



**18 – 21 January 2026**  
**Los Angeles/Hollywood, CA**

# Program Book

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## Welcome Messages

### GREETINGS FROM THE GENERAL CHAIR OF RADIO & WIRELESS WEEK 2026



General Chair  
Václav Valenta

On behalf of the organizing committee, it is a great pleasure to welcome you to the 2026 edition of the IEEE Radio & Wireless Week!

This year, RWW makes its debut in the iconic city of Hollywood, California—a place that embodies creativity, storytelling, and innovation. Hollywood is more than a location; it's a global symbol of imagination and connection, making it the perfect setting for a gathering of the brightest minds in radio, wireless, and communication technologies—fields that, much like cinema, unite people across time and space.

The Radio & Wireless Week is split into five co-located conferences:

- the IEEE Topical Conference on Power Amplifiers for Wireless and Radio Applications (PAWR),
- the Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems (SiRF),
- the IEEE Topical Conference on Wireless Sensors and Sensor Networks (WiSNet),
- the IEEE Space Hardware and Radio Conference (SHaRC), and
- the Radio and Wireless Symposium (RWS)

The Automatic Radio Frequency Techniques Group (ARFTG) is again co-locating their conference with RWW. Another highlight is the co-located Internet of Things (IoT) summit, one of the very successful collaborations of RWW with other communities. RWW'26 will place a special emphasis

on space RF technologies—reflecting both the transformative role of space-tech in today's world and the region's proximity to key space industry hubs. Two outstanding plenary talks covering the areas of RWW and ARFTG, and with particular focus on space technologies, will be presented on Tuesday:

- 3D Printed RF Payloads and Phased Arrays, by Esteban Menargues, Head of Space RF Products at SWISSto12
- The History and Evolution of the Modern Network Analyzer and their role in SATCOM and 6G, by Joel Dunsmore, R&D Fellow at Keysight Technologies

In addition to the core technical program prepared by the chairs of the five topical sub-conferences and ARFTG, workshops, technical panel sessions, and short courses, numerous activities must be further highlighted:

- The 2026 class of MTT-S Distinguished Microwave Lecturers will present their talks during a dedicated track, which is a perfect opportunity to get a comprehensive overview.
- The 8th IEEE Internet of Things (IoT) Vertical and Topical Summit will focus in five dedicated sessions on the Impact of Artificial Intelligence on Wireless IoT Systems.
- Professional panel sessions of Women in Microwaves (WiM) and Young Professionals (YP) will be again organized by the Women in Microwave and Young Professional teams.
- The joint ARFTG & RWW exhibition will be hosted to showcase the latest products and solutions from industry. The exhibition floor will also highlight an industry reception open to all conference attendees.
- The Student Paper Contest is to reward students for exceptional work. It provides students with the opportunity to share their work and discuss their results with experts from industry and academia. The Student Paper Finalists will pitch their papers with no slide-support to potential investors (the judges) in a very dynamic session. Both the

elevator pitches and poster session will take place as in the past years.

- MTT Space Night will be the unique event for socializing while talking about the latest space-tech news!
- Journal Sessions have been introduced at RWW'24 in San Antonio and were very successful also at the RWW'25 edition in San Juan. This year, we continue our established format, featuring six journal sessions showcasing outstanding contributions on timely and impactful topics.
- We are delighted to announce a special addition to this year's program — a guided tour of NASA's Jet Propulsion Laboratory (JPL), offered for the first time in RWW history. The tour will be held on Thursday, January 22, and will be open to a limited number of early registrants.

This 21st edition of the RWW is another opportunity to meet the wireless and microwave community from all over the world, meet friends and to make new connections. Beyond the conference sessions, we invite you to explore the sights and spirit of Hollywood together. Join your fellow attendees to stroll along the Los Angeles and its surrounding areas. Take a walk along the Hollywood Walk of Fame, visit the legendary TCL Chinese Theatre, or enjoy sweeping views from the Hollywood Sign and Griffith Observatory. For those with a taste for art and culture, the Los Angeles County Museum of Art (LACMA) and the Getty Center offer world-class exhibits and stunning architecture. If you prefer a bit of coastal relaxation, the Santa Monica Pier and Venice Beach are just a short drive away. We hope you find inspiration not only in the technical sessions and collaborations but also in the vibrant energy and diversity of Southern California—and that this edition of RWW leaves you with lasting memories and new connections.

Welcome to RWW 2026.

Welcome to Hollywood!

**RWW2026 General Chair,**

Václav Valenta, European Space Agency



# Welcome Messages

## Technical Program Chair's Welcome Message



TPC Chair  
Markus Gardill

Dear colleagues, RWW and ARFTG participants, It is a great pleasure to welcome you, on behalf of the Technical Program Committee, to Radio & Wireless Week 2026! This year, we gather in the vibrant and inspiring setting of Hollywood, California, where in-

novation and creativity take center stage — a fitting backdrop for a week dedicated to advancing the frontiers of RF and wireless technologies. Our committee has prepared an engaging and diverse technical program designed to foster fruitful exchange and collaboration between the scientific community, industry, and academia. Out of numerous high-quality submissions from 21 countries worldwide, a total of 119 papers have been accepted — 97 for oral sessions and 22 for the interactive forum. These contributions are organized into around 25 technical sessions, covering the broad range of topics represented by RWW's five subconferences: RWS, PAWR, SiRF, WiSNet, and SHaRC. In addition to these technical sessions, RWW 2026 again features panel discussions, workshops, short courses, and hands-on activities, ensuring rich opportunities for interaction, learning, and collaboration. Our joint RWW-ARFTG exhibition highlights the latest innovations from industry, while the MTT Space Night and other networking events provide relaxed and en-

joyable settings to connect with colleagues and exchange ideas. RWW continues to be a strong platform for supporting students and young professionals. Based on the initial paper evaluations, finalists were selected for the Student Paper Competition, featuring dynamic elevator-pitch presentations and interactive forum discussions. We encourage you to meet and engage with these talented young researchers — the future stars of our RF and wireless community — who will be recognized during the plenary session. As we meet here in Hollywood — a place where ideas turn into stories that inspire millions — let us remember that our research and innovations also have the power to shape the future. May RWW 2026 be your stage for discovery, collaboration, and inspiration. Lights on, minds open — and let the show begin! Enjoy your time at RWW 2026 and in Hollywood!

**RWW2026 Technical Program Chair,**  
Markus Gardill, Brandenburg University of Technology Cottbus-Senftenberg, Germany

## RWW 2026 STEERING COMMITTEE

### General Chair:

Václav Valenta, European Space Agency

### General Co-Chair:

Roberto Gomez-Garcia, University of Alcala

### Technical Program Chair:

Markus Gardill, Brandenburg University of Technology

### Finance Chair:

Ken Kolodziej, MIT Lincoln Laboratory

### Topical Conferences

#### PAWR Co-Chairs:

Gregor Lasser, Chalmers University  
Anna Piacibello, Politecnico di Torino

#### WiSNet Co-Chairs:

Paolo Mezzanotte, University of Perugia  
Fabian Lurz, Otto-von-Guericke-Universität Magdeburg

#### SHaRC Co-Chairs:

Jan Budroweit, German Aerospace Center  
Eduardo Rojas, Embry-Riddle Aeronautical University

#### SiRF Chair:

Ickhyun Song, Hanyang University  
Austin Chen, Infinera

### Distinguished Microwave Lecturers Chair:

Markus Gardill, Brandenburg University of Technology

### Workshops Co-Chairs:

Jan Budroweit, German Aerospace Center  
Mario Pauli, Karlsruhe Institute of Technology

### Technical Lectures:

Juan A. Becerra, Universidad de Sevilla

### IoT Summit Liaison:

Charlie Jackson, Director IEEE Division IV  
Qi-Jun Zhang, Carleton University

### Women in Engineering Chair:

Jasmin Grossinger, Graz University of Technology

### Student Paper Contest Co-Chairs:

Ken Kolodziej, MIT Lincoln Laboratory  
Davi V.Q. Rodrigues, UT El Paso

### Student Initiative Co-Chairs

Chung-Tse Michael Wu, National Taiwan University  
Davi V.Q. Rodrigues, UT El Paso

### University Demo Chair:

Jasmin Gasteiger, Otto-von-Guericke-University Magdeburg

### Young Professionals Chair:

Davi V.Q. Rodrigues, UT El Paso

### Publications Chair:

Thomas Kurin, Otto-von-Guericke-University Magdeburg

### Publicity Co-Chairs:

Glauco Fontgalland, Universidade Federal de Campina Grande Venkata Vanukuru, Global-Foundries  
Eduardo Rojas-Nastrucci, Embry-Riddle Aeronautical University

### Microwave Magazine Special Issue Editor:

Hamhee Jeon, Qorvo

### MTT Transactions Mini Special Issue Editors:

Markus Gardill, Brandenburg University of Technology

### Exhibition/Sponsorships Chair:

Susie Horn, SMH Consulting  
Cassandra Carollo, IEEE MCE

### RWW Executive Committee Chair:

Robert Caverly, Villanova University

### Conference Management:

Elsie Vega, IEEE CEE

### Visa Letters:

Elsie Vega, IEEE CEE

### Webmasters:

Min Hua, Raysilica  
Joel Arzola, Raytheon Technologies  
Holger Maune, Technical University Darmstadt

### At Large (Advisors):

Changzhi Li, Texas Tech University  
Alexander Koelpin, Hamburg University of Technology  
Kevin Chuang, Analog Devices  
Nuno Borges Carvalho, Universidade de Aveiro



## Conference Information

### REGISTRATION HOURS:

Registration will be open during the following times in the mezzanine foyer at:

- Sunday, 18 January 2026, 07:00 - 17:00
- Monday, 19 January 2026, 07:00 - 17:00
- Tuesday, 20 January 2026, 07:00 - 17:00
- Wednesday, 21 January 2026, 07:00 - 13:00

### EXHIBIT HOURS:

The joint RWW/ARFTG Exhibition area will be open during the following times:

- Monday, 19 January 2026, 13:00 - 19:00
- Tuesday, 20 January 2026, 9:00 - 17:00

Please refer to the conference website at <http://www.radiowirelessweek.org/exhibit> for the latest information and details on how to become a sponsor and exhibit at RWW.

