](#) and [Dylan Williams](#) (NIST, USA)

**10:00 Investigation of Cross Modulation for SC-FDMA Signals in Radio over Fiber Mobile Link**

[Fito Wigunanto Herminawan](#) (NAIST Japan, Japan & BPPT, Indonesia); [Takeshi Higashino](#) (Nara Institute of Science and Technology & Graduate School of Science and Technology, Japan); [Minoru Okada](#) (Nara Institute of Science and Technology, Japan)

T1-3: Metamaterials and Metasurface (2)

Room: Melati 4111

**8:30 The Fundamental Phase Limit in Surface Electromagnetics**

[Fan Yang](#) (Tsinghua University, P.R. China)

**9:00 Hyperbolic metasurfaces for extraordinary transmission**

[Atsushi Sanada](#) (Osaka University, Japan)

**9:30 An Ultra-Wideband Bandpass Frequency Selective Structure Based on Hybrid Multimode Resonators**

[Hanxuan Li](#) (Nanjing University of Posts and Telecommunications, P.R. China); [Bo Li](#) (NJUPT, P.R. China); [Lei Zhu](#) (University of Macau, Macao)

**9:45 Analysis of Conformal Circular Array for the Design of mm-Wave Beam Steering Antenna with Substrate Integrated Frequency Selective Structure**

[Wenyao Zhai](#) (Huawei Technologies Canada Research Center, Canada); [Halim Boutayeb](#) (Huawei Technologies, Canada); [Morris Repeta](#) (Huawei Technologies Canada Research Center, Canada); [Fayez Hyjazie](#) (Huawei Technologies Co. Ltd., Canada); [Wen Tong](#) (Huawei Technologies Canada Co., Ltd., Canada)

**10:00 Polarization-Insensitive Switchable Frequency-Selective Resorber/Absorber**

[Saptarshi Ghosh](#) (Indian Institute of Technology Indore, India)

T1-4: RF and Microwave ICs (1)

Room: Orchid 4211

**8:30 A Transformer-based Injection-Locked Frequency Divider in 65-nm CMOS Technology**

[Cao Wan](#) (South China University of Technology, P.R. China); [Liang Wu](#) (The Chinese University of Hong Kong, Shenzhen, P.R. China); [Wenquan Che](#), [Quan Xue](#) and [Linping Feng](#) (South China University of Technology, P.R. China)

**8:45 Linearity-enhanced Dual-power-mode CMOS RF Power Amplifier Design Using Post-distortion**

[Chenxi Zhai](#) (The Chinese University of Hong Kong, Hong Kong); [Kwok-keung \(Michael\) Cheng](#) (Chinese University of Hong Kong, Hong Kong)

**9:00 A X-band 20W Power Amplifier MMIC with 50% Bandwidth Using 6-inch GaN Technology**

[Gang Yu](#), [Linyuan Gong](#), [Jiaqi Zhang](#), [Yunqiu Wu](#) and [Yuehang Xu](#) (University of Electronic Science and Technology of China, P.R. China)

**9:15 Study on Broadband All-Pass Networks Phase Shifter MMIC**

[Ryota Komaru](#), [Masatake Hangai](#), [Shinichi Miwa](#), [Yoshihiro Tsukahara](#) and [Shintaro Shinjo](#) (Mitsubishi Electric Corporation, Japan)

**9:30 Adaptive Analog Self-Interference Cancellation for In-band Full-Duplex Wireless Communication**

[In-sung Ahn](#), [Ji-seong Kim](#) and [Ho-Jin Song](#) (POSTECH, Korea)

**9:45 Micro-fabricated Microwave Resonator-Based High-Performance Detection of Ethanol in Nanoliter Sample Volumes**

[Cong Wang](#) (Kwangwoon University, Korea); [Kishor Adhikari](#) (Harbin Institute of Technology, Nepal)

**10:00 Frequency Divider Using Hybrid Transformer-based and Resistively Distributed Resonator**

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

T1-5: SS: Antennas/Arrays Circuits/Systems

Room: Orchid 4212

**8:30 Composite Multifunctional Structures for Integration of Electromagnetic Systems**

[Kamran Ghorbani](#) (RMIT University, Australia)

**9:00 Research of Beam Optimization for Multiple Feeds per Beam (MFB) Antennas Based on Genetic Algorithm**

[Zhang Long](#) (CAST'Xian, P.R. China)

**9:15 Ultra-wideband transmitarray antennas design based on ultrathin polarization conversion elements**

[Jia-Ning Yin](#) (WuHan University, P.R. China); [Yun-hua Zhang](#) (School of Electronic Information, Wuhan University, P.R. China); [Gu-Ying Deng](#) and [Ru-Meng Chen](#) (WuHan University, P.R. China); [Hai-Tao Chen](#) (Wuhan Maritime Communication Research Institute, P.R. China)

**9:30 Integrated Reflectarray at Millimeter-wave and Terahertz Frequencies**

[Yizhu Shen](#) and [Jiawei Yang](#) (Southeast University, P.R. China); [Wenbin Dou](#) (Southeast University & State Key Of MMW, Southeast University, P.R. China); [Sanming Hu](#) (Southeast University, P.R. China)

**9:45 A Magnetolectric Dipole Leaky-Wave Antenna for Open Stopband Suppression**

[Qing Zhang](#), [Xiaohe Cheng](#) and [Yuan Yao](#) (Beijing University of Posts and Telecommunications, P.R. China)

**10:00 Circularly Polarized Retrodirective Array for Far-Field Wireless Power Transfer**

[Jiacheng Guo](#), [Jun Wang](#) and [Sanming Hu](#) (Southeast University, P.R. China)

T1-6: 5G Systems

Room: Orchid 4311

**8:30 The Role of Roadmaps for IEEE Future Networks - 5G and Beyond Initiative**

[Tim Lee](#) (IEEE MTT-S, USA)

**9:00 93-GHz Experiments with Phased Array Antenna in Anechoic Chamber for 5G Evolution and Beyond**

[Masashi Iwabuchi](#) (NTT, Japan); [Jun Tsuboi](#), [Yuki Hokazono](#) and [Yoshihisa Kishiyama](#) (NTT DOCOMO, INC., Japan); [Pekka J Wainio](#) (Nokia Bell Labs, Finland); [Mike Zierdt](#) and [Michael Holyoak](#) (Nokia Bell Labs, USA); [James Kepler](#) (Nokia Networks, USA); [Shahriar Shahramian](#) (Nokia Bell Labs, USA); [Phil Rasky](#) (Nokia Bell Labs, Japan); [Rob Nikides](#) (Nokia Bell Labs, USA); [Amitava Ghosh](#) (Nokia, USA)

**9:15 5G Radio Access Experiments on Coverage Expansion Using Metasurface Reflector at 28 GHz**

[Daisuke Kitayama](#), [Daisuke Kurita](#), [Kensuke Miyachi](#) and [Yoshihisa Kishiyama](#) (NTT DOCOMO, INC., Japan); [Shoji Itoh](#) (Ericsson Japan, Japan); [Tetsuro Tachizawa](#) (Intel K. K., Japan)

**9:30 Multi-Band 8-Antenna Array for Sub-6 GHz MIMO Applications in 5G Mobile Handset**

[Shu-Min Liao](#) and [Guan-Long Huang](#) (Shenzhen University, P.R. China)

**9:45 Wideband Dipole Antenna and Array Based on Liquid Crystal Polymer for 5G Applications**

[Shengjie Wu](#) (Shenzhen Sunway Communication Co., Ltd., P.R. China); [Anping Zhao](#) (Huami (Shenzhen) Information Technology Co., Ltd, P.R. China); [Yue Zhao](#) (Shenzhen Sunway Communication Co., Ltd, P.R. China)

**10:00 Highly Integrated Ka-Band Frontend Module for SATCOM and 5G**

[Winfried Simon](#) (IMST GmbH, Germany); [David Schaefer](#) (IMST & Antennas & EM Modelling, Germany); [Simona Bruni](#), [Marta Arias Campo](#), [Oliver Litschke](#), [Simon Otto](#) and [Sybille Holzwarth](#) (IMST GmbH, Germany)

T1-7: Antenna Design and Applications (2)

Room: Orchid 4312

**8:30 Optimality Concepts and Solutions in Next-Generation Antenna Arrays**

[Paolo Rocca](#) (University of Trento, Italy); [Nicola Anselmi](#) (ELEDIA Research Center, Italy); [Federico Boulos](#) (ELEDIA@UniTN – DISI, University of Trento, Italy); [Andrea Massa](#) (University of Trento, Italy)

**9:00 Compact Circularly-Polarized Slot Antenna with Enhanced Impedance and Axial-Ratio Bandwidths**

[Pei-Ling Chi](#) and [Ming-Hui Huang](#) (National Chiao Tung University, Taiwan)

**9:15 Transparent Antenna Film with Ultrafine Wiring**

[Koichi Suzuki](#), [Seiji Take](#) and [Daisuke Matsuura](#) (Dai Nippon Printing Co., Ltd., Japan)

**9:30 Performance Optimization of Profile Conical Horn Antenna using Mirror Image Geometry**

[Jay Gupta](#) (Institute of Technology, Nirma University, India); [Dhaval Pujara](#) (Nirma University, India)

**9:45 Beam Scanning Three-Dimensional Monopulse Antenna for Flying Cars Collision Avoidance**

[Shunya Kitahara](#) and [Nana Narukawa](#) (Toyama University, Japan); [Koichi Ogawa](#) (University of Toyama & Faculty of Engineering, Japan); [Kazuhiro Honda](#) (University of Toyama, Japan)

**10:00 Dual-Band Dual-Circularly Polarized Fabry-Perot Resonator Antennas with Chiral Metamaterial**

[Chun-Ling Chen](#) (Changzhou University, P.R. China)

Thursday, December 12 10:00 – 12:00

T1-1: Interactive Forum 2

Room: Orchid Junior Ballroom

**IF-1: Dual-Frequency Impedance Transformer with Ultra-High Impedance Transformation**

[Rahul Gupta](#) (IIIT Delhi, India); [Olzhas Shaikenov](#), [Sabina Kairatova](#) and [Kassen Dautov](#) (Nazarbayev University, Kazakhstan); [Mohammad Hashmi](#) (Nazarbayev University, Kazakhstan & IIIT Delhi, India)

**IF-2: An In-phase Balanced-to-Single-Ended Power Divider with Bandpass Response**

[Hsin-Yi Liu](#) and [Yi-Hsin Pang](#) (National University of Kaohsiung, Taiwan)

**IF-3: Design of Rectangular Waveguide to Microstrip Power Dividers and their Application as Compact Rectangular Matching Terminations**

[Letian Guo](#) (Northwest Institute of Nuclear Technology, P.R. China); [JiaWei Li](#) (Northwert Institute Of Nuclear Technology, P.R. China); [Kaijun Song](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-4: Harmonic Termination Effects on the Performance of 39-GHz Stacked CMOS Power Amplifiers**

[Matthew Love](#) (Queens University Belfast, United Kingdom (Great Britain)); [Mury Thian](#) (Queen's University Belfast, United Kingdom (Great Britain)); [Floris van der Wilt](#), [Koen van Hartingsveldt](#) and [Kave Kianush](#) (Catena Microelectronics BV, The Netherlands)

**IF-5: A 5.6-GHz Class-DE Power Amplifier with Reduced Voltage Stress in 22-nm FD-SOI CMOS**

[Matthew Love](#) (Queens University Belfast, United Kingdom (Great Britain)); [Mury Thian](#) (Queen's University Belfast, United Kingdom (Great Britain)); [Floris van der Wilt](#), [Koen van Hartingsveldt](#) and [Kave Kianush](#) (Catena Microelectronics BV, The Netherlands)

**IF-6: High Efficient Design of K-Band GaN Power Amplifier with bias optimization for high linearity**

[Takuma Torii](#) (Mitsubishi Electric, Japan); [Masatake Hangai](#) and [Shintaro Shinjo](#) (Mitsubishi Electric Corporation, Japan)

**IF-7: A 0.1 to 5-GHz Mixer using 0.5- $\mu$ m E/D-mode GaAs pHEMT Process**

[Jianquan Hu](#) and [Kaixue Ma](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-8: 4.6dB/5.5dB NF and 6.5dB/21.5dB gain 2 stages and 6 stages 76-81GHz LNAs for radar application in 28nm RF CMOS FD-SOI**

[Raphaël Paulin](#) (STMicroelectronics, France); [Denis Pache](#) (ST Microelectronics, France); [Philippe Cathelin](#) and [Patrice Garcia](#) (STMicroelectronics, France); [Salvo Scaccianoce](#) (STMicroelectronics, Catania, Italy); [Magali De Matos](#) (University of Bordeaux, France)

**IF-9: A SiGe BiCMOS Digital Step Attenuator with Temperature and Phase Compensation for Phased Array System**

[Tiedi Zhang](#), [Binbin Lv](#), [Tao Yang](#) and [Bo Yan](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-10: A Performance Study of Layout in 0.13 $\mu$ m CMOS Power Amplifier for 4G Mobile Front-end Module**

[Shihai He](#) (University of Oulu, Finland); [Fengxiong Peng](#), [Hao Meng](#) and [Yongxue Qian](#) (Beijing Huntersun Electronic Co., Ltd, P.R. China); [Aarno Pärssinen](#) (University of Oulu, Finland)

**IF-11: An E-band GaN Power Amplifier with over 18dB Gain and 33dBm Output Power**

[Ma Erchen](#) (Nanjing Electronic Devices Institute, P.R. China)

**IF-12: The development of a 5-6 GHz limiter integrated with low noise amplifier**

[Dongxin Ni](#) (Nanjing Electronic Devices Institute, P.R. China)

**IF-13: A 28-32GHz CMOS LNA with Broadband Approach for 5G Mm-Wave Communication cells**

[Sandeep Kumar](#), [Vignesh R](#) and [Pradeep Gorre](#) (National Institute of Technology Surathkal Mangalore, India); [Hanjung Song](#) (Inje University, Korea)

**IF-14: A Compact E-Mode GaAs pHEMT Phase Shifter MMIC for 5G Phased-Array Systems**

[Min-Shian Yang](#), [Yu-Ting Lin](#), [Kun-Yao Kao](#) and [Kun-You Lin](#) (National Taiwan University, Taiwan)

**IF-15: A Wideband Cylindrically Conformal Patch Antenna Array with 3D Printed Substrate**

[Yun Fei Qiang](#) (The 38th Research Institute of CETC, P.R. China)

**IF-16: Novel Sectoral Antenna for Compact Multiband Operation**

[Suman Pradhan](#) and [Bhaskar Gupta](#) (Jadavpur University, India)

**IF-17: An Ultra Wideband Vivaldi Antenna Array Based on Tightly Coupled Effect**

[Jialing Xie](#), [Yiping Shi](#), [Chaolong Yi](#) and [Hanqing Qiao](#) (Laboratory on Science and Technology of High Power Microwave Northwest Institute of Nuclear Technology, China); [Xu Fang](#) (Laboratory on Science and Technology of High Power Microwave Northwest Institute of Nuclear Technology, Chin)

**IF-18: Experimental Comparison of Two Printed Monopole Antenna Designs for Microwave Tomography**

[Syed Ahsan](#), [Wei Guo](#), [Olympia Karadima](#) and [Panagiotis Kosmas](#) (King's College London, United Kingdom (Great Britain))

**IF-19: Development of folded Rhombic Antenna without balun for microwave frequency range**

[Kyo Kobayashi](#) and [Toshiya Ishizaki](#) (Tohoku Gakuin University, Japan); [Shinobu Ishigami](#) (Tohoku Gakuin Univ, Japan); [Ken Kawamata](#) (Tohoku Gakuin University, Japan); [Katsushige Harima](#) (National Institute of Information and Communications Technology, Japan)

**IF-20: Compact Printed Dual-Dipole Antenna with a New T-Shaped Feeding Structure for Dual Broadband Operation**

[Chin-Lung Liao](#) and [Shih-Yuan Chen](#) (National Taiwan University, Taiwan)

**IF-21: Hardware Toolkit for Rapid Prototyping of Antenna Tuning Systems**

[Oguzhan Oezdamar](#) (University of Erlangen-Nuremberg, Germany); [Valentyn Solomko](#) (Infineon Technologies, Germany); [Amelie Hagelauer](#) (University of Bayreuth, Germany); [Robert Weigel](#) (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany)

**IF-22: Embedded circularly polarized waveguide antenna based on quartz dielectric**

[Haiyang Yu](#) (Beijing University of Posts and Telecommunications, P.R. China); [Junsheng Yu](#) (University of Electronic Science and Technology of China, P.R. China); [Yuan Yao](#), [Limei Qi](#) and [Zhijiao Chen](#) (Beijing University of Posts and Telecommunications, P.R. China); [Xiaoming Liu](#) (Anhui Normal University, P.R. China); [Xiaodong Chen](#) (Queen Mary University of London, United Kingdom (Great Britain))

**IF-23: Study of MIMO Antenna Made of Transparent Conductive ITO Films**

[Kwok Kan SO](#), [Baojie Chen](#), [Chi Hou Chan](#) and [Kwai-Man Luk](#) (City University of Hong Kong, Hong Kong)

**IF-24: Design of Ultrathin Dual-Directional Partially-Transparent Polarization Independent Metamaterial Absorber**

[Kanwar Preet Kaur](#) (Charotar University of Science and Technology & Chandubhai S. Patel Institute of Technology, India); [Trushit Upadhyaya](#) (Charotar University of Science and Technology, India); [Arokiaswami Alphones](#) (Nanyang Technological University, Singapore)

**IF-25: Narrow Wall Slotted Planar Array Antenna by using Differential Feed at X Band**

[Baisakhi Bandyopadhyay](#) (Jadavpur University, India); [Sayan Chatterjee](#) (Jadavpur University & Jadavpur University, India); [Arijit Majumder](#) (SAMEER, Kolkata Center, India); [Soumyo Chatterjee](#) (Heritage Institute of Technology, India)

**IF-26: Gain Enhancement of a Microstrip Antenna in Close Proximity to a Human**

[Sota Tsuboi](#) (Kanazawa Institute of Technology, Japan); [Keisuke Noguchi](#) (Kanazawa Institute of Technology, Japan)

**IF-27: A High-gain Low-profile Bow-tie-shaped Microstrip Patch Antenna under Dual-mode Resonance**

[Boning Wang](#) and [Deqiang Yang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-28: A Broadband Planar Circularly-Polarized Monopole Antenna**

[Sachin Kumar](#), [Gwan Hui Lee](#) and [Dong Hwi Kim](#) (Kyungpook National University, Korea); [Wahab Mohyuddin](#) (National University of Sciences and Technology, Pakistan); [Hyun Chul Choi](#) and [Kang Wook Kim](#) (Kyungpook National University, Korea)

**IF-29: High-Gain Dipole Antenna using a Double-Sided Dielectric Lens**

[Gwan Hui Lee](#), [Sachin Kumar](#) and [Dong Hwi Kim](#) (Kyungpook National University, Korea); [Wahab Mohyuddin](#) (National University of Sciences and Technology, Pakistan); [Hyun Chul Choi](#) and [Kang Wook Kim](#) (Kyungpook National University, Korea)

**IF-30: Low-Profile Dual-Band Patch Antenna with Improved Bandwidth and Beamwidth By Using Multiresonant Modes**

[Neng-Wu Liu](#) (University of Macau & FST, Macao); [Lei Zhu](#) (University of Macau, Macao)

**IF-31: Miniaturized Design of Cylindrical Conformal Microstrip Array Antenna**

[Jingping Liu](#) (Nanjing University of Science and Technology, P.R. China)

**IF-32: Characterization of ferrite tunability at microwave frequencies: Application to VHF tunable antennas**

[Vassidiki Doumouya](#) (Lab-STICC / University of Brest, France); [Aladdin Kabalan](#) (University of Rennes1, France); [Alexis Chevalier](#) (University of Brest & Lab-STICC UMR CNRS 3192, France); [Jean-Luc Mattei](#) (Université de Bretagne Occidentale, LabSTICC, France); [Anne-Claude Tarot](#) (University of Rennes1, IETR, France); [Christophe Delaveaud](#) (CEA-LETI, France); [Ala Sharaiha](#) (Université de Rennes 1 & IETR, France); [Vincent Laur](#) (Lab-STICC / University of Brest, France)

**IF-33: A Novel Planar Ultra-Wideband Biconical Antenna**

[Prasad Shastry](#), [Pumichat Raksaphaeng](#) and [Gowthami Odeti](#) (Bradley University, USA)

**IF-34: An UWB horizontally polarized omnidirectional antenna array with a series power divider**

[Quoc Duy Nguyen](#) (Viettel High Technology Industries Corporation & Viettel Group, Vietnam); [Tat Thang Nguyen](#), [The Anh Nguyen](#), [Dinh Toai Pham](#) and [Thi Huong Ngo](#) (Viettel High Technology Industries Corporation, Vietnam)

**IF-35: Polarization-Insensitive Ultra Wideband Absorber Based on Resistive Rising Sun-Shaped Metasurface**

[Saurabh Kumar Srivastava](#) (Indian Institute of Technology BHU, India); [B Satyanarayana](#) (Indian Institute of Technology (BHU), India); [Manoj Kumar Meshram](#) (Indian Institute of Technology (BHU) & Banaras Hindu University, India)

