



UNIVERSITÀ
DEGLI STUDI
DI PALERMO

17th IEEE United Conference
on Millimeter Waves and Terahertz

UCMMT 2024

21 - 24
AUGUST
2024

Palermo, Italy



2024 17th United Conference on Millimetre Waves and Terahertz Technologies (UCMMT2024) Program at a Glance

21 August (Wednesday)	16:00 - 18:30	UCMMT2024 Registration (Saracen Sands and Conference Centre)	
	18:30 - 20:30	Welcome Cocktail (Saracen Sands and Conference Centre)	
22 August (Thursday)	09:00 - 09:20	PALAZZO DEI NORMANNI UCMMT2024 Opening Ceremony Welcome Address from the General Chair - Prof. Patrizia Livreri, University of Palermo, Italy Message from the International Advisory Committee Chair - Prof. Xiaodong Chen, Queen Mary University of London, UK	
	09:20 - 12:00	Plenary Talks (Palazzo dei Normanni - Sala Gialla)	
	09:20 - 10:10	Plenary Talk 1	Prof Wei Hong, Southeast University, China - Millimeter Wave and THz IC Design and System Applications
	10:10 - 11:00	Plenary Talk 2	Prof Quan Xue, Southern China University of Technology, China - New Progresses in CMOS Oscillators
	11:00 - 11:50	Plenary Talk 3 IEEE ED Distinguished Lecture	Prof Claudio Paoloni, Lancaster University, UK - Renaissance of Travelling Wave Tube Technology for sub-THz Applications
	12:00 - 13:30	Lunch	

13:30 – 16:30	PALAZZO DEI NORMANNI	
Room	SALA GIALLA	SALA ROSSA
13:30 - 15:00	TAG Advanced Technologies and Applications at THz and Millimeter Waves Session Chair: <u>Xiadong Chen</u> (Queen Mary University of London, United Kingdom), <u>Rosa Letizia</u> (Lancaster University, United Kingdom (Great Britain))	TAR Materials and Metasurfaces at THz and Millimeter Waves Session Chair: <u>Alessandro Busacca</u> (University of Palermo, Italy), <u>Yu Luo</u> (Tianjin University, China)
13:30 – 13:45	A 95-160 GHz Broadband Power Amplifier With 15-dBm Psat in 130 nm SiGe BiCMOS (Invited) <u>Chang Shu</u> , <u>Zekun Li</u> , <u>Lingzheng Kong</u> , <u>Peigen Zhou</u> , <u>Jixin Chen</u> and <u>Wei Hong</u> (Southeast University, China)	W-Band Liquid-Metal-Enabled Phase Shifter: Linear Tunability and Self-Compensatory Phase Response (Invited) <u>Yi-Wen Wu</u> , <u>Lu Qian</u> and <u>Yi Wang</u> (University of Birmingham, United Kingdom)
13:45 – 13:45	Upgraded Design of a 0.5-MW High-Power W-Band Magnetron With Axial Output Structure (Invited) <u>Jin Zhang</u> and <u>Xiaodong Chen</u> (Queen Mary University of London, United Kingdom)	Ultra-Wideband Metamaterials Absorber With Wide-Incident Angle and Full Polarization Properties <u>Mufassal Manzoor</u> (Beihang University, Pakistan); <u>Lulu Han</u> and <u>Cunjun Ruan</u> (Beihang University, China)
14:00 – 14:15	Coupler Design for THz-Driven Acceleration Applications (Invited) <u>Nix</u> (Lancaster University & The Cockcroft Institute, United Kingdom (Great Britain)); <u>Rosa Letizia</u> and <u>Graeme Burt</u> (Lancaster University, United Kingdom (Great Britain)); <u>Byron Alderman</u> and <u>Peter Huggard</u> (STFC Rutherford Appleton Laboratory, United Kingdom (Great Britain))	Seven-Band Complete Graphene Absorber Assisted by Metamaterial Concept for Optoelectronics and Engineering Technologies <u>Yousef Rafighirani</u> , <u>Javad Javidan</u> , <u>Hamid Heidarzadeh</u> and <u>Mousa Abdollahvand</u> (University of Mohaghegh Ardabili, Iran); <u>Mohammad Alibakhshikenari</u> (Universidad Carlos III de Madrid, Spain); <u>Patrizia Livreri</u> (University of Palermo, Italy)
14:15 – 14:30	Low Cost Array Design and Exploitation for DoA in Multipath Propagation Environment (Invited) <u>Mohammad Abdul Hannan</u> (University of Catania); <u>Ottavio Crisafulli</u> (Mediterranea University of Reggio Calabria); <u>Giuseppe Giammello</u> (University of Catania); <u>Andrea Francesco Morabito</u> (University Mediterranea of Reggio Calabria); <u>Loreto Di Donato</u> (University of Catania); <u>Santi Concetto Pavone</u> (University of Catania); <u>Gino Sorbello</u> (University of Catania)	Optically Transparent Intelligent Reflecting Surface for 5G and Future 6G Coverage Enhancement <u>Shi-long Zhu</u> (Foshan University, China); <u>Mustafa Khalid Taher Al-Nuaimi</u> (Foshan University, China & School of Electronic Information Engineering, China); <u>Guan-Long Huang</u> (Foshan University, China)
14:30 – 14:45	Physics-Based Modelling for Stacked Power Amplifier Design at Millimetre-Wave Frequency (Invited) <u>Chiara Ramella</u> and <u>Simona Donati Guerrieri</u> (Politecnico di Torino, Italy)	Multi-Beam Millimeter-Wave Metasurface Antenna Based on Periodic Phase Distribution <u>Yu Luo</u> (Tianjin University, China)
14:45 – 15:00	Planar Leaky Wave Antennas Design for Different Radiation Applications (Invited) <u>Leilei Liu</u> (Nanjing University of Posts and Telecommunications, China)	Design of a Terahertz Full-Adder Based on VO₂-Integrated Cascaded <u>Wang Xiong</u> (Chongqing University of Posts and Telecommunications, China); <u>Yi Ren</u> (Xidian University, China); <u>Jiandong Lang</u> (Beijing LunFu Technology Co Ltd, China); <u>Jia Ran</u> (Chongqing University of Posts and Telecommunications, China)