### SOCIAL EVENTS, NETWORKING, AND LITE RECEPTIONS:

- Joint WIM/YP Event in Hollywood A-B, Sunday 18 January 2026, 19:00-20:30
- Joint RWW/ARFTG Welcome Reception in Hollywood Ballroom, Monday 19 January 2026, 17:30-18:30
- MTT-S Space Night in Doheny-Laurel, Tuesday 20 January 2026, 17:30 - 19:30
- JPL Excursion (Registration Required) Thursday 22 January 2026

### EXHIBITORS & SPONSORS

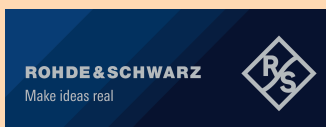
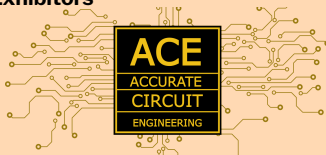
#### Gold Sponsors



#### Media Sponsors



#### Exhibitors





## RADIO AND WIRELESS SYMPOSIUM (RWS)



### RWS2026 Chair

Václav Valenta, European Space Agency

### RWS2026 Co-Chair

Roberto Gomez-Garcia, University of Alcalá

### RWS2026 Technical Program Committee

#### High-speed and Broadband Wireless Technologies:

Upkar Dhalwal, Jing Wang, Masaaki Kojima, Kevin Chuang, Muh-Dey Wei, Jennifer Kitchen

#### Emerging Wireless Technologies & Novel Engineered Materials:

Suresh Venkatesh, Alessandro Cidronali, Yang Yang, Syed Abdullah Nauroze, Sangkil Kim, Hyun Kyu Chung, Nosrati Mehdi, Luigi Boccia, Hjalti Sigmarsson, Roy B.V.B. Simorangkir

#### Wireless System Architecture and Propagation Channel Modeling:

Aly Fathy, Ugo Dias, Paulo Ferreira, Chenming Zhou, Marco Dietz, Maria J. Madero-Ayora, Chenming Zhou, Rishhabh Naik

#### Wireless Digital Signal Processing and Artificial Intelligence:

Eiji Okamoto, Kenneth Kolodziej, Markus Gardill, Nuno Carvalho, Pushkar Kulkarni, Rui Ma, Arnaldo Oliveira

#### Applications to Bio-Medical, Environmental, and Internet of Things:

Jenshan Lin, Mohammad-Reza Tofighi, Changzhan Gu, Hong Hong, Syed Islam, Dieff Vital, Robert Caverly, Daniel Rodríguez, Chia-Chan Chang, Emily Porter

#### Antenna Technologies, MIMO and Multi-Antenna Communications:

Rashaunda Henderson, Wei Hong, Wasif Khan, Holger Maune, Dariush Mirshekar, Edward Niehenke, Xianming Qing, You Zou

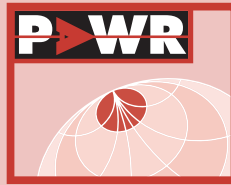
#### Passive Components & Packaging:

Bayaner Arigong, Pedro Cheong, Roberto Gomez-Garcia, Tzyy-Sheng Horng, Dimitra Psychogiou, Shahrokh Saeedi, Sai-Wai Wong, Yu-Chen Wu, Li Yang, Jong Gwan Yook

#### MM-Wave to THz Systems & Applications:

Yu-Teng Chang, Emery Chen, Moon-Kyu Cho, Wooyeol Choi, David Delrio, Xuan Ding, Glauco Fontgalland, Minoru Fujishima, Renato Negra, Hiroshi Okazaki, Sergio Pacheco, Xin Wang, Xinwei Wang, Yu Ye

## POWER AMPLIFIERS FOR RADIO AND WIRELESS APPLICATIONS (PAWR)



Power amplifiers for radio and wireless applications (PAWR) are often the most critical component of RF/microwave communications systems and consequently the focus of intense research to achieve increased linearity and power efficiency. New forms of power amplification are being developed to meet the needs for wireless communication, instrumentation, and sensing satisfying the world's demand for sustainable interconnectivity.

- High Power/Wideband Active Devices
- Power Amplifiers for Mobile, Avionics and Space
- Modeling and Characterization
- Advanced Circuit Design and Topologies
- Green Power Amplifier Technology
- Integration Technology
- Packaging and Reliability
- Linearization and Efficiency Enhancement Techniques
- Applications, Novel Architectures and System Analysis

### PAWR2026 Chair

Gregor Lasser, Chalmers University

### PAWR2026 Co-Chair

Anna Piacibello, Politecnico di Torino

### PAWR2026 Technical Program Committee

#### Modeling and Characterization:

Ehsan Azad, Jose Pedro, Patrick Roblin, Kefei Wu, Filipe Barradas, David Runton, Vittorio Camarchia, Antonio Raffo, Franco Ramirez, Stephen Maas, Jose A. Garcia

#### Advanced Circuit Design and Topologies:

Vittorio Camarchia, Paolo Colantonio, Nathalie Deltimple, Roberto Quaglia, Chao Lu, Hamhee Jeon, Xiaohu Fang, Bumman Kim, Paolo Enrico de Falco, Francesc Purroy, Xinyu Zhou, Anna Piacibello, Frederick Raab, Mauricio Pinto

#### Applications, Novel Architectures and System Analysis:

Florinel Balteanu, Alireza Shamsafar, Robert Caverly, Ming Ji, Marco Pirola, Chang-Ho Lee, Pravin Premakanthan, Murat Eron, Mustazar Iqbal, J. Apolinar Reynoso-Hernandez, Justine McCormack, Murat Eron

#### Linearization and Efficiency Enhancement Techniques:

Kevin Chuang, Pere L. Gilabert, Rocco Giofrè, Chenhao Chu, Christian Fager, Juan Becerra, Chao Yu, Falin Liu, Pedro Cabral, Taylor Barton, John Dooley, Gregor Lasser, Chun-Hsing Li, Morten Olavsbråten

## WIRELESS SENSORS AND SENSOR NETWORKS (WiSNet)



Wireless sensors and wireless sensor networks are crucial components for manufacturing, structural health, security monitoring, environmental monitoring, smart agriculture, transportation, commercial applications, localization, tracking systems and other important and emerging applications. WiSNet2026 is intended to stimulate discussion and foster innovation on these components and applications.

### WiSNet2026 Chair

Paolo Mezzanotte, University of Perugia

### WiSNet2026 Co-Chair

Fabian Lurz, Otto-von-Guericke-Universität Magdeburg

### WiSNet2026 Technical Program Committee

#### Wireless Sensors for IoT Applications:

Federico Alimenti, Spyridon Daskalakis, Marco Dionigi, Tuami Lasri, Fabian Lurz, Hendrik Rogier, Manos Tentzeris

#### Wireless Sensors for Radar, Positioning, Tracking, and Imaging:

Maurizio Bozzi, Alessandra Costanzo, Reinhard Feger, Alexander Koelpin, Changzhi Li, Paolo Mezzanotte, Fabian Michler, Mario Pauli, Nils Pohl, Benedict Scheiner, Chung-Tse Michael Wu

#### Wireless Sensors Technologies, Circuits and Systems:

J-C Chiao, Georg Fischer, Christophe Loyez, Fabian Lurz, Christof Pfannenmueller, Serioja Tatu, Guoan Wang, Huei Wang

#### Wireless Sensor Networks, Communication and Artificial Intelligence:

Emanuele Cardillo, Jasmin Gabsteiger, Rahul Khanna, Davi Rodrigues, Avik Santra, Luciano Tarricone, Jennifer Williams



## SPACE HARDWARE AND RADIO CONFERENCE (SHaRC)



The IEEE Space Hardware and Radio Conference (IEEE SHaRC) addresses new concepts, novel implementations, as well as emerging applications for space-based hardware for communications, earth observation, and other novel disruptive services. To meet recent needs, there has been a renaissance of interest and investment in space- and suborbital- based systems especially for high-data-rate communications networks. These new global satellite networks are disruptive, rely on new system and subsystem design paradigms, and are an enabler for many novel applications. The IEEE Space Hardware and Radio Conference provides a forum for discussions on this new frontier.

### SHaRC2026 Chair

Jan Budroweit, German Aerospace Center

### SHaRC2026 Co-Chair

Eduardo Rojas, Embry-Riddle Aeronautical University

### SHaRC2026 Technical Program Committee

#### Space and Airborne Technologies, Systems and Applications:

Nuno Carvalho, Goutam Chattopadhyay, Rudy Emrick, Markus Gardill, Jasmin Grosinger, Ramesh Gupta, Arjuna Madanayake, James McSpadden, Marie Piasecki, Steven Rosenau, Ricky Sturdivant, Thomas Ussmueller, Vaclav Valenta

#### Mission Concepts, Operations, Regulation, and Standardization:

Sachidananda Babu, Jan Budroweit, Felix Eichstaedt, Dale Force, Charles Jackson, Steven C. Reising, Eduardo Rojas, Maximilian Scardelletti, Benjamin Schoch, Zizung Yoon

## SILICON MONOLITHIC INTEGRATED CIRCUITS IN RF SYSTEMS (SiRF)



SiRF 2026 will mark the 26th topical meeting on SiRF, with a renewed emphasis on promoting a dialogue between IC designers and researchers promoting non-standard technologies, exploiting the maturity of Silicon processes, but addressing the challenges of tomorrow. The three days of SiRF 2026 will chronicle recent advances in our dynamic field, and provide the platform for developing new ideas, and candid exchange, facilitated by SiRF's single-session format. As in past years, a line-up of reputed invited speakers will stimulate our discussions, with an emphasis on emerging technologies.

### SiRF2026 Chair

Ickhyun Song, Hanyang University

### SiRF2026 TPC Chair

Austin Chen, Infinera

### SiRF2026 TPC Co-Chair

Chung-Tse Michael Wu, National Taiwan University

### SiRF2026 Executive Committee

Yi-Jan Emery Chen, Julio Costa, Vadim Issakov, Mehmet Kaynak, Chien-Nan Kuo, Donald Lie, Monte Miller, Sergio Pacheco, Nils Pohl, Robert Schmid, Hasan Sharifi, Ahmet Cagri Ulusoy, Václav Valenta, Roe Ben-Yishay, Saeed Zeinolabedinzadeh

### SiRF2026 Technical Program Committee

#### RF, Millimeter-Wave, and THz Integrated Circuits:

Roe Ben-Yishay, Shanthi Bhagavatheswaran, Hong-Yeh Chang, Austin Chen, Christopher Coen, Amit Jha, Chien-Nan Kuo, Michael Oakley, Robert Schmid, Ickhyun Song, Eren Vardarli, Hualiang Zhang

#### Wireline/Optical Communication Circuits and SiPho Integrated Circuits:

Austin Chen, Naga Doppalapudi, Aleks Dyskin, Ankur Guha Roy, Juergen Hasch, Saeed Zeinolabedinzadeh

#### High-Speed Data Converters and Mixed-Signal Integrated Circuits:

Hsieh-Hung Hsieh, Vadim Issakov, Lance Kuo, Chun-Hsing Li, Arindam Sanyal

#### Device Technologies, Advanced Packaging, and Heterogeneous Integration:

Pierre Blondy, Xun Gong, Jean-Pierre Raskin, Vikas Shilimkar, Chung-Tse Michael Wu

## IEEE INTERNET OF THINGS (IoT) SUMMIT



The eighth IEEE Internet of Things (IoT) Vertical and Topical Summit at Radio & Wireless Week is devoted to the impact and roles that artificial intelligence (AI) and machine learning (AI/ML) play in IoT system applications and solutions. The summit is cosponsored by the multi-Society IEEE IoT Technical Community and the IEEE Microwave Theory and Technology Society. The summit consists of invited talks and moderated panels with open discussions between presenters and all summit participants. The summit is delivered in five (5) sessions each devoted to either the technological basis of IoT Systems or Vertical Applications.