**IF-36: Dual-Band Singly Fed Circularly Polarized Elliptical Dielectric Resonator Antenna**

[Hassan Al-Lawati](#) and [Zia Nadir](#) (Sultan Qaboos University, Oman); [Salam Khamas](#) (University of Sheffield, United Kingdom (Great Britain))

**IF-37: A Superdirective Two-Element Parasitic Dipole Antenna**

[Sruthi Dinesh](#) and [Deepti Das Krishna](#) (Cochin University of Science and Technology, India); [Jean-Marc Laheurte](#) (Université de Paris Est Marne La Vallée (UPEMLV), France); [Anandan Ck](#) (Cochin University of Science And Technology, India)

**IF-38: Design of a Double Resonance Sensor for Screening Materials**

[Wenyuan Shi](#) (University of Texas-Arlington, USA); [Dina Miqdadi](#) and [Jung-chih Chiao](#) (Southern Methodist University, USA)

**IF-39: VMD analysis of RF-tagged buried pipes for GPR applications**

[Wenchao He](#), [Tong Hao](#), [Hainan Ke](#) and [Kaiqiang Lin](#) (Tongji University, P.R. China)

**IF-40: A Dual Band Linear to Circular Polarization Converter for Satellite Communication**

[Mohammad Ayoub Sofi](#) and [Kushmanda Saurav](#) (Indian Institute of Technology Jammu, India); [Shiban K Koul](#) (Indian Institute of Technology Delhi, India)

**IF-41: An Accurate, Fast, and Economic Cryogenic Platform for Characterizing High-temperature Superconducting Filters**

[Xinyi Nie](#), [Guangcheng Fan](#) and [Anyong Qing](#) (Southwest Jiaotong University, P.R. China)

**IF-42: MMW Holographic Imaging for Security Check**

[Yang Meng](#) (University of Electronic Science and Technology of China, P.R. China); [Chuan Lin](#), [Jiefeng Zang](#) and [Anyong Qing](#) (Southwest Jiaotong University, P.R. China)

**IF-43: Digitally-Controllable Nonlinear Metasurface**

[Zhangjie Luo](#) (State Key Laboratory of Millimeter Waves, Southeast University, P.R. China); [Yonghong Zhou](#) (China West Normal University, P.R. China); [Tie Jun Cui](#) (Southeast University, P.R. China)

**IF-44: Performance Evaluation of Multiple Human-Body Localization Using Bistatic MIMO Radar**

[Abudusaimi Abuduaini](#), [Nobuyuki Shiraki](#) and [Naoki Honma](#) (Iwate University, Japan); [Takeshi Nakayama](#) and [Shoichi Iizuka](#) (Panasonic Corporation, Japan)

**IF-45: Estimation Method of The Number of Targets Using Cooperative MIMO Radar**

[Nobuyuki Shiraki](#) and [Naoki Honma](#) (Iwate University, Japan); [Takeshi Nakayama](#) and [Shoichi Iizuka](#) (Panasonic Corporation, Japan)

**IF-46: Impact of Anatomical Variability on the Wireless Power Transfer to Intra-Abdominal Implants**

[Shahbaz Ahmed](#) and [Lauri Sydänheimo](#) (Tampere University, Finland); [Leena Ukkonen](#) (Tampere University of Technology, Finland); [Toni Björninen](#) (Tampere University, Finland)

**IF-47: Feature Extraction and Adaption in Micro-Doppler Image Based Concealed Dangerous Object Detection by Millimeter Wave Sensors**

[Zhaoyu Zhang](#) and [Xin Di](#) (Fujitsu Research & Development Center, P.R. China); [Yi Xu](#) (Fujitsu Research and Development Center Co., Ltd, P.R. China); [Lei Li](#) (Fujitsu Research & Development Center, P.R. China); [Jun Tian](#) (Fujitsu R&D Center Co., Ltd., P.R. China)

**IF-48: A Diversity Circuit for Investigation of Multi Antenna Transmission and Reception in Car-to-Car and Car-to-X Communication**

[Olha Voitsun](#) (Universität der Bundeswehr München & Faculty of Electrical Engineering and Information Technology, Germany); [Anton Dobler](#) and [Stefan Lindenmeier](#) (Universität der Bundeswehr, Germany)

**IF-49: A K-band Temperature Compensated Transmitted Power Detector**

[Yu-Teng Chang](#), [Yin-Lin Liu](#) and [Hsin-Chia Lu](#) (National Taiwan University, Taiwan)

**IF-50: Local Road Extraction from SAR Imagery Exploiting Improved Curvilinear Structure Detector**

[Yuxiao Luo](#) (National University of Defense Technology, P.R. China); [Daoxiang An](#), [Wu Wang](#) and [Xiaotao Huang](#) (National University of Defense Technology, P.R. China)

**IF-51: A New GSG Pad Compact Model for Skin and Proximity Effect**

[Ernest Smith Mawuli](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-52: New Trends for Smart EM Environments**

[Marco Salucci](#) (ELEDIA Research Center, Italy); [Federico Boulos](#) (ELEDIA@UniTN - DISI, University of Trento, Italy); [Giulia Mansutti](#) (Università degli Studi di Padova, Italy); [Giacomo Oliveri](#) (University of Trento & ELEDIA Research Center, Italy); [Andrea Massa](#) (University of Trento, Italy)

**IF-53: Exploiting System-by-Design Paradigms for Dealing with Complexity Issues in EM Devices Systems**

[Marco Salucci](#) (ELEDIA Research Center, Italy); [Federico Boulos](#) (ELEDIA@UniTN - DISI, University of Trento, Italy); [Davide Marcantonio](#) (ELEDIA Research Center, Italy); [Giacomo Oliveri](#) (University of Trento & ELEDIA Research Center, Italy); [Paolo Rocca](#) and [Andrea Massa](#) (University of Trento, Italy)

**IF-54: Methanol Poisoning: Non-invasive RF Sensing of Medical and Biomedical Grade Ethanol Purity**

[Nilesh Tiwari](#) (IIT Kanpur, India); [Surya Singh](#) (International Institute of Information Technology Bhubaneswar, India); [Mohammad Jaleel Akhtar](#) (Indian Institute of Technology Kanpur, India)

**IF-55: Supercoupling Effect in Substrate Integrated Waveguide Loaded with Mu-Near-Zero Material and its Potential Application**

[Prashant Kumar Varshney](#) and [Mohammad Jaleel Akhtar](#) (Indian Institute of Technology Kanpur, India)

Thursday, December 12 10:45 – 12:15

T2-2: SS: Wireless Body-Centric Systems

Room: Melati 4011

**10:45 A dual band flexible antenna on AMC ground for wearable applications**

[Ashmita Dey](#) (IEST Shibpur, India); [Shankar Bhattacharjee](#) (Shibpur & IEST Shibpur, India); [Sekhar Ranjan Bhadra Chaudhuri](#) (Bengal Engineering and Science University, India); [Monojit Mitra](#) (IEST Shibpur, India)

**11:00 Dual-ID Headgear UHF RFID Tag with Broadside and End-Fire Patterns based on Quasi-Yagi Antenna**

[Duc Viet Le](#) (University of Tampere, Finland); [Leena Ukkonen](#) (Tampere University of Technology, Finland); [Toni Björninen](#) (Tampere University, Finland)

**11:15 A Reconfiguration Module with Coplanar Snap-On Connection for Wearable Textile Antennas**

[Quoc Hung Dang](#), [Shengjian Jammy Chen](#) and [Damith C. Ranasinghe](#) (The University of Adelaide, Australia); [Christophe Fumeaux](#) (The University of Adelaide & School of Electrical and Electronic Engineering, Australia)

**11:30 Development of Wideband and Compact Multi-Mode Wearable Antennas**

[Zhi Hao Jiang](#) (Southeast University, P.R. China); [Ke Zhang](#) (SKLMMW, SEU, P.R. China); [Gang Xu](#), [Yan Huang](#) and [Longzhu Cai](#) (Southeast University, P.R. China)

**11:45 An Indoor Positioning System using a Wearable Wireless Sensor and the Support Vector Machine**

[Tsugumichi Shibata](#) and [Naoya Mutoh](#) (Tokyo City University, Japan)

**12:00 Performance improvements in flexible polymer-based microwave devices**

[Iurii Cherukhin](#) and [Yong-xin Guo](#) (National University of Singapore, Singapore)

T2-3: EuMA Special Session

Room: Melati 4111

**10:45 122 GHz FMCW Radar System-in-Package in LTCC Technology**

Akanksha Bhutani<sup>1</sup>; Dr. Benjamin Goettel<sup>2</sup>; Dr. Mario Pauli<sup>1</sup>; Prof. Thomas Zwick<sup>1,1</sup> Karlsruhe Institute of Technology; <sup>2</sup> Wellenzahl GmbH & Co. KG

**11:15 Lateral, a Lab-STICC-Thales Joint Laboratory for RF-Seekers Research: Activities Overview**

C. Quendo, S. Abedrabbba, R. Allanic (Univ Brest, Lab-STICC, CNRS, UMR 6285, F-29200 Brest, France), T. Merlet, A. C. Amiaud, A. Leuliet (Thales LAS, Elancourt, France)

**11:45 A Cascadable Integrated Bistatic Six-port Transceiver at 60 GHz in a 130-nm BiCMOs Technology for SIMO-Radar Applications**

[Matthias Voelkel](#) and [Stefan Pechmann](#) (University Erlangen/Nuermberg, Germany); [Mohamed Hussein Eissa](#) (IHP, Germany); [Dietmar Kissinger](#) (Ulm University, Germany); [Robert Weigel](#) (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany); [Amelie Hagelauer](#) (University of Bayreuth, Germany)

T2-4: SS: THz Technology

Room: Orchid 4211

**10:45 The development of the package of the Terahertz integrated circuits**

[Yong Zhang](#), [Yukun Li](#), [Yapei Chen](#) and [Huali Zhu](#) (University of Electronic Science and Technology of China, P.R. China)

**11:00 Terahertz Absorber Design Adopting Metallic FSS in Sub-Skin-Depth Thickness**

[Xiaojing Lv](#) and [Withawat Withayachumnankul](#) (The University of Adelaide, Australia); [Christophe Fumeaux](#) (The University of Adelaide & School of Electrical and Electronic Engineering, Australia)

**11:15 An Improved 220-GHz Small-Signal Equivalent Circuit Model Considering Stray Capacitance Effect**

[Xusheng Liu](#), [Yunqiu Wu](#) and [Kai Kang](#) (University of Electronic Science and Technology of China, P.R. China)

**11:30 Photonic Controlling THz-Wave Beam Steering with Sub-milliseconds Repetition Period**

[Yuta Naito](#) and [Kenta Yamauchi](#) (Kyushu University, Japan); [Hiroshi Ito](#) (Kitasato University, Japan); [Tadao Ishibashi](#) (NTT Electronics Techno Corporation, Japan); [Kazutoshi Kato](#) (Kyushu University, Japan)

**11:45 3-D Printed Terahertz Lens for Bessel Beam Generation**

[Gengbo Wu](#), [Ka Fai Chan](#), [Chi Hou Chan](#) and [Wing Chi Mok](#) (City University of Hong Kong, Hong Kong)

**12:00 Single-Stage and Multiplicative Distributed Amplifiers for 200GHz+ Amplification**

[Temitope Odedeyi](#) (University College London, United Kingdom (Great Britain)); [Stavros Giannakopoulos](#) and [Herbert Zirath](#) (Chalmers University of Technology, Sweden); [Izzat Darwazeh](#) (University College London, United Kingdom (Great Britain))

T2-5: SS: Recent Developments in EMC and SI/PI

Room: Orchid 4212

**10:45 *Intelligent energy selection and asymmetric propagation of electromagnetic wave realized by composite metamaterials***

[Jing Yuan](#) and [Xiangkun Kong](#) (Nanjing University of Aeronautics and Astronautics, P.R. China); [Juzheng Han](#) (Nanjing University of Science and Technology, P.R. China)

**11:00 *Application of Equivalent Electromagnetic Models in Complex Environments***

[Huapeng Zhao](#) (University of Electronic Science and Technology of China, P.R. China)

**11:15 *Comprehensive High-Speed Crosstalk Analysis of Spatial Microstrip Lines at Different Layers***

[Wensong Wang](#), [Zhenyu Zhao](#), [Zhongyuan Fang](#), [Xinqin Liao](#), [Quqin Sun](#), [Kye Yak See](#), [Eng Kee Chua](#) and [Yuanjing Zheng](#) (Nanyang Technological University, Singapore)

**11:30 *AI-based Information Leakage Analysis for MCUs***

[Si-Ping Gao](#) and [Yingkai Guo](#) (National University of Singapore, Singapore)

**11:45 *A Hybrid DGTD-FDTD Method for Arbitrarily-shaped Power-Ground Planes***

[Hui Min Lee](#) (A\*STAR Institute of High Performance Computing, Singapore); [Zaifeng Yang](#) (Institute of High Performance Computing, A\*STAR, Singapore); [En-Xiao Liu](#) and [Zaw Zaw Oo](#) (Institute of High Performance Computing, Singapore)

**12:00 *Analog Domain Cancellation in Hybrid Self-Interference Cancellers for In-Band Full-Duplex Radios***

[Ramon Vann Cleff B Raro](#) (University of the Philippines Diliman & UP Electrical and Electronics Engineering Institute (UP EEI), Philippines); [Genedyn Gems Mendoza](#) (Advanced Science and Technology Institute & University of the Philippines Diliman, Philippines); [Mar Francis De Guzman](#) (Advanced Science and Technology Institute & University of the Philippines Diliman, Philippines)

T2-6: Antennas for mm-wave Systems

Room: Orchid 4311

**10:45 *Open Resonator Antenna Designs for Millimeter-wave and Terahertz Applications***

[Kwai-Man Luk](#) (City University of Hong Kong, Hong Kong)

**11:15 *Omni-directional and Horizontally-polarized Antenna to control Industrial Robots at Millimeter-wave Bands***

[Junichi Chida](#) and [Futoshi Kuroki](#) (National Institute of Technology, Kure College, Japan); [Yuki Kawahara](#) (Kawashima Manufacturing Co., Ltd., Japan)

**11:30 *Microstrip Antenna employing Square Metal Ring for Quasi-Millimeter-Wave Applications***

[Mizuno Seiya](#) and [Tomohiro Seki](#) (Nihon University, Japan)

**11:45 *A millimeter-wave antenna on low cost fr4 substrate***

[Wei-Shin Tung](#), [Pei-Zong Rao](#) and [Wan-Ming Chen](#) (Jaguar Wave Technology, Taiwan)

**12:00 *Impact Analysis of High-Frequency Material and PCB Fabrication Technology on Antenna Design for 77/79 GHz Automotive Radar***

[Wogong Zhang](#) (Chuhang Technology Co Ltd Anqing, Hefei, Nanjing, P.R. China); [Nannan Li](#) (Hefei Chuhang Technology Co Ltd, P.R. China); [Ziyang Zheng](#) and [Liyun Shi](#) (Shanghai Jiaotong University, P.R. China); [Erich Kasper](#) (University of Stuttgart, Germany)

T2-7: SS: EM Metasurfaces

Room: Orchid 4312

**10:45 Electrically Tunable Terahertz Absorber based on graphene Hybrid Metasurface**

[Zhen Tian](#) (Tianjin University, P.R. China)

**11:00 High Performing Photodetectors with MoS<sub>2</sub> Nanoparticles**

[Jingyuan Jia](#), [Tun Cao](#) and [Hsiang-Chen Chui](#) (Dalian University of Technology, P.R. China)

**11:15 Probing the MoS<sub>2</sub> surface under external electrical fields using Raman Spectroscopy**

[Hsiang-Chen Chui](#), [Jingyuan Jia](#), [Tun Cao](#) and [Xiaoming Chen](#) (Dalian University of Technology, P.R. China)

**11:30 An Ultra-Wideband Millimeter Wave Aperture-coupled Patch Antenna Using a Comb-shaped Metasurface**

[Ching-Cheng Hsu](#) (National Chiao Tung University, Taiwan); [Nai-Chen Liu](#) (National Chiao Tung University, Taiwan); [Sung-Jung Wu](#) (National Chiao Tung University, Taiwan); [Jenn-Hwan Tarng](#) (National Chiao Tung University, Taiwan)

**11:45 A dual-band dual-beam metasurface antenna**

[Lizheng Gu](#) (Nanjing University of Science and Technology, P.R. China); [Wanchen Yang](#) and [Wenquan Che](#) (South China University of Technology, P.R. China)

**12:00 Ultra-thin Huygens' metasurface lens for efficient focusing of transmissive waves**

[Muhammad Rizwan Akram](#) and [Weiren Zhu](#) (Shanghai Jiao Tong University, P.R. China)

Thursday, December 12 13:30 – 15:30

T3-2: SS: Microwave Imaging Methods

Room: Melati 4011

**13:30 The Time-Reversal Source Reconstruction with the Entropy Technique**

[Zhizhang \(David\) Chen](#) (Dalhousie University, Canada)

**14:00 Challenges of translating electromagnetic medical imaging techniques from bench to bedside: Antennas in air-based versus coupled platforms**

[Amin Abbosh](#) (The University of Queensland, Australia); [Ahmed Toaha Mobashsher](#) (The University of Queensland & LicenSys Pty Ltd, Australia); [Bead'a Mohammed](#) (The University of Queensland, Australia)

**14:30 Quality Improvement of Thermoacoustic Imaging via Cross Polarization Based on Compressive Sensing**

[Baosheng Wang](#), [Yifei Sun](#), [Chenzhe Li](#) and [Xiong Wang](#) (ShanghaiTech University, P.R. China)

**14:45 Comparison of Different Structures in Deep Learning Scheme for Inverse Scattering Problems**

[Tiantian Yin](#) (NUS, Singapore); [Zhun Wei](#) (Harvard University, USA); [Xudong Chen](#) (National University of Singapore, Singapore)

**15:00 Investigation on Effects of Acoustic Heterogeneity in Thermoacoustic Imaging Based on Compressive Sensing: A Simulation Study**

[Chenzhe Li](#), [Baosheng Wang](#), [Yifei Sun](#) and [Xiong Wang](#) (ShanghaiTech University, P.R. China)

**15:15 Portable Microwave Imaging Head Scanners for Intracranial Haemorrhagic Detection**

[Wei Guo](#), [Syed Ahsan](#) and [Panagiotis Kosmas](#) (King's College London, United Kingdom (Great Britain))

T3-3: Antenna Arrays (1)

Room: Melati 4111

**13:30 Simultaneous Control of Side Lobe Level and Beamwidth in Planar Array Antenna using Restricted Search Evolutionary Algorithms**

[Soumyo Chatterjee](#) (Heritage Institute of Technology, India); [Sayan Chatterjee](#) (Jadavpur University & Jadavpur University, India); [Baisakhi Bandyopadhyay](#) (Jadavpur University, India); [Arijit Majumder](#) (SAMEER, Kolkata Center, India)

**13:45 A Dual-Polarized Power-Combining Microstrip Antennas for Phased Array Antennas application in LINC transmitters**

[Tresnawan Dian](#) (Universitas Internasional Batam & UIB, Indonesia); [Nimatul Mamuriyah](#) (Universitas Internasional Batam, Indonesia)

**14:00 A Beamforming Method Based on Multi-Variable Optimization for High-Frequency Wide-Angle-Scan High-Gain Array-Fed Reflector Antenna**

[Fan Zhao](#) (University of Electronic Science and Technology of China, P.R. China); [Yu Jian Cheng](#) (UESTC, P.R. China)

**14:15 Conformal Leaky-Wave Antenna Based on Partially Filled Rectangular Waveguide**

[Renat Abdullin](#) and [Tatyana Tiunova](#) (Ural Federal University, Russia)

**14:30 Pattern Reconfigurable Antenna with Water-Loading Dielectric Array**

[Jia-Jun Liang](#) and [Guan-Long Huang](#) (Shenzhen University, P.R. China); [Shigang Zhou](#) (Northwestern Polytechnical University, P.R. China)

**14:45 A Novel 1-Bit Dual-Linear Polarized Reconfigurable Transmitarray Element Using Double-Layer Dipoles**

[Min Wang](#) (Chongqing University of Posts and Telecommunications, P.R. China); [Shenheng Xu](#), [Fan Yang](#) and [Maokun Li](#) (Tsinghua University, P.R. China)

**15:00 A Chinese Character-Shaped Artistic Patch Antenna Array: Zhong-Guo-Meng**

[Kwok Chung](#), [Xiaoqing Yan](#), [Ruiqi Liu](#) and [Huan Li](#) (Qingdao University of Technology, P.R. China)

**15:15 A Compact 4x4 MIMO Antenna with High Isolation for 5G Application**

[Manish Singh](#) (PDPM IITDM Jabalpur, India); [Manoj Singh Parihar](#) (IITDM, India)

T3-4: SS: Modeling in High-Speed Circuits

Room: Orchid 4211

**13:30 Impedance Calculation of Grid Power Distribution Network by using Artificial Neural Network**

[Li Ding](#), [Hanzhi Ma](#) and [Xing-Chang Wei](#) (Zhejiang University, P.R. China)

**13:45 Modeling and Verification of 3-Dimensional Resistive Storage Class Memory with High Speed Circuits for Core Operation**

