2024 IEEE/MTT-S International Microwave Symposium - IMS 2024

Washington, DC, USA
16-21 June 2024

Pages 1-537

IEEE Catalog Number: CFP24MTT-POD
ISBN: 979-8-3503-7505-3

Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24MTT-POD
ISBN (Print-On-Demand):	979-8-3503-7505-3
ISBN (Online):	979-8-3503-7504-6
ISSN:	0149-645X

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings .com

Tu1A: Advanced Systems for Wireless Power Beaming

Chair: Naoki Hasegawa, Softbank, Japan — Co-Chair: Marco Dionigi, Università di Perugia, Italy
Room 143ABC, 08:00–09:40, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu1B: Advanced Non-Planar Passive Components

Chair: Tarek Djerafi, INRS, Canada — Co-Chair: Mohamed M. Fahmi, DRDC, Canada
Room 145AB, 08:00–09:40, Tuesday 18 June 2024

Tu1C: Magnetostatic, Ferroelectric, and Phase Change Material Based Microwave Devices

Chair: Ruochen Lu, University of Texas at Austin, USA — Co-Chair: Tejinder Singh, Dell Technologies, Canada
Room 146A, 08:00–09:40, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu1D: Advanced Low-Phase-Noise Signal Generation Techniques

Chair: José Luis Gonzalez-Jimenez, CEA-Leti, France — Co-Chair: Hong-Yeh Chang, National Central University, Taiwan
Room 146B, 08:00–09:40, Tuesday 18 June 2024

Tu1E: Photonic-Enabled Systems and Solutions

Chair: Jonathan Comeau, BAE Systems, USA — Co-Chair: Steven M. Bowers, University of Virginia, USA
Room 146C, 08:00–09:40, Tuesday 18 June 2024

Tu1E continues next page …

Tu1E continued …

Tu1F: AI / ML for Wireless Systems

Chair: Adrian Tang, Jet Propulsion Laboratory, USA — Co-Chair: Qi-jun Zhang, Carleton University, Canada
Room 147AB, 08:00–09:40, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu2A: Devices and Components for Effective Wireless Power Transfer

Chair: Jasmin Grosinger, Technische Universität Graz, Austria — Co-Chair: Dieff Vital, University of Illinois at Chicago, USA
Room 150AB, 10:10–11:50, Tuesday 18 June 2024

Tu2B : Advanced Non-Planar Filter Design

Chair: Cristiano Tomassoni, Università di Perugia, Italy
Co-Chair: Vicente E. Boria, Universitat Politècnica de València, Spain
Room 145AB, 10:10–11:50, Tuesday 18 June 2024

Tu2B continues next page …

Tu2B continued …

Tu2C: Recent Advances on Microwave Acoustics

Chair: Holger Maune, OvG Universität Magdeburg, Germany
Co-Chair: Amelie Hagelauer, Technische Universität München, Germany
Room 146A, 10:10–11:50, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu2D: Advanced mm-Wave Frequency Conversion Techniques

Chair: Stephen Maas, Nonlinear Technologies, USA — Co-Chair: Chinchun Meng, NYCU, Taiwan
Room 146B, 10:10–11:50, Tuesday 18 June 2024

Tu2E: Does Analog Photonics have a Role in 6G Systems and Beyond?

Chair: Siva Yegnanarayanan, MIT Lincoln Laboratory, USA
Co-Chair: Cheryl Sorace-Agaskar, MIT Lincoln Laboratory, USA
Room 146C, 10:10–11:50, Tuesday 18 June 2024

N/A
Tu2E-1
10:10

Generation and Transport of mmWaves for the Next Generation Communication Applications
Sreeraj S.J., Bhooma Gopalan, Deepa Venkitesh, IIT Madras, India