IoT services and offerings have experienced significant growth over the last few years, and the use of AI/ML has affected almost all aspects of the IoT across verticals and application lifecycles. Wireless systems play a crucial role as a key enabler in several ways. The first is as the essential infrastructure layer for connectivity in IoT systems. The second is as sensors and sensor networks that provide the data that subsequently drive control, management, operation, and planning functions in IoT applications. Existing and emerging AI/ML capabilities affect the way we design, build, and operate wireless systems and, at the same time, promise new and much greater levels of "intelligence" and performance for IoT solutions and applications. The summit is focused on the use of AI/ML for:

- Wireless components for sensing and connectivity
- The design, deployment, and operation of Wireless Systems
- Use of Wireless Applications in: Agriculture, Automotive, and Manufacturing

You will find the summit stimulating and rewarding if you are a policy maker, an administrator, a product manager, a technologist, a practicing electronics engineer, or a researcher or if you are just curious about the progress and promise of the roles of artificial intelligence (AI) and machine learning (AI/ML) in IoT system designs, applications and solutions.

### IoT Summit Co-Chairs

Adam Drobot, OpenTechWorks Inc.  
Charlie Jackson, Director IEEE Division IV



## Event Overview • Sunday, 18 January 2026

Room: Mt. Olympus	Room: Los Felix	Room: Silver Lake	Room: Echo Park	Room: Whitly Heights	Room: Hollywood A-B
8:00					

13:30					
<b>Workshop</b> Advances in Solid State Power Amplifiers for All Platforms	<b>Workshop</b> Ultra Wideband in Space Systems	<b>Workshop</b> Power Amplifier Design for Linearity	<b>Workshop</b> Next-Generation Power Amplifier Measurements and Modeling for Space-Based Communications	<b>Workshop</b> Hands on Workshop: Phase Noise and Vector Network Analysis Fundamentals	
17:30					

19:00					
					<b>Joint WIM/YP Event</b>



## Event Overview • Monday, 19 January 2026

Room: Los Felix	Room: Silver Lake	Room: Echo Park	Room: Hollywood Ballroom	Room: Mt. Olympus
8:00				
MTT-S Distinguished Microwave Lecturers' Talks Part 1	PAWR Mo1B Advanced Circuit Design and Topologies 1	SiRF Mo1C RF/mm-Wave Low-Noise Receiver Front-Ends		ARFTG/NIST Short Course (Day 2)
9:40				
Coffee Break				
10:10				
MTT-S Distinguished Microwave Lecturers' Talks Part 2	PAWR Mo2B Advanced Circuit Design and Topologies 2	SiRF Mo2C RF/mm-Wave Transmitter Front-Ends		
11:50				
Lunch Break				
			Exhibition	
13:30				
Student Paper Contest	PAWR Mo3B Applications, Novel Architectures and System Analysis	SiRF Mo3C Signal Generation and Frequency Division		ARFTG Opening
				ARFTG Session A
15:10				
Coffee Break				
15:40				
Journal Paper Session 1 Amplifiers	PAWR Mo4B Linearization and Efficiency Enhancement Techniques	SiRF Mo4C High-Speed Circuits for Wireless and Wireline Applications	Student Paper Posters	ARFTG Session B
17:30				
	PAWR Panel PAWR Panel Discussion: The Doherty - end of PA history?		Joint RWW/ARFTG Welcome Reception	
19:30				

## Event Overview • Tuesday, 20 January 2026

Room: Los Felix	Room: Silver Lake	Room: Echo Park	Room: Trousdale Estates	Room: Hollywood Ballroom	Room: Mt. Olympus
<b>8:00</b>					
<b>RWS Tu1A</b> High-speed and Broadband Wireless Technologies	<b>Journal Paper Session 2</b> Analysis, Modeling, and Design Techniques for Amplifiers and Systems	<b>SiRF Tu1C</b> RF/mm-Wave Integrated Antennas and Systems	<b>IoT V&amp;T Summit Session 1</b> Impact of AI on Wireless Systems - Overview and Background	<b>Exhibition</b>	<b>ARFTG Session C</b>
<b>9:40</b>					
Coffee Break					
<b>10:10</b>					
Joint RWW/ARFTG Plenary Session in <b>Ray Dolby Salons 1-2</b>					
<b>11:50</b>					
Lunch Break					
<b>13:30</b>					
				<b>Poster Session RWW &amp; ARFTG</b> Including demo track presentations.	<b>ARFTG Session D</b>
<b>15:10</b>					
Coffee Break					
<b>15:40</b>					
<b>RWS Tu4A</b> Wireless Digital Signal Processing and Artificial Intelligence	<b>Journal Paper Session 3</b> Microwave Sensing and Material Treatment	<b>SiRF Tu4C</b> AI-Enabled RF Circuits and Systems	<b>IoT V&amp;T Summit Session 2</b> Impact of AI on Wireless Systems - Technologies and Components		<b>ARFTG Session E</b>
<b>17:20</b>					
				<b>MTT-S Space Night in Doheny-Laurel</b>	
<b>19:30</b>					



## Event Overview • Wednesday, 21 January 2026

Room: Los Felix	Room: Silver Lake	Room: Echo Park	Room: Trousdale Estates
<b>8:00</b>			
<b>RWS We1A</b> Antenna Technologies, MIMO and Multi-Antenna Communications	<b>WisNet We1B</b> Radar Applications & Methods 1	<b>SHaRC We1C</b> Space and Airborne Technologies, Systems and Applications	<b>IoT V&amp;T Summit Session 3</b> Impact of AI on Wireless Systems - Applications in Transportation
<b>9:40</b>			
Coffee Break			
<b>10:10</b>			
<b>RWS We2A</b> Passive Components & Packaging	<b>WisNet We2B</b> Radar Applications & Methods 2	<b>SHaRC We2C</b> Mission Concepts, Operations, Regulation, and Standardization	<b>IoT V&amp;T Summit Session 4</b> Impact of AI on Wireless Systems - Applications in Manufacturing
<b>11:50</b>			
Lunch Break			
<b>13:30</b>			
<b>RWS We3A</b> mm-Wave to THz Systems & Applications	<b>WisNet We3B</b> Wireless Sensing, Positioning and Sensors	<b>Journal Paper Session 4</b> Passive Components & Packaging	<b>IoT V&amp;T Summit Session 5</b> Impact of AI on Wireless Systems - Applications in Agriculture
<b>15:10</b>			
Coffee Break			
<b>15:40</b>			
<b>RWS We4A</b> Wireless System Architecture and Propagation Channel Modeling	<b>Journal Paper Session 5</b> Communications & Radar	<b>Journal Paper Session 6</b> Advanced RF and mmWave Devices	
<b>17:30</b>			

Workshop

## Advances in Solid State Power Amplifiers for All Platforms

Organizer: Naresh Deo, Visionary Solutions

Room: Mt. Olympus

Workshop

## Ultra Wideband in Space Systems

Organizers: Martin Drobczyk and Andre Luebken, German Aerospace Center

Room: Los Felix

Workshop

## Power Amplifier Design for Linearity

Organizers: Gregor Lasser, Chalmers University of Technology and Anna Piacibello, Politecnico di Torino

Room: Silver Lake

13:30

### Abstract:

Solid State Power Amplifiers (SSPA) are finding an increasingly greater number of critical applications in a wide range of platforms and business sectors. These include communications, remote sensing, scientific, industrial and defense applications. SSPAs are becoming the power amplifier of choice in transmitters for communication links and radars for all platforms from Space and airborne to ground and ocean-based systems.

The growth in the use of SSPAs is fueled by many recent developments as well as their inherent advantages over tube-based power amplifiers. In this workshop we will provide information and insight from a set of highly experienced speakers on technological advances and innovations. These developments have enabled many systems operating in the microwave and millimeter wave to sub-Terahertz frequency domain. They have the potential to revolutionize the industries and fuel many emerging applications. Recent advances have contributed to technical feasibility, economic viability and commercial success of SSPA for virtually every transmitter and source in microwaves through sub-terahertz domains. Some of the topics covered in this workshop will include:

1. Semiconductor devices (Gallium Nitride, Indium Phosphide HBT, etc.)
2. Thermal Management Methods
3. Power Combining and packaging
4. Multipaction and RF breakdown considerations
5. Device qualification and reliability evaluation
6. Success stories, notable accomplishments and lessons learned
7. Comparative study and future trends

This workshop will be particularly valuable to technologists, mission and payload planners, designers and developers of almost any microwave or millimeter wave system or equipment involving power amplifiers.

### Abstract:

Ultra-Wideband (UWB) is a key technology for next-generation space systems, offering a solution for wireless avionics. By replacing physical cabling, UWB can reduce spacecraft harness mass, simplifying design, integration, and testing procedures for space systems as well as provide precise ranging capabilities.

The technology provides robustness against interference and multipath fading effects, ensuring reliable communication in complex metallic environments. Furthermore, it delivers centimeter-level precision in ranging. These features, combined with high data rates and low power consumption, make UWB a suitable tool for both internal spacecraft networks and external navigation.

This workshop will provide a forum to address the challenges of deploying and qualifying UWB systems for the harsh space environment. We will bring together researchers and engineers to discuss system integration, radiation hardening, channel characterization and standardization efforts needed to ensure the reliability of these mission-critical systems.

### Abstract:

Modern communication systems demand energy-efficient power amplifiers (PAs) capable of delivering sufficient output power to fulfill link budget requirements. While digital predistortion (DPD) is widely adopted in current systems, a certain level of inherent PA linearity is required to ensure effective linearization through DPD. Additionally, with the evolution toward massive MIMO and higher-frequency operation, the number of antenna elements, and thus PAs, increases significantly. This makes individual DPD implementation per array element increasingly impractical, creating a strong need for intrinsically more linear PAs.

Although most PA designers, even at an early stage, are familiar with optimizing for output power and efficiency, achieving and evaluating linearity remains more challenging. Not only does it require a different design mindset and simulation strategy beyond traditional load-pull techniques, but the very definition of linearity is non-trivial. Multiple figures of merit — such as IMD, ACPR, EVM, and NPR — exist to quantify linearity, each emphasizing different aspects of performance depending on the application. This diversity of metrics further complicates the design process and calls for a deeper understanding of which linearity characteristics matter most in a given system context.

This workshop aims to provide to PA designers of all experience levels with both theoretical background and practical tools for addressing linearity. It will first cover relevant theoretical considerations and circuit-level techniques, followed by a practical demonstration from a leading microwave design software vendor on how to assess PA linearity through simulation.

17:30



Workshop

**Next-Generation Power Amplifier Measurements and Modeling for Space-Based Communications**

Organizer: Nizar Messaoudi, Keysight Technologies

Room: Echo Park

Workshop

**Hands-On Workshop for Signal Analyzing Measurement**

Organizers: Herrmann Boss, Rohde&Schwarz and Paul Peterson, Rohde&Schwarz

Room: Whitly Heights

13:30

14:30

15:30

16:30

17:30

**Abstract:**

The rapid expansion of LEO satellite networks and beamforming architectures is driving new challenges in power amplifier (PA) design and validation for space-based communications. This workshop brings together leading industry experts and measurement specialists to explore the latest innovations in PA and beamformer IC (BFIC) technologies for space applications.