(Thursday)

15:00 - 16:30	TPG Radar and Imaging Systems Session Chair: Yi Huang (University of Liverpool), Zuomin Yang (Zhejiang University, China)	TPR Emerging mm-wave and sub-THz Passive Devices and Antenna Manufacturing Techniques Special Session Chairs: Yi Wang and Yi-Wen Wu (University of Birmingham, United Kingdom (Great Britain))
15:00 – 15:15	A 220 GHz Real-Aperture Imaging Radar With Two-Dimensional Beam Scanning Capability (Invited) <u>Huimin Liu</u> , Jia-Ying Zhang, Zhuo-Wei Miao, Zhang-Cheng Hao and Wei Hong (Southeast University, China)	Substrate Integrated Waveguide Dual-Bandpass Filter for Millimeter-Wave Applications (Invited) Xin Chen, Tian Yu, Yaqing Zhou, Daquan Yu, Xiamen University School of Electronic Science and Engineering Xiamen Sky Semiconductor Xiamen, China
15:15 – 15:30	A 220-GHz 50-Gb/s Silicon-Based Transmitter and Receiver System with Chip-To Waveguide Transition (Invited) <u>Feng Xie</u> , Zhang-Cheng Hao, Zekun Li, Zhuo-Wei Miao, Lingyi Tang, Jixin Chen and Wei Hong (Southeast University, China)	Design of a Reflectarray Fed by a Planar Leaky-Wave Antenna For 3U CubeSats (Invited) <u>Daniel L. Prado</u> (Lancaster University, United Kingdom (Great Britain)); Miguel Poveda-García (Technical University of Cartagena, Spain); George Goussetis (Heriot-Watt University, United Kingdom (Great Britain)); Lei Wang (Lancaster University, United Kingdom (Great Britain))
15:30 – 15:45	Broadband Terahertz Radar With Photonics-Enabled mm-Scale Resolution <u>Zuomin Yang</u> , Lu Zhang, Zhidong Lyu, Xing Fang, Qiuzhuo Deng and Xianbin Yu (Zhejiang University, China)	EarthCARE's Quasi-Optical Feed (Invited) George Wylde (Terahertz, Thomas Keating Ltd, UK)
15:45 – 16:00	A 5.8-GHz Short-Range PMCW Radar With a Sub-Bit Super-Resolution Correlator for Enhanced Range Estimation <u>Peilin Lyu</u> , Jiacheng Ding, Haoran Wang, Jingzhi Zhang, Huihua Liu, Yiming Yu, Chenxi Zhao, Yunqiu Wu, Kai Kang and Qingfeng Zhang (University of Electronic Science and Technology of China)	Improving Terahertz Antenna Performance Using PCB-Based Integrated Fabry-Perot Cavity <u>Chen-Yu Ding</u> (Southeast University, China); Yi-Wen Wu (University of Birmingham, United Kingdom (Great Britain)); Zhuo-Wei Miao, Jia-Hui Zhao and Zhang-Cheng Hao (Southeast University, China)
16:00 – 16:15	Radar-Array Based Reflection Imaging for Cigarette Detection Weiming Li (Institute of Plasma Physics, Chinese Academy of Sciences, China); Yuan Yao (Chinese Academy of Sciences, China & ASIPP, China); Haiqing Liu (Institute of Plasma Physics, Chinese Academy of Sciences, China); Shouxian Wen (Hengyang Tobacco Monopoly Administration, China)	A Terahertz Wide-Angle Beam Steering Planar Double-Layers Lens <u>Yue Guo</u> , Fanyi Meng, Kaixue Ma, Feng Feng and Yu Luo (Tianjin University, China)
16:15 – 16:30	Automotive Paint Permittivity Estimation in Low-THz Frequency (Invited) <u>Fatemeh Norouzzian</u> , Edward Hoare and Aleksandr Bystrov (University of Birmingham, United Kingdom); Marina S. Gashinova (University of Birmingham, United Kingdom); Mikhail Cherniakov (University of Birmingham, United Kingdom)	Reconfigurable, Cost-Effective Gap Waveguide Filtering at the Millimeter Waves (Short) <u>Rosa Letizia</u> , William Eley and Jonathan Gates (Lancaster University, United Kingdom)