N/A
Tu2E-2
10:30

TERA6G: Reconfigurable Transceivers Reaching into the Millimeter-Wave Range
Guillermo Carpintero [1], Hercules Avramopoulos [2], David de Felipe [3], Simon Nellen [3], Chris Roeloffzen [4], Zerihun Tegegne [5], Angela Alexiou [6], Joonas Kokkoniemi [7], José Costa-Requena [8], Dimitrios Kritharidis [9], Eduardo Yusta [10]
[1] UC3M, Spain ; [2] NTUA, Greece ; [3] Fraunhofer HHI, Germany ; [4] LioniX International, The Netherlands ; [5] PHIX, The Netherlands ; [6] University of Piraeus, Greece ; [7] University of Oulu, Finland ; [8] Cumucore, Finland ; [9] Intracom Telecom, Greece ; [10] Telefónica I+D, Spain

N/A
Tu2E-3
10:50

Ultrabroadband Indoor Optical Wireless Networks
A. Nirmalathas [1], T. Song [1], S. Edirisinghe [2], J. Li [3], C. Ranaweera [4], K. Wang [3], C. Lim [1]
[1] University of Melbourne, Australia ; [2] Jayawardenapura University, Sri Lanka ; [3] Shandong Normal University, China ; [4] Deakin University, Australia

N/A
Tu2E-4
11:10

Optical Fronthauling and mm-Wave/Sub-THz Signal Generation Techniques for the 6G and Beyond 6G Wireless Systems
Amol Delmade, Liam Barry, Dublin City University, Ireland

IMS 2024 Table of Contents

Tu2F: AI / ML For Transmitter Systems

Chair: Sudipto Chakraborty, IBM, USA — Co-Chair: Adrian Tang, Jet Propulsion Laboratory, USA
Room 147AB, 10:10–11:50, Tuesday 18 June 2024

(MWTL)
Tu2F-1
10:10

MP-DPD: Low-Complexity Mixed-Precision Neural Networks for Energy-Efficient Digital Predistortion of Wideband Power Amplifiers
Yizhuo Wu [1], Ang Li [1], Mohammadreza Beikmirza [1], Gagan Deep Singh [1], Qinyu Chen [2], Leo C.N. de Vreede [1], Morteza Alavi [1], Chang Gao [1]
[1] Technische Universiteit Delft, The Netherlands ; [2] Universiteit Leiden, The Netherlands

Page 184
Tu2F-2
10:30

IMS Deep Learning Enabled Generalized Synthesis of Multi-Port Electromagnetic Structures and Circuits for mmWave Power Amplifiers
Emir Ali Karahan [1], Zheng Liu [2], Kaushik Sengupta [1]
[1] Princeton University, USA ; [2] Texas Instruments, USA

Page 188
Tu2F-3
10:50

Transfer Learning Assisted Fast Design Migration Over Technology Nodes: A Study on Transformer Matching Network
Chenhao Chu, Yuhao Mao, Hua Wang, ETH Zürich, Switzerland

Page 192
Tu2F-4
11:10

Optimizing Direct Learning Neural Network Digital Predistortion Through the Lottery Ticket Hypothesis Agent
Erez Loebl [1], Nimrod Ginzberg [2], Emanuel Cohen [1]
[1] Technion, Israel ; [2] Tel-Aviv University, Israel

Tu3B: Advanced Filter Synthesis Techniques

Chair: Ming Yu, SUSTech, China — Co-Chair: Simone Bastioli, RS Microwave, USA
Room 145AB, 13:30–15:10, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu3C: Sub-THz and THz Circuits and Systems

Chair: Hamed Rahmani, New York University, USA — Co-Chair: Chun-Hsing Li, National Taiwan University, Taiwan
Room 146A, 13:30–15:10, Tuesday 18 June 2024

Tu3D : Building Blocks for Advanced mm-Wave Systems

Chair: Kenneth Mays, Boeing, USA — Co-Chair: Wooram Lee, Pennsylvania State University, USA
Room 146B, 13:30–15:10, Tuesday 18 June 2024

Tu3D continues next page …

IMS 2024 Table of Contents

Tu3D continued …

Tu3E: Generation, Amplification, and Radiation of mm-Wave and sub-THz Signals Using Microwave Photonic and Electronic Techniques