[Kyungjune Son](#) and [Kyungjun Cho](#) (KAIST, Korea); [Subin Kim](#) and [Shinyoung Park](#) (Korea Advanced Institute of Science and Technology, Korea); [Gapyeol Park](#), [Seongguk Kim](#), [Taein Shin](#) and [Joungho Kim](#) (KAIST, Korea)

**14:00 An Equivalent Electromagnetic Model based on Physical Currents for EMI Diagnosis**

[Huapeng Zhao](#) (University of Electronic Science and Technology of China, P.R. China)

**14:15 From Analogy of Photon and Electron to Topological Electromagnetics**

[Wei E. I. Sha](#) (Zhejiang University, P.R. China)

**14:30 Metamaterial Inspired High Frequency Common-mode Noise Filtering for SI and EMI Immunity**

[Richard Xian-Ke Gao](#) and [Hui Min Lee](#) (A\*STAR Institute of High Performance Computing, Singapore); [Si-Ping Gao](#) (National University of Singapore, Singapore); [En-Xiao Liu](#) (Institute of High Performance Computing, Singapore)

**14:45 Accuracy improvement of the VSIE solution in frequency response simulation**

[Tiancheng Zhang](#) and [Shiquan He](#) (University of Electronic Science and Technology of China, P.R. China)

**15:00 An Iterative Method based on MoM Algorithm with Memory Requirements in the Order of  $O(N)$**

[Ke Xiao](#) and [Jun Dong](#) (National University of Defense Technology, P.R. China); [Liang Ding](#) (National University of Defense Technology & University of Manitoba, P.R. China)

**15:15 An Improved Small Signal Equivalent Circuit Modeling Based On 65nm CMOS Technology**

[Kunyu Yang](#) (University of Electronic Science and Technology of China, P.R. China)

T3-5: SS: Wireless Power Transfer (2)

Room: Orchid 4212

**13:30 Recent progress of Wireless Power Transfer via Sub-THz wave**

[Sei Mizojiri](#) (University of Tsukuba, Japan)

**13:45 Maximum Power Transfer Efficiency of Various MIMO Systems**

[Qiaowei Yuan](#) (National Institute of Technology, Sendai College, Japan)

**14:00 Improving Beam Efficiency in Multi-Pass Circumstance Using Retrodirective Target Detection Technique**

[Naoki Shinohara](#) (Kyoto University, Japan)

**14:15 kQ-Theory for MIMO IPT**

[Quang-Thang Duong](#) and [Minoru Okada](#) (Nara Institute of Science and Technology, Japan)

**14:30 Wireless Power Transfer for Glioblastoma Photodynamic Therapy**

[John Ho](#) (National University of Singapore, Singapore)

**14:45 Improvements of Transfer Efficiency in Capacitive Wireless Power Transfer Under Seawater**

[Kousuke Murai](#) and [Masaya Tamura](#) (Toyohashi University of Technology, Japan)

**15:00 Wireless Power Transfer System Design for Biomedical Implants at 2.45 GHz**

[Tarakeswar Shaw](#) (Indian Institute of Engineering Science and Technology, Shibpur, Howrah, West Bengal, India); [Debasis Mitra](#) (Indian Institute of Engineering Science & Technology, Shibpur, India)

**15:15 Dual band WPT system using Semi-H DGS for Biomedical Applications**

[Sambhav Malhotra](#) (IIIT Delhi, India); [Shalin Verma](#) (IIITD, India); [Vivek A Bohara](#) (Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi), India); [Mohammad Hashmi](#) (Nazarbayev University, Kazakhstan & IIIT Delhi, India)

T3-6: SS: MM Wave Radio for Wireless Communication

Room: Orchid 4311

**13:30 Orthogonal Multiplexing Antenna System based on Two-dimensional Polarity for Non-far Region Communication**

[Jiro Hirokawa](#) and [Takashi Tomura](#) (Tokyo Institute of Technology, Japan)

**13:45 A 38-GHz Sub-Harmonic I/Q Modulator Using LO Frequency Quadrupler in 65-nm CMOS**

[Tzu-Chien Tang](#) (Nation Taiwan University, Taiwan); [Chun-Nien Chen](#), [Hung-Hao Lin](#), [Jung-Lin Lin](#) and [Huei Wang](#) (National Taiwan University, Taiwan)

**14:00 Design of Grid Array Antenna for Integration of Multiple Antennas**

[Jiawei Qian](#), [Min Tang](#), [Yao-ping Zhang](#) and [Junfa Mao](#) (Shanghai Jiao Tong University, P.R. China)

**14:15 Millimeter-Wave Phased-Array Transceiver Using CMOS Technology**

[Kenichi Okada](#) (Tokyo Institute of Technology, Japan)

**14:30 60 GHz Up-Conversion Mixer with Wide IF Bandwidth using Transformer-based Negative Feedback in 65-nm CMOS**

[Joong Geun Lee](#) and [Geon Ho Park](#) (Korea Advanced Institute of Science and Technology, Korea); [Chul Woo Byeon](#) (Wonkwang University, Korea); [Chul Soon Park](#) (Korea Advanced Institute of Science and Technology, Korea)

**14:45 A 98-128 GHz Wideband Quadrature Injection-Locked Frequency Tripler in 40-nm CMOS**

[Dongmin Kang](#), [Tae Hwan Jang](#) and [Seung Hun Kim](#) (Korea Advanced Institute of Science and Technology, Korea); [Chul Soon Park](#) (Korea Advanced Institute of Science and Technology (KAIST), Korea)

**15:00 Design of High Efficiency Linearly Polarized 8x8 Millimeter-Wave Antenna Array**

[Kailai Wu](#), [Yuan Yao](#), [Xiaohu Cheng](#) and [Junsheng Yu](#) (Beijing University of Posts and Telecommunications, P.R. China); [Xiaodong Chen](#) (Queen Mary University of London, United Kingdom (Great Britain))

**15:15 A Novel SIW-Fed Quasi Yagi-Uda Antenna Array Covering 23 to 39 GHz**

[Ao Li](#) and [Kwai-Man Luk](#) (City University of Hong Kong, Hong Kong)

T3-7: SS: Microwave /mmWave Sensors

Room: Orchid 4312

**13:30 A Reflectometer Based Sensor System for Acquiring Full S-Parameter Sets Utilizing Dielectric Waveguides**

[Christoph Baer](#) (Ruhr-Universität Bochum & Institute of Electronic Circuits, Germany)

**13:45 Investigation on a System for Positioning of Industrial Robots Based on Ultra-Broadband Millimeter Wave FMCW Radar**

[Marcel van Delden](#) (Ruhr-University Bochum, Germany); [Christopher Guzy](#) (Ruhr University Bochum, Germany); [Thomas Musch](#) (Ruhr-Universität Bochum, Germany)

**14:00 Behavioral Modeling of Fractional-N PLL Based FMCW Synthesizers**

[Thomas Ussmueller](#) (Universität Innsbruck, Austria)

**14:15 Enhanced Radar Phase Measurements by means of Highly Dispersive Waveguides**

[Birk Hattenhorst](#) (Ruhr University Bochum, Germany); [Christoph Baer](#) (Ruhr-Universität Bochum & Institute of Electronic Circuits, Germany); [Thomas Musch](#) (Ruhr-Universität Bochum, Germany)

**14:30 Micrometer-Accuracy Distance Measurement using 122 GHz LTCC Radar System-in-Package**

[Mario Pauli](#) and [Akanksha Bhutani](#) (Karlsruhe Institute of Technology, Germany); [Thomas Zwick](#) (Karlsruhe Institute of Technology (KIT), Germany); [Thomas Latzko](#) (Wellenzahl Radar- und Sensortechnik GmbH & Co. KG, Germany); [Benjamin Göttel](#) (Wellenzahl Radar- und Sensortechnik GmbH & Co KG, Germany); [Michael Gehringer](#) (Karlsruhe Institute of Technology, Germany)

**14:45 Millimeter Wave Radar-based Plasma Measurements**

[Christian Schulz](#) (Ruhr-Universität Bochum, Germany); [Christoph Baer](#) (Ruhr-Universität Bochum & Institute of Electronic Circuits, Germany); [Marcel Fiebrandt](#) (Ruhr-Universität Bochum, Germany)

**15:00 Photonic-assisted Electric Field Probe with Micrometer Scale Resolution**

[Dong-Joon Lee](#) and [Young-Pyo Hong](#) (Korea Research Institute of Standards and Science, Korea)

**15:15 Highly Sensitive Microwave-Based Biosensor for Electrolytic Level Measurement in Water**

[Amir Ebrahimi](#), [James Scott](#) and [Kamran Ghorbani](#) (RMIT University, Australia)

Thursday, December 12 15:00 – 17:00

T3-1: Interactive Forum 3

Room: Orchid Junior Ballroom

**IF-1: A Compact Dual-Band Crossover with  $\Pi$ -Shaped Transmission Lines**

[Chia-I Lu](#) and [Yi-Hsin Pang](#) (National University of Kaohsiung, Taiwan)

**IF-2: Compact and Low-Loss U-Band Shielded Asymmetrical Coplanar Stripline to Rectangular Waveguide Transition**

[Qun Li](#) and [Tao Yang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-3: Highly Compact Silicon Micromachined Filter at Sub-terahertz Band with Axial Ports**

[Xinghai Zhao](#) (KTH Royal Institute of Technology, Sweden)

**IF-4: Design Methodology for Automatically Designed, Integrated Marchand Baluns with Low Insertion Loss at Lowest Phase Imbalance**

[Albert-Marcel Schrotz](#), [Tim Maiwald](#) and [Katharina Kolb](#) (University Erlangen/Nuermberg, Germany); [Sascha Breun](#) (University of Erlangen-Nuremberg, Germany); [Marco Dietz](#) (Friedrich-Alexander-University Erlangen-Nuremberg & Institute for Electronics Engineering, Germany); [Amelie Hagelauer](#) (University of Bayreuth, Germany); [Robert Weigel](#) (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany)

**IF-5: Compact Dual-band Filter Based on Quarter-Wavelength SIRs with Grounded via coupling**

[Dalin Wang](#), [Zongrui He](#) and [Haining Yang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-6: Circulating Spin Angular Momentum Modes Using a Discretized Metasurface**

[Chu Qi](#) and [Alex Wong](#) (City University of Hong Kong, Hong Kong)

**IF-7: Double-Layer SIW Filters with Higher-Order Mode Suppression**

[Yilong Zhu](#) and [Yuandan Dong](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-8: A -197.3 dBc/Hz FoMT Wideband LC-VCO IC with an I-MOS Based Novel Varactor in 40-nm SOI CMOS**

[Mengchu Fang](#), [Akihiko Kumura](#) and [Toshihiko Yoshimasu](#) (Waseda University, Japan)

**IF-9: Differential Low Noise Amplifier for S-Band Phased-Array Radar in 0.18- $\mu$ m CMOS Technology**

[Tzu-Yu Hsia](#) and [Li Xin-Yi](#) (National Taiwan University, Taiwan); [Liang-Yu Ou Yang](#) (National Chung-Shan Institute of Science & Technology, Taiwan); [Zuo-Min Tsai](#) (Department of Electrical Engineering, National Chung Cheng University, Taiwan); [Shih-Yuan Chen](#) (National Taiwan University, Taiwan)

**IF-10: A Simplified Capacitance Expression for Large-Signal Angelov Model of AlGaIn/GaN HEMTs**

[Haorui Luo](#) (National University of Singapore, Singapore); [Hao Zhang](#) (Northwestern Polytechnical University, P.R. China & National University of Singapore, Singapore); [Yongxin Guo](#) (National University of Singapore, Singapore)

**IF-11: A 300 mV, low power VCO with the central Frequency of 4.89 GHz in 22 nm FDSOI**

[Piyush Kumar](#) (Universitaet der Bundeswehr Muenchen, Germany); [Enno Boehme](#) and [Jidan Eryani](#) (Researcher, Germany); [Pragoti Pran Bora](#) (Fraunhofer EMFT Research Institution for Microsystems and Solid State Technologies, Munich, Germany); [David Borggreve](#) (Fraunhofer EMFT, Germany); [Linus Maurer](#) (Universität der Bundeswehr München, Germany)

**IF-12: K band Free Running Oscillator Employing Single Layered Dual Mode Air Filled Substrate Integrated Waveguide Filter**

[Xiang Wang](#) and [Xiaowei Zhu](#) (Southeast University, P.R. China); [Ling Tian](#) (University of Southeast, P.R. China)

**IF-13: Ka-Band Near-Field Focusing Lens Antenna with Frequency Scanning Focal Spots**

[Shilin Liu](#) and [Xianqi Lin](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-14: Cavity Backed Co-radiator Dual Polarized MIMO Antenna**

[Rahul Kumar Jaiswal](#), [Kahani Kumari](#) and [Kumar Vaibhav Srivastava](#) (Indian Institute of Technology Kanpur, India)

**IF-15: A Wideband Circularly Polarized Fabry-Perot Resonator Antenna with Chiral Metamaterial**

[Chun-Ling Chen](#) (Changzhou University, P.R. China)

**IF-16: A Dual-Band Antenna using IDC Based CRLH-TL Cell with Non-Uniform Finger Width**

[Anil Nayak, Mr](#) (IIT Roorkee & IIT Kharagpur, India); [Rahul Pachpole](#) and [Amalendu Patnaik](#) (IIT Roorkee, India)

**IF-17: A Wideband and Dual-Polarized Ridged Open-Ended Waveguide Antenna**

[Tian Zhou](#) (Xidian University, P.R. China)

**IF-18: Terahertz Switchable Single-/ Dual-band Metamaterial Absorber based on nested circular-shaped structure**

[Rongcao Yang](#) and [Yufeng Liu](#) (Shanxi University, P.R. China)

**IF-19: Corporate-fed planar slot array antenna with high gain**

[Yufeng Liu](#), [Mingxia Zhao](#), [Rongcao Yang](#) and [Wenmei Zhang](#) (Shanxi University, P.R. China)

**IF-20: Electrically Small Rectangular Microstrip Patch Antenna with Non-Foster Feeding Technique**

[Abhishek Chatterjee](#) and [Amartya Banerjee](#) (Jadavpur University, India); [Sayan Chatterjee](#) (Jadavpur University & Jadavpur University, India)

**IF-21: A Frequency Reconfigurable Flexible Antenna for Multiple Mobile Applications**

[Adnan Ghaffar](#) (Auckland University of Technology, New Zealand); [Wahaj Abbas Awan](#) (COMSATS, Sahiwal, Pakistan); [Niamat Hussain](#) (Chungbuk National University, Korea); [Xue Jun Li](#) (Auckland University of Technology, New Zealand)

**IF-22: Omnidirectional Circularly Polarized Antenna Based on Dual Zeroth-Order Resonances**

[Yinwan Ning](#), [Yong Fan](#) and [Yuandan Dong](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-23: Differentially Fed UWB QSC Antenna with High Common-Mode Suppression**

[Jun-Wei Huang](#) (National Changhua University of Education, Taiwan)

**IF-24: Circularly Polarized Slot Antenna Based on Half-Mode SIW Cavity**

[Shengnan Zhao](#), [Zhan Wang](#) and [Yuandan Dong](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-25: Design of Differentially Fed CP Circular Slot Antenna**

[Guan-Yu Lu](#) (Nation Changhua University of Education, Taiwan)

**IF-26: Fast Evaluation of the Radiation Patterns for Sequentially Fed Circularly Polarized Array Antennas**

[Jie Wu](#), [Cong Wang](#) and [Yong-xin Guo](#) (National University of Singapore, Singapore)

**IF-27: Design of a Low-Profile High-Gain Filtering Antenna with Low SAR for 5G Application**

[Ji Woong Park](#) and [Min-joo Jeong](#) (Chungbuk National University, Korea); [Hoseop Shin](#) (Kunsan National University, Korea); [Nam Kim](#) (Chungbuk National University, Korea)

**IF-28: Monostatic and Bistatic Experiment with Airborne UHF Ultra-wideband SAR System**

[Hongtu Xie](#) (Sun Yat-sen University, P.R. China)

**IF-29: Microwave Polarization Characteristics as a Probe of Backscattering from Mixed Wind Wave and Swell**

[Ding Nie](#), [Zhimin Wu](#) and [Hangyu Ren](#) (Xidian University, P.R. China)

**IF-30: Consideration on Estimation of Lung Cancer Position Using Tweezers-Types of Electrodes in High Frequency Bands**

[Masaya Sakamoto](#), [Futoshi Kuroki](#) and [Masanori Eguchi](#) (National Institute of Technology, Kure College, Japan); [Takeshi Yamakawa](#) (Fuzzy Logic Systems Institute, Japan); [Fumihiko Tanaka](#) (University of Occupational and Environmental Health, Japan)

**IF-31: Improvement on Identification Accuracy of Primary Tumor Using Ring Resonator Type of Electrode at Centimeter Frequencies**

[Shouta Sora](#), [Futoshi Kuroki](#) and [Masanori Eguchi](#) (National Institute of Technology, Kure College, Japan); [Takeshi Yamakawa](#) (Fuzzy Logic Systems Institute, Japan); [Fumihiko Tanaka](#) (University of Occupational and Environmental Health, Japan)

**IF-32: Implementation and design of Microsatellite Telemetry Tracking and Command subsystem**

[Vahid Rastinasab](#) and [Weidong Hu](#) (Beijing Institute of Technology, P.R. China)

**IF-33: Millimeter-Wave 3-Stage Power Amplifier with Tunable Integrated Antenna for Space Applications**

[Diogo Matos](#) (University of Aveiro & Instituto de Telecomunicações, Portugal); [Ricardo Correia](#) (Instituto de Telecomunicações & University of Aveiro, Portugal); [Nuno Borges Carvalho](#) (University of Aveiro/IT Aveiro, Portugal)

**IF-34: Investigation of Carbon Nanofiber Coated Carbon Fibers Based Flexible and Lightweight Composites for Microwave Absorption**

[Jitendra Tahalyani](#) (IIT Kanpur, India); [Mohammad Jaleel Akhtar](#) and [Kamal K. Kar](#) (Indian Institute of Technology Kanpur, India)

**IF-35: Prototype Evaluation of 16 Elements Electronically Scanned Array Antenna to Examine the Receiver Side Configuration for Aircraft**

[Takuya Okura](#), [Takashi Takahashi](#), [Tomoshige Kan](#), [Hiroyuki Tsuji](#) and [Morio Toyoshima](#) (National Institute of Information and Communications Technology, Japan)

**IF-36: Cavity Backed Antenna for Microwave Estimation of Grape Bunches in Vineyard**

[Adrian E.-C. Tan](#) (Lincoln Agritech Limited & Lincoln University, New Zealand); [Paul Riding](#) (Lincoln Agritech Ltd., New Zealand); [Kimberley W. Eccleston](#), [Ian G Platt](#) and [Armin Werner](#) (Lincoln Agritech Ltd, New Zealand); [Ian M Woodhead](#) (Lincoln, New Zealand)

**IF-37: A Study on 14 bit Digital Controlled Oscillator Using Switched Striped Inductor**

[Mareshi Yagi](#), [Kiyotaka Komoku](#), [Takayuki Morishita](#) and [Nobuyuki Itoh](#) (Okayama Prefectural University, Japan)

**IF-38: Miniaturized-Element Frequency Selective Surface based on 2.5-Dimensional Meander Lines**

[Saptarshi Ghosh](#) (Indian Institute of Technology Indore, India)

**IF-39: Compact Suspension-stripline Circulator For High Power Applications**

[Song Guo](#), [Kaijun Song](#), [Ying Wang](#) and [Yong Fan](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-40: Measured performance comparison of two compact MIMO antennas in a reverberation chamber**

[Dazhi Piao](#), [Jie Zuo](#) and [Lei Zhao](#) (Communication University of China, P.R. China)

**IF-41: Design of Focal Plane Array with Lens for W-band Short Range Passive Imaging**

[Qike Chen](#) and [Yong Fan](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-42: A Semi-Deterministic Path Loss Model at a frequency of 73 GHz in Urban Area**

[Supachai Phaiboon](#) (Mahidol University & Thailand, unknown)

**IF-43: Microwave Confocal Imaging by Antenna Grouping Method for Medical Application**

[Lijia Chen](#), [Dajing Wang](#), [Xia Li](#), [Shengmin Jiang](#), [Hao Li](#), [Shufeng Zhang](#) and [Shengchang Lan](#) (Harbin Institute of Technology, P.R. China)

**IF-44: A study on the 3D Printing Techniques for Fabricating Parallel-Plate Luneburg Lens**

[Cong Wang](#), [Jie Wu](#) and [Yong-xin Guo](#) (National University of Singapore, Singapore)

**IF-45: Investigation on The Relationship between Target-Sensor-Distance and Measurement SNR for Magnetic Localization**

[Guoliang Shao](#) (National University of Singapore, Singapore)

**IF-46: Accurate Machine Learning-Based Schottky Diode Modeling for 5G Wireless Communication**

[Wenrui Hu](#) (National University of Singapore, Singapore); [Hao Zhang](#) and [Yicheng Lai](#) (National University of Singapore Suzhou Research Institute, P.R. China); [Yong-Xin Guo](#) (National University of Singapore, Singapore)