The session will open with insights from Analog Devices, who will provide an overview of emerging LEO system architectures and evolving challenges in PA design for space. This will be followed by a discussion on recent innovations in satellite-side RF front-end design, with a focus on how early-stage modeling and measurement—“shifting left”—can significantly improve time-to-market and performance outcomes.

Next, Keysight Technologies will lead a segment introducing modern PA measurement techniques using modulated signals. Attendees will gain practical exposure through live demonstrations of signal generator-based PA testing methodologies, including:

- Cable de-embedding for power correction
- Match-corrected measurements for EVM, output power, and DPD complexity
- Wideband Active Load Pull (WALP) techniques, including correlation with antenna S-parameters across bandwidth and steering angles

The workshop will also feature simulation workflows using SystemVue and RFPro, including load modulation analysis and point grid generation for WALP. This workshop is ideal for RF engineers, system architects, and researchers working on satellite communications, PA design, and advanced measurement systems. Attendees will leave with a deeper understanding of how to integrate measurement and simulation to accelerate innovation in space-based RF systems.

13:30

**Abstract:**

In the rapidly evolving field of RF and microwave engineering, understanding phase noise and vector network analysis is crucial for designing high-performance systems such as oscillators, amplifiers, and communication devices. This interactive workshop provides a comprehensive introduction to these essential concepts, blending theoretical foundations with practical, hands-on experience using state-of-the-art test and measurement equipment.

The session begins with a concise PowerPoint presentation covering the fundamentals. Participants will learn what phase noise is and explore its sources, impacts on system performance, and common measurement techniques. We will then delve into vector network analyzers (VNAs), explaining their role in characterizing two-port networks, basic architecture (including sources, receivers, and couplers), and key measurements like S-parameters, impedance, and time domain concepts.

The majority of the workshop shifts to practical applications, where attendees will engage in guided experiments. Using RF test equipment, participants will measure the phase noise of an oven-controlled crystal oscillator (OCXO), analyzing its stability under various conditions. Additionally, we will characterize an amplifier and a filter's parameters, such as gain, return loss, and/or insertion loss. By the end, participants will gain confidence in interpreting results, troubleshooting common issues, and applying these techniques to real-world scenarios. Ideal for engineers, technicians, and students with basic RF knowledge, this workshop equips you with actionable skills to enhance your measurement proficiency.

17:30

## Joint Women in Microwaves / Young Professionals Panel

Organizers: Rashaunda Henderson, The University of Texas at Dallas,  
Davi Rodrigues, The University of Texas at El Paso

Room: Hollywood A-B

19:00

### Joint Women in Microwaves / Young Professionals Panel

Join us for an exceptional opportunity to engage with accomplished professionals from both industry and academia, including distinguished women who have made significant contributions to microwave theory and technology. Panelists will provide career guidance, answer audience questions, and share strategies for success. Don't miss this chance to connect, learn, and advance your career.

#### Panelists:

##### Ramesh Gupta



VP of Network Engineering and Operations at Ligado Networks

##### Sathya Padmanabhan



Chief Executive Officer of Maury Microwave Corporation

##### Maryam Salim



RF Microwave Engineer at NASA Jet Propulsion Laboratory

##### Angela Stelson



Physicist at National Institute of Standards and Technology

##### Erik Ebrahimi



Senior Member of Technical Staff at The Aerospace Corporation & Lecturer at California State Polytechnic University-Pomona

##### Thaimí Niubó Alemán



Research Software Engineer at Keysight Technologies

##### Sherry Hess



Senior Program Management Group Director at Cadence Design Systems

21:00

# Complete Venue • Sports Sessions

## Sports and Health Program

Organizer: Jasmin Gabsteiger, Otto von Guericke University Magdeburg

### Sports Sessions



**Instructor:** Jasmin Gabsteiger

Jasmin is a Ph.D. student in Electrical Engineering at FAU in Erlangen, Germany. Since 2014, she has been teaching fitness classes, including at Adidas. In addition to her regular classes at Adidas, she also hosts fitness events at various hotels worldwide. As a Group Fitness Master Trainer, LesMills Instructor, and certified Yoga teacher, she is excited to bring her expertise to RWW2026. Jasmin enjoys pushing everyone to their limits while ensuring that all fitness levels are catered to, so everyone gets the most out of her classes.

### Lunchtime Stretch

**Description:**

This stretch session can be done in any clothes, no shoes required, and you won't sweat heavily. It's designed to release tension, improve posture, and give you a refreshing midday break. The stretches will focus on flexibility and mobility, targeting areas like the neck, back, and shoulders, which are often stiff after sitting.

**When:**

Monday & Wednesday: 11:45-12:00

**Where:**

Solano

### Full Body Workout

**Description:**

Shoes are optional, and all necessary equipment, including towels, will be provided on-site. Please bring enough water. This workout uses a towel as a prop to challenge your entire body. Expect a mix of strength, cardio, and endurance exercises that target all major muscle groups. The session is accessible to all fitness levels, and Jasmin will offer modifications to ensure everyone can participate and get a great workout.

**When:**

Monday, Tuesday, Wednesday: 06:00-06:45

**Where:**

Pool Deck

### Yoga

**Description:**

This yoga class will focus on improving flexibility, balance, and mental relaxation. The flow combines stretching, breathing exercises, and poses that engage your core and calm your mind. Suitable for all levels, it provides a balance of challenge and relaxation, leaving you energized and centered.

**When:**

Tuesday: 11:45-12:10

**Where:**

Solano



# Monday, 19 January 2026 • Early Morning Sessions

DML Part 1

## DML Special Session

Chair: Markus Gardill, Brandenburg University of Technology Cottbus

Room: Los Felix

PAWR Session Mo1B

## PAWR - Advanced Circuit Design and Topologies 1

Chair: Natalie Deltimple, IMS Bordeaux  
Co-Chair: Roberto Quaglia, Cardiff University

Room: Silver Lake

SiRF Session Mo1C

## SiRF - RF/mm-Wave Low-Noise Receiver Front-Ends

Chair: Hong-Yeh Chang, National Central University  
Co-Chair: Roei Ben-Yishay, Mobileye

Room: Echo Park

8:00

### High-Frequency Doherty Power Amplifier: Challenges and Design Approaches

Speaker: Vittorio Camarchia

Abstract: The Doherty power amplifier remains a leading solution for high efficiency at power back-off. This talk reviews circuit-level and system-aware design approaches that enable robust Doherty operation at high frequency. Topics include impedance-inverter realization and loss mitigation, output/load compensation networks, bandwidth extension strategies, driver and bias considerations, and linearity under wideband modulated signals (EVM/ACPR/NPR).

### Mo1B-1: Auxiliary Matching Network Design in Sequential LMBAs: a Geometrical Explanation

Authors: Roberto Quaglia, Cardiff University

### Mo1C-1: A Four-Channel Zero-Low-IF I-Q Receiver for L, C and X-band Space-borne Applications

Authors: Maciej J Kucharski, SIRC; Radosław Piesiewicz, SIRC; Paweł Bajurko, Warsaw University of Technology; Vaclav Valenta, European Space Agency

### Mo1B-2: Comparison of Doherty PAs for Wideband Watt-level GaAs MMIC Implementations

Authors: Anna Piacibello, Politecnico di Torino; Vittorio Camarchia, Politecnico di Torino

### Mo1C-2: X-Band CMOS Low-Noise Amplifier with Broadband Input Matching and an LC-Resonant Gain-Flattening Network

Authors: Chaeyun Kim, Soongsil University; Jaeyong Lee, Soongsil University; Changkun Park, Soongsil University

### Challenges for Building Scalable Quantum Computers

Speaker: Sudipto Chakraborty

Abstract: This talk will cover practical challenges for the development of integrated system designs for next generation quantum computing which includes a combination of integrated circuits, systems and microwave engineering. Starting from system level, it will detail the design considerations for non-multiplexed, semi-autonomous, transmon qubit state controllers (QSC) implemented in 14nm CMOS FinFET technology.

### Mo1B-3: A 16 W, 8 dB Output Back-Off Doherty Power Amplifier in GaN on Si MMIC Technology for FR3

Authors: Abdolhamid Noori, Silicon Austria Labs; Hossein Zaheri, Chalmers University of Technology; Christian Schuberth, Infineon Technologies AG; Helmut Brech, Infineon Technologies AG; Christoph Wagner, Silicon Austria Labs; Christian Fager, Chalmers University of Technology; Gregor Lasser, Chalmers University of Technology

### Mo1C-3: A Channel-Selective, Bandwidth-Reconfigurable Wideband Low Noise Amplifier with Dual-Frequency N-Path Filters

Authors: Soumya Gupta, Oregon State University; Sashank Krishnamurthy, Intel Corporation; Ashoke Ravi, Intel Corporation; Ofir Degani, Intel Corporation; Arun Natarajan, Oregon State University

### Microwave Biomedical Radar for Healthcare Applications

Speaker: Changzhan Gu

Abstract: Microwave biomedical radar has achieved significant advancements, enabling transformative healthcare applications specifically for home-based care. This presentation will first detail key hardware innovations—including radar miniaturization, and enhanced accuracy and sensitivity—that are critical for deploying portable devices in residential settings. It will then explore specialized RF processing and AI techniques for extracting medical-grade physiological data. Finally, the talk will highlight the technology's breakthrough healthcare applications.

### Mo1B-4: A Compact K-Band Power Amplifier Employing Transformer-Based Load Optimization for High PAE and Output Power Over a Wide Bandwidth

Authors: Joonseok Park, Soongsil University; Hyunsoo Kim, Soongsil University; Changkun Park, Soongsil University

### Mo1C-4: A 164-GBP 87-101 GHz Low-Noise Amplifier in 40-nm CMOS for Broadband Applications

Authors: We-Chih Chang, National Central University; Zih-Han Jian, National Central University; Po-Yuan Chen, National Central University; Po-Lei Lee, National Central University

### Mo1B-5: Design of a 22–43 GHz Wideband Power Amplifier with 19 dBm of Psat on High-Resistivity Substrate in 22FDX® Technology

Authors: Massinissa Nabet, UCLouvain; Lucas Nyssens, CEA-LETI; Youssef Bendou, University Catholique de Louvain; Martin Rack, Université Catholique de Louvain; Dimitri Lederer, Université Catholique de Louvain; Jean-Pierre Raskin, Université catholique de Louvain

### Mo1C-5: A D-Band LNA with 22.1-dB Gain and 7.1-dB Noise Figure Using 40-nm CMOS Technology

Authors: Yi-Chi Li, National Taiwan University; Yunshan Wang, National Taiwan University; Yu-Hsiang Cheng, National Taiwan University

9:40

# Monday, 19 January 2026 • Late Morning Sessions

DML Part 2

## DML Special Session

Chair: Markus Gardill, Brandenburg University of Technology Cottbus

Room: Los Felix

PAWR Session Mo2B

## PAWR - Advanced Circuit Design and Topologies 2

Chair: Vittorio Camarchia, Politecnico di Torino  
Co-Chair: Paolo Colantonio, University of Rome Tor Vergata

Room: Silver Lake

SiRF Session Mo2C

## SiRF - RF/mm-Wave Transmitter Front-Ends

Chair: Robert Schmid, Johns Hopkins Applied Physics Laboratory  
Co-Chair: Chung-Tse Michael Wu, National Taiwan University

Room: Echo Park

10:10

10:30

10:50

11:10

11:30

11:50

### Energy-Efficient Transceivers for D-Band and SubTHz Communications

Speaker: Jose Luis Gonzalez Jimenez

Abstract: This lecture will address innovative transceiver architectures for radio links aiming at very high throughput (100+ Gbp) and low energy consumption operating at D-band and subTHz frequencies. In the first place, channel aggregation architectures will be presented in detail. These architectures allow cover a large band at RF without imposing containing bandwidth requirement at the lower frequency interfaces, by combining multiple BB channels into parallel up and down conversion lanes.

