IEEE MTT-S
LATIN AMERICA
MICROWAVE COFERENCE

Buenos Aires, Argentina | December 9-11, 2026

TECHNICAL PROGRAM



IEEE

MTT-S
IEEE MICROWAVE THEORY & TECHNOLOGY SOCIETY

WELCOME TO LAMC 2026

On behalf of the Organizing Committee, it is our great pleasure to welcome you to the sixth IEEE MTT-S Latin America Microwave Conference (LAMC 2026) in Buenos Aires, Argentina.

LAMC brings together researchers, engineers, industry professionals, and students to exchange ideas, share recent advances, and foster collaboration in microwave engineering and related fields. This edition features a rich technical program of peer-reviewed paper presentations, keynote and invited talks by leading researchers in microwave theory and technology, special sessions, and opportunities to connect with experts from academia and industry. We hope the conference will inspire new ideas, strengthen professional relationships, and contribute to the continued advancement of microwave technologies.

Beyond the technical program, we invite you to discover Buenos Aires, a city renowned for its rich cultural heritage, distinctive architecture, vibrant arts scene, passionate tango tradition, and outstanding cuisine. Its charming neighborhoods, historic landmarks, and lively atmosphere offer a memorable setting for both professional exchange and cultural experiences.

We also encourage you to explore Argentina, a country of remarkable geographical and cultural diversity. From the majestic Andes and the glaciers of Patagonia to subtropical forests, vast plains, and scenic coastlines, Argentina offers extraordinary landscapes alongside a rich cultural tradition, a strong academic heritage, and a dynamic scientific community. Above all, we hope you will experience the warmth and hospitality of its people.

We sincerely thank all authors, keynote speakers, invited speakers, sponsors, exhibitors, reviewers, and volunteers whose contributions have made LAMC 2026 possible. Your participation and support are essential to the success of this conference.

We wish you a productive and enjoyable conference, fruitful discussions, new collaborations, and a wonderful stay in Buenos Aires.

Ramón López La Valle and Claudio Fernández Rodríguez

LAMC 2026 General Chairs

Martín Hurtado and Alejandro Venere

LAMC 2026 Technical Program Chairs

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PROGRAM OVERVIEW

Wednesday, December 9, 2026

08:00–08:30 Registration
08:30–08:50 Opening Ceremony
08:50–09:30 Keynote Talk 1: Anding Zhu
09:30–11:00 Oral Session 1: Active and Passive Antennas 1 (6 papers)
11:00–12:00 Poster Session 1 (7 papers)
12:00–13:00 Oral Session 2: CAD Techniques for RF and Microwave Engineering (4 papers)
14:00–14:40 Keynote Talk 2: Goutam Chattopadhyay
14:40–16:00 Oral Session 3: TC-02 Special Session on Design Automation (5 papers)
16:00–17:00 Poster Session 2 (7 papers)
17:00–17:30 Invited Talk 1: Changzhi Li
17:30–18:30 Oral Session 4: Radar Systems (4 papers)
20:00–21:30 Welcome Reception

Thursday, December 10, 2026

08:30–09:10 Keynote Talk 3: Cristiano Tomassoni
09:10–10:40 Oral Session 5: Passive Components, Circuits, and Devices (6 papers)
10:40–11:40 Poster Session 3 (7 papers)
11:40–13:10 Oral Session 6: RF Systems and Applications 1 (6 papers)
14:00–14:40 Keynote Talk 4: Manos Tentzeris
14:40–16:10 Oral Session 7: Active and Passive Antennas 2 (6 papers)
16:10–17:10 Poster Session 4 (7 papers)
17:10–17:40 Invited Talk 2: Luciano Tarricone
17:40–18:40 Oral Session 8: Communications Systems (4 papers)
20:00–22:30 Gala Dinner

Friday, December 11, 2026

09:00–09:40 Keynote Talk 5: Jakub Sorocki
09:40–11:10 Oral Session 9: RF Systems and Applications 2 (6 papers)
11:10–12:10 Poster Session 5 (6 papers)
12:10–12:50 Keynote Talk 6: Julio Navarro
14:00–15:00 Ask Us Anything Session
15:00–15:30 Broadening Participation Committee Event
15:30–16:00 Multilingual Video Competition
16:00–18:00 Young Professionals and Women in Microwaves Event

WEDNESDAY, DECEMBER 9, 2026

IEEE MTT-S Latin America Microwave Conference • Buenos Aires, Argentina

Oral Session 1: Active and Passive Antennas 1

Wednesday: 09:30–11:00 | 6 papers
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

09:30–09:45	**Phased Array Antenna with Digitally Tunable Capacitors** John Mortensen and Ts Kalkur (University of Colorado Colorado Springs, USA)
9:45–10:00	**Circularly Polarized Transition from Dielectric Waveguide to Grounded Coplanar Waveguide at Millimeter-Wave Frequencies** Mathieu Leze (University Savoie Mont Blanc, France); Guillaume Fondi de Niort and Laurent Petit (Radiall, France); Cedric Bermond (Université savoie mont blanc, France); Julien Legrand (Radiall, France)
10:00–10:15	**A Balanced Antipodal Vivaldi Array with a Reconfigurable Parasitic Structure for Grating-Lobe Attenuation** Marick Vermeulen and Ashraf Uz Zaman (Chalmers University of Technology, Sweden); Henrik Holter (Ericsson AB, Sweden); Darwin Blanco (Ericsson, Sweden)
10:15–10:30	**Metallic Benchmarking and Dispersion Analysis of a VACNT-Based K-Band Monopole Antenna** Diego S. Rojas-Godoy and Carlos A. Paragua-Macuri (Pontificia Universidad Católica del Perú, Peru)
10:30–10:45	**A Packaged Free-Standing Bondwire Monopole with V-Band TX: Encapsulation as an Antenna Design Parameter** Helmuth Morath (TU Dresden, Germany); Franz Alwin Dürrwald, David Weyers and Florian Protze (Technische Universität Dresden, Germany); Jens Wagner (Technische Universität Dresden & Chair for Circuit Design and Network Theory, Germany); Krzysztof Nieweglowski (Technische Universität Dresden, Germany); Juliana Panchenko (TU Dresden, Germany); Frank Ellinger (Technische Universität Dresden, Germany)
10:45–11:00	**Additive Manufacturing of a K-Band Horn Antenna Feed and Dielectric GRIN Lenses: Comparison of Three Lens Fabrication Approaches** Aleksandr Voronov (Universitat Politècnica de València, Spain); Oscar Moschner (TH Cologne University of Applied Sciences, Germany); Hansel Martínez Odiaga and Sthefany Alvarez Navarro (Pontificia Universidad Católica del Perú, Peru); Rainer Kronberger (TH Cologne University of Applied Sciences, Germany)

Poster Session 1

11:00–12:00 | 7 papers
Foyer, DoubleTree by Hilton Buenos Aires

11:00	**A Bias Dependent Describing Function Based Large-Signal Colpitts Oscillator Model for Phase Noise Prediction in HBT Technologies** Abderahim Zerbane (Fraunhofer Institute for Electronic Microsystems and Solid State Technologies, Germany); Marco Dietz (Fraunhofer EMFT, Germany); Amelie Hagelauer (Fraunhofer, Germany)
11:00	**A Compact Self-Phased Quadrifilar Helix Antenna with Improved Axial Ratio Performance for HRPT Satellite Signals** Francisco A. Nuñez (SENyT, Dto. de Electrotecnia, Fac. Ingeniería, UNLP, Argentina); Ezequiel A. Marranghelli (SENyT. Universidad Nacional de La Plata (UNLP), Argentina); Ramon Lopez La Valle (Universidad Nacional de La Plata, Argentina)
11:00	**A W-Band Frequency Tripler for Astronomical Receiver in 0.1-μm GaAs pHEMT Process** Sheng-Fu Zhuang (National Taiwan University, Taiwan); Chau-Ching Chiong (Academia Sinica, Taiwan); Yunshan Wang, Kun-You Lin and Huei Wang (National Taiwan University, Taiwan)
11:00	**Assessment of X-Parameter-Derived Matching Conditions for a Low Quiescent Bias HBT Power Amplifier** Gustavo I. Arenas-Alvarez and Emmanuel Díaz-Marín (Cinvestav-IPN, Mexico); Jose R. Loo-Yau (Cinvestav-Guadalajara, Mexico); Ernesto Alejandro Hernández Domínguez (CINVESTAV Unidad Guadalajara, Mexico); Pablo Moreno Villalobos (Cinvestav, Mexico); Apolinar Reynoso-Hernandez (CICESE, Mexico)
11:00	**Broadband Impedance Matching via Width Optimization for Microstrip Under Dispersion** Lucas D. Coelho (Universidade Federal de Juiz de Fora, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Ulysses R. C. Vitor (Universidade Federal de Juiz de Fora, Brazil)
11:00	**Efficient Deterministic Algorithm for Direct Computation of Bessel-Neumann Roots in Coaxial Waveguides** Lucas Ribeiro Sandes, Sr (São Paulo State Univesity (Unesp)); Rafael Abrantes Penchel (São Paulo State University (Unesp), Brazil); Guilherme Simon da Rosa (São Paulo State University, Brazil)
11:00	**Simplified FEM-Based Design and Experimental Validation of a High-Voltage Blocking Coil for Partial Discharge Measurement** Whesdey G. S. Santos and George Victor Rocha Xavier (Federal University of Sergipe, Brazil); Almir Carlos dos Santos, Júnior (Federal University of Rondônia, Brazil & Federal University of Campina Grande, Brazil); Hugerles S. Silva (University of Brasilia, Brazil)