Chair: Kamran Entesari, Texas A&M University, USA — Co-Chair: Siva Yegnanarayanan, MIT Lincoln Laboratory, USA
Room 146C, 13:30–15:10, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu3F: Wireless Solutions for Autonomous Sensors

Chair: Mohammad H. Zarifi, University of British Columbia, Canada
Co-Chair: Jasmin Grosinger, Technische Universität Graz, Austria
Room 147AB, 13:30–15:10, Tuesday 18 June 2024

Tu4A: Emerging Passive Multiport Components

Chair: Bayaner Arigong, FAMU-FSU, USA — Co-Chair: Hualiang Zhang, UMass Lowell, USA
Room 150AB, 15:40–17:20, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu4B: Reconfigurable Filters and Passive Devices

Chair: Julien Lintignat, XLIM (UMR 7252), France — Co-Chair: Charles F. Campbell, Qorvo, USA
Room 145AB, 15:40–17:20, Tuesday 18 June 2024

Tu4C : mm-Wave Technology Opportunities and Challenges for 5G/6G Applications

Chair: Jeong-sun Moon, HRL Laboratories, USA
Room 146A, 15:40–17:20, Tuesday 18 June 2024

N/A
Tu4C-1
15:40

3D Heterogeneous Integration (3DHI): Revolutionizing RF Systems
Thomas Kazior, DARPA, USA

PAGE 314
Tu4C-2
16:00

A <5dB NF, >17dBm OP_{1dB} F-Band GaN-on-SiC HEMT LNA with a Monolithic Substrate-Integrated Waveguide Filter
Fabian Thome [1], Dirk Schwantuschke [1], Peter Brückner [1], Xiaopeng Wang [2], James C.M. Hwang [2], Rüdiger Quay [1]
[1]Fraunhofer IAF, Germany ; [2]Cornell University, USA

(MWTL)
Tu4C-3
16:20

Advancements in 300mm GaN-on-Si Technology with Industry's First Circuit Demonstration of Monolithically Integrated GaN and Si Transistors
Qiang Yu, Ali A. Farid, Ibukunoluwa Momson, Jeffrey Garrett, Heli Vora, Samuel Bader, Ahmad Zubair, Pratik Koirala, Michael Beumer, Andrey Vyatskikh, Paul Nordeen, Thomas Hoff, Marko Radosavljevic, Said Rami, Frank O'Mahony, Han Wui Then, Intel, USA

PAGE 318
Tu4C-4
16:40

Enabling Monolithic Integration of an Advanced 7-Layer Silicon Back-End-Of-Line (BEOL) on 40nm GaN for Next Generation MMICs
Jonathan Roderick [1], George Siddiqi [1], Dan Denninghoff [1], Daniel Berkoh [1], Joe Tai [1], Sunil Rao [1], Jonathan Lynch [1], Clayton Tu [1], Hasan Sharifi [1], Daniel Kuzmenko [1], Jana Georgieva [1], Warren McArthur [2], Seyed Mirshafieyan [2], David Howard [2]
[1]HRL Laboratories, USA ; [2]Tower Semiconductor, USA

IMS 2024 Table of Contents

Tu4D : Advanced mm-Wave Transceiver Subsystems

Chair: Mahdi Javid, Qorvo, USA — Co-Chair: Payam Heydari, University of California, Irvine, USA
Room 146B, 15:40–17:20, Tuesday 18 June 2024

N/A
Tu4D-1
15:40

From Waves to Insights: AI-Enhanced mmWave Systems
Alberto Valdes-Garcia, IBM, USA

(MWTL)
Tu4D-2
16:00

A 37–43.5-GHz Fully Integrated 16-Element Phased-Array Transceiver with 64-QAM 7.2-Gb/s Data Rates Supporting Dual-Polarized MIMO
Xin Chen [1], Xiaokang Niu [2], Xuan Wang [1], Haipeng Duan [1], Jing Feng [1], Lin Lu [1], Long He [2], Qin Chen [1], Depeng Cheng [2], Lei Luo [2], Xu Wu [1], Jiachen Si [1], Xujun Ma [3], Xiangning Fan [1], Lianming Li [1]
[1]Southeast University, China ; [2]Purple Mountain Laboratories, China ; [3]SAMOVAR (UMR 5157), France