**IF-47: Ultra-Wideband Monopulse Reflector Feed**

[Kwok K Chan](#) (Chan Technologies Inc., Canada)

**IF-48: Research on Improved Ka-band Cavity Isolation by Lid of Nails**

[Han Xu](#) (Southeast University, P.R. China); [Jianjian Sun](#) (Nanjing Electronic Devices Institute, P.R. China); [Hongfu Meng](#) (Southeast University, P.R. China); [Huali Zhu](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-49: A K-band Dual-Polarized Phased-Array Front-End Receiver for SATCOM**

[Jie-Ying Zhong](#) and [Kun-Chan Chiang](#) (National Taiwan University, Taiwan); [Jeng-Han Tsai](#) (National Taiwan Normal University, Taiwan); [Tian-Wei Huang](#) (National Taiwan University, unknown)

**IF-50: Experimental study of factors affecting the High Power Microwave measurements**

[D Ratan Sanjay](#) and [Nitin Chourasia](#) (DRDO, India)

**IF-51: Analysis of Random Vibration Testing & Precautions for Failure Avoidance**

[Vipin Kumar](#) (Bharat Electronics, India); [Mahadev Sarkar](#) (Product Development and Innovation Centre & Bharat Electronics Limited, India)

**IF-52: D-band SiGe transceiver modules based on silicon-micromachined integration**

[Yinggang Li](#) (Ericsson AB, Sweden); [Mikael Hörberg](#) (Ericsson Research, Sweden); [Klas Eriksson](#) (Ericsson AB, Sweden); [Ahmed Hassona](#) and [Herbert Zirath](#) (Chalmers University of Technology, Sweden); [James Campion](#) and [Joachim Oberhammer](#) (KTH Royal Institute of Technology, Sweden); [Jonas Hansryd](#) (Ericsson, Sweden); [Mingquan Bao](#) (Ericsson AB, Sweden); [Zhongxia Simon He](#) (Chalmers University of Technology & Microwave Electronic Lab, Sweden); [Sandro Vecchiattini](#) (Ericsson AB, Sweden); [Torbjorn Dahl](#) and [Richard Lindman](#) (Ericsson AB, Sweden); [Dielacher Franz](#) (Infineon, Germany)

**IF-53: Use of Bispectral Analysis for Binary Signal Detection and Restoration**

[Rostislav Sokolov](#) and [Renat Abdullin](#) (Ural Federal University, Russia)

**IF-54: Seasonal Water Vapor Pressure Models for Cloud Detection**

[Shilpa Manandhar](#), [Stanley Jia jun Ang](#) and [Yee Hui Lee](#) (Nanyang Technological University, Singapore); [Yu Song Meng](#) (National Metrology Centre, A\*STAR, Singapore)

Thursday, December 12 16:00 – 18:00

T4-2: SS: Wireless Energy and Sensing

Room: Melati 4011

**16:00 Wirelessly Powered Internet-of-Things Sensors Facilitated by an Electrically Small Egyptian Axe Dipole Rectenna**

[Wei Lin](#) (University of Technology Sydney, Australia); [Richard Ziolkowski](#) (University of Technology Sydney, Australia & University of Arizona, USA)

**16:15 Wireless Power Transmission in Fully-enclosed Space Using Reconfigurable Parasitic Arrays**

[Xin Wang](#), [Xueqi Wang](#) and [Mengying Li](#) (Nanjing University of Aeronautics and Astronautics, P.R. China); [Mingyu Lu](#) (West Virginia University Institute of Technology, USA)

**16:30 Short Range Wireless Power Transmission Using Radio-frequency Loop Resonators**

[Xue Wang](#) (Nanjing University of Aeronautics & Astronautics, P.R. China); [Xin Wang](#) and [Xuemei Cao](#) (Nanjing University of Aeronautics and Astronautics, P.R. China); [Mingyu Lu](#) (West Virginia University Institute of Technology, USA)

**16:45 An Improved Analytic Model for Single-Diode Rectification Process**

[Si-Ping Gao](#) (National University of Singapore, Singapore); [Hao Zhang](#) (Northwestern Polytechnical University, P.R. China & National University of Singapore, Singapore); [Yong-xin Guo](#) (National University of Singapore, Singapore)

**17:00 A MMW Reconfigurable Antenna For Sensing Applications**

[Qing-Yi Guo](#), [Hang Wong](#) and [Quan Wei Lin](#) (City University of Hong Kong, Hong Kong); [Aurelian Crunteanu](#) (XLIM, CNRS/ University of Limoges, France); [Laure Huitema](#) (Xlim Laboratory, France)

**17:15 Design of Differential Rectifier Circuit Focusing on Load Fluctuation of Storage Capacitor During Charging**

[Daiki Fujii](#), [Shinji Nimura](#) and [Masaya Tamura](#) (Toyohashi University of Technology, Japan)

**17:30 Phase-Locked Magnetrans for Beam Combining in High Power Antenna Array on MPT System**

[Naoki Hasegawa](#) (Softbank, Japan)

**17:45 Rectifier with High Efficiency at Wide Input Power Range Based on Resistance/Impedance Compression Networks**

[Jun-Hui Ou](#) and [Xiuyin Zhang](#) (South China University of Technology, P.R. China)

T4-3: SS: 5G and mm-wave IC

Room: Melati 4111

**16:00 Metasurface-based Wideband Circularly Polarized 8x8 Phased Array Antenna at Ka-band of 27-30 GHz**

[Xianming Qing](#) (Institute for Infocomm Research, Singapore); [Zhi Ning Chen](#) (National University of Singapore, Singapore); [Xinyi Tang](#) (Infineon Technologies Singapore, Singapore); [Wei E. I. Liu](#) (National University of Singapore, Singapore); [N Nasimuddin](#), [Yunjia Zeng](#) and [Terence S.P. See](#) (Institute for Infocomm Research, Singapore)

**16:15 A Wideband Dual-Polarized Magneto-Electric Dipole Array on LTCC for 5G Millimeter-Wave Communications**

[Yu Jian Li](#) (Beijing Jiaotong University, P.R. China); [Yong-Xin Guo](#) (National University of Singapore, Singapore)

**16:30 5G Retro-Directive Quasi-Optical Lens Beamforming MIMO**

[Ching-Kuang Tzuang](#) (National Taiwan University, Taiwan); [Lawrence Tzuang](#) (Voyant Photonics Inc., USA); [Hsien-Shun Wu](#) (Arqana, Singapore); [Patrick Wu](#) (Archit Lens Technology, Taiwan)

**16:45 Compact Transformer-Based Matching Structures for Ka-Band Power Amplifiers**

[Valdrin Qunaj](#) and [Patrick Reynaert](#) (KU Leuven, Belgium)

**17:00 77 GHz Circularly-Polarized Antenna-in-Package (CP-AiP) based on FOWLP for mmWave Applications**

[Danpeng Xie](#) (Institute of Microelectronics (IME), A\*STAR, Singapore); [Teck Guan Lim](#) (Institute of Microelectronics, Singapore); [Tai Chong Chai](#) and [Surya Bhattacharya](#) (Institute of Microelectronics (IME), A\*STAR, Singapore)

**17:15 3D-Printed Multi-Beam Planar Dual-reflector Antenna for 5G Millimeter-Wave Applications**

[Yingyu Bi](#), [Yu Jian Li](#) and [Jun Hong Wang](#) (Beijing Jiaotong University, P.R. China)

**17:30 A Highly Linear and Efficient 28 GHz Stacked Power Amplifier for 5G using Analog Predistortion in a 130 nm BiCMOS Process**

[Julian Potschka](#) (University of Erlangen-Nuremberg, Germany); [Marco Dietz](#) (Friedrich-Alexander-University Erlangen-Nuremberg & Institute for Electronics Engineering, Germany); [Katharina Kolb](#) and [Tim Maiwald](#) (University Erlangen/Nuermberg, Germany); [Sascha Breun](#) and [Thomas Ackermann](#) (University of Erlangen-Nuremberg, Germany); [Dieter Ferling](#) (Nokia Bell Labs, Germany); [Amelie Hagelauer](#) (University of Bayreuth, Germany); [Robert Weigel](#) (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany)

**17:45 Design of a 5G Compatible Two-Element Dual-Band Circularly Polarized MIMO Antenna**

[Swarup Chakraborty](#) (Faculty of Science and Engineering, Chittagong University of Engineering and Technology, Bangladesh); [Muhammad Asad Rahman](#) and [Md. Azad Hossain](#) (Chittagong University of Engineering and Technology, Bangladesh); [Eisuke Nishiyama](#) and [Ichihiko Toyoda](#) (Saga University, Japan)

T4-4: Metamaterials and Metasurface (3)

Room: Orchid 4211

**16:00 Absorptive Frequency Selective Surface with a High Selective Passband and Two Absorption Bands**

[Wang Lingling](#) (Nanjing University of Aeronautics and Astronautics, P.R. China); [Shaobin Liu](#) and [Xiangkun Kong](#) (Nanjing University of Aeronautics and Astronautics, P.R. China); [Xiaochun Liu](#) and [Shining Sun](#) (Research Institute for Special Structures of Aeronautical Composite AVIC, P.R. China)

**16:15 An Ultrathin Linear-to-Circular Polarization Converter with Wide Axial Ratio Bandwidth**

[Debidas Kundu](#) (Indian Institute of Technology Roorkee, India); [Akhilesh Mohan](#) (Indian Institute of Technology Kharagpur, India); [Ajay Chakrabarty](#) (Indian Institute of Technology, Kharagpur, India)

**16:30 Angle-Insensitive 2-Bit Programmable Coding Metasurface with Wide Incident Angles**

[Lei Zhang](#) and [Tie Jun Cui](#) (Southeast University, P.R. China)

**16:45 A Coarsely Discretized Huygens' Metasurface for Anomalous Transmission**

[Chu Qi](#) and [Alex Wong](#) (City University of Hong Kong, Hong Kong)

**17:00 Wideband Radar Cross Section Reduction Using 1-bit Coding Metasurface**

[Yan Xi](#), [Wen Jiang](#) and [Peng Liu](#) (Xidian University, P.R. China); [Shuxi Gong](#) (National Laboratory of Antennas and Microwave Technology, P.R. China)

**17:15 3-D Dual-Band Bandpass Frequency-Selective Structure With Large Band Ratio**

[Da Li](#) and [Er-Ping Li](#) (Zhejiang University, P.R. China); [Zhongxiang Shen](#) (Nanyang Technological University, Singapore); [Tian-Wu Li](#) and [Liming Zhou](#) (Zhejiang University, P.R. China)

**17:30 A design of broadband circular polarization anomalous reflection metamaterial**

[Jiangfeng Han](#) (AEFU University, P.R. China); [Xiangyu Cao](#) and [Jun Gao](#) (Air Force Engineering University of CPLA, P.R. China); [Chen Zhang](#) (AEFU, University, P.R. China)

**17:45 Enhanced Bandwidth of Asymmetric Backward-Wave Directional Couplers by Using Dispersion of Nonreciprocal CRLH Transmission Lines**

[Kohei Yamagami](#) and [Tetsuya Ueda](#) (Kyoto Institute of Technology, Japan); [Tatsuo Itoh](#) (UCLA, USA)

T4-5: Filters (2)

Room: Orchid 4212

**16:00 Design of a Microstrip Diplexing Filtering Power Divider**

[Pu-Hua Deng](#) (National University of Kaohsiung, Taiwan); [Lin Chen-Hsiang](#) (Compal Electronics, Taiwan); [Chen Wei-Ting](#) (National University of Kaohsiung, Taiwan)

**16:15 A Miniaturized Ku-Band LTCC Bandpass Filter for System-in-Package Applications**

[Guangxu Shen](#) (Nanjing University of Science and Technology, P.R. China); [Wenquan Che](#), [Quan Xue](#) and [Haidong Chen](#) (South China University of Technology, P.R. China)

**16:30 Metallic Photonic Crystal Structure with Air-Gap and Its Applications in Resonator and Filter Design**

[Erika Katsuno](#), [Chun-Ping Chen](#), [Tetsuo Anada](#) and [Zejun Zhang](#) (Kanagawa University, Japan)

**16:45 Study on Pin-Type Artificial Dielectric Resonator for Base-Station Filter**

[Rei Takehara](#), [Toshio Ishizaki](#) and [Asako Suzuki](#) (Ryukoku University, Japan); [Ikuo Awai](#) (Ryutech Corporation, Japan); [Masaru Ichikawa](#) (HUAWEI Technologies Japan K. K., Japan)

**17:00 Design of a Wideband Microstrip Bidirectional Absorptive Bandstop Filter**

[Ching-Wen Tang](#), [Chieh-Hsuan Yang](#) and [Cheng-Han Wu](#) (National Chung Cheng University, Taiwan)

**17:15 Balanced Bandpass Filter Based on Parallel-path Transmission with T-shaped Resonator**

[Li Wen](#), [Jing Ai](#) and [Anyong Qing](#) (Southwest Jiaotong University, P.R. China)

**17:30 Coaxial Feeding BPF Integrated SP7T Switch**

[Jin Xu](#) and [Liu Fang](#) (Northwestern Polytechnical University, P.R. China)

**17:45 A Compact Design of Circular Ring-Shaped MMR Based Bandpass Filter for UWB Applications**

[Partha Shome](#) and [Taimoor Khan](#) (National Institute of Technology Silchar, India)

T4-6: Semiconductor Devices and Composite Structures

Room: Orchid 4311

**16:00 Single-Chip L-Band 1500W Internally Matched AlGaIn/GaN HEMT**

[ShiChang Zhong](#) and [Tangsheng Chen](#) (Nanjing Electronic Devices Institute, P.R. China); [Xiaoxing Yin](#) (Southeast University, P.R. China); [Shijun Tang](#) and [Shutong Zhou](#) (Nanjing Electronic Devices Institute, P.R. China)

**16:15 18 - 20 GHz Compact Passive 4-Bit GaAs MMIC Phase Shifter with Low Insertion Loss**

[Kim Tuyen Trinh](#) (Monash University, Australia); [Chia-Han Lin](#) (Chang Gung University, Taiwan); [Hsuan-ling Kao](#) (Dept. of Electronic Engineering, Chang Gung University, Taiwan); [Hsien-Chin Chiu](#) (Chang Gung University, Taiwan); [Nemai Karmakar](#) (MONASH University, Australia)

**16:30 Design and Fabrication of Planar Gunn Nanodiodes Based on Doped GaN**

[Javier Mateos](#), [Tomás González](#), [Ignacio Iñiguez-de-la-Torre](#), [Sergio García](#) and [Susana Pérez](#) (University of Salamanca, Spain); [Christophe Gaquiere](#), [Guillaume Ducournau](#) and [Marie Lesecq](#) (IEMN, University of Lille, France); [Manvi Agrawal](#) (School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore); [Dharmarasu Nethaji](#) and [K Radhakrishnan](#) (Nanyang Technological University, Singapore)

**16:45 Frequency Reconfigurable Interdigital Filter Using Semi-conductor Distributed Doped Areas**

[Rozenn Allanic](#), [Denis Le Berre](#) and [Cedric Quendo](#) (Lab-STICC - UBO Brest, France); [David Chouteau](#), [Virginie Grimal](#), [Damien Valente](#) and [Jérôme Billoué](#) (Université de Tours, France)

**17:00 Quality Enhancement of Centered Hole Thin Film Disc Resonator by Drilled Phononic crystals**

[Muhammad Ammar Khan](#) (University of Electronic Science and Technology of China, P.R. China)

**17:15 A 12-to-17 GHz Power Amplifier Using T-Model Matching Network in 0.25- $\mu$ m GaN pHEMT Technology**

[Hsuan-Yin Huang](#), [Jyun-Jia Huang](#) and [Hong-Yeh Chang](#) (National Central University, Taiwan)

**17:30 A Novel Real-time Channel-Calibration Chip Based On Sixport Network For Phased Array Radar**

[Ziwei Xu](#) (National Key Laboratory of Test Physics and Numerical Mathematics, P.R. China); [Pei Zheng](#) (National Key Laboratory of Science and Technology on Test Physics and Numerical Mathematics, P.R. China); [Xin Liu](#) and [Jiaqi Liu](#) (National Key Laboratory of Test Physics and Numerical Mathematics, P.R. China)

**17:45 Design of Ultrathin Radar Absorbing Structure Using CNF-Barium Ferrite Based Nanocomposites for Stealth Applications**

[Vishal Chakradhary](#) (IIT Kanpur, India); [Mohammad Jaleel Akhtar](#) (Indian Institute of Technology Kanpur, India)

T4-7: SS: WPT/Energy Harvesting

Room: Orchid 4312

**16:00 Dual-polarization metasurface for microwave energy harvesting**

[Peng Xu](#) (Southeast University, P.R. China); [Wei-Xiang Jiang](#) (SEU, P.R. China)

**16:15 The Method of Diode Modeling and Novel Equivalent Circuit for Microwave Rectifiers**

[Takashi Hirakawa](#) (Kyoto University, Japan); [Hao Zhang](#) (Northwestern Polytechnical University, P.R. China & National University of Singapore, Singapore); [Naoki Shinohara](#) (Kyoto University, Japan); [Yong-xin Guo](#) (National University of Singapore, Singapore)

**16:30 Design and Optimization of Multiple Antiparallel Rectangular Coils for Distance-Stable Wireless Power Transfer**

[Huapeng Zhao](#) and [Yuxin Zhang](#) (University of Electronic Science and Technology of China, P.R. China)

**16:45 Frequency Tripler Based on Dual-Mode Hybrid Coupler for Wireless Sensing Applications**

[Hao Zhang](#) (Northwestern Polytechnical University, P.R. China & National University of Singapore, Singapore)

**17:00 Shaped Beam Rectenna With Enhanced Coverage for Indoor RF Energy Harvesting**

[Xiao Cai](#) (Nanjing University of Information Science & Technology, P.R. China); [Geyi Wen](#) (Nanjing University of Information Science and Technology, P.R. China); [Yong-Xin Guo](#) (National University of Singapore, Singapore)

**17:15 A Study on Microwave Power Transfer to Rectangular Antenna for Stratospheric Platform**

[Yuta Nakamoto](#) (Kyoto University, Japan); [Naoki Hasegawa](#) (Softbank, Japan); [Yuki Takagi](#) (Softbank corp., Japan); [Yoshichika Ohta](#) (Softbank Corp., Japan); [Naoki Shinohara](#) (Kyoto University, Japan)

**17:30 Energy Harvester in FM Broadcasting Band Using a Loop Antenna**

[Hidefumi Yasuda](#) and [Hitoshi Shimasaki](#) (Kyoto Institute of Technology, Japan)

**17:45 A 13.56 MHz Wireless Power Transfer System with Bidirectional Data Link and Closed-loop Power Control for Implantable Neuromuscular Stimulator**

[Jianming Zhao](#) (IME, A\*star, Singapore); [Yuan Gao](#) (Institute of Microelectronics, A\*STAR, Singapore)

## Friday, December 13

Friday, December 13 8:30 – 10:15

F1-2: Microwave/mm-wave Applications (2)

Room: Melati 4011

**8:30 A Kind of Slot Antenna Array Fed With Substrate Integrated Waveguide**

[Chao Wu](#) and [Shuang Qiu](#) (Harbin Institute of Technology, P.R. China); [Nannan Wang](#) (Harbin Institute of Technology, P.R. China); [Jinghui Qiu](#) (Harbin Institute of Technology, P.R. China)

**8:45 A 28 GHz Interleaved Circular Antenna Array with Equal Gains and Wideband Orthogonality for Analog OAM Multiplexing**

[Yudai Shigeta](#), [Keita Kitagawa](#) and [Atsushi Sanada](#) (Osaka University, Japan); [Atsushi Fukuda](#) and [Kunihiro Kawai](#) (NTT DOCOMO, INC., Japan); [Hiroschi Okazaki](#) (NTT DOCOMO, Japan)

**9:00 Broadband Reflective Gratings for the High Power Millimeter Wave Systems**

[Donghui Xia](#), [Yizhe Tian](#) and [Zhijiang Wang](#) (Huazhong University of Science and Technology, P.R. China)

**9:15 Wide-Band Directional Coupler Design Using the Substrate Integrated Double-Strip Coaxial Line**

[Min-Hua Ho](#) and [Wanchu Hong](#) (National Changhua University of Education, Taiwan); [Gwan-Wei Su](#) and [You-Lin Shen](#) (National Changhua University of Education, Taiwan)

**9:30 A Frequency Synthesizer for LO in Millimeter-wave 5G Massive MIMO System**

[Le Kuai](#), [Wei Hong](#), [Jixin Chen](#) and [Hou-Xing Zhou](#) (Southeast University, P.R. China)

**9:45 Improve the Stability of Atmospheric Microwave Plasma by Gas-flow Control**

[Dashuai Li](#), [Ling Tong](#), [Qianyu Guan](#) and [Bo Gao](#) (University of Electronic Science and Technology of China, P.R. China)

**10:00 Time-Modulated Beamforming in Antenna Arrays with Multiple Sub-Branch RF Switches**

[Haotian Li](#) and [Yikai Chen](#) (University of Electronic Science and Technology of China, P.R. China); [Shiwen Yang](#) (University of Electronic Science and Technology of China (UESTC), P.R. China)