Oral Session 2: CAD Techniques for RF and Microwave Engineering

12:00–13:00 | 4 papers
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

12:00–12:15	**Fast Simulation of Conformal Antenna Arrays on Doubly Curved Surfaces via Metric Tensor** Abraham Hernandez-Jimenez (Cinvestav-IPN, Mexico); Giselle Galvan-Tejada (Cinvestav, Mexico)
12:15–12:30	**Post-Silicon Adaptive Tx/Rx Equalizer Seed Optimization Using Surrogate Modeling and Space Mapping for PCIe Gen6 Links** Francisco E. Rangel-Patino (Intel Corporation, Mexico & National Institute of Technology of Mexico, Mexico); Daudi M. Onsongo (Intel Corp., USA); Jose E. Rayas-Sanchez (ITESO - The Jesuit University of Guadalajara, Mexico); Oscar Cinco-Izquierdo (National Institute of Technology of Mexico, Mexico); Omar Guillen-Fernandez (Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Mexico)
12:30–12:45	**Load-Pull-Based Non-Isolated Combiner Synthesis for a Four-Way Outphasing Power Amplifier** Iaroslav Shilinkov and Gregor Lasser (Chalmers University of Technology, Sweden); Rob Maaskant (CHALMERS, Sweden)
12:45–13:00	**Surrogate Guided Mixed-Integer Geometric Design of a Compact Metamaterial Branch-Line Coupler at 3.5 GHz** Capcha Bruce (Universidad Nacional de Ingeniería, Peru); Marco Quispe (National Institute of Research and Training on Telecommunications, Peru); Renzo Hurtado (Universidad Nacional de Ingeniería, Peru); Saúl Inca (iTEAM Research Institute, Universitat Politècnica de València, Spain); Gustavo Palomino (University of São Paulo, Brazil)

Oral Session 3: TC-02 Special Session on Design Automation

14:40–16:00 | 5 papers
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

14:40–14:55	**Advances and Future Trends on AI-Driven Design of RF and mm-Wave Circuits and Systems** Fabio Passos (Universidade de Lisboa, Portugal); Kaushik Sengupta (Princeton University, USA)
14:55–15:10	**Advances of AI/ML for Microwave Modeling** Qi-Jun Zhang (Carleton University, Canada)
15:10–15:25	**Cognitive Space Mapping for RF and Microwave Design Optimization** José Ernesto Rayas-Sánchez (ITESO – Jesuit University of Guadalajara, Mexico)
15:25–15:40	**Recent Advances in MOR-Based Neural Network Modeling and Space Mapping Optimization** Feng Feng and Jinyi Liu (Tianjin University, China); Qi-Jun Zhang (Carleton University, Canada)
15:40–15:55	**Multi-Material Pixelated EM Optimization for Monolithic Microwave Integrated Circuit Design** Wenjun Zhang, Chiara Ramella and Matteo Cagnoni (Politecnico di Torino, Italy); Qi-Jun Zhang (Carleton University, Canada); Marco Pirola (Politecnico di Torino, Italy)

Poster Session 2

16:00–17:00 | 7 papers
Foyer, DoubleTree by Hilton Buenos Aires

16:00	**Bilevel Active-Passive Co-Design of mm-Wave Circuits with Free-Form Pixelated Matching Networks** Juho Park and Jiajun Tang (Princeton University, USA); Fabio Passos (Universidade de Lisboa, Portugal); Kaushik Sengupta (Princeton University, USA)
16:00	**Experimental Assessment of a Non-Brazed X-Band Ridge Slotted Waveguide Array** Pablo Andrés Sonna, Tomas Martinez Gonzalez and Serrudo Julián (INVAP SAU, Argentina)
16:00	**Experimental Validation and Performance Comparison of Wi-Fi Generations and Private 5G in Indoor Environments** Graziele Rodrigues Souza (CEFET-MG, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Sandro Trindade Mordente Gonçalves (CEFET-MG, Brazil); Silvia C Albuquerque (Federal Center for Technological Education of Minas Gerais, Brazil); Maurício D Almeida (Centro Federal de Educação Tencológica de Minas Gerais - CEFT-MG, Brazil); Davi Valerio de Queiroz Rodrigues (University of Texas at El Paso, USA)
16:00	**Microwave Material Identification Using a Multifrequency CSRR Sensor Array and Machine Learning** Larissa Alves Santana (CEFET-MG, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Lucas Silva Lima (CEFET-MG, Brazil); Camilla Caroline Moro Carmo (CEFET MG, Brazil); Davi Valerio de Queiroz Rodrigues (University of Texas at El Paso, USA); Artur Nogueira de São José (University of Brasilia, Brazil)
16:00	**Millimeter-Wave Interconnect Between a Plastic Waveguide and a Grounded Coplanar Waveguide** Mathieu Leze (University Savoie Mont Blanc, France); Laurent Petit (Radiall, France); Cedric Bermond (Université savoie mont blanc, France); Guillaume Fondi de Niort and Julien Legrand (Radiall, France)
16:00	**On the Design and Operational Aspects of Label-Free Microwave Biosensors for Bacteria Detection with Low Concentration Threshold** Ilona Piekarz and Slawomir Gruszczynski (AGH University of Krakow, Poland); Sabina Gorska (Polish Academy of Sciences, Poland); Jakub Sorocki (AGH University of Krakow, Poland)
16:00	**SI-PI Co-Simulation and PDN Decoupling Optimization for UCIe-Based Chiplet Interconnects** Michel Ibarra (Intel Corporation, Mexico); Aurea E Moreno-Mojica (ITESO & Synopsys, Mexico); Jose E. Rayas-Sanchez (ITESO - The Jesuit University of Guadalajara, Mexico)

Oral Session 4: Radar Systems

17:30–18:30 | 4 papers

Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

17:30–17:45	**Separating Viewing Geometry from Fall Motion in FMCW Radar Fall Signatures** Sebastian Ratto V, Abdelrahman Elbadrawy and Ahmed N. Sayed (University of Waterloo, Canada); Arien Sligar (Ansys Inc., USA); Omar Ramahi (University of Waterloo, Canada); George Shaker (University of Waterloo & Spark Tech Labs, Canada)
17:45–18:00	**Accuracy-Complexity Analysis of HAPS-Enabled Bistatic MIMO Radar for VANETs** Daniel Valle de Lima (University of Brasilia, Brazil); Kevin Herman Muraro Gularte (Hamm-Lippstadt University of Applied Sciences, Germany & Universidade de Brasília, Brazil); Edison Pignaton de Freitas (Halmstad University, Sweden); Joao Paulo Javidi da Costa (Hamm-Lippstadt University of Applied Sciences, Germany)
18:00–18:15	**Experimental Assessment of Channel Coherence and Calibration Requirements in an L-Band Digital Beamforming Radar Demonstrator** Mayco Mariano Dagatti and Pablo Carlos Marino (CONAE, Argentina)
18:15–18:30	**A Physics-Based Analytical Model and Experimental Validation of Wind Turbine Clutter** Matias Amoia (Universidad Nacional de La Plata, Argentina); Dante Andrinolo (Signal and Image Processing Institute, Ming Hsieh, USA); Julián Polimeni (Universidad Nacional de La Plata, Argentina); Martin Hurtado (National University of La Plata, Argentina); Juan Ignacio Fernández Michelli (Universidad Nacional de La Plata, Argentina)

Welcome Reception

20:00–21:30

A cocktail-style reception featuring a selection of savory bites, a hot dish, mini desserts, and a variety of beverages, including wine.