(MWTL)
Tu4D-3
16:20

A 60-GHz Highly Reused Joint Radar-Communication Transceiver with Reconfigurable Dual-Mode Gilbert Cells in 65-nm CMOS
Lin Lu [1], Xujun Ma [2], Jing Feng [1], Long He [3], Xuewei Fan [1], Qin Chen [1], Xin Chen [1], Zhiqiang Liu [3], Jiachen Si [1], Xiangning Fan [1], Lianming Li [1]
[1]Southeast University, China ; [2]SAMOVAR (UMR 5157), France ; [3]Purple Mountain Laboratories, China

PAGE 323
Tu4D-4
16:40

Fine Pitch D-Band Transmit Modules with Flip-Chip Aperture Coupled Antennas
Alex Ayling, Ali Hajimiri, Caltech, USA

PAGE 327
Tu4D-5
17:00

A K/Ka-Band Satellite Terminal Beamforming Front-End-Module Utilizing Dual-Band Self-Diplexing Antennas
Jill Mayeda, Dongwon You, Xi Fu, Xiaolin Wang, Hans Heridian, Michihiro Ide, Takashi Tomura, Hero Sakai, Kazuaki Kunihiro, Kenichi Okada, Atsushi Shirane, Tokyo Tech, Japan

Tu4E: Advances in Low Noise Amplifiers

Chair: Jesse Moody, Sandia National Laboratories, USA — Co-Chair: Luciano Boglione, U.S. Naval Research Laboratory, USA
Room 146C, 15:40–17:20, Tuesday 18 June 2024

IMS 2024 Table of Contents

Tu4F: RFID-Based Technologies for Advanced Sensing Applications

Chair: Paolo Mezzanotte, Università di Perugia, Italy — Co-Chair: Smail Tedjini, Université Grenoble Alpes, France
Room 147AB, 15:40–17:20, Tuesday 18 June 2024

We1C: High-Efficiency and High-Linearity Power Amplifiers for Communication and Satellite Systems

Chair: Vittorio Camarchia, Politecnico di Torino, Italy — Co-Chair: Varish Diddi, Qualcomm, USA
Room 146A, 08:00–09:40, Wednesday 19 June 2024

We1D: Advances in High-Precision Radar Sensing

Chair: Suresh Venkatesh, North Carolina State University, USA — Co-Chair: Nils Pohl, Ruhr-Universität Bochum, Germany
Room 146B, 08:00–09:40, Wednesday 19 June 2024

We1E: Novel Microwave Packaging Structures and Applications up to Sub-THz Frequencies

Chair: Kamal Samanta, AMWT, UK — Co-Chair: Nicholas Kolias, Raytheon, USA
Room 146C, 08:00–09:40, Wednesday 19 June 2024

We1F: Airborne and Space Systems

Chair: Dennis Lewis, Boeing, USA — Co-Chair: Glenn Hopkins, Georgia Tech, USA
Room 147AB, 08:00–09:40, Wednesday 19 June 2024

We1G: Advanced Integrated Passive Development with GaN and CMOS Technology

Chair: Ki Shin, Qorvo, USA — Co-Chair: Pei-Ling Chi, NYCU, Taiwan
Room 150AB, 08:00–09:40, Wednesday 19 June 2024

IMS 2024 Table of Contents

We1H: mm-Wave Variable Gain Amplifiers and Phase Shifters

Chair: Damla Dimlioglu, Cornell University, USA — Co-Chair: Mohammad Ghadiri-Sadrabadi, Kyocera, USA
Room 151AB, 08:00–09:40, Wednesday 19 June 2024