F1-3: SS: Filtering Components

Room: Melati 4111

**8:30 Design of Out-of-phase Filtering Power Dividers Using Flexible Coupling Schemes**

[He Zhu](#) and [Y. Jay Guo](#) (University of Technology Sydney, Australia)

**8:45 High Scanning Rate Circularly Polarized Leaky-wave Antennas Based on Allpass Filtering Network**

[Ge Zhang](#) (South University of Science and Technology of China & The Hong Kong University of Science and Technology, P.R. China); [Qingfeng Zhang](#) (Southern University of Science and Technology, P.R. China); [Yifan Chen](#) (University of Waikato & University of Electronic Science and Technology of China, New Zealand); [Ross Murch](#) (Hong Kong University of Science and Technology, P.R. China)

**9:00 Recently Developed Multiple State Diplexer**

[Jing-Yu Lin](#) (University of Technology Sydney, Australia)

**9:15 A Novel Low-Cost Frequency Selective Structure for Millimetre-Wave and Terahertz Applications**

[Amir K Rashid](#) and [Qingfeng Zhang](#) (Southern University of Science and Technology, P.R. China)

**9:30 A 1.1-3.1-GHz Tunable Quadruplexer with Compact Size and Bandwidth Control**

[Pei-Ling Chi](#) and [Yu-Wen Chi](#) (National Chiao Tung University, Taiwan); [Tao Yang](#) (University of Electronic Science and Technology of China, P.R. China)

**9:45 Wideband Grounded Coplanar Waveguide Bandpass Filter with Novel Coupling Structures**

[Kenneth S. K. Yeo](#) (Universiti Teknologi Brunei, Brunei Darussalam)

**10:00 28 GHz Antenna-Array-Integrated Module with Built-In Filters in LTCC Substrate**

[Kaoru Sudo](#), [Kengo Onaka](#) and [Hisao Hayafuji](#) (Murata Manufacturing Co., Ltd., Japan)

F1-4: Satellite and radar Systems

Room: Orchid 4211

**8:30 Q-Band MMIC High Power Amplifiers for High Throughput Satellites in GaN-on-Si Technology**

[Rocco Giofrè](#) and [Ferdinando Costanzo](#) (University of Roma Tor Vergata, Italy); [Ernesto Limiti](#) (University of Rome Tor Vergata, Italy)

**8:45 K-Band Doherty and Class AB Gallium Nitride MMIC Power Amplifiers for Space Applications**

[James J Sowers](#) (Maxar, Space Solutions, USA); [Seyed Tabatabaei](#) (Teramics, USA)

**9:00 Performance Evaluation of Tracking Loop under RF Interference using NavIC Software-Receiver**

[Abhijit Dey](#) (Birla Institute of Technology & Science Pilani, India); [Prateek Singh](#) (Birla Institute of Technology & Science, India); [Nitin Sharma](#) (BITS Pilani, India)

**9:15 Hurricane Monitoring Using Advanced GNSS Reflectometry System**

[Faisal Alawwad](#) and [Ibrahim Elshafiey](#) (King Saud University, Saudi Arabia)

**9:30 Electro-Magnetic Tubes with Low-Loss Coupling Technique for New Radar System**

[Tsubasa Kurokawa](#) (Research & Development Group & Hitachi, Ltd., Japan)

**9:45 Investigation of Rainfall Forecasting Using the Difference of GNSS Zenith Total Delay with Elevation Cut-off Angles**

[Kazuaki Imaoka](#) (Nara Institute of Science and Technology, Japan); [Takeshi Higashino](#) (Nara Institute of Science and Technology & Graduate School of Science and Technology, Japan); [Minoru Okada](#) (Nara Institute of Science and Technology, Japan)

**10:00 A Broadband Circularly Polarization AMC-based Antenna for S-Band Satellite Applications**

[Shiou-Li Chen](#) (National Space Organization, Taiwan)

F1-5: Scattering and Propagation

Room: Orchid 4212

**8:30 Waveform Prediction of V/UHF EMP Signal Propagation in the Ionosphere**

[Jiixin Yao](#) and [Hanyu Shan](#) (Harbin Engineering University, P.R. China); [Bin Cao](#) (Marine Design & Research Institute of China, P.R. China); [Tao Jiang](#) (Harbin Engineering University, P.R. China)

**8:45 An Improved Ghost Imaging Method with Resolution Analysis**

[Shiyi Yang](#), [Zhenghui Xue](#), [Wu Ren](#), [Weiming Li](#) and [Qingyun Zeng](#) (Beijing Institute of Technology, P.R. China)

**9:00 A Novel Method to estimate Propagation for Spectrum Sharing between 5G mmWave access and Wireless Backhaul**

[Akio Ikami](#), [Takahiro Hayashi](#), [Tatsuya Nagao](#) and [Yoshiaki Amano](#) (KDDI Research, Inc., Japan)

**9:15 Measurement and Analysis of V2V Propagation Channel at C-Band on Highway under Construction**

[Wei Wang](#) and [Xu Zhang](#) (Chang'an University, P.R. China); [Ibrahim Rashdan](#), [Paul Unterhuber](#) and [Stephan Sand](#) (German Aerospace Center (DLR), Germany)

**9:30 Solution of Near-zone Composite EM Scattering from Targets and Rough surface below**

[Xi-Min Li](#) and [Jing-Jing Li](#) (Air Force Engineering University, P.R. China); [Peng-Cheng Gao](#) (State Key Laboratory of Electromagnetic Environment Research, P.R. China); [Bin Chen](#) (Air Force Engineering University, P.R. China)

**9:45 An Approach to Landslide Prediction Focused on FM Radio Waves**

[Yuto Uchida](#) (National Institute of Technology, Kure College, Japan); [Kousei Kumahara](#) (Tohoku University, Japan); [Futoshi Kuroki](#) (National Institute of Technology, Kure College, Japan)

**10:00 A novel method for fast analysis of electromagnetic scattering characteristics of PEC objects**

[Yaxiu Sun](#) and [WenLiang Song](#) (Harbin Engineering University, P.R. China); [Ruifeng Sun](#) (State Grid Harbin Electric Power Company, P.R. China); [Ruiying Sun](#) (Dalian Shipbuilding Industry Co. LTD, P.R. China)

F1-6: Packaging

Room: Orchid 4311

**8:30 Miniature Wideband Six-Port Network Based on Integrated Passive Device Technology**

[Xuan-Hong Liu](#), [Kuan-Chun Huang](#) and [Yo-Shen Lin](#) (National Central University, Taiwan)

**8:45 Si-Embedded IC Package for W-band Applications: Interconnection Analysis**

[Hyun-Beom Lee](#) (University of Yonsei & Korea Electronics Technology Institute, Korea); [Jong Min Yook](#) (Korea Electronics Technology Institute, Korea); [Byung-Wook Min](#) (Yonsei University, Korea); [Wansik Kim](#) (LIG NEX1, Korea); [Young-Gon Kim](#) (LIG Nex1, Korea); [Sosu Kim](#) (Agency for Defense Development, Korea)

**9:00 A Self-packaged SISL 3-dB Lange Coupler Suitable for PCB Fabrication**

[Feng Ting](#), [Kaixue Ma](#) and [Yongqiang Wang](#) (University of Electronic Science and Technology of China, P.R. China)

**9:15 Effect of Material Properties on the Performance of Novel Low-k High-Q LTCC Compositions**

[Peter Marley](#) (Ferro Corporation, USA)

**9:30 Analysis and design of tightly coupled differential pairs with minimum conductor loss for high density and very high speed applications**

[Mihai D Rotaru](#) (University of Southampton Malaysia campus); [Bok Eng Cheah](#) and [Jackson Kong](#) (Intel Microelectronics (M) Sdn. Bhd., Malaysia)

**9:45 Supply induced jitter-aware target impedance methodology to solve signoff chip-pkg-pcb co-design flow**

[Michael Chang](#) (HTC, Taiwan)

**10:00 Modeling of a 75-85GHz Si-based Fan-out Package for Automotive Radar**

[Yang Zhou](#) (East China Research Institute of Electronic Engineering, P.R. China)

F1-7: Antenna Arrays (2)

Room: Orchid 4312

**8:30 Wideband Substrate Integrated Waveguide Inclined Diamond-Type Slot Array**

[Xuejuan Huang](#), [Zihang Qi](#), [Wenyu Zhao](#), [Yuefang Zhu](#) and [Peihua Ji](#) (Beijing University of Posts and Telecommunications, P.R. China); [Xiuping Li](#) (Beijing University of Post Telecommunications, P.R. China)

**8:45 Analog Interference Suppression Using End-Fire Arrays and 180-degree Hybrids for Full-Duplex MIMO**

[Shizuka Masuyama](#) (Iwate University, Japan); [Yoshiyuki Yamamoto](#) (Tohoku University, Japan); [Naoki Honma](#) and [Kentaro Murata](#) (Iwate University, Japan); [Qiaowei Yuan](#) (National Institute of Technology, Sendai College, Japan); [Qiang Chen](#) (Tohoku University, Japan)

**9:00 Decreasing Mutual Coupling in a Phased Array Using a Mutual Coupling Based Element**

[Marzieh SalarRahimi](#) (KU Leuven, Belgium); [Guy Vandebosch](#) (Katholieke Universiteit Leuven (KU Leuven), Belgium)

**9:15 Efficient Phase Center Estimation Method for OTA Beamforming Characterization**

[Shih-Cheng Lin](#) (National Chiayi University, Taiwan); [Sheng-Fuh Chang](#), [Janne-Wha Wu](#), [Wei-Yang Chen](#), [Yuan-Chun Lin](#) and [Jian-Yi Wu](#) (National Chung Cheng University, Taiwan); [I-Min Chen](#) and [Tai-Lang Jong](#) (National Tsing Hua University, Taiwan)

**9:30 Frequency Beam-Scanning Antenna Based on Subarray Topology for Transmission Loss Reduction**

[Hui Chu](#) (Nanjing University of Science and Technology, P.R. China)

**9:45 Breast Cancer Hemispheric Shaped Hyperthermia System Designed with Compact Conformal Planar Antenna Array**

[Alireza Dadzadi](#) (University of Tehran, Iran); [Reza Faraji-Dana](#) (Center of Excellence on Applied Electromagnetic Systems, Iran)

**10:00 Coupled-Mode Patch Antenna with Improved Bandwidth and Scanning Angle Range**

[Haozhan Tian](#) (University of California, Los Angeles, USA); [Tatsuo Itoh](#) (UCLA, USA)

Friday, December 13 10:00 – 12:00

F1-1: Interactive Forum 4

Room: Orchid Junior Ballroom

**IF-1: Study of X-Band Broadband Branch-Line Coupler Utilizing Two-Stage Coupled-Transmission Lines**

[Yuya Haoka](#), [Tadashi Kawai](#) and [Akira Enokihara](#) (University of Hyogo, Japan)

**IF-2: Wideband Dual-Function Circuit with Switchable Crossover/Branch-Line Coupler Characteristics**

[I-Ju Chen](#), [Chia-I Lu](#) and [Yi-Hsin Pang](#) (National University of Kaohsiung, Taiwan)

**IF-3: Magnetolectric GaN film bulk acoustic wave resonator**

[Alina-Cristina Bunea](#) (National Institute for R&D in Microtechnologies - IMT Bucharest, Romania); [Dan Neculoiu](#) (National Institute of R&D in Microtechnologies - IMT Bucharest & Politehnica University of Bucharest, Romania); [George Konstantinidis](#) (IEEE, USA); [Athanasios Kostopoulos](#), [Antonis Stavrinidis](#) and [George Stavrinidis](#) (FORTH-IESL-MRG, Greece)

**IF-4: Dual-Band Linear-to-Circular Polarizer Based on Aperture-Coupled Resonators**

[Jin-Ming Xie](#) (Nanjing University of Posts and Telecommunications, P.R. China); [Bo Li](#) (NJUPT, P.R. China); [Lei Zhu](#) (University of Macau, Macao); [Wenjun Lu](#) (Nanjing University of Posts and Telecommunications, P.R. China)

**IF-5: Repeatability of Frequency Characteristics for Quadruple-Mode-Resonator Base-Station Filter**

[Akihiro Tsubouchi](#) and [Toshio Ishizaki](#) (Ryukoku University, Japan)

**IF-6: Ka-band 5-bit TTD Phase Shifter with Miniaturized Equivalent Delay Lines**

[Wonho Lee](#), [Gwangsik Cho](#) and [Songcheol Hong](#) (KAIST, Korea)

**IF-7: Broadband Differentially-Fed Directional Coupler Composed of Coupled and Uncoupled Sections**

[Krzysztof Wincza](#), [Robert Smolarz](#) and [Slawomir Gruszczynski](#) (AGH University of Science and Technology, Poland)

**IF-8: Design of dual-band quarter-wave transforms using three equal-length transmission lines**

[Chih-Jung Chen](#) (National Taiwan Ocean University & National Taiwan Ocean University, Taiwan); [Hsuan-Yao Tsai](#) (National Taiwan Ocean University, Taiwan)

**IF-9: Miniaturized Sixteenth-Mode Substrate Integrated Waveguide Bandpass Filter with Helical slot lines**

[Peng Chen](#), [Xingyu Liu](#), [Luping Li](#) and [Kai Yang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-10: Synthesis of a Tunable Impedance Inverter Based on Variable Position of Capacitive-Loads**

[Gaëtan Prigent](#) (LAAS-CNRS)

**IF-11: New Alternative Realizations of a Cross Coupled Quadruplet Bandpass Filter**

[Jen-Tsai Kuo](#) and [Chun-Chin Wang](#) (Chang Gung University, Taiwan); [Chong Lay Ng](#) (Universiti Teknologi PETRONAS, Malaysia); [Chun-Hung Lin](#) (Chang Gung University, Taiwan); [Peng Wen Wong](#) (Universiti Teknologi PETRONAS, Malaysia)

**IF-12: Compact Uniplanar Rat-Race Circuit Utilizing Shunt Capacitors and Crossover-Type Phase Inverter**

[Ryosuke Nakai](#), [Yuya Haoka](#), [Kensuke Nagano](#), [Tadashi Kawai](#) and [Akira Enokihara](#) (University of Hyogo, Japan)

**IF-13: Compact Substrate Integrated Coaxial Line Quadrature Hybrid with Harmonic Rejection**

[Satya Krishna Idury](#) and [Soumava Mukherjee](#) (Indian Institute of Technology Jodhpur, India)

**IF-14: Mechanically Tunable Oscillator Based on Air-filled Folded Substrate Integrated Waveguide Cavity**

[Qingyuan Zhang](#) and [Xuefeng Meng](#) (University of Science and Technology of China, P.R. China); [Yanli Qiao](#) (Chinese Academy of Science, P.R. China)

**IF-15: A Broadband CMOS High Efficiency Power Amplifier with Large Signal Linearization**

[Jiangfan Liu](#), [Cheng Cao](#), [Yubing Li](#), [Tao Tan](#), [Deyang Chen](#) and [Zemeng Huang](#) (Beijing University of Posts and Telecommunications, P.R. China); [Xiuping Li](#) (Beijing University of Post Telecommunications, P.R. China)

**IF-16: A Wideband LNA Based on Current-Reused CS-CS Topology and Gm-boosting Technique for 5G Application**

[Hongchen Chen](#) (South China University of Technology, P.R. China); [Liang Wu](#) (The Chinese University of Hong Kong, P.R. China); [Wenquan Che](#), [Quan Xue](#) and [Haoshen Zhu](#) (South China University of Technology, P.R. China)

**IF-17: Study on the Photo-thermoelectric characteristic of Graphene with double-gate**

[Cong Meng](#) (University of Shanghai for Science and Technology, P.R. China)

**IF-18: Low-power magnetoacoustic sensing with 30W power amplifier**

[Yifei Xu](#), [Hongtao Zhong](#), [Daohuai Jiang](#) and [Fei Gao](#) (ShanghaiTech University, P.R. China)

**IF-19: 65% PAE, 1 kW S-Band GaN-HEMT Power Amplifier Operating in Class-J**

[Bal Virdee](#) (London Metropolitan University, United Kingdom (Great Britain))

**IF-20: 13.6 - 24 GHz LNA Design for Radio Astronomy using a Commercially Available 100 nm GaAs pHEMT Process**

[Daniel P White](#) (University of Manchester, United Kingdom (Great Britain)); [William McGenn](#) (Jodrell Bank Centre for Astrophysics, United Kingdom (Great Britain)); [Claudio Jarufe](#) (Universidad de Chile,

Chile); [Danielle George](#) (University of Manchester, Malaysia); [Gary Fuller](#) (University of Manchester, United Kingdom (Great Britain))

**IF-21: A 5.8 GHz Implicit Class-F VCO in 180-nm CMOS Technology**

[Yating Zhang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-22: Design of Wideband Active Mixer by using an Active Inductor**

[Darshak K Bhatt](#) (Indian Institute of Technology Roorkee, India)

**IF-23: Bandwidth Performance Analysis of DLM PAs Including the Class-A/B/J Continuum**

[Xuekun Du](#), [Mohamed Helaoui](#) and [Fadhel Ghannouchi](#) (University of Calgary, Canada)

**IF-24: Membrane Supported GaN CPW Structures for High-frequency and High-power Applications**

[Abdalla Eblabla](#), [Moath Alathbah](#), [Zehao Wu](#), [Jonathan Lees](#) and [Khaled Elgaid](#) (Cardiff University, United Kingdom (Great Britain))

**IF-25: A Polarization-Pattern Reconfigurable Antenna Based on Leakage Current Regulation**

[Tian Liang](#) and [Yuandan Dong](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-26: A Polarization-Reconfigurable Antenna with Tunable Axial-ratio Bandwidth Using Metasurface**

[Yinglu Wan](#) (The 38th Research Institute of CETC, P.R. China)

**IF-27: Bandwidth Improvement of Slot Antenna Arrays Using Substrate Integrated Waveguide (SIW) Through Optimal Design of Radiating Slots**

[Heng-Tung Hsu](#) (National Chiao Tung University & International College of Semiconductor Technology, Taiwan); [Ting-Jui Huang](#) (National Chiao Tung University, Taiwan); [Yi-Fan Tsao](#) (International College of Semiconductor Technology, NCTU, Taiwan); [Joachim Würfl](#) (FBH, Berlin,, Germany)

**IF-28: A Broadband Omnidirectional Circularly Polarized Dielectric Resonator Antenna**

[Sihao Liu](#), [Deqiang Yang](#) and [Yong Xiang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-29: A Polarization Reconfigurable Microstrip Circular Patch Filtering Antenna**

[Ting-Yi Huang](#), [Hung-Wei Chou](#) and [Wei-Hung Hsiao](#) (Feng Chia University, Taiwan)

**IF-30: 3D printed dual polarized magneto electric dipole antenna**

[Wing Chi Mok](#), [Ka Fai Chan](#), [Kwok Kan SO](#) and [Kwai-Man Luk](#) (City University of Hong Kong, Hong Kong)

**IF-31: Wideband Omnidirectional Filtering Antenna with CSRR loading**

[Peng Liu](#), [Wen Jiang](#) and [Yan Xi](#) (Xidian University, P.R. China); [Shuxi Gong](#) (National Laboratory of Antennas and Microwave Technology, P.R. China)

**IF-32: Bandwidth and Gain Enhancement of CPW-Fed Slot Antenna Using A Partially Reflective Surface Formed by Two-Step Tapered Dipole Unit Cells**

[Hsiu-Ping Liao](#) (National Taiwan University, Taiwan)

**IF-33: Design of wideband small footprint 3D posts antenna with coupled meta-surface patches**

[Gaurangi Gupta](#) and [A. r. Harish](#) (Indian Institute of Technology Kanpur, India)

**IF-34: Dual band Ultra Slim WLAN Antenna Design for Mobile Devices**

[Jayprakash Thakur](#) and [Maruti Tamrakar](#) (Intel, India)

**IF-35: Dielectric Rectangular Slab Antennas featuring Dual Frequency and Better Impedance Matching**

[Samik Chakraborty](#) (Dream Institute of Technology, India); [Ayona Chakraborty](#) and [Bhaskar Gupta](#) (Jadavpur University, India); [Sayan Chatterjee](#) (Jadavpur University & Jadavpur University, India)

**IF-36: Open-Ended Coaxial Probe for Dielectric Property Measurements in Sugar Mills**

[Scott J Thomason](#) and [Konstanty S Bialkowski](#) (The University of Queensland, Australia)

**IF-37: Beam-steering Lens Antenna Using Two Transmit Arrays at X-band**

[Qingyun Zeng](#), [Zhenghui Xue](#), [Wu Ren](#), [Weiming Li](#) and [Shiyi Yang](#) (Beijing Institute of Technology, P.R. China)

**IF-38: Unit Cell of Ultra-thin Transmitarray for Automotive Radar Application**

[Guohong Du](#), [Shuai Shao](#) and [Chuan Wu](#) (Chengdu University of Information Technology, P.R. China)

**IF-39: Improving Co-Channel Interference Robustness In Direct Detection Receivers Using A Surface Acoustic Wave (SAW) Correlator**

[Saed Abughannam](#) and [Christoph Scheytt](#) (University of Paderborn, Germany)

**IF-40: Fourth-order Resonator based Current Reuse Injection-Locking Frequency Divider with Peaking Inductor**

[Kwang-Il Oh](#) (Chung-Ang University, Korea)