Location: Alajandro Casona Room, DoubleTree by Hilton Buenos Aires.

THURSDAY, DECEMBER 10, 2026

IEEE MTT-S Latin America Microwave Conference • Buenos Aires, Argentina

Oral Session 5: Passive Components, Circuits, and Devices

09:10–10:40 | 6 papers

Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

09:10–09:25	**Bandpass Filter with Improved Rejection Designed with a Novel Synthesis Approach** Slawomir Gruszczynski, Krzysztof Wincza, Jakub Sorocki and Ilona Piekarz (AGH University of Krakow, Poland)
09:25–09:40	**Experimental Linearity Characterization of Different Components Implemented on the Field-Programmable Microwave Substrate** Stephen Jeswinde Nuagah (Ontario Tech University, Canada); Fahad Farooqui (SKYTRAC, Canada); Langis Roy (Lakehead University, Canada); Ying Wang (Ontario Tech University, Canada); Alejandro Buitrago (Université Laval, Canada)
09:40–09:55	**Toward Magnetically Shielded Substrate Integrated Waveguides for Planar Microwave Interconnects** Emma L Pittner and Glauco Fontgalland (University of Mount Union, USA); Glauco Filho Fontgalland (Ohio State University, Columbus, USA)
09:55–10:10	**Design and Optimization of Eight-Way E- and H-Plane Radial Power Dividers for 18-22 GHz** Raul Haro-Baez (Universidad de las Fuerzas Armadas ESPE, Ecuador); Diego Benitez (Universidad San Francisco de Quito, Ecuador); Luis Calderon and Kevyn Villacres (ESPE, Ecuador)
10:10–10:25	**Highly Selective Two-Mirror Echelette-Type Resonator with Transverse Energy Extraction for Terahertz-Range Gyrotrons** Dmitry I. Sobolev (Institute of Applied Physics of Russian Academy of Sciences, Russia); Gregory Denisov (Institute of Applied Physics RAS, Russia); Vladislav Yu. Zaslavsky (Institute of Applied Physics of the Russian Academy of Sciences, Russia); Mikhail Glyavin (Institute of Applied Physics RAS, Russia)
10:25–10:40	**Design of a Microwave Network with Large Frequency-Dependent Output Phase Difference for Phased Array Sensor Applications** Rafael Chiaradia (Instituto Balseiro, Argentina); Alejandro Javier Venere (Instituto Balseiro Universidad Nacional de Cuyo & Comisión Nacional de Energía Atómica, Argentina); Juan Pablo Pascual (Instituto Balseiro, Argentina)

Poster Session 3

10:40–11:40 | 7 papers
Foyer, DoubleTree by Hilton Buenos Aires

10:40	**Comparative Evaluation of Permittivity Extraction Models for a Low-Cost Open-Ended Coaxial Probe System Applied to Skin Tissue Characterization** Luis Fernando Tupac Lazo, Lucia Fernanda Dávila Tejada, Ebert G San Roman Castillo and Manuel Alejandro Condori Huayna (Universidad Católica San Pablo, Peru); Elizabeth Fernandez-Aranzamendi (Universidad Carlos III de Madrid, Spain & Universidad Católica San Pablo, Peru); Karla Paredes (Universidad Nacional de San Agustín, Peru); Daniel Segovia Vargas (Universidad Carlos III de Madrid, Spain)
10:40	**Design and CMA-ES Optimization of a Triple-Band Pentagonal Graphene Microstrip Antenna on SiO2 for 6G Terahertz Applications** Gabriel Gonçalves Nascimento and Humberto Xavier de Araujo (Universidade Federal do Tocantins, Brazil)
10:40	**F-Engine Advances for the Multipurpose Interferometer Array** Luca Cabral (Universidad Nacional de La Plata, Argentina); Mariano Fernandez-Corazza (Universidad Nacional de La Plata (UNLP), Argentina); Guillermo Gancio and Paula Benaglia (Instituto Argentino de Radioastronomía, Argentina)
10:40	**Frequency-Scanning Antenna Array Evaluation for Radar Applications** Juan Pablo Pascual (Instituto Balseiro, Argentina); Alejandro Javier Venere (Instituto Balseiro Universidad Nacional de Cuyo & Comisión Nacional de Energía Atómica, Argentina); Rafael Chiaradia and Santiago Elian Mallerman (Instituto Balseiro, Argentina); Jorge Cogo (Universidad Nacional de Río Negro, Argentina)
10:40	**Pilot-Induced Ambiguity Suppression in ISDB-Tb Passive Bistatic Radar Through Reference Signal Reconstruction** Julián Polimeni, Juan Ignacio Fernández Michelli and Matias Amoia (Universidad Nacional de La Plata, Argentina); Martin Hurtado (National University of La Plata, Argentina)
10:40	**Realization and Characterization of Coplanar Waveguide Transmission Lines (CPW) on Low-Cost FR4 Substrates in the 0-20 GHz Microwave Range** José A. Torres-Fórtiz (Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico); Celso Gutierrez-Martínez (Instituto Nacional de Astrofisica, Optica y electrónica (INAOE), Mexico)
10:40	**Reflection Type Phase Shifters Using Series and Parallel Inductor with Digitally Tunable Capacitor Load Configurations** Muhammad Ali Khaliq (University of Colorado - Colorado Springs, USA); Ts Kalkur (University of Colorado Colorado Springs, USA)

Oral Session 6: RF Systems and Applications 1

11:40–13:10 | 6 papers

Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

11:40–11:55	**RF Harvesting for IoT Systems: Design and Experimental Validation of a Low-Cost 2.4 GHz Rectenna Prototype** Marco Vinueza Bustamante (Escuela Politécnica Nacional, Ecuador); Christian Tipantuña (Escuela Politécnica Nacional, Spain); Hernán V. Barba Molina (Escuela Politécnica Nacional & IEEE, Ecuador); Steven Vinueza (Universidad Internacional del Ecuador, Ecuador)
11:55–12:10	**Microstrip Sensor Based on the Hexagonal Matryoshka Structure** Lucas Martins Castelo Branco (Federal University of Pernambuco, UFPE, Brazil); Abid Raza (Federal University of Pernambuco, Brazil); Camila da Silva Cavalcanti and Valmir Rodrigues da Silva (Universidade Federal de Pernambuco, Brazil); Elias Marques Ferreira de Oliveira (Universidade Federal Rural de Pernambuco, Brazil & Universidade Federal de Pernambuco, Brazil); Lauro R. G. S. Lourenco Novo (UNiversidade Federal de Pernambuco, Brazil); Marcos Tavares Melo (Federal University of Pernambuco, Brazil)
12:10–12:25	**An Introduction to Physically Constrained Thermistor Modeling Applied to Bolometric Power Sensors** Patricio A. Greco (Servicios Electronicos de P.A. Greco, Argentina)
12:25–12:40	**Dielectric Contrast in Skin Lesions at Microwave Frequencies: In Vivo Measurements Using a Low Cost Coaxial Probe System** Luis Fernando Tupac Lazo, Lucia F. Tejada, Ebert G San Roman Castillo and Manuel Alejandro Condori Huayna (Universidad Católica San Pablo, Peru); Elizabeth Fernandez-Aranzamendi (Universidad Carlos III de Madrid, Spain & Universidad Católica San Pablo, Peru); Karla Paredes (Universidad Nacional de San Agustín, Peru); Daniel Segovia Vargas (Universidad Carlos III de Madrid, Spain)
12:40–12:55	**Polarization Effects in Wideband Microwave Holography for Steel Reinforcement Detection in Concrete** Diego S. Rojas-Godoy (Pontificia Universidad Católica del Perú, Peru); Manuel Augusto Yarleque Medina (PUCP, Peru); Ernesto Torres Torchio and Guido Silva (Pontificia Universidad Católica del Perú, Peru)
12:55–13:10	**Oscillatory Artifact Correction, Dielectric Feature Extraction, and a Continuous Suspicion Index for in Vivo Skin Lesion Screening with a Low Cost Coaxial Probe** Lucia Fernanda Dávila Tejada, Luis Fernando Tupac Lazo, Manuel Alejandro Condori Huayna and Ebert G San Roman Castillo (Universidad Católica San Pablo, Peru); Elizabeth Fernandez-Aranzamendi (Universidad Carlos III de Madrid, Spain & Universidad Católica San Pablo, Peru); Karla Paredes (Universidad Nacional de San Agustín, Peru); Daniel Segovia Vargas (Universidad Carlos III de Madrid, Spain)