We1I: Advances in Computational Techniques

Chair: Zhizhang David Chen, Dalhousie University, Canada
Co-Chair: Vladimir Okhmatovski, University of Manitoba, Canada
Room 152AB, 08:00–09:40, Wednesday 19 June 2024

IMS 2024 Table of Contents

We2C: Novel Techniques for Power Amplifiers

Chair: Wing Shing Chan, CityU, Hong Kong — Co-Chair: Anna Piacibello, Politecnico di Torino, Italy
Room 146A, 10:10–11:50, Wednesday 19 June 2024

We2D: Advances in Multichannel and Distributed Radar Systems

Chair: Christian Waldschmidt, Universität Ulm, Germany — Co-Chair: Walter Wall, HRL Laboratories, USA
Room 146B, 10:10–11:50, Wednesday 19 June 2024

We2E: Additive Manufacturing Technologies and Applications

Chair: Dominique Baillargeat, Université de Limoges, France — Co-Chair: Debabani Choudhury, Intel, USA
Room 146C, 10:10–11:50, Wednesday 19 June 2024

We2F: Mixed-Signal Circuits and Systems for Space and Communication Applications

Chair: Hermann Boss, Rohde & Schwarz, Germany
Co-Chair: Christian Carlowitz, FAU Erlangen-Nürnberg, Germany, Germany
Room 147AB, 10:10–11:50, Wednesday 19 June 2024

We2G: Emerging Design Methodologies for Next-Generation Low-Loss Couplers Enabling Highly Integrated Chipsets

Chair: Abhishek Sahu, Qorvo, USA — Co-Chair: James Hwang, Cornell University, USA
Room 150AB, 10:10–11:50, Wednesday 19 June 2024

We2H: Power Amplifier Performance Improvement Techniques

Chair: José Carlos Pedro, Universidade de Aveiro, Portugal — Co-Chair: Paul J. Draxler, MaXentric Technologies, USA
Room 151AB, 10:10–11:50, Wednesday 19 June 2024

We2I: Design and Characterization of Novel Microwave/mm-Wave Structures

Chair: Costas D. Sarris, University of Toronto, Canada — Co-Chair: Werner Thiel, ANSYS, USA
Room 152AB, 10:10–11:50, Wednesday 19 June 2024

We3C: Load Modulated GaN Power Amplifier Design Techniques

Chair: Yulong Zhao, Skyworks, Canada — Co-Chair: Chenyu Liang, Qorvo, USA
Room 146A, 13:30–15:10, Wednesday 19 June 2024

N/A
We3C-1
13:30
Stability Analysis Methods for Microwave Power Amplifiers: A Modern Perspective
Thomas A. Winslow, MACOM, USA

Page 580
We3C-2
13:50
Design and Characterization of an MMIC Current Mode Outphasing Power Amplifier
Aleksander Bogusz [1], Wantao Li [2], Jonathan Lees [1], Roberto Quaglia [1], Gabriel Montoro [2], Pere L. Gilabert [2], Steve Cripps [1]
[1] Cardiff University, UK ; [2] UPC, Spain

(MWTL)
We3C-3
14:10
Decade-Bandwidth RF-Input Pseudo-Doherty Load-Modulated Balanced Amplifier Using Signal-Flow-Based Phase Alignment Design
Pingzhu Gong, Jiachen Guo, Niteesh Bharadwaj Vangipurapu, Kenle Chen, University of Central Florida, USA

Page 584
We3C-4
14:30
Mode Extension of Load-Modulated Balanced Amplifier with Enhanced Efficiency
Jieen Xie [1], Kwok-Keung Michael Cheng [1], Pengyu Yu [1], Xiaohu Fang [2]
[1] CUHK, China ; [2] SUSTech, China

Page 588
We3C-5
14:50
A 3.2–4.2GHz Wideband 47dBm GaN HEMT Sequential-LMBA with Harmonic Tuned Using CRLH Transmission Line Stub
Hirotaka Asami, Takashi Sumiyoshi, Hiroshi Yamamoto, Takashi Maehata, Sumitomo Electric Industries, Japan