**IF-41: Ultra-Wideband Multiprobe Reflectometer Designed in MMIC Technique**

[Robert Smolarz](#), [Kamil Staszek](#), [Krzysztof Wincza](#) and [Slawomir Gruszczynski](#) (AGH University of Science and Technology, Poland)

**IF-42: Ka-Band Quasi-Nondiffraction Beam Generation Through a Broadband Bessel Lens Antenna**

[Yulu Fan](#), [Xianqi Lin](#) and [Shilin Liu](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-43: A W-band Compact Dual Reflector Cassegrain antenna for Monopulse Tracking Radar**

[Srujana Vahini Nandigama](#) (University College of Engineering, Osmania University, India); [Tapas Pal](#) (Research Centre Imarat, India); [Rama Krishna Dasari](#) (Osmania University & University College of Engineering, India); [B s v Prasad](#) (Research Centre Imarat, India); [Pandharipande](#) (Osmania University, Hyderabad, India)

**IF-44: All-Optical Image Rejection Mixer Based on Optical Hilbert Transform Using a Phase-Shifted Fiber Bragg Grating**

[Yu Chen](#) and [Yang Chen](#) (East China Normal University, P.R. China)

**IF-45: Design of FMCW Ground Penetrating Radar For Concrete Inspection At ISM Band 2.4 - 2.5 GHz**

[Try Putra Wibowo](#) and [Fitri Yuli Zulkifli](#) (Universitas Indonesia, Indonesia)

**IF-46: Balanced PA Topology For Beamforming**

[J r mie Forest](#) (IMS Laboratory & STMICROELECTRONICS, France); [Vincent Knopik](#) (STMICROELECTRONICS, France); [Eric Kerherve](#) (INP Bordeaux, France)

**IF-47: The Design of 77 GHz Microstrip Antenna Array Applied to Automotive Anti-collision Radar Antenna**

[Nannan Wang](#) (Harbin Institute of Technology, P.R. China); [Peng Gao](#), [Weihao Zhao](#) and [Xueying Wang](#) (Harbin Institute of Technology, P.R. China)

**IF-48: On-chip De-embedding Methods of 28-nm FDSOI MOSFETs up to 110-GHz**

[Seungkyeong Lee](#) (Korea Advanced Institute of Science and Technology (KAIST), Korea); [Hyunji Koo](#) (Korea Research Institute of Standards and Science, Korea); [Kyoungsoon Yang](#) (KAIST, Korea); [Songcheol Hong](#) (IEEE, USA)

**IF-49: Design of a slice style Ka-band Envelope Detector**

[Zhihong Liu](#) (No. 38 Research Institute of CETC., P.R. China)

**IF-50: Carpet cloaking using the reflectarray with spiral-shaped resonant elements for dual polarization**

[Shinichiro Wakashima](#) (Doshisha University, Japan)

**IF-51: H-Plane Loaded Sine Waveguide TWT in G-Band**

[Narugopal Nayek](#) (IIT Guwahati and SAMEER, IIT Guwahati, India); [Ramesh Kumar Sonkar](#) (Indian Institute of Technology Guwahati, India); [Mohit Kumar Joshi](#) (IIT Guwahati, India); [Tapeshwar Tiwari](#) (SAMEER, IIT Guwahati, India); [Ratnajit Bhattacharjee](#) (IIT Guwahati, India)

**IF-52: Simulation Studies of an Overmoded RBWO under Low Guiding Magnetic Field**

[Vemireddy Venkatareddy](#) and [M. A. Ansari](#) (CRMT LAB & IIT (BHU) Varanasi INDIA, India); [Thottappan M](#) (IIT (BHU), India)

**IF-53: New approach for extracting the noise wave correlation matrix for 2-port devices**

[Ramzi Ghazel](#) (University of Limoges & XLIM Research Institute UMR7252, France); [Julien Lintignat](#) (XLIM UMR 7252 Université de Limoges/CNRS, France); [Clement Hallepee](#) (Xlim Laboratory, France); [Damien Passerieux](#) (University of Limoges, France); [Bruno Barelaud](#) (Université de Limoges, CNRS, XLIM, France); [Bernard Jarry](#) (XLIM - University of Limoges, France)

Friday, December 13 10:45 – 12:15

F2-2: SS: RF Wireless Power for Low Power Applications

Room: Melati 4011

**10:45 A Performance Enhanced Dual-band Wireless Power Transfer System for Practical ISM Bands**

[Kassen Dautov](#) (Nazarbayev University, Kazakhstan); [Rahul Gupta](#) (IIIT Delhi, India); [Mohammad Hashmi](#) (Nazarbayev University, Kazakhstan)

**11:00 Human-Body Aware Beamforming for Microwave Power Transmission**

[Naoki Honma](#) and [Akihiro Katsumata](#) (Iwate University, Japan)

**11:15 Multiport Compact Antenna for RF Energy Harvesting**

[Deepti Das Krishna](#) (Cochin University of Science and Technology, India); [Sleebe Divakaran](#) (Rajagiri School of Engineering & Technology, India); [N Nasimuddin](#) (Institute for Infocomm Research, Singapore); [Jobin Antony](#) (Rajagiri School of Engineering and Technology, India)

**11:30 High efficient 2.4GHz band high power rectenna with the direct matching topology**

[Atsuya Hirono](#) (Kanazawa Institute of Technology, Japan)

**11:45 Gain Enhancement of Flexible Power Transfer Antenna using Frequency Compensation**

[JinHyoungh Kim](#) (Korea Electronics Technology Institute, Korea)

**12:00 920MHz band high sensitive rectenna with a small loop antenna**

[Shinichiro Tsujita](#) (Kanazawa Institute of Technology, Japan)

F2-3: Device Modeling

Room: Melati 4111

**10:45 Study of Microstrip Slotted EH<sub>2</sub>-Mode Leaky Wave Antenna from Circuit Perspective**

[Peng fei Zhang](#) (University of Electronic Science and Technology of China, P.R. China); [Lei Zhu](#) (University of Macau, Macao); [Sheng Sun](#) (University of Electronic Science and Technology of China, P.R. China)

**11:00 Antenna Integrated with Low Noise Amplifier Operating at L1 GPS Application**

[Dian Rusdiyanto](#) and [Fitri Yuli Zulkifli](#) (Universitas Indonesia, Indonesia)

**11:15 An Improved Surface Potential-Based High-Order Channel Length Modulation Model**

[Chengxiong Huang](#), [Kai Kang](#) and [Yunqiu Wu](#) (University of Electronic Science and Technology of China, P.R. China)

**11:30 Highly Scalable Distributed High Electron Mobility Transistor Model**

[Felix Heinz](#) (Fraunhofer Institute for Applied Solid State Physics IAF, Germany); [Dirk Schwantuschke](#) and [Arnulf Leuther](#) (Fraunhofer Institute for Applied Solid State Physics, Germany); [Oliver Ambacher](#) (Fraunhofer Institute for Applied Solid State Physics IAF, Germany)

**11:45 An Ultrashort Electric Field Pulse Generator using Avalanche Breakdown Transistors and the Open Circuit Transmission Line Technique for Nanosecond Electroporation**

[Ilan W Davies](#) (Bangor University, United Kingdom (Great Britain))

**12:00 Improved Compact Models for On-Chip Symmetrical Inductors and Transformers**

[Liyun Shi](#) (East China Normal University & ShanghaiJiaoTong University, P.R. China); [Chengrui Zhang](#) (ShanghaiJiaotongUniversity, P.R. China); [Min Tang](#) (Shanghai Jiao Tong University, P.R. China); [Jianjun Gao](#) (EastChinaNormal University, P.R. China)

F2-4: High Power Devices (2)

Room: Orchid 4211

**10:45 A Novel Segmented Design Method for High-Power Mode Converter**

[Xinhong Cui](#) (University of Science and Technology of China & The Northwest Institute of Nuclear Technology, P.R. China); [Tao Jiang](#) and [Zhengfeng Xiong](#) (The Northwest Institute of Nuclear Technology, P.R. China); [Wensen Yang](#) (the Northwest Institute of Nuclear Technology, P.R. China); [Feng Yan](#) (The Northwest Institute of Nuclear Technology, P.R. China); [Gang Wang](#) (University of Science and Technology of China, P.R. China)

**11:00 Enhanced stacked-FETs SOI-CMOS switch biasing strategy for high power applications**

[Zhihao Zhang](#), [Liping Zhong](#), [Huanqing Lan](#) and [Guohao Zhang](#) (Guangdong University of Technology, P.R. China)

**11:15 A 2-6GHz Power Amplifier with 45% PAE in 0.25 $\mu$ m GaN Technology**

[Shuman Mao](#) and [Xiansuo Liu](#) (UESTC, P.R. China); [Yunqiu Wu](#) and [Yuehang Xu](#) (University of Electronic Science and Technology of China, P.R. China)

**11:30 High-Efficiency Rectifier with Wide Range of Input Power Using Coupling Reconfigurable Coupler**

[Hongmei Liu](#), [Chen Mu](#), [Shaojun Fang](#) and [Zhongbao Wang](#) (Dalian Maritime University, P.R. China); [Shiqiang Fu](#) (DaLian Maritime University, P.R. China)

**11:45 Design of W-band Sheet Beam EIK**

[Shuyuan Chen](#) (National Key Laboratory of Science and Technology on Test Physics and Numerical Mathematics, P.R. China); [Jinliang Bai](#) (National Key Laboratory of Test Physics and Numerical Mathematics, P.R. China); [Ran Zhang](#) (National Key Laboratory, P.R. China); [Pei Zheng](#) (National Key Laboratory of Science and Technology on Test Physics and Numerical Mathematics, P.R. China); [Jiaqi Liu](#) (National Key Laboratory of Test Physics and Numerical Mathematics, P.R. China); [Hongyan Liu](#) (National Lab of Science and Technology on Test Physics and Numerical Mathematic, P.R. China); [Xin Liu](#) (National Key Laboratory of Test Physics and Numerical Mathematics, P.R. China)

**12:00 Breakdown Voltage Analysis of Dual-Gate MISHEMT: TCAD based Assessment**

[Preeti Singh](#) (University of Delhi South Campus, India); [Vandana Kumari](#) (University of Delhi South Campus, New Delhi, India); [Manoj Saxena](#) (Deen Dayal Upadhyaya College & University of Delhi, India); [Mridula Gupta](#) (Semiconductor Device Research Laboratory, India)

F2-5: MM-wave/THz Components

Room: Orchid 4212

**10:45 An Innovative Vector-Sum Phase Shifter with Active Balun and 90° Hybrid in 65nm CMOS for 5G Application**

[Feng Qiu](#) (South China University of Technology, P.R. China); [Liang Wu](#) (The Chinese University of Hong Kong, P.R. China); [Kun Tang](#) (South China University of Technology, P.R. China); [Wenquan Che](#) (Nanjing University of Science and Technology, P.R. China); [Quan Xue](#) (South China University of Technology, P.R. China)

**11:00 Accurate and efficient measurements for complex permittivity of 3D printer filaments using a 50GHz band TM<sub>010</sub> mode cavity resonator**

[Takashi Shimizu](#), [Takafumi Sasaki](#) and [Yoshinori Kogami](#) (Utsunomiya University, Japan)

**11:15 Wideband Variable Gain Amplifier for D Band Backhaul Transceiver in 55nm BiCMOS Technology**

[Pascal Roux](#) (Nokia-Bell-Labs/III-V Lab, France); [Amit Singh](#) (Nokia-Bell-Labs, USA); [Filipe Jorge](#) (Nokia-Bell-Labs/III-V Lab); [Maurizio Moretto](#) (Nokia, Italy); [Yves Baeyens](#) (Nokia-Bell-Labs, USA)

**11:30 A 170-190 GHz Two-Elements Phased-Array Receiver Front-End for Low-Power Applications**

[Paolo Valerio Testa](#) and [Vincent Rieß](#) (Technische Universität Dresden, Germany); [Songhui Li](#) (TU Dresden, Germany); [David Fritsche](#) and [Paul Stärke](#) (Technische Universität Dresden, Germany); [Corrado Carta](#) (Dresden University of Technology, Germany); [Frank Ellinger](#) (Technische Universität Dresden, Germany)

**11:45 Design of W-band Microstrip Antenna Array**

[Zhixiang Cao](#) (Southeast University, P.R. China); [Zhihong Liu](#) (East China Research Institute of Electronic Engineering, P.R. China); [Hongfu Meng](#) (Southeast University, P.R. China); [Wenbin Dou](#) (Southeast University & State Key Of MMW, Southeast University, P.R. China)

**12:00 mm-Wave Circular Patch Arrays with Radial Feed Networks**

[Edward Hunter](#) and [Tinus Stander](#) (University of Pretoria, South Africa); [Dirk de Villiers](#) (Stellenbosch University, South Africa)

F2-6: IOT/RFID (2)

Room: Orchid 4311

**10:45 Sensor Enhanced Dual Frequency RSSI Distance Estimation for Low Weight Wireless Sensor Nodes**

[Niklas Duda](#) (Friedrich-Alexander University Erlangen-Nuremberg, Germany); [Robert Weigel](#) (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany); [Alexander Koelpin](#) (BTU & Chair for Electronics and Sensor Systems, Germany)

**11:00 Design of Wireless IoT Sensor Node & Platform for Water Pipeline Leak Detection**

[Mohamed Rabeek Sarbudeen](#) (IME,A\*STAR,Singapore); [Beibei Han](#) (IME, A\*STAR, Singapore); [Kevin Chai Tshun Chuan](#) (Scientist, Singapore)

**11:15 Calibration-Free Chipless Radiofrequency Identification Tags with Enhanced Data Capacity**

[Jia-Wen Hsu](#), [Fei-Peng Lai](#) and [Yen-Sheng Chen](#) (National Taipei University of Technology, Taiwan)

**11:30 Chipless RFID Tag using Complementary Hexagonal Split Ring Resonator**

[Li Wu](#), [JunMing Sheng](#), [Shusheng Peng](#) and [Zelong Xiao](#) (Nanjing University of Science and Technology, P.R. China); [Shanshan Gu](#) (Jinling Institute of Technology, P.R. China)

**11:45 Compact and Circular Polarization UHF/UWB RFID Reader Antenna**

[Ning Zhang](#) (Beijing University of Posts and Telecommunications, P.R. China); [Xiuping Li](#) (Beijing University of Post Telecommunications, P.R. China); [Hua Zhu](#) (Scool of Electronic Engineering, University of Posts and Telecommunications, Beijing, P.R. China); [Gege Gao](#) and [Zhenguo Qi](#) (Beijing University of Posts and Telecommunications, P.R. China)

**12:00 Electrically Small UHF RFID Tag Antenna Based on Inductively Coupled Resonant LC Tank**

[Shubin Ma](#), [Leena Ukkonen](#), [Lauri Sydänheimo](#) and [Toni Björninen](#) (Tampere University, Finland)

F2-7: Numerical Techniques

Room: Orchid 4312

**10:45 Fast Realization of High Resolution Computational SAR Imagery of Complex Objects**

[Chao-Fu Wang](#) (National University of Singapore, Singapore); [Chun Yun Kee](#) (Temasek Laboratories@NUS, Singapore); [Zi-Liang Liu](#) (National University of Singapore, Singapore)

**11:00 Analysis of Corrugations with Fins Over Ridges and Stratified Media on Both Sides for Improved Transmissivities of Higher Diffraction Orders**

[Malcolm Ng Mou Kehn](#) and [Wei Yu Lai](#) (National Chiao Tung University, Taiwan)

**11:15 Calculation of Micro-motion Characteristics of a Moving Metallic Cylinder**

[Kuisong Zheng](#) (Northwestern Polytechnical University, P.R. China)

**11:30 Target Position Estimation by Compressed Sensing in Consideration of Fresnel Zone**

[Kengo Suzuki](#), [Naoki Honma](#) and [Kentaro Murata](#) (Iwate University, Japan)

**11:45 Probe Selection Algorithm for Massive MIMO Base Station OTA Testing**

[Ruoqiao Fan](#) (Beijing University of Posts and Telecommunications, P.R. China); [Wensheng Sun](#) (Beijing University Of Posts And Telecommunications, P.R. China); [Shang Shi](#) (Beijing University of Posts and Telecommunications, P.R. China)

**12:00 A Coupled Simulation of Synthetic Aperture Radar Image of the Narrow Ship Wake**

[Min Zhang](#) and [Letian Wang](#) (Xidian University, P.R. China)

Friday, December 13 13:30 – 15:30

F3-2: Low Noise Circuits

Room: Melati 4011

**13:30 A Dual Mode Integrated LNA and Switch for WLAN Receiver**

[Liping Zhong](#), [Zhihao Zhang](#), [Jiajin Li](#) and [Zilin Liu](#) (Guangdong University of Technology, P.R. China); [Zuhua Liu](#) (Guangzhou Suiyuan Microelectronics Technology Co., Ltd, P.R. China); [Guohao Zhang](#) (Guangdong University of Technology, P.R. China)

**13:45 A 94 GHz 10.8 mW Low-Noise Amplifier With Inductive Gain Boosting in 40 nm Digital CMOS Technology**

[Po-Chen Yeh](#) and [Chien-Nan Kuo](#) (National Chiao-Tung University, Taiwan)

**14:00 HTS L-S band High-sensitivity Receiver for a 20-m Cassegrain Radio Telescope**

[Tamio Kawaguchi](#) (Toshiba Corporation, Japan); [Kazuhiro Tsubosaki](#), [Hirotaka Kamide](#) and [Taro Asakura](#) (Toshiba Hokuto Electronics Corporation, Japan)

**14:15 Design of Broadband LNA and RFVGA for DVB Receiver Tuner using CMOS 0.18- $\mu$ m Process**

[Yang Li](#), [Chunwei Zhang](#), [Song Gao](#) and [Wenjing Yue](#) (University of Jinan, P.R. China)

**14:30 Cryogenic Modeling of GaAs-pHEMT and its Application in Low-power MMIC CLNA Design for Radio Astronomy**

[Jie Liu](#) (Purple Mountain Observatory, P.R. China); [Wenlei Shan](#) (National Astronomical Observatory of Japan, Japan); [Takafumi Kojima](#) (Advanced Technology Center, National Astronomical Laboratory of Japan, Japan); [Qijun Yao](#) (Purple Mountain Observatory, P.R. China)

**14:45 A 7-9 GHz LNA Utilizing Input Matching Filter for Out-of-Band Interference Rejection**

[Dawei Zhang](#), [Pengliang Li](#), [Xin Xu](#) and [Hui Xu](#) (China Academy of Space Technology(Xi'an), P.R. China)

**15:00 An L-Band SiGe HBT Active Phase Shifter Based on Two-Stage Amplifier Designs with Resistor-Loaded LPF/HPF-Switching Interstage Networks**

[Yasushi Itoh](#) (Shonan Institute of Technology, Japan)

**15:15 High Performance E-Band Variable Gain LNA with Image Reject Filter**

[Roe Ben Yishay](#), [Oded Katz](#), [Benny Sheinman](#) and [Danny Elad](#) (ON Semiconductor, Israel)

F3-3: Radar Signal Processing

Room: Melati 4111

**13:30 Parameter Estimation of Moving Target in Dual-Channel Circular Synthetic Aperture Radar**

[Beibei Ge](#), [Leping Chen](#) and [Daoxiang An](#) (National University of Defense Technology, P.R. China); [Jianpeng Li](#) (National University of Defense Technology, P.R. China); [Zhimin Zhou](#) (National University of Defense Technology, P.R. China)

**13:45 Dynamic Polarized Pattern Synthesis of Vector Electromagnetic Sensor Array**

[Yuting Fan](#) (Nanjing University of Science & Technology, P.R. China); [Xiaofeng Ma](#) (Nanjing University of Science& Technology, P.R. China)

**14:00 Fall Detection Using Radar Baseband Data and Convolutional Neural Network**

[Bo Wang](#) (National University of Singapore, Singapore); [Liang Guo](#) (Harbin Institute of Technology, P.R. China); [Si-Ping Gao](#) and [Yong-xin Guo](#) (National University of Singapore, Singapore)

**14:15 Multiple Human Localization Method Using Compressed Sensing**

[Kazuki Numazaki](#), [Naoki Honma](#) and [Nobuyuki Shiraki](#) (Iwate University, Japan); [Takeshi Nakayama](#) and [Shoichi Iizuka](#) (Panasonic Corporation, Japan)

**14:30 Differential-Phase Radar with Amplitude-Compensated Complex Signal Demodulation for Vital Sign Detection**

[Kawon Han](#) (KAIST, Korea); [Songcheol Hong](#) (Korea Advanced Institute of Science and Technology, Korea)

**14:45 Compact Semi-Circular MIMO Radar System for the Fast Detection of Small Particles Approaching the Rayleigh Scattering Region**

[Valentin Ortega Clavero](#), [Jorge Luis Solano](#), [Ramakrishna Sai Silla](#), [Werner Schröder](#) and [Lothar Schüssele](#) (Offenburg University of Applied Sciences, Germany)

**15:00 A Low-Cost DVB-T2-based Passive Bistatic Phased Array Radar for Target Detection and Localisation**

[Xavier Chia](#), [Ivan Low](#) and [Shaoying Huang](#) (Singapore University of Technology and Design, Singapore)