Oral Session 7: Active and Passive Antennas 2

14:40–16:10 | 6 papers

Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

14:40–14:55	**A Novel AMC Structure for Antenna-on-Chip Applications** Pedro G Pérez (Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico); Roberto S Murphy (INAOE, Mexico)
14:55–15:10	**Design and Experimental Validation of a PIN-Diode Reconfigurable Intelligent Surface with Column-Wise Bias Lines** Felipe Henrique de Souza da Fonseca (State University of Campinas (UNICAMP), Brazil & Eldorado Research Institute, Brazil); Gabriel Clemente (University of Campinas (UNICAMP), Brazil & UNICAMP / Eldorado, Brazil); Gustavo Morais (Instituto de Pesquisas Eldorado, Brazil); Guilherme Concentino and Leonardo Lira Rodrigues (Eldorado, Brazil); Luis Henrique Rossan (Eldorado Research Institute, Brazil); Cesar J. B. Pagan (University of Campinas, Brazil))
15:10–15:25	**Design of a Conformal Circularly Polarized Eight-Element Microstrip Array for a Frequency-Scaled Satellite Launch Vehicle** Clara Souza Franco (Unipampa, Brazil); Luiz Gustavo GP Paulista da Silva (UNIPAMPA, Brazil); Abdou-Halique A. A. Bouari (Unipampa, Brazil); Juner M Vieira (Universidade Federal Do Pampa (Unipampa), Brazil); Edson R. Schlosser (Universidade Federal do Pampa, Brazil); Alexis Fabricio Tinoco (Universidad de las Américas - UDLA & CICTE, Ecuador); Marcos V. T. Heckler (Universidade Federal do Pampa, Brazil)
15:25–15:40	**3D-Printed DRA Array with Metallic Caps on a Cylindrical Substrate for Inter-Satellite Communications** Sandra Zulueta (Pontificia Universidad Católica de Valparaíso, Chile); Francisco Pizarro (Pontificia Universidad Catolica de Valparaiso, Chile)
15:40–15:55	**An Electronically Reconfigurable S-Band Antenna for CubeSats** Ezequiel A. Marranghelli (SENyT. Universidad Nacional de La Plata (UNLP), Argentina); Francisco A. Nuñez (SENyT, Dto. de Electrotecnia, Fac. Ingeniería, UNLP, Argentina); Ramon Lopez La Valle (Universidad Nacional de La Plata, Argentina)
15:55–16:10	**Validated Scaling of an L-Band Digital Beamforming Array for Space Surveillance Radar** Juan Pablo Hagata (Universidad de Buenos Aires, Argentina); Pablo Marino Belçaguy (University of Buenos Aires, Argentina); Sergio Masuelli (Universidad Nacional de Córdoba, Argentina)

Poster Session 4

16:10–17:10 | 7 papers
Foyer, DoubleTree by Hilton Buenos Aires

16:10	**Additive Manufacturing of a Fractal-Based Frequency Selective Surface for X-Band Applications** Laura Rivero (Polytechnic University of Valencia, Spain & TH Köln University of Applied Sciences, Germany); Oscar Moschner and Timo Banko (TH Cologne University of Applied Sciences, Germany); Stefan Grünwald (Technische Hochschule Köln, Germany); Rainer Kronberger (TH Cologne University of Applied Sciences, Germany)
16:10	**Design of an Integrated RF Front-End Based on a Square Dielectric Resonator Antenna for GPS L1 Reception** Herick R. da Silva Rodrigues (Unipampa, Brazil); Lucas Santos Pereira and Edson R. Schlosser (Universidade Federal do Pampa, Brazil); Juner M Vieira (Universidade Federal Do Pampa (Unipampa), Brazil); Marcos V. T. Heckler (Universidade Federal do Pampa, Brazil)
16:10	**Development and Characterization of Magnetic and Electric near-Field Probes for Printed Circuit Board EMC Diagnostics** Gabriel Clemente (University of Campinas (UNICAMP), Brazil & UNICAMP / Eldorado, Brazil); Thiago Santos Batista (UnB, Brazil); Felipe Henrique de Souza da Fonseca (State University of Campinas (UNICAMP), Brazil & Eldorado Research Institute, Brazil); Gustavo Morais (Instituto de Pesquisas Eldorado, Brazil); Sébastien Roland Marie Joseph Rondineau (UnB, Brazil)
16:10	**Low-Complexity MP-DPD for FR2 Heterodyne Transmitters with Equal-Power Evaluation** Juan Pablo Fernandez Moncada (Universidad Privada Boliviana, Bolivia); Berthyn Rodrigo Tiñini Chuquimia (UMSA, Bolivia); Carlos Salvador Mendieta Villanueva (Universidad Mayor de San Andres, Bolivia); Juan Carlos Paredes Condori (Universidad Mayor de San Andrés, Bolivia); Carlos Esteban Gironda Lagrava (Universidad Privada Boliviana, Bolivia); Hugo O Condori-Quispe (Fulbrightmail, Bolivia)
16:10	**Low-Power Environmental Monitoring for High-Altitude Agriculture: A Field Validation in Cachamarca, Arequipa** Rosa Linda Almiron Patiño (Universidad Nacional de San Agustin, Peru); Raul Edilberto Abril Mestas (Telecomunication Engineering, Peru); Paula Marcia Ccoa Cuyo (Telecommunications Engineering, Peru); Rosario Isabel Paredes Morón (Universidad Nacional de San Agustin, Peru); Jorge Rendulich (Universidad Nacional de San Agustin - UNSA, Peru)
16:10	**Validation of Telemetry Antenna Array Coverage on a Cylindrical Conducting Body like a Satellite Launcher: Simulation vs. Measurement** Juan Pablo Ciafardini (Universidad Nacional de La Plata, Argentina); Cristian Riccomini and Gastón González (VENG, Argentina)
16:10	**Validation of a Method for RF Integrity Verification of Phased-Array SAR Antennas Using SDR-Based Radar Echo Emulation** Juan Pablo Vargas (UTN-FRM, UFS-Conae, Argentina); Pablo Marino Belçaguy (University of Buenos Aires, Argentina)

Oral Session 8: Communications Systems

17:40–18:40 | 4 papers
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

17:40–17:55	**Statistical Analysis of Mobility Events in 5G NSA Mobile Networks Based on Field Measurements** Gabriel A Palma (Escuela Politécnica Nacional, Ecuador & Departamento de Electrónica, Telecomunicaciones y Redes de Información (DETRI), Ecuador); Isaac Ruales (Departamento de Electrónica, Telecomunicaciones y Redes de Información (DETRI), Ecuador); Pablo Lupera-Morillo, Robin Álvarez and Ricardo Llugsi (Escuela Politécnica Nacional, Ecuador)
17:55–18:10	**Experimental Characterization of a 2.4 GHz Outdoor Wireless Channel in a Partially Obstructed Plaza** Lucas R Irribarra Zúñiga, Renata F Gómez Rabello and Sergio A Cabrera Alcántara (Universidad Tecnica Federico Santa Maria, Chile); Melissa E Diago-Mosquera (Universidad Técnica Federico Santa María, Chile)
18:10–18:25	**Analysis of Coexistence of IMT Technologies and Point-to-Point Microwave Systems in the 4700 MHz Frequency Band** Alexander Galvis Quintero (Universidad de Antioquia, Colombia); Leonardo Vargas (Universidad Icesi, Colombia); Alexis D. Quintero (Universidad de Antioquia, Colombia); NIcolas Salazar (Universidad Icesi, Colombia); Andres Navarro (Universidad Icesi & Not2Far Technologies Inc, Colombia); Natalia Gaviria Gomez (Universidad de Antioquia, Colombia)
18:25–18:40	**Atmospheric Microwave Satellite Data for Weather and Fire-Risk Analysis** Glauco Filho Fontgalland (Ohio State University, Columbus, USA); Isabel Fontgalland (University of Akron, USA); Glauco Fontgalland (University of Mount Union, USA)

Gala Dinner and MTT-S 75th Anniversary Celebration

20:00–22:30

A gourmet three-course dinner featuring a selection of Argentine cuisine, accompanied by a selection of Argentine wines and beverages. The evening will include a live show and special touches to highlight this important milestone in the Society's history.