IMS 2024 Table of Contents

We3D: Radar-Based Structures for Advanced Sensing Applications

Chair: Changzhan Gu, SJTU, China — Co-Chair: Kazuya Yamamoto, Mitsubishi Electric, Japan
Room 146B, 13:30–15:10, Wednesday 19 June 2024

(MWTL)
We3D-1
13:30
Radar-Based Heart Rate Sensing on the Smart Glasses
Irene Wei Huang, Paurakh Rajbhandary, Sam Shiu, John S. Ho, Jiang Zhu, Ben Wilson, Geng Ye, Meta, USA

Page 592
We3D-2
13:50
A Cost-Effective Single-Channel Displacement Measurement Technique Without Down-Conversion Using Low-IF Doppler Radar
Zhiwei Zhang, Tong Fei, Jiayu Zhang, Changzhan Gu, SJTU, China

Page 596
We3D-3
14:10
Measurement of the Radial and Angular Velocity of Tagged Objects Using Interferometric Harmonic Micro-Doppler Radar
Cory Hilton, Jeffrey A. Nanzer, Michigan State University, USA

Page 600
We3D-4
14:30
Accurate Representation of the Rolling Motion for the Self-Rolled-Up Inductor with Radar Interferometry
Keke Zheng [1], Yue Wu [2], Wei Xu [1], Changzhan Gu [1], Junfa Mao [1]
[1] SJTU, China ; [2] Fudan University, China

Page 604
We3D-5
14:50
Interferometric Approaches for Accurate Location and Displacement Measurement Using Passive Frequency-Doubling Reflectennas
Ismail H. Uluer [1], Jeff Frolik [2], Thomas M. Weller [1]
[1] Oregon State University, USA ; [2] University of Vermont, USA

We3F: Emerging Planar Filter Architectures and Design Methods

Chair: Xun Luo, UESTC, China — Co-Chair: Li Yang, Universidad de Alcalá, Spain
Room 147AB, 13:30–15:10, Wednesday 19 June 2024

We3G: Integrated Passives for Innovative Front-Ends

Chair: Anthony Ghiotto, Université de Bordeaux, France — Co-Chair: Jason Soric, Raytheon, USA
Room 150AB, 13:30–15:10, Wednesday 19 June 2024

We3H: Digital Linearization Techniques for Wireless Transmitter Applications

Chair: Anding Zhu, University College Dublin, Ireland
Co-Chair: Pere L. Gilabert, Universitat Politècnica de Catalunya, Spain
Room 151AB, 13:30–15:10, Wednesday 19 June 2024

We3I: Modeling Techniques for Advanced Applications

Chair: Da Huang, MathWorks, USA — Co-Chair: David R. Jackson, University of Houston, USA
Room 152AB, 13:30–15:10, Wednesday 19 June 2024

IF1 : Interactive Forum

Chair: Matthew Morgan, NRAO, USA
Room Exhibit Hall, 15:10–17:20, Wednesday 19 June 2024

IF1 continues next page …

IF1 continued …

IF1 continues next page …

IF1 continued …

IF1 continues next page …

IF1 continued …

IF1 continues next page …

IF1 continued …

IF1 continues next page …

IMS 2024 Table of Contents

IF1 continued …

IF1 continues next page …

IF1 continued …

IMS 2024 Table of Contents

Th1B: Advances in CAD Techniques for RF and Microwave Circuits and Systems

Chair: José E. Rayas-Sánchez, ITESO, Mexico — Co-Chair: Marco Pirola, Politecnico di Torino, Italy
Room 145AB, 08:00–09:40, Thursday 20 June 2024

Th1C: Advanced mm-Wave Power Amplifiers for Ka- to E-Band Applications

Chair: Michael Roberg, mmTron, USA — Co-Chair: Munkyo Seo, Sungkyunkwan University, Korea
Room 146A, 08:00–09:40, Thursday 20 June 2024