### Making Microwaves Green: From Life Cycle Assesments to Chipless Sensing Solutions

Speaker: Mahmoud Wagih

Abstract: This talk will cover the role of microwave sensing and connectivity in a sustainable and circular economy. First, the industry-standard methodology of Life Cycle Assessment (LCA) will be introduced for the first time, in the context of microwave hardware. Then, novel recycling and re-use solutions will be introduced for microwave circuits, showing how metals, substrates, and RFICs/MMICs, can be sustainably re-used. Finally, the opportunities for microwaves to enable new sustainable sensing applications in a chip-less way will be discussed. In particular, how novel materials which respond to almost any measurand, such as temperature, humidity, or gases, could be applied in practical chipless sensors, with low-cost and open-source multiplexed readouts. The talk will conclude with guidelines on how microwave hardware can be designed, recycled, and optimised for sustainability and performance.

10:10

### Mo2B-1: Ultra-Wideband 18–42 GHz, 2W, 15% PAE Distributed Power Amplifier MMIC on 0.1μm GaN-on-SiC for Advanced Wireless Systems

Authors: Giap Luong, United Monolithic Semiconductors; Zineb Ouarch, United Monolithic Semiconductors; Veronique Serru, United Monolithic Semiconductors; Samira Driad, United Monolithic Semiconductors; Manfred Mandel, United Monolithic Semiconductors

### Mo2B-2: Broadband Drain-Bar-Supplied H-Band Power Amplifier With 70 GHz 3-dB Bandwidth of the Output-Related 1-dB Compression Point

Authors: Thomas Ufschlag, Universität Stuttgart; Benjamin Schoch, University of Stuttgart; Lukas Gebert, University of Stuttgart; Dominik Wrana, University of Stuttgart; Roger Lozar, Fraunhofer Institute for Applied Solid State Physics; Axel Tessmann, Fraunhofer Institute for Applied Solid State Physics; Ingmar Kallfass, University of Stuttgart

### Mo2B-3: Ka-Band CMOS Power Amplifier With 25.1 dBm OP1dB Using Four-Stack Structure to Enhance Output Power for 5G Applications

Authors: Hojong Lee, Soongsil University; Jaeyong Lee, Soongsil University; Hyunsoo Kim, Soongsil University; Changkun Park, Soongsil University

11:10

### Mo2B-4: One- and Two-Stage Ka-Band MMIC Power Amplifiers in 90nm GaN

Authors: Benjamin Rautio, University of Colorado; Taylor W Barton, Univ. of Colorado

### Mo2B-5: A 7.3–36.5 GHz Distributed Amplifier with Low DC Power and 31.1 dB Gain in 90-nm CMOS Process.

Authors: Sheng-Wei Shih, National Taiwan University; Yunshan Wang, National Taiwan University; Huei Wang, National Taiwan University

### Mo2C-1: Advancing SiGe BiCMOS Landscape for High Performance Applications

Authors: Uppili S Raghunathan, GLOBALFOUNDRIES

### Mo2C-2: A 6.4-8.5 GHz BiCMOS Power Amplifier with 24dBm Psat and 37.7% PAE in B55X for 5G-NR FR1 and 6G FR3 Dual Band Application

Authors: Paul Rezette, Polytechnic Institute of Bordeaux; Nathalie Deltimple, IMS Bordeaux; Eric Kerhervé, Polytechnic Institute of Bordeaux

### Mo2C-3: An 85–110 GHz Class-AB SiGe Power Amplifier Using Doubly-Tuned Transformer and Over-Neutralization With 13.7% Peak PAE

Authors: Eren Vardarli, Dresden University of Technology; Austin Ying-Kuang Chen, University of California, Santa Cruz; Michael Schröter, Dresden University of Technology

### Mo2C-4: Wideband 300 GHz Power Detectors in SiGe 130 nm BiCMOS Technology for BIST Applications

Authors: Enrico Jimenez Tuero, IHP Microelectronics; Christoph Herold, IHP GmbH; Andrea Malignaggi, IHP Microelectronics; Corrado Carta, IHP Microelectronics

11:50

PAWR Session Mo3B

PAWR - Applications, Novel Architectures and System Analysis

Chair: Anna Piacibello, Politecnico di Torino  
Co-Chair: Robert Caverly, Villanova University

Room: Silver Lake

SiRF Session Mo3C

SiRF - Signal Generation and Frequency Division

Chair: Amit Jha, Black Semiconductor  
Co-Chair: Roei Ben-Yishay, Mobileye

Room: Echo Park

13:30

Mo3B-1: Planar Multilayer Balun with Transformer-Based Topology for MR Systems

Authors: Oudie Touijer, Universität Erlangen-Nürnberg; Minh Quang Nguyen, Friedrich-Alexander-Universität Erlangen-Nürnberg; Jan P. Wiedemann, Friedrich-Alexander-Universität Erlangen-Nürnberg; Norman Franchi, Friedrich-Alexander-Universität Erlangen-Nürnberg; Georg Fischer, Friedrich-Alexander-Universität Erlangen-Nürnberg

13:30

Mo3C-1: Advances in Low-Noise, High-Speed SiGe BiCMOS for LEO Satellite Communications and Optical Interconnects

Authors: Pascal Chevalier, STMicroelectronics

13:50

Mo3B-2: Tailored Reflection Network Design for Class-F Power Amplifiers

Authors: Fabian Schneider, Otto von Guericke University; Maik Ehses, Otto von Guericke University; Benjamin Mydla, Otto von Guericke University; Alexander Ruderer, Otto von Guericke University; Alicia Westphal, Otto von Guericke University; Gianluca Simone, Universität Erlangen-Nürnberg; Christof Pfannenmüller, Otto von Guericke University; Fabian Lurz, Otto von Guericke University

14:10

Mo3C-2: Impact of Substrate Resistivity on the Performance of a 14 GHz VCO in 28nm FD-SOI CMOS Technology

Authors: Youssef Bendou, University Catholique de Louvain

14:30

14:30

Mo3B-3: Load Resilient Double Balanced Sequential Power Amplifier for MIMO Transceivers

Authors: Michael Loose, Friedrich-Alexander-Universität Erlangen-Nürnberg; Alexander Deublein, Friedrich-Alexander-Universität Erlangen-Nürnberg; Christian Musolff, Infineon Technologies AG; Norman Franchi, Friedrich-Alexander-Universität Erlangen-Nürnberg; Georg Fischer, Friedrich-Alexander-Universität Erlangen-Nürnberg

14:30

Mo3C-3: An X-Band CMOS Class-F23 QVCO-Based PLL Using Drain-Capacitor-Coupled Technique

Authors: Po-Yuan Chen, National Central University; Jun-Liang Chen, National Central University; Hong-Yeh Chang, National Central University

14:50

Mo3B-4: A 19dBm 110–142 GHz Power Amplifier Employing an Enhanced-Power Cascode and 4-Way Dual-Coupled Combiner in 65-nm CMOS

Authors: Md Hedayatullah Maktoomi, University of California, Irvine; Xuyang Liu, University of California, Irvine; Hamidreza Aghasi, University of California, Irvine

Mo3C-4: A Low-Power High-Sensitivity 100-GHz 2:1 ECL Static Frequency Divider With 68-GHz SOF in 130-nm SiGe:C BiCMOS

Authors: Eren Vardarli, Dresden University of Technology; Austin Ying-Kuang Chen, University of California, Santa Cruz; Michael Schröter, Dresden University of Technology

15:10



## The RWW Student Paper Contest

The purpose of the Student Paper Contest is to reward students for exceptional work and consider group projects as well as individual projects. The RWW Student Paper Contest provides students with the opportunity to share their work and discuss their results with experts from industry and academia. It is open to all students attending the RWW and presenting a paper at one of the topical conferences (RWS, PAWR, WiSNet, SiRF, and SHaRC). Starting from 2017 the Steering Committee established a new format of the Student Paper Contest, which is now a single event for the whole RWW.

The following rules apply for participating at the Student Paper Contest:

- First author must be a student (a full time or a part time). A letter is required from major advisor (Professor) stating that the first author is a registered full-time student or part-time student and has done a substantial portion of the work. Failure to

provide this letter will result in disqualification.

- Number of authors on the paper: No limit, including outside authors. Outside authors are defined as co-authors from industry or from other institutions (government labs, other universities, etc.). The outside authors are included to encourage group-project submissions. The review committee will consider the number of authors vs. the level of work presented in the paper in order not to penalize the individual project submissions.

Student Paper Contest submissions are first evaluated by the Technical Program Committee (TPC), along with all other manuscript submissions, and receive no special consideration when being considered for acceptance to the symposium. Those papers that are accepted for oral presentation, identified as Student Paper submissions, and that meet the criteria (Relevance, Novelty, Quality, and

Content) become eligible for the Student Paper Contest. The TPC and the Student Paper Contest Chairs will separately evaluate these papers again to select Student Paper Finalists.

Each Student Paper Finalist is required to prepare a short elevator pitch and a poster. Judges from all topical conferences will select the first and second place winners among the Student Paper Finalists based on the quality of the final paper, the poster presentation, and the oral presentation. The winners will be announced at the Plenary Session on Tuesday. Like last year, the first place winner is invited to write a paper for the IEEE MTT-S Microwave Magazine.

**Ken Kolodziej, MIT Lincoln Laboratory**  
**Davi V.Q. Rodrigues, UT El Paso**  
 RWW Student Paper Contest Chairs

## Process & Rules of the Student Paper Contest

Each Student Paper Finalist is required to prepare a short elevator pitch and a poster.

**The elevator pitches take place on Monday 19 January from 13:30 to 15:10 in Los Felix.**

**The poster presentations take place on Monday 19 January from 15:40 to 17:00 starting in the coffee break in the Hollywood Ballroom.**

For the elevator pitches finalists will be in the role of the entrepreneur and present their idea to potential investors (the judges). There will only be a flip chart for supporting the presentation. Maximum two persons per paper can bring whatever they can carry for a presentation of four minutes.