09:00 – 09:15	<p style="text-align: center;">PALAZZO STERI</p> <p style="text-align: center;">Greetings from the Rector of the University of Palermo - Prof. Massimo Midiri Greetings from the Head of the Engineering Department of the University of Palermo - Prof. Antonino Valenza</p>	
Room	SALA MAGNA	SALA DELLE CAPRIATE
09:15 – 11:00	<p style="text-align: center;">FAM I THz Sources and Devices</p> <p style="text-align: center;">Session Chair: Roberto Dionisio (European Space Agency, ESA/ESTEC, The Netherlands), Cunjun Ruan (Beihang University, China)</p>	<p style="text-align: center;">FAD II Waveguides, Transmission Lines, and Couplers</p> <p style="text-align: center;">Session Chair: Leilei Liu (Nanjing University of Posts and Telecommunications, China), Chiara Ramella (Politecnico di Torino, Italy)</p>
09:15 – 09:30	<p style="text-align: center;">Integrated Planar Five-Beam Electron Optics System for 670 GHz Travelling-Wave Tube (Invited)</p> <p style="text-align: center;">Pengpeng Wang, Junda Zhao and Cunjun Ruan (Beihang University, China)</p>	<p style="text-align: center;">Broadband Characterization of Liquids at Millimeter Waves by Using an U-Shaped Bent Waveguide (Invited)</p> <p style="text-align: center;">Chenhao Yin (School of Integrated Circuits and Electronics Beijing Institute of Technology, China); Jinkai Li (Tangshan Research Institute of BIT, China); Lili Fang (Beijing Institute of Technology, China); <u>Giovanni Gugliandolo</u> and Nicola Donato (University of Messina, Italy); Li Wang (Xian Jiaotong University, China); Giovanni Crupi (University of Messina, Italy); Houjun Sun (Beijing Institute of Technology, China); Xiue Bao (Beijing Institute of Technology & KU Leuven, China)</p>
09:30 – 09:45	<p style="text-align: center;">Design of W-Band High Power and High Efficiency Extended Interaction Oscillator (Invited)</p> <p style="text-align: center;">Tianyi Xu and Cunjun Ruan (Beihang University, China)</p>	<p style="text-align: center;">Theory and Implementation of T-Coil Network Equivalent Transmission Line</p> <p style="text-align: center;">Fangkai Wang (Naikai University, China); Xu Zhu and Xudong Wang (Nankai University, China); Hang Zhou (Naikai University, China)</p>
09:45 – 10:00	<p style="text-align: center;">Research on High-Efficiency and Wide-Band Traveling-Wave Tube at W-Band</p> <p style="text-align: center;">Wenbo Wang, Zihan Liu and Cunjun Ruan (Beihang University, China), Cunjun Ruan (Beihang University, China)</p>	<p style="text-align: center;">Advanced Parametric Modeling of the Four-Pole Waveguide Filter Using Decomposed Sub-ANN-Models</p> <p style="text-align: center;">Hui Zong (CETC Metrology Test Certification Beijing Company Limited, China); Kaige Qu (University of Waterloo, Canada); Wei Zhang and <u>Tong Zhai</u> (Beijing University of Posts and Telecommunications, China); Zehao Yan (Beihang University, China); Shuting Jin and Zhiguo Zhang (Beijing University of Posts and Telecommunications, China)</p>
10:00 – 10:15	<p style="text-align: center;">Research on 1THz Carbon-Based Backward Wave Oscillator</p> <p style="text-align: center;">Wenxin Liu (AIRCAS, China); Zhiqiang Zhang (CAS, China); Zhihao Jing and Kedong Zhao (AIRCAS, China); Fan Deng (Aerospace Information Research Institute, Chinese Academy of Sciences, China)</p>	<p style="text-align: center;">Waveguide Bandpass Filter Design for Millimeter-Wave Front-End System</p> <p style="text-align: center;">Zuqiang Ou, Bo Zhang, Kai Kang, Gang Yang, Qingfeng Zhang and Yiming Yu (University of Electronic Science and Technology of China, China); Zhongqian Niu (University of Electronic Science and Technology of China & School of Electronic Science and Engineering, China); Yinian Feng (UESTC, China & ESE, China); Jin Li, <u>Xiaobo Yang</u> and Yong Fan (University of Electronic Science and Technology of China, China)</p>
10:15 – 10:30	<p style="text-align: center;">Design of a G-Band High-Output Power Traveling Wave Tube's Slow Wave Structure and Collector</p> <p style="text-align: center;">Zhiqiang Zhang (CAS, China); Wenxin Liu (AIRCAS, China); Hongjing Li and Gongao Xia (Aircas, China)</p>	<p style="text-align: center;">Comparative Analysis of CPW and Slowwave CPW for Time Delay Circuit Design</p> <p style="text-align: center;">Xinyi Zhang, Xu Zhu, Jiaqi Gong and Xudong Wang (Nankai University, China)</p>