IMS 2024 Table of Contents

Th1D: Low-Noise Cryogenic Integrated Circuits for Quantum Computing

Chair: Kavita Goverdhanam, US Army CCD-C5ISR Center, USA
Co-Chair: Sorin P. Voinigescu, University of Toronto, Canada
Room 146B, 08:00–09:40, Thursday 20 June 2024

Th1E: Material Sensing at Microwave and mm-Wave Frequencies

Chair: Zoya Popović, University of Colorado Boulder, USA
Co-Chair: Pawel Kopyt, Warsaw University of Technology, Poland
Room 146C, 08:00–09:40, Thursday 20 June 2024

IMS 2024 Table of Contents

Th1F: Insights on Vital-Sign Radars

Chair: Alexander Koelpin, Technische Universität Hamburg, Germany, Germany
Co-Chair: Davi V.Q. Rodrigues, University of Texas at El Paso, USA
Room 147AB, 08:00–09:40, Thursday 20 June 2024

Th1G: Who Needs Contact? Developments in OTA Measurements

Chair: Marcus Da Silva, National Instruments, USA
Co-Chair: Marco Spirito, Technische Universiteit Delft, The Netherlands
Room 150AB, 08:00–09:40, Thursday 20 June 2024

Th1H: Advances in Reconfigurable Intelligent Surfaces, Antennas, and Beamformers

Chair: Nizar Messaoudi, Keysight Technologies, Canada — Co-Chair: Najme Ebrahimi, Northeastern University, USA
Room 151AB, 08:00–09:40, Thursday 20 June 2024

Th1I: Device and Integration Technology for RF through mm-Wave

Chair: Shahed Reza, Sandia National Laboratories, USA — Co-Chair: Ko-Tao Lee, Qorvo, USA
Room 152AB, 08:00–09:40, Thursday 20 June 2024

Th2B: HF Through UHF Techniques and Applications

Chair: Frederick H. Raab, Green Mountain Radio Research, USA — Co-Chair: Marc Franco, MACOM, USA
Room 145AB, 10:10–11:50, Thursday 20 June 2024

Th2C : Sub-Thz Power Amplifiers for D-Band and Beyond

Chair: David Brown, BAE Systems, USA — Co-Chair: Sensen Li, University of Texas at Austin, USA
Room 146A, 10:10–11:50, Thursday 20 June 2024

IMS 2024 Table of Contents

Th2D : Advances in Quantum Technologies

Chair: Yanghyo Rod Kim, Stevens Institute of Technology, USA
Co-Chair: Dimitris Pavlidis, Florida International University, USA
Room 146B, 10:10–11:50, Thursday 20 June 2024

Th2E: Near-Field Wave-Matter Interaction

Chair: Kamel Haddadi, Université de Lille, France — Co-Chair: Malgorzata Celuch, QWED, Poland
Room 146C, 10:10–11:50, Thursday 20 June 2024

IMS 2024 Table of Contents

Th2F: Advances in Microwave Biomedical Applications

Chair: Christian Damm, Universität Ulm, Germany — Co-Chair: Chung-Tse Michael Wu, Rutgers University, USA
Room 147AB, 10:10–11:50, Thursday 20 June 2024

Th2G: Advancing Characterization at mm-Wave Frequencies

Chair: Shuhei Amakawa, Hiroshima University, Japan — Co-Chair: Ricardo Figueiredo, Universidade de Aveiro, Portugal
Room 150AB, 10:10–11:50, Thursday 20 June 2024

IMS 2024 Table of Contents

Th2H: Advanced Circuits and Techniques for Next-Generation Wireless Systems

Chair: Kenneth E. Kolodziej, MIT Lincoln Laboratory, USA
Co-Chair: Marcus Pan, Semiconductor Research Corporation, USA
Room 151AB, 10:10–11:50, Thursday 20 June 2024

Th2I: GaN Devices and Technology for Wireless Applications

Chair: Wolfram Stiebler, Raytheon, USA — Co-Chair: Peter Magnee, NXP Semiconductors, The Netherlands
Room 152AB, 10:10–11:50, Thursday 20 June 2024

ADDITIONAL PAPERS