**The winners will be announced in the [Plenary Session](#) on Tuesday, 20 January.**

## Finalists 2026

- **Golf Swing Classification Using FMCW Radar from Varying Angles of Observation**, Anjali Sharma-Tiwari, Texas Tech University
- **A 19dBm 110–142 GHz Power Amplifier Employing an Enhanced-Power Cascode and 4-Way Dual-Coupled Combiner in 65-nm CMOS**, Md Hedayatullah Maktoomi, University of California, Irvine
- **A 3D Printed Compact RF Signal Processing True Time Delay Block**, Muhammad Uzair, Florida A&M University
- **A Channel-Selective, Bandwidth-Reconfigurable Wideband Low Noise Amplifier with Dual-Frequency N-Path Filters**, Soumya Gupta, Oregon State University
- **Design and Fabrication of a Novel E-band Interferometric Mixer**, Mehrdad Harifi mood, Institut national de la recherche scientifique
- **Ka-Band CMOS Power Amplifier With 25.1 dBm OP1dB Using Four-Stack Structure to Enhance Output Power for 5G Applications**, Hojong Lee, Soongsil University
- **A 6.4-8.5 GHz BiCMOS Power Amplifier with 24dBm Psat and 37.7% PAE in B55X for 5G-NR FR1 and 6G FR3 Dual Band Application**, Paul Rezette, Polytechnic Institute of Bordeaux
- **Approaches for Reducing Power Consumption of 200-GHz Passive-Mixer First BiCMOS Receivers**, Sarfraz Shariff, University of Texas at Dallas
- **AI-Based Transformer Matching Network Synthesis Using a Data-Efficient Two-Step Method**, Gianluca Simone, Friedrich-Alexander-Universität Erlangen-Nürnberg
- **Secure Relaying: Directional Transmission with Embedded Encryption for mmW Systems**, Subhan Zakir, Arizona State University
- **Load Resilient Double Balanced Sequential Power Amplifier for MIMO Transceivers**, Michael Loose, Friedrich-Alexander-Universität Erlangen-Nürnberg
- **On-Chip Antenna with Artificial Magnetic Conductor on Low-Loss Substrate in 45 nm CMOS SOI Process**, Louis Delait, Université catholique de Louvain
- **X-Band CMOS Low-Noise Amplifier with Broadband Input Matching and an LC-Resonant Gain-Flattening Network**, Chaeyun Kim, Soongsil University
- **Multi-Level Outphasing With OTA Combining: 2D Beamforming and Measurements with Large Arrays**, Nikoloz Glonti, Tampere University
- **A Digitally Reconfigurable Quasi-Yagi Antenna Enabled by Direct Spatial Antenna Modulation**, Shuping Li, Rutgers University

# Monday, 19 January 2026 • Late Afternoon Sessions

<p>Journal Paper Session</p> <p><b>Amplifiers</b></p> <p>Chair: Tianze Li, School of Electrical and Computer Engineering, Cornell University Co-Chair: Anna Piacibello, Politecnico di Torino</p> <p>Room: Los Felix</p>	<p>PAWR Session Mo4B</p> <p><b>PAWR - Linearization and Efficiency Enhancement Techniques</b></p> <p>Chair: Gregor Lasser, Chalmers University of Technology Co-Chair: Kevin Chuang, Analog Devices</p> <p>Room: Silver Lake</p>	<p>SiRF Session Mo4C</p> <p><b>SiRF - High-Speed Circuits for Wireless and Wireline Applications</b></p> <p>Chair: Austin Chen, Infinera Co-Chair: Hong-Yeh Chang, National Central University</p> <p>Room: Echo Park</p>
15:40		
<p><b>JP1-1:</b> A D-Band 24-dBm MMIC Amplifier by Innovative Power Combining of GaN HEMTs in a SiC SIW</p> <p>Authors: Lei Li; Tianze Li; Weifeng Wu; Patrick Fay; James C. M. Hwang</p>	<p><b>Mo4B-1:</b> On the Impact of Feedback Impairments in Array Linearization by Digital Predistortion</p> <p>Authors: Vili Ojala, University of Oulu; Alberto Brihuega, Nokia ; Nuutti Tervo, University of Oulu</p>	<p><b>Mo4C-1:</b> ADC-DSP-based Wireline Receiver Datapath for Modern High-Speed SerDes</p> <p>Authors: Gain Kim, Daegu Gyeongbuk Institute of Science and Technology</p>
16:00		
<p><b>JP1-2:</b> Design and Extensive NPR Characterization of a Highly Linear SatCom GaN MMIC Doherty PA</p> <p>Authors: Anna Piacibello; Ricardo Figueiredo; Roberto Quaglia; Rocco Giofrè; Paolo Colantonio; Nuno Borges Carvalho; Vittorio Camarchia</p>	<p><b>Mo4B-2:</b> Neural Network Based Digital Predistortion for Digital MIMO Arrays under Load Modulation</p> <p>Authors: Yurui Wang, Tampere University; Joel Fernandez, Tampere University; Arne Fischer-Bühner, Tampere University; Lauri Anttila, Tampere University; Mikko Valkama, Tampere University</p>	
16:20		
<p><b>JP1-3:</b> Machine Learning-Based Defect Detection, Output Matching Assessment and Performance Recentering of a 79-GHz 4-way CMOS Power Amplifier</p> <p>Authors: Oumayma Belkhadra; Manuel Barragan; Sylvain Bourdel; salvador mir; emmanuel pistonio; florent cilici; sebastien crampon;jérémie arbouet; loic vincent; gilles montoriol</p>	<p><b>Mo4B-3:</b> A Canonical Formulation of Volterra Series Regressors in Digital Predistortion</p> <p>Authors: Juan A Becerra, Universidad de Sevilla; Kevin Chuang, Analog Devices; Elías Marqués-Valderrama, Universidad de Sevilla; Liam J Platt, Analog Devices; Maria J. Madero-Ayora, Universidad de Sevilla</p>	<p><b>Mo4C-2:</b> A Tunable Bandwidth Equalization Technique for Optical Communication Systems</p> <p>Authors: Festim Iseini, IHP Microelectronics; Han-Ting Lin, Oregon State University; Andrea Malignaggi, IHP Microelectronics; Corrado Carta, IHP Microelectronics; Andreas Weisshaar, Oregon State University; Gerhard Kahmen, IHP GmbH</p>
16:40		
<p><b>JP1-4:</b> Signal-Flow-Based Analysis and Design of Pseudo-Doherty Load-Modulated Balanced Amplifier Toward Unlimited RF Bandwidth</p> <p>Authors: Pingzhu Gong; Jiachen Guo; Nitesh Bharadwaj Vangipurapu; Kenle Chen</p>	<p><b>Mo4B-4:</b> Computationally Efficient Flexible Estimation with Elastic Net for Digital Predistortion</p> <p>Authors: Rana Bogrekci, Northeastern University ; Aidan E Colgan, Maynooth University; Declan Bryne, Maynooth University; John Dooley, Maynooth University; Miriam Leeser, Northeastern University</p>	<p><b>Mo4C-3:</b> A True-Time-Delay 10 to 30 GHz Phase-Shifter Based on Tunable Inductors in 22 nm FD-SOI</p> <p>Authors: Martin Rack, Université Catholique de Louvain; Jean-Pierre Raskin, Université catholique de Louvain; Dimitri Lederer, Université Catholique de Louvain</p>
17:00		
<p><b>JP1-5:</b> Design and Analysis of Complex Neutralization Gain-Boosting Technique With Low-Loss Power Combining for Efficient, Linear D-Band Power Amplifiers</p> <p>Authors: Mohamed Eleraky; Tzu-Yuan Huang; Yuqi Liu; Hua Wang</p>	<p><b>Mo4B-5:</b> Third-Order Intermodulation Products Generation Circuit for Q-Band Analog Predistortion Application</p> <p>Authors: Marc Günter, University of Stuttgart; Burak G Özat, Universität Stuttgart; Mathias Scharpf, University of Stuttgart; Mark J Neff, University of Stuttgart; Janis Woermann, University of Stuttgart; Ingmar Kalfass, University of Stuttgart</p>	<p><b>Mo4C-4:</b> A 54–67GHz Phase-Invariant Variable Gain Amplifier with Dual-Gain Control in 28nm CMOS</p> <p>Authors: In Cheol Yoo, Dankook University; Chul Woo Byeon, Dankook University</p>
17:20		

## Tuesday, 20 January 2026 • Early Morning Sessions

RWS Session Tu1A

### RWS - High-speed and Broad-band Wireless Technologies

Chair: Fabian Lurz, Otto von Guericke University  
Co-Chair: Kevin Chuang, Analog Devices

Room: Los Felix

Journal Paper Session JP2

### Analysis, Modeling, and Design Techniques for Amplifiers and Systems

Chair: Jonathan Swindell, Baylor University  
Co-Chair: Roberto Quaglia, Cardiff University

Room: Silver Lake

SiRF Session Tu1C

### SiRF - RF/mm-Wave Integrated Antennas and Systems

Chair: Chung-Tse Michael Wu, National Taiwan University  
Co-Chair: Ickhyun Song, Hanyang University

Room: Echo Park

8:00

#### Tu1A-1: Misalignment-Resilient Mode Group Selection for OAM-MIMO Using SIC

Authors: Ryosuke HOSHI, Waseda University; Jihan A HILDAYAT, Waseda University; Fumiaki MAEHARA, Waseda University

#### JP2-1: Automated Cardiff Model Complexity Identification and Parameters Extraction From Measured Tailored A-Pull Data

Authors: Azam Al-Rawachy; Alexander Baddeley; Abdalla Eblabla; Dragan Gecan; Aamir Sheikh; Aleksander Bogusz; Roberto Quaglia; Paul J. Tasker

#### Tu1C-1: Secure Relaying: Directional Transmission with Embedded Encryption for mmW Systems

Authors: Subhan Zakir, Arizona State University; Alireza Kiyaei, Arizona State University; Pujan Kumar Chowdhury Mishu, Arizona State University; Atif Hussain Shah, Arizona State University; Saeed Zeinolabedinzadeh, Arizona State University

#### Tu1A-2: Approaches for Reducing Power Consumption of 200-GHz Passive-Mixer First BiCMOS Receivers

Authors: Sarfraz H Shariff, University of Texas at Dallas; Goutham K Murugesan, University of Texas at Dallas; Suprovo Ghosh, University of Texas at Dallas; Suhwan Lee, University of Texas at Dallas; Frank Zhang, University of Texas at Dallas; Kenneth K.O, University of Texas at Dallas

#### JP2-2: Deep Neural Network-Based Load-Pull Measurement for Linearity Prediction in Mobile Front-End Impedance Matching Application