23 August
(Friday)

<p>10:30 – 10:45</p>	<p>A High-Order Mode Terahertz Extended Interaction Oscillator With Three Electron Beams Youfeng Yang (University of Electronic Science and Technology of China, China); Ping Zhang (China); Yuan Zheng (University of Electronic Science and Technology of China, China); Yang Dong, Shaomeng Wang and Zhanliang Wang (UESTC, China); Zhigang Lu (University of Electronic Science and Technology of China, China); Yubin Gong (UESTC, China)</p>	<p>Design of a 8 Way Ka-Band Power Combiner Using Stripline Transitions Accursio Gulotta, Luigi Miano, Antonino Muratore and Patrizia Livreri (University of Palermo, Italy)</p>
<p>10:45 – 11:00</p>	<p>A Serpentine Slot Waveguide SWS With Compact Coupler for W-Band High-Power TWT. <u>Jingrui Duan</u>, Zhigang Lu and Zechuan Wang (University of Electronic Science and Technology of China, China)</p>	<p>Coaxial Power Combiner With Eight Radial Coaxial Output Ports for Ka-Band Applications <u>Luigi Miano</u>, Accursio Gulotta, Antonino Muratore and Patrizia Livreri (University of Palermo, Italy)</p>
<p>11:00 - 12:30</p>	<p>FAM II Millimeter-Wave and Terahertz Communication Systems Session Chair: Yi Wang (University of Birmingham, UK), Alfonso Cino (University of Palermo, Italy)</p>	<p>FAD II Millimeter-Wave Antenna Design and Applications I Session Chair: Zhonghe Zhang (Shenzhen University & Guangdong, China), Wei Peng (CETC38, China)</p>
<p>11:00 – 11:15</p>	<p>High Sensitivity mm-Wave Front-End Design Approaches (Invited) <u>Patrick Ettore Longhi</u> (University of Roma Tor Vergata, Italy); Walter Ciccognani (Università of Rome Tor Vergata, Italy); Sergio Colangeli, Antonio Serino and Ernesto Limiti (University of Rome Tor Vergata, Italy)</p>	<p>Design and Performance Optimization of 26 GHz Slotted Patch Antenna for mm-Wave Application Kanthi Hegde (Manipal University & Manipal Institute of Technogy, India); Rajat Das (Manipal Institute of Technology, Manipal Academy of Higher Education, India); Ravilla Dilli (Manipal Institute of Technology & Manipal Academy of Higher Education (MAHE), India)</p>
<p>11:15 – 11:30</p>	<p>A 200-240-GHz Transmitter Front-End With Phase Shifting in 130 nm SiGe BiCMOS <u>Lingzheng Kong</u>, Zekun Li, Chang Shu, Peigen Zhou, Jixin Chen and Wei Hong (Southeast University, China)</p>	<p>A MIMO Array Antenna for Millimeter-Wave Imaging Radar Jia Fang, Wenman Zou and Wei Peng (CETC38, China)</p>
<p>11:30 – 11:45</p>	<p>1-Bit Phase Resolution Wideband Multi-Polarized Transmitarray for Ku-Band Application <u>Xuekang Liu</u> (Lancaster University); Qi Luo (University of Herfordshire); Lehu Wen (Brunel University London); Steven Shichang Gao (Chinese University of Hong Kong); Benito Sanz-Izquierdo (University of Kent); Lei Wang (Lancaster University)</p>	<p>Broadband Polyomino-Shaped Antenna Elements and Array Based on Substrate Integrated Cavity Genqiang Kou, Zihang Qi and Wenyu Zhao (Beijing University of Posts and Telecommunications, China); Xiuping Li (Beijing University of Post Telecommunications, China)</p>