**15:15 A Compensation Method for Switches Imperfection in Direction Finding System using Time-Modulated Arrays**

[Yu-Qian Yang](#) and [Hao Wang](#) (Nanjing University of Science & Technology, P.R. China); [Hao Zhang](#) (Northwestern Polytechnical University, P.R. China & National University of Singapore, Singapore); [Yong-Xin Guo](#) (National University of Singapore, Singapore)

F3-4: Microwave Biomedical applications (2)

Room: Orchid 4211

**13:30 Surgical suture as dipole antenna for wireless monitoring of post-surgical complications**

[Viveka Kalidasan](#), [Xin Yang](#) and [John Ho](#) (National University of Singapore, Singapore)

**13:45 A Programmable Robotic Phantom to Simulate the Dynamic Respiratory Motions of Humans for Continuous Identity Authentication**

[Shekh Md Mahmudul Islam](#) (University of Hawaii at Manoa, USA); [Brandon Tomota](#) and [Abraham Sylvester](#) (University of Hawaii at Manoa, Hawaii, USA); [Victor Lubecke](#) (University of Hawaii at Manoa, USA)

**14:00 A Prototype System for Optical Visualisation and Microwave Ablation of Soft Tissue**

[Aeron W Jones](#) (Bangor University & Creo Medical Ltd, United Kingdom (Great Britain)); [Shaun Preston](#) (Bangor University, United Kingdom (Great Britain)); [Malcolm White](#) (Creo Medical Ltd, United Kingdom (Great Britain)); [Christopher Paul Hancock](#) (Bangor University and Creo Medical, United Kingdom (Great Britain))

**14:15 Phase Calibration of a Software Defined Radio System for Medical Applications**

[Xuezhi Zeng](#) (Chalmers University Technology, Sweden); [Laura Guerrero Orozco](#) and [Andreas Fhager](#) (Chalmers University of Technology, Sweden)

**14:30 Vital Sign Radar with Optimum Antenna Strategy**

[Zhaolong Li](#) (Nanjing University of Science and Technology, P.R. China)

**14:45 Compact Microwave Imaging System using Flexible Antenna and Differential Imaging Technique**

[Xiaoyou Lin](#) (University of Waikato, New Zealand); [Yifan Chen](#) (The University of Waikato, New Zealand); [Adrian E.-C. Tan](#) (Lincoln Agritech Limited & Lincoln University, New Zealand); [Zheng Gong](#) (University of Waikato & South University of Science and Technology of China, New Zealand)

**15:00 Guidelines Towards a Wearable Microwave Tomography System**

[Mohanad Alkhodari](#), [Amer Zakaria](#) and [Nasser Qaddoumi](#) (American University of Sharjah, United Arab Emirates)

**15:15 Design of UHF RFID system for nasogastric tube placement confirmation in vivo**

[Huizhe Liu](#) (A\*STAR Institute of High Performance Computing, Singapore); [Zaifeng Yang](#) (Institute of High Performance Computing, A\*STAR, Singapore); [Hui Min Lee](#) (A\*STAR Institute of High Performance Computing, Singapore); [Jing Liang](#) (A\*STAR Metabolic Engineering Research Institute, Singapore); [Pui Yi Lau](#) (Laxcen Technology Limited, Singapore); [Richard Xian-Ke Gao](#) (A\*STAR Institute of High Performance Computing, Singapore)

F3-5: Passive Components (2)

Room: Orchid 4212

**13:30 A Novel Sub-6-GHz and 28-GHz GaN Switchable Diplexer MMIC for Carrier Aggregation with Massive MIMO Full Duplex Link**

[Hiroshi Mizutani](#) (Salesian Polytechnic, Japan); [Ryo Ishikawa](#) (The University of ElectroCommunications, Japan); [Kazuhiko Honjo](#) (The University of Electro-Communications, Japan)

**13:45 Composite Lattice Structure Frequency-selected Radome Design**

[Jiahe Mei](#), [Hanyu Shan](#) and [Tao Jiang](#) (Harbin Engineering University, P.R. China); [Bin Cao](#) (Marine Design & Research Institute of China, P.R. China)

**14:00 A Compact Low-Pass Filter Based on Spoof Surface Plasmon Polaritons Using Defected Ground Structure**

[Dawei Zhang](#) (Harbin Engineering University, P.R. China); [Kuang Zhang](#), [Ruiwei Dai](#) and [Wu Qun](#) (Harbin Institute of Technology, P.R. China); [Tao Jiang](#) (Harbin Engineering University, P.R. China)

**14:15 Design of Bi-Level-Microstrip Quadrature Directional Couplers with Indirectly Coupled Lines**

[Slawomir Gruszczynski](#), [Krzysztof Wincza](#) and [Robert Smolarz](#) (AGH University of Science and Technology, Poland)

**14:30 A Wideband Balanced-to-Unbalanced Out-of-Phase Power Divider Based on Hybrid Microstrip/Slotline Structure**

[Yu Zhu](#), [Kaijun Song](#), [Maoyu Fan](#) and [Yong Fan](#) (University of Electronic Science and Technology of China, P.R. China)

**14:45 Two-Bit Chipless RFID for Temperature and Humidity Sensing**

[Wazie Mohammed Abdulkawi](#) (King Saud University, Saudi Arabia); [Abdel Fattah Sheta](#) (King Saud University, College of Engineering, Saudi Arabia)

**15:00 Wideband bandpass Power Divider Using Slot-coupled Diamond-shape Microstrip Lines**

[Jie Lu](#), [Haojie Chang](#), [Weixing Sheng](#) and [Jie Cui](#) (Nanjing University of Science and Technology, P.R. China)

**15:15 X-band 12-way dual transition radial combiner**

[Su-Hyun Lee](#) (R&D Lab, Korea)

F3-6: Reconfigurable Circuits

Room: Orchid 4311

**13:30 Frequency Reconfigurable Shorting-Pin Loaded Rectenna for Smart Living**

[Hanis Amirah Ja'ffar](#) (University of Malaya, Malaysia); [Mohd Yazed Ahmad](#) (University of Malaya & Faculty of Engineering, University of Malaya, Malaysia)

**13:45 Reconfigurable Series Negative Capacitor Using Coupled Line Negative Group Delay Circuit and Varactor Diode**

[Girdhari Chaudhary](#), [Phanam Pech](#), [Junhyung Jeong](#) and [Yongchae Jeong](#) (Chonbuk National University, Korea)

**14:00 Switched-band amplifier using switched matching network with transmission zeros**

[Ming-Lin Chuang](#), [Ming-Tien Wu](#) and [Kuan-Chieh Chiu](#) (National Penghu University of Science and Technology, Taiwan)

**14:15 Broadband MMIC Phase Shifters Based on CRLH Circuit**

[Masatake Hangai](#), [Ryota Komaru](#) and [Shintaro Shinjo](#) (Mitsubishi Electric Corporation, Japan)

**14:30 Automated Reconfigurable Antenna Impedance for Optimum Power Transfer**

[Mohammad Alibakhshikenari](#) (Università degli Studi di Roma "Tor Vergata", Roma - ITALY, Italy); [Bal Virdee](#) (London Metropolitan University, United Kingdom (Great Britain)); [Chan H. Hwang See](#) (Edinburgh Napier University, United Kingdom (Great Britain)); [Raed A Abd-Alhameed](#) (University of Bradford, United Kingdom (Great Britain)); [Francisco Falcone](#) (Universidad Publica de Navarra, Spain); [Ernesto Limiti](#) (University of Rome Tor Vergata, Italy)

**14:45 Antenna Aperture Tuning with High-Voltage Bulk-CMOS Switch-Based RF Capacitor**

[Oguzhan Oezdamar](#) (University of Erlangen-Nuremberg, Germany); [Valentyn Solomko](#), [Anthony Thomas](#), [Kun Wang](#) and [Nadine Pfuhl](#) (Infineon Technologies, Germany); [Robert Weigel](#) (Friedrich-Alexander Universität Erlangen-Nürnberg, Germany); [Amelie Hagelauer](#) (University of Bayreuth, Germany)

**15:00 A Fully Integrated Switched Capacitor using Low Temperature and Wet Release Process for Reconfigurable CMOS Triple-band Power Amplifier**

[Hyunok Cho](#) (Kwangwoon University, Korea); [Milim Lee](#) and [Changkun Park](#) (Soongsil University, Korea); [Jae Yeong Park](#) (Kwangwoon University, Korea)

**15:15 Tunable Bandpass Graphene Frequency Selective Surface with Quasi-Elliptic Response**

[Hai-Long Kong](#), [Lin-Sheng Wu](#) and [Liang-Feng Qiu](#) (Shanghai Jiao Tong University, P.R. China)

F3-7: 5G Antennas

Room: Orchid 4312

**13:30 New Method of OTA Measurement for 5G mmWave Beamforming Antenna Array**

[Su-Wei Chang](#), [Chueh-Jen Lin](#), [Wen-Tsai Tsai](#), [Tzu-Chieh Hung](#), [Po-Chia Huang](#), [Jing-Fen Siao](#), [Te-Liang Sun](#), [Han-Ti Chuang](#), [Shao-Chun Hsu](#) and [Tzu-Wen Chiang](#) (TMY Technology Inc., Taiwan)

**13:45 Element-level Phase Measurement of Array Antenna using Stabilized Planar Imaging System for Emerging Sub-6 GHz 5G Communications**

[Young-Pyo Hong](#) (Korea Research Institute of Standards and Science, Korea); [Kyungho Yoo](#) and [Tongho Chung](#) (Samsung Electronics Co., Ltd, Korea); [Byungchul Kim](#) (Samsung Electronics, Korea); [No-Weon Kang](#) and [Dong-Joon Lee](#) (Korea Research Institute of Standards and Science, Korea)

**14:00 Wideband and High Gain Omnidirectional Lens Antenna for 5G mmWave Channel Measurements**

[Zhang Zhang](#), [Shaowei Liao](#), [Wen-Hai Zhang](#) and [Quan Xue](#) (South China University of Technology, P.R. China)

**14:15 Study of Distributed Phased Array Antenna Array Spacing for 5G User Equipment**

[Yi-Ming Sun](#), [Yiming Huo](#) and [Xiaodai Dong](#) (University of Victoria, Canada)

**14:30 End-fire Dual Polarized 5G Millimeter-Wave Antenna Array for Mobile Devices**

[Yue Zhao](#) (Shenzhen Sunway Communication Co., Ltd, P.R. China); [Anping Zhao](#) (Huami (Shenzhen) Information Technology Co., Ltd, P.R. China)

**14:45 Indirect Far Field OTA Chamber for 5G mmWave Devices**

[L. Liu](#) (Shenzhen General Test Systems, P.R. China)

**15:00 SIW Cavity-Backed U-Shaped Slot Antenna for 5G Applications**

[Amit Kumar](#) (Indian Institute of Technology (BHU) Varanasi, India); [Sudhir Bhaskar](#) and [Amit Singh](#) (Indian Institute of Technology BHU, Varanasi, India)

**15:15 4 x 4 MIMO Performance of Two Conjoined Dual Wideband Antennas Including the Feedline Effects for 5G Smartphones**

[Yu-Han Chen](#) (National Sun Yat-sen University, Taiwan); [Kin-Lu Wong](#) (National Sun Yat-Sen University, Taiwan); [Wei-Yu Li](#) (Industrial Technology Research Institute, Taiwan)

Friday, December 13 15:00 – 17:00

F3-1: Interactive Forum 5

Room: Orchid Junior Ballroom

**IF-1: Compact Dual-Band Bandpass Filter Using Shunted-Line Stub-Loaded  $\lambda/4$  Resonator**

[Baoping Ren](#) and [Xuehui Guan](#) (East China Jiaotong University, P.R. China); [Haiwen Liu](#) (Xi'an Jiaotong University, P.R. China); [Zhewang Ma](#) (Saitama University, Japan); [Pin Wen](#) and [Chuanyun Wang](#) (East China Jiaotong University, P.R. China)

**IF-2: Phase Shifter Based on Surface Plasmon Polariton Wave in Patterned Graphene Structure**

[Xie-Peng Chen](#) (Shanghai Jiao Tong University); [Lin-Sheng Wu](#) and [Junfa Mao](#) (Shanghai Jiao Tong University, P.R. China)

**IF-3: A Novel, Broadband, Divide-by-3 Planar Power Divider**

[Amber Abdullah](#), [Memoona Farooq](#), [M. Ayaz Zakir](#) and [Hammad M. Cheema](#) (National University of Sciences and Technology (NUST), Pakistan)

**IF-4: Miniaturization of a 3-way Power Divider using Defected Ground Structures**

[Memoona Farooq](#), [Amber Abdullah](#), [M. Ayaz Zakir](#) and [Hammad M. Cheema](#) (National University of Sciences and Technology (NUST), Pakistan)

**IF-5: Design Procedure of a Microstrip Filter Facilitated by Lumped-Element Equivalent Circuit Representation**

[Bin Yuan](#), [Yinsen Che](#) and [Fei Xiao](#) (University of Electronic Science and Technology of China, P.R. China); [Jing Lei](#) (Southwest China Institute of Electronic Technology, P.R. China); [Xiaohong Tang](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-6: Characteristics of 0- $\Omega$  Transmission Lines for Millimeter-Wave Circuits in 0.18  $\mu\text{m}$  CMOS Technology**

[Natsu Yamaki](#), [Kyoya Takano](#) and [Yohtaro Umeda](#) (Tokyo University of Science, Japan)

**IF-7: Study on Optimum Layout of Low Power LC-based Digitally Controlled Oscillator (DCO) for Bluetooth Low Energy (BLE)**

[Sang-Sun Yoo](#), [Dong Soo Park](#) and [Hyeon Ho Cha](#) (Pyeongtaek University, Korea); [Min Su Kim](#) (Daelim University, Korea)

**IF-8: W-band Four-Channel Receiver MMIC in 0.1 $\mu\text{m}$  GaAs PHEMT Technology**

[Linpu Li](#) (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences & University of Chinese Academy of Sciences, P.R. China); [Yiqiang Gao](#) and [Rong Qian](#) (Shanghai Institute of Microsystem and Information Technology, P.R. China); [Xiaowei Sun](#) (Shanghai Institute of Micro-System and Information Technology, CAS, P.R. China)

**IF-9: A 22-40 GHz Wideband Image Rejection Mixer in 0.18- $\mu\text{m}$  CMOS Process**

[Yu-Hsiang Lin](#) (National Taiwan University, Taiwan); [Tian-Wei Huang](#) (National Taiwan University, unknown)

**IF-10: Simple-structure and Cost-effective IEEE802.11ad Test System-Based Gunn DRO and Fundamental Mixer with Mixed-Domain Oscilloscope**

[Kohei Fujiwara](#) and [Hidehiko Yamaoka](#) (Tokyo Metropolitan Industrial Technology Research Institute, Japan); [Tatsunori Onzuka](#) (NIHON DEMPA KOGYO Co., Ltd., Japan); [Yoneo Akita](#) and [Yoshikazu Fujinaka](#) (Mebius Corporation, Japan)

**IF-11: A X-/Ku-Band QFN-Packaged GaAs LNA Supporting Dual-Polarization Signal Reception**

[Chun Wang](#) and [Chun-Hsing Li](#) (National Tsing Hua University, Taiwan); [Yu-Ling Lee](#) (Atom Element Matter B. V., The Netherlands); [Kuang-Yu Chen](#) (National Tsing Hua University, Taiwan)

**IF-12: Design and Implementation of a 3D Beam Steering Antenna for Cellular Frequencies**

[Mher Andrew Erni](#) (University of the Philippines Diliman, Philippines); [Genedyn Gems Mendoza](#) and [Steven Matthew Cheng](#) (University of the Philippines, Diliman, Philippines)

**IF-13: Frequency Band Ratio Analysis of Dual-Band Microstrip Grid Array Antennas**

[Guanghui Xu](#) (Shanghai Jiao Tong University, P.R. China); [Menglin Zhai](#) (Donghua University, P.R. China)

**IF-14: Surface-mountable unidirectional pattern strip-loop antenna fed through its reflector**

[Takaya Kimino](#) and [Nobuhiro Kuga](#) (Yokohama National University, Japan)

**IF-15: Dual-Band Fabry-Perot Resonator Antenna Based on Hybrid Graphene-Metal Structure**

[Yu-Ze Jiang](#), [Lin-Sheng Wu](#) and [Bin Xia](#) (Shanghai Jiao Tong University, P.R. China)

**IF-16: Compact Broadband Four-Port MIMO Antenna for 5G and IoT Applications**

[Wensong Wang](#), [Zhenyu Zhao](#), [Zhongyuan Fang](#), [Quqin Sun](#), [Xinqin Liao](#), [Kye Yak See](#) and [Yuanjing Zheng](#) (Nanyang Technological University, Singapore)

**IF-17: Dual Band SIW Cavity-Backed Crossed-Slot Antenna**

[Keiichiro Yoshihara](#), [Masaya Tamura](#) and [Yuichi Miyaji](#) (Toyohashi University of Technology, Japan); [Arokiaswami Alphones](#) (Nanyang Technological University, Singapore)

**IF-18: Bidirectional Linearly Polarized Grid-slotted Patch Antenna with Gielis-shaped Patch**

[Vignesh Shanmugam Bhaskar](#) (S2-B3c-26, (Comm Research lab) & Nanyang Technological University, Singapore); [Eng Leong Tan](#) and [King Ho Holden Li](#) (Nanyang Technological University, Singapore)

**IF-19: Enhanced Frequency Tuning based on Optimized Liquid Crystal Cavity based Patch Antenna**

[Divya Krishnan](#) (Nanyang Technological University, Singapore); [N Nasimuddin](#) (Institute for Infocomm Research, Singapore); [Arokiaswami Alphones](#) (Nanyang Technological University, Singapore); [Mei Sun](#) (Institute of Microelectronics (IME), Singapore)

**IF-20: Enhanced Gain-Flatness of Planar Log-Periodic Dipole Array Antenna Loaded with Metasurface**

[Guohua Zhai](#) (East China Normal University, P.R. China); [Mei Sun](#) (Institute of Microelectronics (IME), Singapore); [N Nasimuddin](#) and [Bo Shi](#) (Institute for Infocomm Research, Singapore)

**IF-21: Shorted Patch Antenna with Symmetrical Radiation Patterns and Enhanced Gain**

[Zijian Shao](#) and [Liang-Feng Qiu](#) (Shanghai Jiao Tong University, P.R. China); [Yue Ping Y. P. Zhang](#) (Nanyang Technological university, Singapore)

**IF-22: Analysis of the "Bull-eye" Antenna with Endfire Property**

[Xingying Huo](#) (LiuPanShui Normal University, P.R. China); [Zheng Li](#) (Institute of Lightwave Technology, Beijing Jiaotong University, P.R. China)

**IF-23: Dual-Sleeve Monopole-Slot VHF Antenna for Naval Communications**

[Chao Wang](#) (Shanghai Jiao Tong University, P.R. China)

**IF-24: Two Decoupled LTE Low-Band Conjoined-Loop MIMO Antennas along the Short Edge of the Metal-Framed Smartphone**

[Imee Ristika Rahmi Barani](#) (National Sun Yat-sen University, Taiwan); [Kin-Lu Wong](#) (National Sun Yat-Sen University, Taiwan); [Chung-Ying Wang](#) (National Sun Yat-sen University, Taiwan)

**IF-25: Two-Dimensional Electronically Controlled Scanning Phased Array Antenna Based on Liquid Crystal Material**

[Di Jiang](#), [Xiaoyu Li](#) and [Sha Luo](#) (University of Electronic Science and Technology of China, P.R. China)

**IF-26: Polarization Reconfigurable Two-Layer Stacked Patch Antenna Design for Wi-Fi Applications**

[Cashmere Joy D Ramos](#) (University of the Philippines Diliman & Electrical and Electronics Engineering Institute, Philippines); [Steven Matthew Cheng](#) (University of the Philippines, Diliman, Philippines); [Mar Francis De Guzman](#) (Advanced Science and Technology Institute & University of the Philippines Diliman, Philippines)

**IF-27: A Graphene Film-based Rectenna for Wireless Power Transmission**

[Guojing Wang](#), [Jingwei Zhang](#), [Yuchao Wang](#) and [Qianqian Guo](#) (Wuhan University of Technology, P.R. China)

**IF-28: A Complementary Study on the Trapped Surface Field Excited by the Vertical Electric Dipole Over a Dielectric-Coated Conductor**

[Ting Ting Gu](#) (Zhejiang University, P.R. China); [Hong Lei Xu](#) (Science and Technology on Electromagnetic Scattering Laboratory, P.R. China)

**IF-29: A Novel Circular Polarization Series-Fed Conformal Traveling-Wave Array(TWA)**

[Zhou Weihua](#) and [Zha Lin](#) (East China Research Institute of Electric Engineering, P.R. China)

**IF-30: A small antenna robust to metallic object inserted into antenna body**

[Makoto Takinami](#) and [Nobuhiro Kuga](#) (Yokohama National University, Japan)

**IF-31: Design of A Single-Layer Reflectarray Element for Dual-CP Dual-Beam Applications**

[Xingliang Zhang](#), [Fan Yang](#), [Shenheng Xu](#) and [Maokun Li](#) (Tsinghua University, P.R. China)