Authors: Chun Yin Lai; Steve W. Y. Mung; Lok Ki Ho; Anding Zhu

#### Tu1C-2: On-Chip Antenna with Artificial Magnetic Conductor on Low-Loss Substrate in 45 nm CMOS SOI Process

Authors: Louis Delait, ICTEAM, Université catholique de Louvain; Zhenming Tian, University of Duisburg-Essen; Andreas Rennings, University of Duisburg-Essen; Jean-Pierre Raskin, Université catholique de Louvain; Dimitri Lederer, Université Catholique de Louvain

#### Tu1A-3: A DC-120 GHz Single-Stage Distributed Amplifier With 472 GHz Gain-Bandwidth Product in 70-nm GaAs pHEMT Technology

Authors: Xu Jiang, National Taiwan University; Chih-Ju Wu, National Taiwan University; Austin Ying-Kuang Chen, University of California, Santa Cruz; Chung-Tse Michael Wu, National Taiwan University

#### JP2-3: Multidimensional Load-Pull Extrapolation of Unknown Devices Using Generative Adversarial Networks

Authors: Jonathan Edwin Swindell; Austin Egbert; Adam C. Goad; Charles Baylis; Robert J. Marks

#### Tu1C-3: Chip Substrate Resistivity Impact on Sub-THz Lens-Backed On-Chip Antennas

Authors: Louis Delait, ICTEAM, Université catholique de Louvain; Christophe Craeye, ICTEAM, Université catholique de Louvain; Jean-Pierre Raskin, Université catholique de Louvain; Dimitri Lederer, Université Catholique de Louvain

9:00

#### Tu1A-4: A 7- 10 GHz GaN MMIC Active Circulator with Gain

Authors: Sofia Mvokany, University of Colorado; Laila F Marzall, University of Colorado; Zoya Popovic, University of Colorado

#### JP2-4: Electro-Optic Co-Simulation in High-Speed Silicon Photonics Transceiver Design Using Standard Electronic Circuit Simulator

Authors: Keisuke Kawahara; Toshihiko Baba

#### Tu1C-4: Experimental Study of Over-the-Air Phase Noise Suppression Using a 28 GHz Distributed Transmitter Array

Authors: Alireza Kiyaei, Arizona State University; Mohammad Zarehosseinabadi, Arizona State University; Subhan Zakir, Arizona State University; Atif Hussain Shah, Arizona State University; Saeed Zeinolabedinzadeh, Arizona State University

#### Tu1A-5: Predistortion for RF Power Amplifiers under Varying Load Conditions with Shallow Learning Neural Networks and Charge Trapping Compensation for 5G and 6G Mobile Networks

Authors: Patrick Jueschke, Nokia

#### JP2-5: Environmental Life-Cycle Assessment (LCA) of Wireless RF Systems: A Comparative Sustainability Analysis and a Microwave Engineers' Guide to LCA

Authors: Mahmoud Wagih; Andrew Bainbridge; Bashayer Alsulami; Jeff Kettle

9:40



## RWW/ARFTG Plenary Session

Chair: Václav Valenta, European Space Agency  
Co-Chair: Roberto Gomez-Garcia, University of Alcala

Room: Ray Dolby Salons 1-2

10:10

Message from the RWW General Chair/Co-Chair

Message from the MTT-S President

### Plenary Talk



#### Recent Advancements in the MHz to THz Technologies (MTT)

**Speaker:** Goutam Chattopadhyay is a Senior Scientist at NASA's Jet Propulsion Laboratory (JPL), California Institute of Technology (Caltech), and a Visiting Professor at Caltech in Pasadena, USA. He previously served as the BEL Distinguished Visiting Chair Professor at the Indian Institute of Science, Bangalore, and as an Adjunct Professor at the Indian Institute of Technology, Kharagpur. Dr. Chattopadhyay received his Ph.D. in Electrical Engineering from Caltech in 2000. He is a Fellow of the IEEE (USA), National Academy of Inventors (USA), and the IETE (India), an Associate Fellow of the AIAA, the 2025 President of the IEEE Microwave Theory and Technology Society (MTT-S), a Track Editor for the IEEE Transactions on Antennas and Propagation, and an IEEE Distinguished Lecturer. His research focuses on microwave, millimeter-wave, and terahertz receiver systems and radars, as well as space instrumentation for the search for life beyond Earth.

**Abstract:** 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 talk, 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.

### Plenary Talk



#### The History and Evolution of the Modern Network Analyzer, and why SATCOM and 6G Needs It

**Speaker:** Joel Dunsmore, R&D Fellow, Keysight Technologies

Joel Dunsmore, a Keysight R&D Fellow working at Keysight's Santa Rosa Site. He received his Ph.D. from Leeds University in 2004. He is a principal contributor to PNA family of network analyzers, with recent work in non-linear test, including differential devices, and mixer measurements, as well as modulated and spectrum measurements. He has received 36 patents and authored the "Handbook of Microwave Component Measurements, 2nd Edition (John Wiley, 2020)", and has the YouTube Channel [www.youtube.com/@Dr-JoelVNA](https://www.youtube.com/@Dr-JoelVNA).

**Abstract:** Perhaps no other electronic measurement instrument has gone through the evolutions that are seen in modern Network Analyzers. What started as a fast, sweeping power meter has become the workhorse of modern test stands. This talk will review the history and evolution of network analyzers, illuminating key technological advances that enabled this progress, resulting in the unique capabilities that we find are required for the SATCOM and the 6G sub-THz applications. It will conclude with some ideas of future trends and needs in test instruments.

Awards and Closing

12:00

Interactive Forum IF1 - Room: Hollywood Ballroom

13:30

**IF-1:** Broadband Characterization of Newly Developed ABF Type A Material for Advanced Packaging and mmWave Applications

Authors: Mahin Ahamed, Pennsylvania State University; Lakshmi Narasimha Vijay Kumar, Georgia Institute of Technology; Madhavan Swaminathan, Pennsylvania State University; Habib Hichri, Ajinomoto Fine-Techno USA Corporation; Yoshio Nishimura, Ajinomoto Co., Inc; Takashi Yamanaka, Ajinomoto Fine-Techno USA Corporation; Yuko Shibata, Ajinomoto Fine-Techno USA Corporation

**IF-5:** Compact High Isolation Narrow-Band 120 GHz Travelling-Wave SPST with  $\pi$ -4 Transformer

Authors: Quentin Courte, University Catholique de Louvain; Martin Rack, University Catholique de Louvain; Yiyi Yan, University Catholique de Louvain; Andreia CATHE-LIN, STMicroelectronics; Jean-Pierre Raskin, University Catholique de Louvain; Dimitri Lederer, University Catholique de Louvain

**IF-9:** 27-32 GHz CMOS QVCO Using B-to-GND-with-RB Varactors and Active Coupling Technique

Authors: Yo-Sheng Lin, National Chi Nan University; Chung-Ta Huang, National Chi Nan University; Yu-Rong He, National Chi Nan University

**IF-2:** Priority Control Method Based on Estimation of Unaggregated Data and Prediction Broadcasts in Wireless Sensor Networks

Authors: Hideyasu Hirane, Shinshu University; Osamu Takyu, Shinshu University

**IF-6:** High frequency, thermally stable dielectric resonator oscillators for new space applications

Authors: Przemyslaw Kant, SpaceForest; Piotr Szczepiński, SpaceForest

**IF-10:** High Frequency Micro-Patterned Fe65Co35 Thin Film with Tunable FMR and Permeability for RF Passives

Authors: Haosen Yin, Cornell University; Amal El-Ghazaly, Cornell University

**IF-3:** Classifying roundwood stacks into Frozen and Non-frozen using Radio Transmission Signals

Authors: Daniel Ranta, Radarbolaget; Daniel Rönnow, University of Gävle; Kari Hyll, Skogforsk, the Forestry Research Institute of Swed; Patrik Ottosson, Nuclear Power, Vattenfall, Forsmarks Kraftgrupp AB; SUNILKUMAR TEALAGAM SETTI, University of Gävle

**IF-7:** Synthesis Methodology for Sensors Based on Nonlinear Resonators

Authors: Camilo Moncada, Universidad de Cantabria; Franco Ramirez, Universidad de Cantabria; Almudena Suarez, Universidad de Cantabria

**IF-11:** K-band FMCW Radar Using Software-Defined-Radio for Detecting Small Drones

Authors: Junichi Honda, Electronic Navigation Research Institute; Kazuyuki Morioka, Electronic Navigation Research Institute; GAKU SATO, Electronic Navigation Research Institute; Naruto Yonemoto, Electronic Navigation Research Institute

**IF-4:** Circuit Model Analysis of Parity-Time Symmetric Capacitive Wireless Power Transfer

Authors: Ben Minnaert, University of Antwerp

**IF-8:** 5-Watt Ka-band Power Amplifiers in a 120-nm GaN MMIC Process

Authors: Jack Molles, University of Colorado; Zoya Popovic, University of Colorado

**IF-12:** Microwave Methods applied to Acoustic Time Domain Reflectometry

Authors: Charles Jackson, IEEE Division IV Director

15:10

Interactive Forum IF1 - Room: Hollywood Ballroom

13:30

13:30

**IF-13:** High Frequency Characterization of Single Crystal AlN Substrate using a Microstrip Ring Resonator

Authors: Greg Medwig, North Carolina State University; Md Azizul Hasan, North Carolina State University; Yashas Satapathy, North Carolina State University; Brenna Tryon, Adroit Materials; Zlatko Sitar, Adroit Materials; Spyridon Pavlidis, North Carolina State University

**IF-17:** A Wideband Differential 300 GHz SPDT Switch with Low Insertion Loss in SiGe 130 nm BiCMOS Technology

Authors: Enrico Jimenez Tuero, IHP Microelectronics; Andrea Malignaggi, IHP GmbH; Corrado Carta, IHP GmbH

**IF-21:** A W-band GaN HEMT Amplifier using Cascode Configuration

Authors: Shinji Hara, Nagoya University; Keiichi Sakuno, Nagoya University; Hiroshi Kawamura, Nagoya University; Noriyuki Tanba, Nagoya University

**IF-14:** A 12-dB Gain Q-Band Vector-Modulator Phase Shifter in 130 nm SiGe HBT BiCMOS Technology

Authors: Burak G Özat, University of Stuttgart; Marc Günter, University of Stuttgart; Mathias Scharpf, University of Stuttgart; Janis Woermann, University of Stuttgart; Mark J Neff, University of Stuttgart; Ingmar Kalfass, University of Stuttgart

**IF-18:** Unified RF Rectifier-Demodulator for Energy Harvesting in Sub-GHz Wireless Implants

Authors: Taoyue Zhang, Purdue University; John S Peterson III, Purdue University; Saeed Mohammadi, Purdue University

**IF-22:** PIN Diode-Based RF Limiter Topologies for Multifunction Receiver Protection

Authors: Will M Vu, Massachusetts Institute of Technology, Lincoln Laboratory; Kenneth E Kolodziej, Massachusetts Institute of Technology, Lincoln Laboratory

**IF-15:** An 8-Way E-Band GaAs Power Amplifier Utilizing Shared-Ground Vias

Authors: Zhiyi Liu, Chalmers University of Technology; Göksu Kaval, Chalmers University of Technology; Rob Vissers, Chalmers University of Technology; Gregor Lasser, Chalmers University of Technology

**IF-19:** Design and Simulation of an Asymmetric Orthogonal LMBA for Improved 10 dB OBO Efficiency Over an Octave Bandwidth

Authors: Jean-Baptiste P Urvoy, Cardiff University; Roberto Quaglia, Cardiff University; Steve C Cripps, Cardiff University

**IF-16:** A 206-GHz Transformer-Based Super-Regenerative Oscillator with up to 39 dB Gain and 15 GHz Switching Rate in 130-nm SiGe BiCMOS

Authors: Yu Zhu, Dresden University of Technology; Tilo Meister, Technische Universität Dresden; Frank Ellinger, Technische Universität Dresden

**IF-20:** A 300-GHz Band Bidirectional Mixer Using 65-nm CMOS Technology

Authors: Yi-Chi Li, National Taiwan University; Yunshan Wang, National Taiwan University; Yu-Hsiang Cheng, National Taiwan University

## Demo Track Presentations

Organizer: Jasmin Gabsteiger, Otto von Guericke University Magdeburg

### Overview

The RWW 2026 Demo Track offers an interactive platform for students and researchers to present innovative ideas and practical implementations in the field of microwave and wireless engineering. The demonstrations include a variety of formats such as live experiments, software tools, measurement techniques, or fabrication methods. This session invites attendees to experience ongoing research in a hands-on way and to exchange ideas directly with the presenters.