Location: To be announced.

FRIDAY, DECEMBER 11, 2026

IEEE MTT-S Latin America Microwave Conference • Buenos Aires, Argentina

Oral Session 9: RF Systems and Applications 2

09:40–11:10 | 6 papers

Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

09:40–09:55	**Experimental Study of a 230 GHz/1 MW Prototype Gyrotron in Frequency-Locking Regime for TRT Tokamak** Andrey Ananichev, Andrey Fokin, Andrey Kuftin, Alexey Kirsanov, Daniil Krupin and Alexey Chirkov (Institute of Applied Physics of the Russian Academy of Sciences, Russia); Elena Solyanova and Engenii Tai (Gycom Ltd., Russia); Mikhail Yu. Shmelev (Institute of Applied Physics of Russian Academy of Sciences, Russia); Mikhail Glyavin and Gregory Denisov (Institute of Applied Physics of the Russian Academy of Sciences, Russia)
09:55–10:10	**LoRa-Based IoT System for Real-Time Physiological Monitoring of Cattle in Pre-Andean Rural Environments** Elmer Matias Flores Mallma, Jhair Andreé Gómez Ramos, Jair Junior Maita Condori and Luis Arnaldo Ronquillo Mallea (Universidad Nacional de San Agustin, Peru); Jorge Rendulich (Universidad Nacional de San Agustin - UNSA, Peru)
10:10–10:25	**ReadTREAT: Contactless Multimodal System for Screening Reading Difficulties - Proof of Concept** Marija Novičić (University of Belgrade, Serbia); Jannatun Noor Sameera (University of Hawaii at Manoa, USA); Lazar Jugović, Ivan Vajs and Vanja Ković (University of Belgrade, Serbia); Victor Manuel Lubecke and Olga Boric-Lubecke (University of Hawaii at Manoa, USA); Milica M Jankovic (University of Belgrade, Serbia)
10:25–10:40	**Mobile Beamforming-Based RF Source Localization in Underground Environments Using Machine Learning** Marta Sieradzka (Poznan University of Technology, Poland); Piotr Woźniak and Adam Michalak (Science Club Spektrum, Poznan University of Technology, Poland); Krzysztof Cichoń (Poznan University of Technology, Poland)
10:40–10:55	**EMC-Oriented Design Methodology for Mitigating RF Shielding Degradation in Ka-Band Communication Satellites** Simon Lombardozzo, Ignacio Teryda and Sebastian Chiocchetti (INVAP SAU, Argentina)
10:55–11:10	**Integration and Characterization of a Test Bench Platform for Evaluating SIS-Based mm-Wave Amplifiers** Erik Sáez, Ricardo A Finger and David Monasterio (Universidad de Chile, Chile)

Poster Session 5

11:10–12:10 | 6 papers
Foyer, DoubleTree by Hilton Buenos Aires

11:10	**A 188-260 GHz Distributed Frequency Multiplier Achieving 4 dBm Saturated Output Power in 65 nm CMOS** Ahmet Yelboğa (Sabanci University, Turkey); Shuhei Amakawa (Hiroshima University, Japan); Korkut K Tokgöz (Sabanci University, Turkey & Evrim Co. Ltd., Japan)
11:10	**A Short-Circuit-Free Three-Liquid Calibration Protocol for a Low-Cost Open-Ended Coaxial Probe System Validated to 6 GHz** Luis Fernando Tupac Lazo, Lucia F. Tejada, Manuel Alejandro Condori Huayna and Ebert G San Roman Castillo (Universidad Católica San Pablo, Peru); Daniel Segovia Vargas (Universidad Carlos III de Madrid, Spain)
11:10	**Analysis and Optimization of Field-Programmable Microwave Substrate (FPMS) Unit Cells for Communication Systems** Diego Fernando Ramirez (Universidad de los Andes, Colombia); Stephen Jeswinde Nuagah and Ying Wang (Ontario Tech University, Canada); Felipe Forero (Universidad de Los Andes, Colombia); Alejandro Buitrago (Université Laval, Canada)
11:10	**A Compact 2.4-GHz Planar Antenna for Leadless Cardiac Pacemakers** Austin Zambrano (UTEP, USA); Eduarda Vitoria Medeiros dos Santos (University of Texas at El Paso, USA); Camilla Caroline Moro Carmo (CEFET MG, Brazil); Sandro Trindade Mordente Gonçalves (CEFET-MG, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Davi Valerio de Queiroz Rodrigues (University of Texas at El Paso, USA)
11:10	**Interlaboratory Evaluation of Radiated and Conducted EMC Measurements Using Portable Calibrated Comb Generators** Alexis Romero (Universidad de Buenos Aires, Argentina); Pablo Marino Belçaguy and Luis Cribari (University of Buenos Aires, Argentina)
11:10	**Log-Based Characterization of Task-Parallel Full-Wave Optimization on Networked Workstations** Gustavo Lucena Moreira, Leonardo Pimenta Lima Santos and Lucas Almeida Barbosa (Federal Center for Technological Education of Minas Gerais, Brazil); Sandro Trindade Mordente Gonçalves (CEFET-MG, Brazil); Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Davi Valerio de Queiroz Rodrigues (University of Texas at El Paso, USA); Eduarda Vitória Santos (CEFET-MG, Brazil)

Ask Us Anything Session

14:00–15:00
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

The Ask Us Anything initiative connects students, emerging- and established-engineers across all generations, demographics, and affinity groups with experts who provide trusted guidance in making informed decisions about their professional growth.

Organizer

Dr. Sulekha Chattopadhyay, California Environmental Protection Agency, USA

Broadening Participation Committee Event

15:00–15:30
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

Multilingual Video Competition (MLVC)

15:30–16:00
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

Multilingual Video Competition in Spanish and Portuguese

- Brief overview of the competition and its evaluation process.
- Presentation of the three winning videos in each language (3 minutes each), followed by the recognition of the corresponding award-winning students.

Organizers

Prof. Andrés Navarro Cadavid, Universidad Icesi, Cali, Colombia

Prof. José E. Rayas-Sánchez, ITESO – Jesuit University of Guadalajara, Mexico

Young Professionals and Women in Microwaves Event

16:00–18:00
Tirso de Molina Room, DoubleTree by Hilton Buenos Aires

Connect, learn, and grow with IEEE MTT-S Young Professionals (YP), Women in Microwaves (WiM), and leaders from across the microwave community, including LAMC speakers. After a brief introduction to the YP & WiM affinity groups within the MTT-S BPC (Broadening Participation Committee) and ways to get involved, attendees will rotate through themed mentor tables for engaging small-group career conversations.

Connect with experienced professionals and fellow attendees. Learn from conversations on topics such as academia vs. industry, research and publishing, graduate school, IEEE volunteering, women in engineering, and entrepreneurship. Grow your network, gain new perspectives, and explore opportunities to shape your career in microwaves.

Collect a sticker at each table in your MTT-S BPC Passport to earn raffle entries, and complete your passport for a chance at the grand prize. Students, early-career engineers, and anyone interested in connecting, learning, and growing within the microwave community are welcome.

Enjoy a selection of finger foods and refreshments, including alcoholic and non-alcoholic beverages, while connecting and networking with colleagues from across the microwave community.

Sessions will run in both Spanish and English.

Organizers

Sherry Hess, Cadence Design Systems, USA

Marco Vinueza, National Polytechnic School, Ecuador

KEYNOTE TALKS

IEEE MTT-S Latin America Microwave Conference • Buenos Aires, Argentina

Anding Zhu

2026 MTT-S President
University College Dublin

Next Generation RF Power Amplifiers: Efficiency and Linearity Challenges

Radio frequency (RF) power amplifiers (PAs) are key components in almost all wireless transmitters, ranging from tiny sensors and mobile devices to high-power cellular base stations. Their essential function is to convert DC power into amplified RF signals, ensuring reliable wireless transmission. With 6G networks expected to support ultra-high-speed communications, massive IoT connectivity, and immersive user experiences, PAs must overcome critical challenges in energy efficiency, broadband operation, and linearity, particularly under high peak-to-average power ratios and dynamic traffic conditions.