11:45 – 12:00	A 220-GHz-Band 41.6-Gbps Dual-Carrier Real-Time Wireless Link Over 3 km Yinian Feng (UESTC, China & ESE, China)	THz Antenna Assisted by Graphene for 6G Communications Parsa Khoddami (Amirkabir University of Technology, Italy); Hassan Zakeri and Gholamreza Moradi (Amirkabir University of Technology, Iran); <u>Mohammad Alibakhshikenari</u> (Universidad Carlos III de Madrid, Spain); Patrizia Livreri (University of Palermo, Italy); Tayeb Denidni (INRS, Canada); Raed A Abd-Alhameed (University of Bradford, United Kingdom (Great Britain)); Ernesto Limiti (University of Rome Tor Vergata, Italy)
12:00 – 12:15	Antenna Feeder Link for Very High Throughput Satellites <u>Vanya Sharma</u> (University of Rome Tor Vergata, Italy); Antonino Tobia (Airbus Italia S.P.A., Italy); Luciano Dagrastina and Mario Albertini (Airbus S.P.A., Italy); Patrick Ettore Longhi (University of Roma Tor Vergata, Italy); Ernesto Limiti (University of Rome Tor Vergata, Italy)	Multi-Dimensional Multi-Polarization Millimeter-Wave Antenna Array for Vehicle Communication Zhonghe Zhang (Shenzhen University & Guangdong, China); <u>Jing-Yu Lin</u> (Xiamen University, China); Sai-Wai Wong (Shenzhen University, China); Youquan Wen (Shenzhen University & College of Electronics and Information Engineering, China); Chaoyun Song (King's College London, United Kingdom (Great Britain)); Yejun He (Shenzhen University, China)
12:15 – 12:30	Single-Board Integrated Millimeter-Wave Full-Digital Beamforming Transmitting Array with Plate Mode Suppression for B5G/6G Applications <u>Qingqing Lin</u> , Jun Xu and Wei Hong (Southeast University, China)	Circular Polarized Microstrip Antenna Design for Ambient IoT Communication and Sensing (online) <u>Rongling Jian</u> , Xiaoyong Tang and Yincheng Zhang (Eagle Lab, Shenzhen TCL New Technology Co., Ltd., Shenzhen, China)
12:30 - 14:00	Lunch	
14:00 - 15:30	FPM I Innovations in THz Metrology and Instrumentation Session Chair: George Wylde (Terahertz, Thomas Keating Ltd, UK), Bo Zhang (University of Electronic Science and Technology of China, China)	FPD I Millimeter-Wave Antenna Design and Applications II Session Chair: Gino Sorbello (University of Catania, Italy), <u>Mohammad Alibakhshikenari</u> (Universidad Carlos III de Madrid, Spain)
14:00 – 14:15	An Open-Short Hybrid De-Embedding Method Up to 65 GHz Jingqian Du, <u>Yunqiu Wu</u> , Huihua Liu, Chenxi Zhao, Yiming Yu, Qingfeng Zhang, Zijun Wang, Yuechang Xu and Kai Kang (University of Electronic Science and Technology of China, China)	A Stub Matching Fed High Gain Array Antenna Design for mm-Wave Application Caner Murat (Recep Tayyip Erdogan University, Turkey); <u>Mohammad Alibakhshikenari</u> (Universidad Carlos III de Madrid, Spain); Patrizia Livreri (University of Palermo, Italy); Ernesto Limiti (University of Rome Tor Vergata, Italy)
14:15 – 14:30	A W-Band Frequency-Doubling Phase Shifter for Concurrent Signal Doubling and Phase Shifting <u>Changwei Wang</u> , Mingjie Liu, Biao Deng, Dongfang Pan and Liguang Sun (University of Science and Technology of China, China)	A Compact Dual Circularly Polarized MIMO Antenna With Controlled Slots for 5G Wireless Applications Across mm-Wave Spectrum Hassan Zakeri, Mohammad Veysi and Gholamreza Moradi (Amirkabir University of Technology, Iran); <u>Mohammad Alibakhshikenari</u> (Universidad Carlos III de Madrid, Spain); Patrizia Livreri (University of Palermo, Italy); Tayeb Denidni (INRS, Canada); Slawomir Koziel (Gdansk University of Technology, Poland); Iyad Dayoub (University Polytechnique Hauts-de-France, IEMN-DOAE CNRS, France & INSA Hauts de France, France); Ernesto Limiti (University of Rome Tor Vergata, Italy)