**IF-32: Geometrical Interpretation of Anomalous Refractions at Spatially Discontinuous Boundaries in Transformation Electromagnetics**

[Yuma Takano](#) and [Atsushi Sanada](#) (Osaka University, Japan)

**IF-33: Robust Jamming Algorithm for Location-Based UAV Jamming system**

[Woo-Cheol Jin](#) (Daegu Gyeongbuk Institute of Science and Technology (DGIST), Korea); [Kyungtae Kim](#) (Daegu Gyeongbuk Institute of Science and Technology, Korea); [Ji-Woong Choi](#) (DGIST, Korea)

**IF-34: Capacitive Sensor for Contact Angle Estimation of Droplet on Microfluidic Chip**

[Akira Tsuchiya](#), [Toshiyuki Inoue](#) and [Keiji Kishine](#) (The University of Shiga Prefecture, Japan)

**IF-35: Graphene based Anomalous Reflection at Microwaves frequencies**

[Hao Chen](#) and [Zhen-Guo Liu](#) (Southeast University, P.R. China); [Wei Jun Wu](#) (China Ship Development and Design Center, P.R. China); [Wei Bing Lu](#) (Southeast University, P.R. China)

**IF-36: Digital Predistortion Linearization of Wideband Transmitter for High Data Rate Satellite Communication**

[Bo Shi](#) (Institute for Infocomm Research, Singapore)

**IF-37: Enhanced Beam Scanning Angle using Radome Design for Phased Array Antennas**

[Viet Phuong Bui](#) (Institute of High Performance Computing, Singapore); [J. Zhao](#) (Raffles Institution, One Raffles Institution Lane, Singapore); [Zaw Zaw Oo](#) (Institute of High Performance Computing, Singapore); [Mei Sun](#) (Institute of Microelectronics (IME), Singapore); [N Nasimuddin](#) (Institute for Infocomm Research, Singapore); [Ching Eng Png](#) (A\*STAR Institute of High Performance Computing, Singapore)

**IF-38: A Compact mmWave Butler Matrix for Wireless Power Transfer Beamforming Applications**

[Manoj Prabhakar Mohan](#) and [Faeyz Karim](#) (Nanyang Technological University, Singapore); [Cai Hong](#) (IME, A\*STAR, Singapore); [Arokiaswami Alphones](#) (Nanyang Technological University, Singapore); [Ai Qun Liu](#) (Nanyang Technological University & Xian Jiaotong University, Singapore)

**IF-39: Circularly Polarized Switched Beams Grid Array Antenna for mm-Wave Systems**

[Mei Sun](#) (Institute of Microelectronics (IME), Singapore); [N Nasimuddin](#) and [Xianming Qing](#) (Institute for Infocomm Research, Singapore); [Zhi Ning Chen](#) (National University of Singapore, Singapore)

**IF-40: Beamforming with reconfigurable metagrating: design and experimental demonstration**

[Vladislav Popov](#) (SONDRA, CentraleSupélec, Université Paris Saclay, France); [Fabrice Boust](#) (ONERA, France); [Shah Nawaz Burokur](#) (LEME, France)

**IF-41: Head Phantom Model for Electromagnetic Wave Exposure Study at 2.45 GHz**

[Naufal Rizki Septianto](#) and [Basari Basari](#) (Universitas Indonesia, Indonesia)

**IF-42: A 76 to 81GHz Synthesizer for FMCW Automotive Radar with programmable Chirp Sequence Generator**

[DanLei Yan](#) (Institute of microelectronics of singapore, Singapore)

**IF-43: Influence of Body-Implanted Capsule Dimensions and Materials on Achievable Radiation Efficiency**

[Denys Nikolayev](#) (École Polytechnique Fédérale de Lausanne, Switzerland); [Wout Joseph](#) (Ghent University/IMEC, Belgium); [Ronan Sauleau](#) (University of Rennes 1, France); [Maxim Zhadobov](#) (University of RENNES 1, France); [Luc Martens](#) (Ghent University - imec, Belgium); [Anja K. Skrivervik](#) (EPFL, Switzerland)

**IF-44: A Self-Sustained Sensor Node through Far-Field Wireless Powering**

[Salahuddin Raju](#) (Scientist, Singapore); [DanLei Yan](#) (Institute of microelectronics of singapore, Singapore); [Wei Lih Lim](#), [Boon Shyang Lim](#) and [Peng Hui Tan](#) (Institute for Infocomm Research, Singapore); [Kumarasamy Raja](#) (Institute of Microelectronics & A-STAR, Singapore)

**IF-45: Integration of mm-wave Antennas on Fan-Out Wafer Level Packaging (FOWLP) for Automotive Radar Applications**

[Zihao Chen](#) (Harbin Institute of Technology, Shenzhen, P.R. China); [Xi Zhu](#) (University of Technology Sydney, Australia); [Leijia Xu](#) (Harbin Institute of Technology, Shenzhen, P.R. China)

**IF-46: A terahertz microfluidic sensor based on metasurface**

[Jianchun Liu](#), [Pengwei Gong](#) and [Xiaobo Xue](#) (Beijing Institute of Radio Metrology and Measurement, P.R. China)

**IF-47: A 140 GHz Transceiver for 4x4 Beamforming Short-Range Communication in 65nm CMOS**

[Lin Jiafu](#) (Southern University of Technology, P.R. China); [Ma Shunli](#) (Southern University of Technology, USA); [Hao Yu](#) (Southern University of Science and Technology, Singapore)

Friday, December 13 16:00 - 18:00

F4-2: Measurement Techniques

Room: Melati 4011

**16:00 Calibration of a Multiport Reflectometer Using Matched Load and Unknown Loads**

[Kamil Staszek](#) (AGH University of Science and Technology, Poland)

**16:15 Estimation method of permittivity and permeability for sheet materials using a strip-loop antenna**

[Yusuke Ishii](#) and [Nobuhiro Kuga](#) (Yokohama National University, Japan)

**16:30 Chirp Transform Spectrometer Based on Modified Single Channel Structure**

[Quan Zhao](#), [Ling Tong](#) and [Bo Gao](#) (University of Electronic Science and Technology of China, P.R. China)

**16:45 Differential-Mode Inline TLR Self-Calibration for the Characterization of Automotive Twisted-Pair Cables up to GHz Frequencies**

[Sebastian Wagner](#) and [Sören Kohnert](#) (Augsburg University of Applied Sciences, Germany); [Reinhard Stolle](#) (Hochschule Augsburg, Germany)

**17:00 RF Voltage Difference Between Two Outputs of a Tee in the Calibration of TVCs to 1 MHz**

[Tae-Weon Kang](#) (Korea Research Institute of Standards and Science, Korea)

**17:15 A Novel Digital Filter Algorithm for High-resolution Spectrum Detection Based on Chirp Transform Spectrometer**

[Quan Zhao](#), [Ling Tong](#) and [Bo Gao](#) (University of Electronic Science and Technology of China, P.R. China)

**17:30 Novel MNZ Type Microwave Sensor for Testing of Magnetodielectric Materials**

[Abhishek K Jha](#) (Gdańsk University of Technology, Poland); [Nicolò Delmonte](#) (University of Pavia, Italy); [Adam Lamecki](#) (Politechnika Gdańska, Poland); [Michał Mrozowski](#) (Gdańsk University of Technology, Poland); [Maurizio Bozzi](#) (University of Pavia, Italy)

**17:45 Comparison of a Loaded Microwave Monopole Antenna and Bipolar RF Electrode Configuration to Assess Variation in Ablation Zone Growth & Visibility under EUS**

[William Taplin](#) and [Shaun Preston](#) (Bangor University, United Kingdom (Great Britain)); [Christopher Paul Hancock](#) (Bangor University and Creo Medical, United Kingdom (Great Britain)); [Shyam Varadarajulu](#) (Advent Health, USA)

F4-3: Power Amplifiers (2)

Room: Melati 4111

**16:00 A methodology to design broadband matching networks for continuum mode PAs**

[Nagaditya Poluri](#) (University of Sheffield, United Kingdom (Great Britain)); [Maria Merlyne De Souza](#) (University of Sheffield, Sheffield, UK (United Kingdom))

**16:15 A Quasi-MMIC C-band Doherty Power Amplifier**

[Hongsun Yoon](#) (Korea Electronics Technology Institute & Hankuk University of Foreign Studies, Korea); [Dongsu Kim](#) (Korea Electronics Technology Institute, Korea)

**16:30 A 21-39.5 GHz Power Amplifier for 5G Wireless Systems in 22 nm FD-SOI CMOS**

[Xin Xu](#) (TU Dresden, Germany); [Paolo Valerio Testa](#) (Technische Universität Dresden, Germany); [Songhui Li](#) (TU Dresden, Germany); [Laszlo Szilagyi](#) (Technische Universität Dresden, Germany); [Wolfgang Finger](#) (Globalfoundries, Germany); [Corrado Carta](#) (Dresden University of Technology, Germany); [Frank Ellinger](#) (Technische Universität Dresden, Germany)

**16:45 Thermal S-Parameters Introduction for Dynamic Thermal Simulation of Power Amplifiers**

[Shinji Hara](#) (Nagoya University, Japan); [Yoshiteru Ishimaru](#) (Akihagi LLP, Japan); [HanCHI Chiu](#) (Airoha Corporation, Taiwan)

**17:00 A 38 GHz Pre-Distortion Power Amplifier With OP1dB and IM3 Improvement in 65-nm CMOS Process**

[Yen-Ting Lin](#), [Chun-Nien Chen](#), [Jung-Lin Lin](#) and [Huei Wang](#) (National Taiwan University, Taiwan)

**17:15 Optimal Fundamental Load Modulation for Class-X Harmonically Tuned Power Amplifier**

[Yulong Zhao](#) (University of Calgary, Canada)

**17:30 Multi band Multi standard 50W high efficiency and highly linear Power Amplifier for Macro Base Stations**

[Appa Rao Paidi](#) (Osmania University, India); [Rama Krishna Dasari](#) (Osmania University & University College of Engineering, India); [Pandharipande](#) (Osmania University, Hyderabad, India)

**17:45 Robust Linearization of Power Amplifier in the presence of Transceiver Noise**

[Girish Chandra Tripathi](#) (Indian Institute of Technology Roorkee, India); [Meenakshi Rawat](#) (IIT Roorkee, India)

F4-4: Active Circuits (2)

Room: Orchid 4211

**16:00 A Low Noise VCO with Common-Tail Inductor in 180nm CMOS Technology**

[Yu Peng](#) and [Kai Kang](#) (University of Electronic Science and Technology of China, P.R. China)

**16:15 Phase Noise Improvement of a Fourth-Harmonic Push-Push Oscillator Using a Ring Resonator With Additional Microstrip-Line Resonators**

[Kouki Tokumaru](#), [Takayuki Tanaka](#) and [Ichihiko Toyoda](#) (Saga University, Japan)

**16:30 A 200 GHz Balanced Active Frequency Doubler MMIC Using 50nm GaN HEMT Technology**

[Maogiang Zhang](#) (Nanjing Electronic Devices Institute, P.R. China)

**16:45 Design of 3-Dimensional Wafer Level Integrations of Voltage Controlled Oscillators**

[Yu Chen](#) and [Liang Zhou](#) (Shanghai Jiao Tong University, P.R. China); [Xueman Yin](#) (Southwest Institute of Electronics and Telecommunications Technology of China, P.R. China); [Yuan Zhang](#) (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle, P.R. China)

**17:00 A Study on Mixer Measurement Error Based on Vector Network Analyzer**

[Bowe Zhang](#), [Ling Tong](#) and [Bo Gao](#) (University of Electronic Science and Technology of China, P.R. China); [Baoguo Yang](#), [Shubiao Li](#), [Shengli Liang](#) and [Fushun Nian](#) (Science and Technology on Electronic Test & Measurement Laboratory, P.R. China)

**17:15 Experimental Study of the Effect of Interconnects on Phase Noise of K-Band VCO in 0.18  $\mu$ m CMOS Technology**

[Baichuan Chen](#) (Kyushu University, Japan); [Nusrat Jahan](#) (Chittagong University of Engineering and Technology (CUET), Bangladesh); [Adel Barakat](#) and [Ramesh K. Pokharel](#) (Kyushu University, Japan)

**17:30 A Wide Tuning Range and High Resolution 0.18- $\mu$ m CMOS Digitally Controlled Ring Oscillator**

[Yi-Ting Lin](#), [Yun-Chih Lu](#) and [Yi-Jan Emery Chen](#) (National Taiwan University, Taiwan)

**17:45 A Novel Harmonic Attenuator Quad-Channel Microstrip Diplexer for Multi-Service Communication Systems**

[Salah I. Yahya](#) (Koya University & Cihan University-Erbil, Iraq); [Abbaz Rezaei](#) (Kermanshah University of Technology, Iran); [Liela Noori](#) (Shiraz University of Technology, Iran); [Mohd Haizal Jamaluddin](#) (Universiti Teknologi Malaysia, Malaysia)

F4-5: RF and Microwave ICs (2)

Room: Orchid 4212

**16:00 Accuracy Comparison of Wireless Indoor Positioning Using Single Anchor: TOF only versus TOF-DOA Hybrid Method**

[Yuto Takahashi](#), [Naoki Honma](#) and [Jun Sato](#) (Iwate University, Japan); [Tomoki Murakami](#) (NTT Corporation, Japan); [Kentaro Murata](#) (Iwate University, Japan)

**16:15 A Ka-Band Class-C BiCMOS VCO with Temperature Compensation**

[Qiuwei Wu](#) (Zhejiang University, P.R. China); [Xiaoyong Li](#) (Shanghai Will- Microelectronics Ltd, P.R. China); [Xiaopeng Yu](#) (Zhejiang University, P.R. China); [Jing Jin](#) (Shanghai Jiao Tong University, P.R. China)

**16:30 A 0.1 THz SiGe LNA with Novel Feedback Networks for Bandwidth Extension**

[Tuanjie Ding](#) (School of Physics, University of Electronic Science and Technology of China); [Fanyi Meng](#) and [Kaixue Ma](#) (Tianjin University, P.R. China); [Shouxian Mou](#) and [Shanshan Xu](#) (University of Electronic Science and Technology of China, P.R. China)

**16:45 2.4 GHz RF Energy Harvesting Rectifier Chip With Harmonic Backscattering Detection Capability**

[Chiao-Chieh Yang](#), [Dong-Yan Li](#) and [Tzuen-Hsi Huang](#) (National Cheng Kung University, Taiwan)

**17:00 Design of A Compact Four-way Filtering Wilkinson Power Divider with Satisfactory Performance**

[Zhenyao Qian](#) and [Gang Zhang](#) (Nanjing Normal University, P.R. China)

**17:15 Via-stub effects in millimeter wave printed circuit boards**

[Luigi Boccia](#) and [Emilio Arneri](#) (University of Calabria, Italy); [G. Amendola](#) (Universita della Calabria, Italy)

**17:30 70 GHz Large-signal Bandwidth Sampler Using Current-mode Integrate-and-Hold Circuit in 130 nm SiGe BiCMOS Technology**

[Liang Wu](#) and [Maxim Weizel](#) (Heinz Nixdorf Institute / Uni Paderborn, Germany); [Christoph Scheytt](#) (University of Paderborn, Germany)

**17:45 A 26-GHz-band High Efficiency Stacked-FET Power Amplifier IC with Adaptively Controlled Load and Bias Circuits in 40-nm SOI CMOS**

[Tsuyoshi Sugiura](#) (Samsung R&D Institute Japan, Japan); [Culin Chen](#) and [Toshihiko Yoshimasu](#) (Waseda University, Japan)

F4-6: Filters (3)

Room: Orchid 4311

**16:00 Power Divider and Balun Filters With a Single Cross-Coupled Quadruplet**

[Chun-Hung Lin](#) (Chang Gung University, Taiwan); [Chong Lay Ng](#) and [Peng Wen Wong](#) (Universiti Teknologi PETRONAS, Malaysia); [Jen-Tsai Kuo](#) (Chang Gung University, Taiwan)

**16:15 A New Microstrip Reconfigurable Transversal Coupling Bandpass Filter with Highly Controllable Number and Positions of Transmission Zeros**

[Masataka Ohira](#), [Shuma Hashimoto](#) and [Zhe Wang Ma](#) (Saitama University, Japan)

**16:30 Compact tri-band bandpass filter with controllable frequencies based on a novel quarter wavelength tri-section stepped impedance resonator**

[Chuan Shao](#) (School of Electronic and Optical Engineering, Nanjing University of Science and Technology, P.R. China); [Hui Chu](#) and [Xiaohua Zhu](#) (Nanjing University of Science and Technology, P.R. China)

**16:45 Novel Half-Patch based 1-D Periodic Structure with Better Control over Stop Bandwidth**

[Irfan Shahid](#) (Macquarie University, School of Engineering & Macquarie University, Australia); [Dushmantha Thalakituna](#) and [Michael Heimlich](#) (Macquarie University, Australia)

**17:00 A Reconfigurable Fourth-order Filter With Constant Absolute Bandwidth And Four Transmission Zeros**

[Maoyu Fan](#), [Kaijun Song](#), [Yu Zhu](#) and [Yong Fan](#) (University of Electronic Science and Technology of China, P.R. China)

**17:15 Design of Compact Bandpass Filter With Enhanced Frequency Selectivity Based on EMSIW Cavities**

[Peng Li](#), [Zhenzhong Rao](#), [Dan Zhao](#), [Renhong Xie](#), [Rui Yibing](#) and [Hui Chu](#) (Nanjing University of Science and Technology, P.R. China)

**17:30 Wide Stopband Bandpass Filter with High Selectivity Using I/O Coupling**

[Haojie Chang](#), [Weixing Sheng](#), [Jie Cui](#) and [Jie Lu](#) (Nanjing University of Science and Technology, P.R. China)

**17:45 New Design Method of Two-Layered Open-Loop Microstrip Bandpass Filters Based on the Cul-de-Sac Coupling Matrix**

[Kazuki Yamamura](#) (University of Doshisha, Japan)

F4-7: Metamaterials and Metasurface (4)

Room: Orchid 4312

**16:00 Metamaterial-Enabled Dual-band Dual Circularly Polarized Antenna Array**

[Jianfeng Zhu](#) (University of Technology, Sydney, Australia); [Shaowei Liao](#) and [Quan Xue](#) (South China University of Technology, P.R. China); [Yang Yang](#) (University of Technology Sydney, Australia)

**16:15 A study on nonreciprocal CRLH-TL using ferrite volume mode in ferrite loaded rectangular waveguide**

[Kensuke Okubo](#) and [Mitsuyoshi Kishihara](#) (Okayama Prefectural University, Japan)

**16:30 Dynamically Tunable Attenuator Based on Effective Surface Plasmon Polaritons and Graphene**

[Zhen Nan Ying](#), [Zhen-Guo Liu](#), [Anqi Zhang](#) and [Wei Bing Lu](#) (Southeast University, P.R. China)

**16:45 Compact Circularly Polarized Tag Antenna based on EBG Structure for Metallic Objects**

[Gege Gao](#) (Beijing University of Posts and Telecommunications, P.R. China); [Xiuping Li](#) (Beijing University of Post Telecommunications, P.R. China); [Hua Zhu](#) (Scool of Electronic Engineering, University of Posts and

Telecommunications, Beijing, P.R. China); [Ning Zhang](#) and [Zhenguo Qi](#) (Beijing University of Posts and Telecommunications, P.R. China)

**17:00 Hyperbolic Metamaterial Near-field Coupler**

[Abhinav Bhardwaj](#) (Indian Institute of Technology Kanpur India, India); [Kumar Vaibhav Srivastava](#) (Indian Institute of Technology Kanpur, India); [Anantha Ramakrishna](#) (IIT Kanpur, India)

**17:15 Reconfigurable Metasurface for Adaptive Focal Position Lens**

[Badreddine Ratni](#) (Univ Paris Nanterre, France); [Zhuochao Wang](#), [Kuang Zhang](#) and [Xumin Ding](#) (Harbin Institute of Technology, P.R. China); [Jianjia Yi](#) (Key Laboratory of Integrated Services Networks, Xidian University, P.R. China); [André de Lustrac](#) (Institut d'Electronique Fondamentale - Université Paris-Sud, France); [Gérard-Pascal Piau](#) (Airbus, France); [Shah Nawaz Burokur](#) (LEME, France)

**17:30 Broadband Dual-Polarized Antenna with Enhanced Front-To-Back Ratio Using Meta-surface**

[Pei Zheng](#) (National Key Laboratory of Science and Technology on Test Physics and Numerical Mathematics, P.R. China); [Yuwei Qiu](#) (Northwestern Polytechnical University, P.R. China); [Jinliang Bai](#), [Ziwei Xu](#), [Xin Liu](#), [Jiaqi Liu](#), [Jun Li](#) and [Shuo Zhang](#) (National Key Laboratory of Test Physics and Numerical Mathematics, P.R. China); [Hailiang Zhu](#) and [Gao Wei](#) (Northwestern Polytechnical University, P.R. China)

**17:45 A Novel Bandstop Frequency Selective Surface using Coupled Split Ring Resonators**

[Vaishnavi Bhope](#) and [A. r. Harish](#) (Indian Institute of Technology Kanpur, India)