This talk discusses the major obstacles and emerging solutions in next-generation PA design. It will cover advanced PA architectures, novel device technologies such as GaN MMICs, operation in new frequency ranges (e.g., FR3), and the application of AI-driven optimization techniques. Approaches for linearity enhancement, tighter system integration, and cross-layer co-design will also be highlighted. By linking theoretical advances with practical implementations, the talk provides insights into the development of PA technologies capable of meeting the stringent efficiency and performance requirements of future wireless networks, paving the way toward a more sustainable and connected future.

Biography



Anding Zhu received the Ph.D. degree in electronic engineering from University College Dublin (UCD), Ireland, in 2004, where he is currently a Full Professor in the School of Electrical and Electronic Engineering. His research interests include high-frequency nonlinear system modelling, device characterization, high-efficiency RF power amplifier design, and nonlinear system identification algorithms. He has published more than 200 peer-reviewed journal and conference papers.

Prof. Zhu is an IEEE Fellow and currently serves as President of the IEEE Microwave Theory and Technology Society (MTT-S). He was a Track Editor of the IEEE Transactions on Microwave Theory and Techniques from 2020 to 2022 and received the IEEE MTT-S Microwave Prize in 2021.

Goutam Chattopadhyay
NASA Jet Propulsion Laboratory
California Institute of Technology

Advancements in the MHz to THz Technologies (MTT)

Space exploration has long served as a powerful catalyst for inspiring the imagination of the next generation. The sight of rovers on Mars, images from distant galaxies, and the dream of humans returning to the Moon or reaching Mars ignite curiosity and a spirit of discovery in young minds. These missions are not just feats of engineering – they are stories that capture the human desire to explore the unknown and push beyond boundaries. By engaging students, educators, and the public in the wonders of space, exploration fosters STEM education, fuels innovation, and builds a generation that dreams bigger and reaches further.

Beyond its inspirational value, space exploration offers a unique lens through which we can better understand ourselves and our place in the cosmos. As we study other planets and moons, we gain valuable insight into planetary evolution, atmospheric behavior, and the potential for life beyond Earth. Observing Earth from space also provides critical data on climate change, environmental degradation, and the fragile systems that sustain life. In this way, space science not only fuels our search for extraterrestrial life but also deepens our understanding of Earth's past, present, and future. Ultimately, exploring the universe is a journey inward as much as outward – it challenges us to think about our shared humanity, our responsibility to protect our planet, and our collective future among the stars.

In this lecture, we will explore the technological innovations in the MHz to THz frequency domain driving the next generation of instruments and highlight specific instrument developments along with the fundamental science questions they aim to address.

Biography



Goutam Chattopadhyay is a Senior Scientist at the NASA's Jet Propulsion Laboratory, California Institute of Technology, a Visiting Professor at the Division of Physics, Mathematics, and Astronomy at the California Institute of Technology, Pasadena, USA, a BEL Distinguished Visiting Chair Professor at the Indian Institute of Science, Bangalore, India, and an Adjunct Professor at the Indian Institute of Technology, Kharagpur, India. He received the Ph.D. degree in electrical engineering from the California Institute of Technology (Caltech), Pasadena, in 2000. He is a Fellow of IEEE (USA) and IETE (India), Associate Editor of the IEEE Transactions on Antennas and Propagation, and an IEEE Distinguished Lecturer.

His research interests include microwave, millimeter-wave, and terahertz receiver systems and radars, and development of space instruments for the search for life beyond Earth.

He has more than 350 publications in international journals and conferences and holds more than twenty patents. He also received more than 35 NASA technical achievement and new technology invention awards. He received the IEEE Region-6 Engineer of the Year Award in 2018, Distinguished Alumni Award from the Indian Institute of Engineering Science and Technology (IIEST), India in 2017. He was the recipient of the best journal paper award in 2020 and 2013 by IEEE Transactions on Terahertz Science and Technology, best paper award for antenna design and applications at the European Antennas and Propagation conference (EuCAP) in 2017, and IETE Prof. S. N. Mitra Memorial Award in 2014.

Cristiano Tomassoni
University of Perugia

Additive Manufacturing: Emerging Opportunities for Microwave Components

The Additive Manufacturing (AM) technology, also known as 3D-printing technology, offers several interesting and attractive features, including fast prototyping, geometry flexibility, easily customizable products, and low cost (in some cases). However, using such technologies for microwave devices is not straightforward as AM has not been specifically developed for microwave components, and in most cases, some adaptation and post-processing is necessary. Furthermore, there are many AM technologies available, and it is important to understand their characteristics before selecting one.

In the presentation, an overview of the different AM technologies available will be provided. Additionally, an analysis of some of the most common AM technologies used for the manufacturing of microwave components will be conducted in more detail, with the help of several examples. Several microwave components manufactured with some of the most popular AM technologies will be shown, along with a detailed description of the manufacturing process, post-processing, and all actions necessary to make the component perform well. Furthermore, it will be shown how the flexibility of this technology allows the development of new classes of components with non-conventional geometries that can be exploited to obtain high-performing components in terms of compactness, weight, losses, etc.

Biography



Cristiano Tomassoni received his Ph.D. in Electronics Engineering from the University of Perugia, Perugia, Italy, in 1999. In the same year, he joined the Lehrstuhl für Hochfrequenztechnik, Technical University of Munich, Munich, Germany as a Visiting Scientist, where he worked on the modeling of waveguide structures and devices using the generalized scattering matrix technique. In 2001, he was a Guest Professor at the Fakultät für Elektrotechnik und Informationstechnik, Otto-von-Guericke University, Magdeburg, Germany. In the early stages of his career, he contributed to the enhancement of several analytical and numerical methods for electromagnetic component simulation, including the finite-element method, mode-matching technique, generalized multipole technique, method of moments, transmission-line matrix, and mode matching applied to spherical waves. In 2001, he joined the University of Perugia, where he is currently an Associate Professor and teaches the ‘Electromagnetic Fields’ course and the ‘Advanced Design of Microwave and RF Systems’ course. His main research interests include modeling and designing of waveguide components and antennas, miniaturized filters, reconfigurable filters, dielectric filters, and substrate integrated waveguide filters. He is currently studying the use of Additive Manufacturing (AM) technology for the fabrication of microwave components, considering various technologies such as Stereolithography (SLA), Lithography-based Ceramic Manufacturing (LCM), Selective Laser Melting (SLM), Fused Deposition Modeling (FDM), and PolyJet technology.

Prof. Tomassoni has been elevated to the grade of IEEE Fellow, Class of 2025. He serves as the Chair of the MTT-5 Filters Technical Committee of the IEEE MTT-S. Currently, he is a Distinguished Lecturer for the IEEE MTT-S. From 2018 to 2022, he served as an Associate Editor for the IEEE Transactions on Microwave Theory and Techniques. Prof. Tomassoni is also the recipient of the 2012 Microwave Prize, awarded by the IEEE Microwave Theory and Techniques Society.

Manos Tentzeris
School of ECE, Georgia Tech

Zero-Power Additively Manufactured FHE-Enabled Wireless/5G+ Ultrabroadband Modules for Autonomous Integrated Sensor and Communication (ISAC) Systems: A Quantum Leap for AI-enabled IoT, Smart Agriculture, Industry 4.0+ and Smart Cities Applications?

In this talk, inkjet-/3D-printed antennas, interconnects, “smart” encapsulation and packages, RF electronics, RFIDs microfluidics and sensors fabricated on glass, PET, paper and other flexible substrates are introduced as a system-level solution for ultra-low-cost mass production of Millimeter-Wave/Sub-THz Modules and Metasurfaces for Communication, Energy Harvesting and Sensing (ISAC) applications. The presented approach could potentially set the foundation for the first truly convergent AI-enabled flexible wireless sensor ad-hoc ISAC networks of the future with enhanced cognitive intelligence and “rugged” packaging. Prof. Tentzeris will also discuss issues concerning the power sources of “near-perpetual” RF modules, including 5G+ enabled wireless power grids as well as energy harvesting approaches involving thermal, EM, vibration and solar energy forms. The final step of the presentation will involve examples from shape-changing 4D-printed (origami) phased arrays, packages, reflectarrays and mmW wearable (e.g. biomonitoring) antennas and RF modules. Special attention will be paid on the integration of ultrabroadband (Gb/sec) inkjet-printed nanotechnology-based backscattering communication modules, opto-RF modules as well as miniaturized printable wireless (e.g. CNT) sensors for Internet of Things (IoT), 5G+ and smart agriculture/biomonitoring applications. It has to be noted that the talk will review and present solutions for “5S Challenges” (Scalability, Sustainability, Speed, Security and Smartness) as well as future directions in the area of environmentally-friendly transient (“green”) RF electronics and “smart-skin” conformal sensors as well as massively scalable “tile-by-tile” RFID-enabled autonomous reconfigurable intelligent surfaces.