23 August
(Friday)

<p>14:30 – 14:45</p>	<p>The Front-End of a DC to 110 GHz Arbitrary Waveform Signal Generator Based on Digital Bandwidth Interleaving Technology <u>Zhongqian Niu</u>, Bo Zhang, Kai Kang, Yong Fan, Xiaobo Yang, Jin Li and Gang Yang (University of Electronic Science and Technology of China, China)</p>	<p>Dual-Polarized Millimeter-Wave Multibeam Antenna Based on Substrate Integrated Coaxial Lines Yuliang Xu (Xidian University, China); <u>Chao Gu</u> (Queen's University Belfast, United Kingdom (Great Britain)); Fan Qin (Xidian University, China)</p>
<p>14:45 – 15:00</p>	<p>Near-Field Radiation of Millimeter Wave Power Amplifier <u>Chenxi Li</u>, Qingzhi Wu, Bin Kong and Yunqiu Wu (University of Electronic Science and Technology of China, China); Min Tang (Shanghai Jiao Tong University, China); Ruimin Xu and Yuehang Xu (University of Electronic Science and Technology of China, China)</p>	<p>A Novel Ultra Wide Bandwidth Antenna for Millimetre Waves. <u>Luigi Miano</u>, Accursio Gulotta and Patrizia Livreri (University of Palermo, Italy)</p>
<p>15:00 – 15:15</p>	<p>Ultra-Wide Power Range High-Efficiency RF Rectifier Jincai Qiao, Bo Zhang, Kai Kang, Gang Yang, Qingfeng Zhang, Yiming Yu, Jin Li and Zhongqian Niu (University of Electronic Science and Technology of China, China); Yinian Feng (UESTC, China & ESE, China); Yong Fan and <u>Xiaobo Yang</u> (University of Electronic Science and Technology of China, China)</p>	<p>Design and Simulation of Butterfly Antenna in Different Lattice Configurations <u>Accursio Gulotta</u>, Luigi Miano and Patrizia Livreri (University of Palermo, Italy)</p>
<p>15:15 – 15:30</p>	<p>An X-Band Dual-Mode Class-C VCO with a 45.27% Tuning Range in 55 nm CMOS Mingjie Liu, Dandan Hou, Changwei Wang, Haoyu Cao and Liguao Sun (University of Science and Technology of China, China)</p>	<p>Design and Test of a 4:1 Balun Based on a Novel Wideband Balun Topology (Short) Hanzhong Xu, Xiaoqing Pei, Xu Zhu and <u>Xudong Wang</u> (Nankai University, China)</p>
<p>15:30 - 17:00</p>	<p>FPM II Computational and Analysis Methods Session Chair: Yue Li (Tsinghua University, China), Yu-Lu Lei (Peking University, China)</p>	<p>FPD II Advanced Microwave Tube Technologies: Developments and Applications in Communication and Space Systems Special Session Chairs: Salvatore Stivala (University of Palermo, Italy) Antonino Muratore (University of Palermo, Italy)</p>
<p>15:30 – 15:45</p>	<p>A Novel Approach to Optimize GaN HEMT Power Amplifier With Gray Wolf Optimization Algorithm for Wireless Application <u>Mohammad Soruri</u> (University of Birjand, Iran); Mohammad Alibakhshikenari (Universidad Carlos III de Madrid, Spain); Patrizia Livreri (University of Palermo, Italy)</p>	<p>Low-Voltage Travelling-Wave Tubes for Space Applications (Invited) <u>Salvatore Stivala</u>, Giuseppe Lipari and Giuseppe Paterna (University of Palermo); Eleonora Traina (University of Trento); Giorgia Comparato and Antonino Muratore (University of Palermo, Italy); Alessandro Busacca (Università di Palermo); Patrizia Livreri (University of Palermo)</p>
<p>15:45 – 16:00</p>	<p>Analyzing Antenna Performance Using Shape Blending Algorithm in Circular to Diamond Shape Hanumanth Banavath and Anantha Bharathi (Osmania University, India); G. Ravi Shankar Reddy (CVR College of Engineering, India); Srilakshmi Aouthu (Vasavi College of Engineering, India)</p>	<p>Stability, Analysis, and Design of a Ku-Band Extended Interaction Klystron (EIK) <u>Eleonora Traina</u> (University of Trento, Italy); Giorgia Comparato, Giuseppe Lipari, Giuseppe Paterna and Antonino Muratore (University of Palermo, Italy); Alessandro Busacca (Università di Palermo, Italy); Patrizia Livreri and Salvatore Stivala (University of Palermo, Italy)</p>