Biography



Manos Tentzeris was born and grew up in Piraeus, Greece. He graduated from Ionidios Model School of Piraeus in 1987 and he received the Diploma degree in Electrical Engineering and Computer Science (Magna Cum Laude) from the National Technical University in Athens, Greece, in 1992 and the M.S. and Ph.D. degrees in Electrical Engineering and Computer Science from the University of Michigan, Ann Arbor in 1993 and 1998. He is currently a Professor with the School of ECE, Georgia Tech and he has published more than 550 papers in refereed Journals and Conference Proceedings, 4 books and 23 book chapters, while he is in the process of writing 1 book. He has served as the Head of the Electromagnetics Technical Interest Group of the School of ECE, Georgia Tech. Also, he has served as the Georgia Electronic Design Center Associate Director for RFID/Sensors research from 2006-2010 and as the GT-Packaging Research Center (NSF-ERC) Associate Director for RF research and the leader of the RF/Wireless Packaging Alliance from 2003-2006. Also, Dr. Tentzeris is the Head of the A.T.H.E.N.A. Research Group (20 students and researchers) and has established academic programs in 3D Printed RF electronics and modules, flexible electronics, origami and morphing electromagnetics, Highly Integrated/Multilayer Packaging for RF and Wireless Applications using ceramic and organic flexible materials, paper-based RFID 's and sensors, inkjet-printed electronics, nanostructures for RF, wireless sensors, power scavenging and wireless power transfer, Microwave MEM 's, SOP-integrated (UWB, mutliband, conformal) antennas and Adaptive Numerical Electromagnetics (FDTD, MultiResolution Algorithms). He was the 1999 Technical Program Co-Chair of the 54th ARFTG Conference and he is currently a member of the technical program committees of IEEE-IMS, IEEE-AP and IEEE-ECTC Symposia. He was the TPC Chair for the IMS 2008 Conference and the Co-Chair of the ACES 2009 Symposium. He was the Chairman for the 2005 IEEE CEM-TD Workshop. He was the Chair of IEEE-CPMT TC16 (RF Subcommittee) and he was the Chair of IEEE MTT/AP Atlanta Sections for 2003. He is a Fellow of IEEE, a member of MTT-15 Committee, an Associate Member of European Microwave Association (EuMA), a Fellow of the Electromagnetics Academy, and a member of Commission D, URSI and of the the Technical Chamber of Greece. He is the Founder and Chair of the newly formed IEEE MTT-S TC-24 (RFID Technologies). He is one of the IEEE C-RFID DIstinguished Lecturers and he has served as one IEEE MTT-Distinguished Microwave Lecturers (DML) from 2010-2012. His hobbies include basketball, swimming, ping-pong and travel.

Jakub Sorocki
AGH University of Krakow, Poland

Going Small, Aiming Broad: Microwave Dielectric Spectroscopy of Liquids from Milli to Microfluidics

Broadband dielectric spectroscopy—spanning from RF to millimeter-wave frequencies—is a fundamental tool for the rapid, non-destructive characterization of liquids. As demand grows across the food, chemical, and biomedical sectors, measurement systems are evolving from milliliter-scale setups to highly integrated microfluidic devices capable of in-flow microparticle analysis.

This talk presents an overview of novel sensor architectures that enable broadband measurement of complex permittivity. We will explore innovative topologies, including two-wire transmission lines and coupled-line platforms. A major driver of this evolution is the hybrid integration of classic PCB technology with advanced 3D printing. This combination allows for the fabrication of customized microfluidic channels and structures that generate homogeneous electric fields, drastically enhancing measurement sensitivity. Additionally, we will introduce contactless systems using 3D-printed, removable test tubes—a breakthrough for handling corrosive and reactive substances.

- Particular emphasis will be placed on transitioning these technologies from the laboratory to real-world industrial applications. Key highlights include:
- Direct measurement: Eliminating the need for liquid reference standards, as the liquid-under-test acts as the sensor's entire propagation medium.
- Sensitivity optimization: Stratification and geometry optimization to maximize sensitivity for low-, mid-, and high-permittivity liquids.
- Volume optimization: Sensing strategies adapted to the available liquid-under-test volume and uniformity.
- "Plug-and-Measure" systems: Low-cost, interchangeable cartridges designed for difficult, viscous liquids, eliminating the need for time-consuming cleaning.
- Simplified calibration: Minimizing the number of reference liquid measurements required to establish the sensor's transfer curve.

The capabilities of these systems will be illustrated through practical case studies, such as detecting trace methanol in ethanol, identifying honey adulteration, and the in-flow spectroscopy of suspensions. Ultimately, this presentation will demonstrate how the synergy of microwave engineering and 3D printing is paving the way for dielectric spectroscopy to become a widespread, cost-effective, and versatile industrial tool.

Biography



Jakub Sorocki (Senior Member, IEEE) was born in Myslenice, Poland in 1989. He received the M.Sc., Ph.D., and D.Sc. degrees in electrical engineering from the AGH University of Krakow, Poland, in 2013, 2018, and 2023, respectively. In 2019, he was awarded the Scholarship for Outstanding Young Scientists by the Polish Ministry of Science and Higher Education. Since 2011, he has been with the Microwave Research Group at the Institute of Electronics, AGH UST, where he has been an Associate Professor since 2023.

In 2012, he was a visiting student at the Ilmenau University of Technology, Germany. In 2017, he was a visiting researcher at Michigan State University, MI, USA. In 2019, he was a systems engineer for ADAS mm-wave radars at Aptiv Technical Center Krakow, Poland. In 2020/21, he was a visiting post-doctoral researcher at the University of Pavia, Italy, returning as a visiting scholar in 2023 and 2025. In 2023, he was also a visiting post-doctoral researcher at the Autonomous University of Barcelona, Spain. His research interests encompass the development of microwave circuits, antennas, and sensors utilizing transmission line and waveguide techniques, leveraging additive and subtractive fabrication for diverse applications including high front-end components, dielectric spectroscopy, material characterization, and chemical or biological sensing. He has co-authored over 100 publications in peer-reviewed journals and conferences.

Dr. Sorocki is a member of the IEEE MTT-S MTT-4 and MTT-17 Technical Committees. Since 2026, he has been a member of the MTT-S Speakers Bureau representing the MTT-4 Technical Committee. He is the Vice Chair of the IEEE Poland AP/AES/MTT Joint Chapter (2024–2025 and 2026-2027 terms). He has served on the Organizing and Technical Program Committees for conferences such as EuMW, IMS, and MIKON. Since 2026, he has served as an Associate Editor for the IEEE Microwave and Wireless Technology Letters (MWTL). He also serves as a reviewer for IEEE TMTT, IEEE Sens. J., and many other journals.

Julio Navarro
The Boeing Company

Ubiquitous Broadband Mobile Communications & the Development of Low-Cost, Low-Profile Boeing Phased Arrays

Long before the widespread adoption of the internet and smart devices, researchers envisioned ubiquitous mobile broadband connectivity for the flying public. The objective was to establish a global RF information grid – an interconnected "internet of mobile nodes" providing secure, high-bandwidth wireless access anywhere & anytime to support live sports, entertainment, and streaming data. However, realizing the vision required, not only massive infrastructure – including satellites, satellite network, microwave relay towers, and thousands of miles of fiber optics – but also significant leaps in developing technologies. In the 1990s, development was heavily constrained by a lack of low-cost multilayer materials/processes, limited full-wave simulation tools, and expensive RF device design/fabrication cycles. For the system to achieve mass adoption and commercial viability, the cost of Microwave Monolithic Integrated Circuits (MMICs) and RFICs had to also decrease significantly even as their performance and functionality increased. This talk explores a critical breakthrough that addressed these challenges and enabled a flourishing industry: the Boeing affordable phased-array antenna (PAA) for mobile Satellite Communications (SATCOM) that initiated ConneXion-by-Boeing (CBB) and the Boeing Broadband SATCOM Network (BBSN). The foundational technology laid the initial ground work to make ubiquitous mobile broadband connectivity a reality.