16:00 – 16:15	Early Warning Systems for Tsunami and Earthquake Disaster Management Using Data Science Techniques Seyed Ebrahim Hosseini (Whitecliffe, New Zealand)	Comparison of Structural and Functional Properties Between Classical and Novel Octagonal Ring Bars Operating in the K-Band <u>Giorgia Comparato</u> (University of Palermo); Eleonora Traina (University of Trento); Giuseppe Lipari, Giuseppe Paterna and Antonino Muratore (University of Palermo); Alessandro Busacca (Università di Palermo); Salvatore Stivala and Patrizia Livreri (University of Palermo)
16:15 – 16:30	Field Distribution Analysis of Vortex Surface Plasmons <u>Yu-Lu Lei</u> , Zi-Wen Zhang, Ji-Tao Yang and Chao-Hai Du (Peking University, China)	Design of a Ka-V Band Rectangular Folded Traveling Wave Tube with a Hollow Sheet-Beam <u>Giuseppe Paterna</u> , Giuseppe Lipari and Giorgia Comparato (University of Palermo); Eleonora Traina (University of Trento); Antonino Muratore, Patrizia Livreri and Salvatore Stivala (University of Palermo); Alessandro Busacca (Università di Palermo)
16:30 – 16:45	Modeling of Biomedical Antennas Through Forecasting DNN for the Enlarged Bandwidth Lida Kouhalvandi (Dogus University, Turkey); <u>Mohammad Alibakhshikenari</u> (Universidad Carlos III de Madrid, Spain); Patrizia Livreri (University of Palermo, Italy); Ladislau Matekovits (Politecnico di Torino, Italy); Ildiko Peter (George Emil Palade University, Targu-Mures, Romania)	Study of a V-Band Overmoded Coupled Cavity Travelling Wave Tube <u>Giuseppe Lipari</u> and Giuseppe Paterna (University of Palermo, Italy); Eleonora Traina (University of Trento, Italy); Giorgia Comparato and Antonino Muratore (University of Palermo, Italy); Alessandro Busacca (Università di Palermo, Italy); Patrizia Livreri and Salvatore Stivala (University of Palermo, Italy)
16:45 – 17:00		
17:00 - 17:30	Best Student Papers Award Chair Xiadong Chen (Queen Mary University of London, United Kingdom)	
17:30 - 18:30	UCMMT2024 Closing Ceremony (Palazzo Steri - Sala Magna) & Presentation of the Venue for the 2025 UCMMT	
19:00 - 22:30	Visit and BANQUET at Teatro Massimo Palermo	