Biography



Julio Navarro is a Principal Senior Technical Fellow (PSTF) of the Boeing Company and a member of the National Academy of Engineering (sections 1 & 7) for the development and implementation of phased-array sensors and communication systems in aerospace applications. He is a subject matter expert in radio frequency (RF) circuits, antennas & heterogeneously-integrated electronics. He provides technical leadership and guidance and has initiated, designed and delivered many phased array antennas (PAAs) for unmanned aerial vehicles, aircraft, ships, submarines, satellites and missiles. He defines, shapes and develops technical concepts along with product planning roadmaps to advance the state-of-the-art, improve performance and deliver efficiency gains to our business unit customers.

Before his current position, Dr. Navarro was the key innovator in the design, development and transition of Ku- and Ka-band compact radar sensors, as well as the Ku-band directional network (DNW) line-of-sight communication PAAs. His designs have transitioned to the Zumwalt class DDG1000 Command-Data-Link PAAs, the UAE Small-Form Factor Ka-band SATCOM PAAs and mm-wave PAAs on the Talon Hate efforts. For nearly two decades, Dr. Navarro's integrated ceramic module design served the government VIP Strategic Air Mission (SAM) fleet in the arbitrary linear-pol transmit PAAs of the Boeing Broadband SATCOM Network (BBSN). The VIP SAM fleet of Boeing derivative aircraft include the VC-25, C40 and C32 biz jets.

Dr. Navarro began his career with Boeing Heritage in 1996 in Information, Space and Defense Systems as a principal RF designer for the Teledesic Phased Array program. Since joining Boeing's RF technology and PAA group, he has introduced electronic packaging architectures that have increased integration and functionality, and reduced the number of piece-parts resulting in significant PAA cost reduction. He is now in the Mission Systems organization of BR&T and may consult for Omni-Patch Designs, Inc.

Dr. Navarro served as Boeing's executive sponsor for the Society of Hispanic Professional Engineers and a mentor for Great Minds in STEM for nearly two decades. He has authored more than 40 peer-reviewed publications, has been granted 33 U.S. patents and has received four Boeing Special Invention Awards.

In 2021, Dr. Navarro was inducted into the National Academy of Engineering for the development and implementation of phased-array sensors and communication systems for aerospace applications. Julio received the 2017 Engineer of the Year from Great Minds in STEM, the 2015 Scientist of the Year from the Black Engineer of the Year organization, the 2014 President's Award from SHPE, the GMIS's Hispanic in Technology Award of 2011, SHPE's STAR Award for Outstanding Technical Achievement of 2008 and HENAAC's Most Promising Engineer of 2001.

INVITED TALKS

IEEE MTT-S Latin America Microwave Conference • Buenos Aires, Argentina

Changzhi Li
Texas Tech University
Editor-in-Chief, IEEE Transactions on Microwave Theory and Techniques

Publishing High-Impact Microwave Research in IEEE Transactions on Microwave Theory and Techniques: Perspectives from the Editor-in-Chief

IEEE Transactions on Microwave Theory and Techniques (T-MTT) is the flagship journal of the IEEE Microwave Theory and Technology Society (MTT-S) and a leading Q1 publication dedicated to advancing microwave, millimeter-wave, and terahertz science and technology. In 2027, T-MTT will publish its 75th volume as the IEEE MTT-S celebrates its 75th anniversary, marking a milestone that reflects the Society's long-standing leadership and contributions to the global microwave community. This talk provides an overview of the journal's scope, editorial philosophy, and publication standards from the perspective of the Editor-in-Chief. It will discuss the characteristics of successful submissions, common challenges encountered during the review process, and practical strategies for strengthening technical contributions, experimental validation, and presentation. Emphasis will be placed on identifying impactful research opportunities and effectively communicating innovation to maximize both publication success and long-term research impact. The presentation aims to encourage greater participation from the Latin American microwave community and foster broader engagement with the global research community through high-quality publications in T-MTT.

Biography



Dr. Changzhi Li is a Professor and Whitacre Endowed Chair in Electrical and Computer Engineering at Texas Tech University. His research interests are microwave/millimeter-wave technologies for healthcare, security, energy efficiency, structural monitoring, and human-machine interface. Dr. Li is the Editor-in-Chief of the IEEE Transactions on Microwave Theory and Techniques. He was an IEEE Microwave Theory and Techniques Society (MTT-S) Distinguished Microwave Lecturer, in the Tatsuo Itoh class of 2022-2024 and the General Chair of the 2024 IEEE Radio Wireless Week (RWW) in San Antonio, TX. He was a recipient of the IET A F Harvey Prize, the IEEE MTT-S Outstanding Young Engineer Award, the IEEE Sensors Council Early Career Technical Achievement Award, the ASEE Frederick Emmons Terman Award, the IEEE-HKN Outstanding Young Professional Award, and the NSF Faculty CAREER Award. Dr. Li is a Fellow of the IEEE, the National Academy of Inventors (NAI), and the American Institute for Medical and Biological Engineering (AIMBE).

Luciano Tarricone
University of Salento, Lecce, Italy

Biomedical Applications of MW Fields and Their Enhancement with Artificial Intelligence

Microwave fields are more and more adopted for a variety of biomedical applications, and among such applications, in the recent past, an important role is played by Electroporation (EP) induced by Pulsed Electric Fields (PEF). The exposure of cell membranes to PEF can induce the creation of pores, and such a phenomenon, when suitably governed, can be useful for many different applications. The generation of pores, as well as the nature of such pores (permanent or not), is linked to several parameters, among them we just mention the characteristics of the stimulating PEF signals, and the nature, position and geometry of the electrodes.

In many cases, the optimum choice of such parameters can make the difference and render the EP treatments very effective and specifically customized for a single patient and his/her specific needs. This choice is generally quite complicated, and may require a long time. In this talk we demonstrate that artificial intelligence, and more specifically deep-learning neural network (NN) approaches, can be the most appropriate solution to the problem of a very fast and optimum choice of the mentioned parameters.

Some examples of biomedical applications will be proposed, such as cardiac ablation or the combined use of EP and radiotherapy in oncological treatments. The proposed NN approaches pave the way to the development of protocols tuned for a specific treatment on a single patient, with a consequent impressive enhancement in terms of efficacy of the treatment and of reduction of side-effects, as well as of the duration of treatments.

Finally, we will show that the same NN approaches can be easily adopted also in very different biomedical applications, such as gesture recognition for telemedicine.

Biography



Luciano Tarricone was born in Galatone (Lecce, Italy), on May 24, 1966. He graduated summa cum laude in 1989 at Rome La Sapienza University, Italy, and received the PhD in the same university in 1993. He was a Research Fellow at the Italian National Institute of Health in 1990, and a researcher for IBM and IBM European Center for Scientific and Engineering Computing between 1990 and 1994. He was a Researcher and Professore Incaricato at the University of Perugia, Italy (1994-2001) and an Associate Professor (2002-2011) at the University of Salento in Lecce, Italy, where he has been a Full Professor of Electromagnetic (EM) Fields since 2011. In the same university he founded the EM Group and the EML2 (Electromagnetic Lab Lecce).

He was the TPC Chair for European Microwave Week in 2014, and Vice General Chair in 2022. He was the General Chair of MEMSWave 2010 and for the IEEE Mediterranean Microwave Symposium in 2015. He is a member of IEEE MTTS TC 25, 26 and 28. He coordinates the Topical Group on EM Biomedical Applications in the European MW Association (EuMA). He was the Chapter Chair for IEEE APS/MTTS Central and Southern Italy, and the IEEE MTTS Region 8 (Europe, Middle East and Africa) Coordinator.

His scientific interests deal with bioelectromagnetics, biomedical applications, Wireless Power Transfer, RF technologies for the IoT, numerical and parallel EM techniques, Artificial Intelligence for Biomedical EM applications. He has published more than 500 scientific papers, authored or edited several books, and holds several patents. He has also founded two spin-off companies.

He has been elevated to IEEE Fellow in 2021, is a Fellow of the Asia-Pacific Artificial Intelligence Association, a Fellow of the Industry Academy in the International AI Industry Alliance, and was awarded as Alfiere del Lavoro by the President of the Italian Republic Sandro Pertini.