Below, you can find short abstracts from the contributors who will present their demos during the event.

### Software tool for the synthesis and design of Acoustic Filters

Jordi Mateu + Edgar Navarro

FiltrAW® is an innovative software tool that streamlines the design of electro-acoustic ladder filters, covering the full workflow from synthesis formulation to resonator dimension computation. Supporting both SAW and BAW technologies, it synthesizes filters from user-defined specifications and allows users to tune the input parameters such as the position of transmission and reflection zeros, or to apply circuit transformations such as enforcing uniform electro-acoustic coupling or absorbing external lumped components. The demo will showcase the complete synthesis and design process through a practical SAW filter example. Additional functionalities of the software tool include nonlinear analysis of the filters.

### GREEN RF Enabled Electronics Lab: From Sensing to Sustainable Advanced Packaging

James Stephenson

This demo will showcase sustainable RF electronics innovations across sensing, wireless power, and communication. Sustainable RFID-based sensing will be showcased including demonstrators of the first biodegradable RF PCBs and systems, extending to biomedical near-field wireless power applications. We will showcase examples of recyclable and additively manufactured sustainable advanced packaging for RFICs and MMICs up to sub-THz and mmWave bands.

### Experimental Setup for RF based Drone Signal Detection and Classification

Mohammad I Husain

This demo presents the end-to-end workflow of developing ML models for drone signal detection and classification and deploying them for real-time RF analysis using a Drone, GPU based SDR platform and various software stack for annotation and analysis.

### Phase and Empire XPU: IMST's RF circuit and ultrafast 3D electromagnetic field simulators

Indra Gosh

The demo will introduce our RF circuit simulator Phase and our 3D FDTD simulator Empire XPU. I will show simulation examples and explain how to combine both for complete RF circuit simulation including layout.

### A High-Throughput Reconfigurable Digital FIR Filter Architecture Using a Systolic Array Matrix Multiplier on RFSoc for Neural Wireless Receivers

Gayani Rathnasekara

This demo presents a real-time, reconfigurable, wideband digital FIR filtering engine on the Xilinx RF-SoC ZCU-111, implemented using a massively parallel matrix-vector multiplier (MVM) core exceeding 1 TeraMAC/s throughput. The design supports coefficient reloading via TCL/AXI-Lite, enabling seamless switching between low-pass, high-pass, band-pass, or adaptive filter profiles without regenerating the FPGA bitstream. Such agility allows this architecture to be used in cognitive radios, adaptive spectrum monitoring, electronic warfare, and AI-enabled wireless systems that require prompt adaptation to dynamic RF environments. Leveraging an 8-phase polyphase systolic array MVM and RF-SoC's integrated ADC/DACs, this demo showcases low latency, high bandwidth, real-time reconfigurable filtering for next-generation wireless and AI/ML-enabled RF applications.

### An Edge-Executed ML-Enabled Wearable Pedestrian Collision Avoidance Radar

Cavon Hajimiri

This demo exhibits a low-cost wearable radar for pedestrians that uses an edge-executed 2D multi-layer convolutional neural network (CNN) running on a low-cost, low-power ESP32 microcontroller to detect vehicles approaching from behind and issue alerts to reduce the chance of accidents. It uses multiple discrete Fourier transform frames of the baseband Doppler signal data received from a custom, FR4-based continuous wave quadrature Doppler radar to compute the probability of an approaching car. To train and test the model, more than 170,000 frames of data were collected and labeled across parking lots, city streets, and roads with diverse ranges of clutter, vehicle types, and pedestrian motion. The system generates an alert for the pedestrian with a median warning time of 6.5 seconds, a 73% increase from the previous state-of-the-art, demonstrating a machine learning-based pedestrian threat detection model executed entirely on the wearable radar.

### Further Demos

Additional demo contributions may be registered after the publication of this program book. Please refer to the demo track area on-site for any demos not listed here.



<div>RWS Session Tu4A</div> <div><b>RWS - Wireless Digital Signal Processing and Artificial Intelligence</b></div> <div>Chair: Thomas Ussmueller, B&amp;E antec Nachrichtentechnik GmbH Co-Chair: Markus Gardill, Brandenburg University of Technology</div> <div>Room: Los Felix</div>	<div>Journal Paper Session JP3</div> <div><b>Microwave Sensing and Material Treatment</b></div> <div>Chair: Giulia Sacco, IETR / CNRS Co-Chair: Daniel Slocombe, Cardiff University</div> <div>Room: Silver Lake</div>	<div>SiRF Session Tu4C</div> <div><b>SiRF - AI-Enabled RF Circuits and Systems</b></div> <div>Chair: Ickhyun Song, Hanyang University Co-Chair: Chun-Hsing Li, National Taiwan University</div> <div>Room: Echo Park</div>
<div>15:40</div>		
<div><b>Tu4A-1:</b> Experimental Comparison of Classical Machine Learning and Deep Learning Methods for RF-based Drone Classification</div> <div>Authors: Sriman Komaragiri, California State Polytechnic University Pomona; Minh Khoi Tran, California State Polytechnic University Pomona; Carlos Vargas, California State Polytechnic University Pomona; Rehan Alam, University of California, Riverside; Alisha Mehta, California State Polytechnic University Pomona; Xingrong Wang, University of California, San Diego; Nathan Lee, California State Polytechnic University Pomona; Mohammad I Husain, California State Polytechnic University Pomona</div>	<div><b>JP3-1:</b> Microwaves in Chemistry</div> <div>Authors: Daniel R. Slocombe; Adrian Porch</div>	<div><b>Tu4C-1:</b> AI-Native RF: Cross-Layer Optimization from Sub-THz CSI Feedback to Fin-FET Component Design</div> <div>Authors: Dong Jin Ji, Seoul National University of Science and Technology</div>
<div><b>Tu4A-2:</b> Blind Source Separation under Over-the-Air Excitations in MIMO Wireless Communications</div> <div>Authors: Kevin Chuang, Analog Devices; Weite Zhang, Analog Devices, Inc.</div>	<div><b>JP3-2:</b> Development of a Novel Microwave Powered Method for Reducing Moisture and Microbes for Mitigating Public and Environmental Health Risks</div> <div>Authors: Aditya Pandey; Omeed Momeni; Pramod Pandey</div>	
<div><b>Tu4A-3:</b> A Systolic Array Matrix Multiplier on RF-SoC for Wireless AI Applications</div> <div>Authors: Gayani Rathnasekara, Florida International University; Arjuna Madanayake, Florida International University</div>	<div><b>JP3-3:</b> Wireless Johnson Noise Thermometry for Passive Temperature Sensing</div> <div>Authors: Jasmin Falconer; Geneva Ecola; Zerina Kapetanovic</div>	<div><b>Tu4C-2:</b> AI-Based Transformer Matching Network Synthesis Using a Data-Efficient Two-Step Method</div> <div>Authors: Gianluca Simone, Friedrich-Alexander-Universität Erlangen-Nürnberg; Deniz Tas, FAU Erlangen-Nürnberg; Fabian Schneider, Otto von Guericke University; Raphael Schilling, Fraunhofer EMFT; Andre Engelmann, FAU Erlangen-Nürnberg; Timo Maiwald, FAU Erlangen-Nürnberg; Sascha Breun, FAU Erlangen-Nürnberg; Amelie Hage-lauer, Technical University of Munich; Norman Franchi, FAU Erlangen-Nürnberg</div>
<div>16:40</div>		
<div><b>Tu4A-4:</b> Integration of Sensing Capabilities into TDD Radio Access Networks for Dynamic Spectrum Sharing</div> <div>Authors: Laura T Villalba, Instituto De Telecomunicacoes; Filipe P da Silva, Instituto De Telecomunicacoes; Samuel S Pereira, Instituto De Telecomunicacoes; Arnaldo R Oliveira, Instituto De Telecomunicacoes</div>	<div><b>JP3-4:</b> Electrotextile-Based Flexible Electromagnetic Skin for Wearables and Remote Monitoring</div> <div>Authors: Rossella Rizzo; Giuseppe Ruello; Rita Massa; Maxim Zhadobov; Giulia Sacco</div>	<div><b>Tu4C-3:</b> AI-Enabled Massively Parallelized Wideband Receiver Circuit based on Analog Processing using Orthogonal Digital Sequences</div> <div>Authors: Cedric Dehos, Université Grenoble Alpes - CEA, LETI; Gilles Masson, CEA-LETI ; Mykhailo Zarudniev, CEA-LETI ; Laurent Ouvry, CEA-LETI ; Pierre Courouve, Université Grenoble Alpes - CEA, LETI; Fabrice Chaix, CEA-LETI</div>
<div><b>Tu4A-5:</b> The SpectrumX Mobile Experiment Platform</div> <div>Authors: Nicholas Rainville, University of Colorado; John Marino, University of Colorado; Scott E Palo, University of Colorado; Frank Lind, MIT Haystack Observatory; Ryan A Volz, MIT Haystack Observatory; Greta M Fergus, MIT Haystack Observatory; Christopher J Eckert, MIT Haystack Observatory; Aleksandar PopStefanija, Massachusetts Institute of Technology; Christopher McKenney, MIT Haystack Observatory; Randy Herban, University of Notre Dame; J. Nicholas Laneman, University of Notre Dame</div>	<div><b>JP3-5:</b> Pulsed HEMT LNA Operation for Qubit Readout</div> <div>Authors: Yin Zeng; Jörgen Stenarson; Peter Sobis; Jan Grahn</div>	

## MTT-S Space Night

Organizer: Jan Budroweit, German Aerospace Center

Room: Doheny-Laurel

17:30

### MTT-S Space Night: Exploring the Frontiers of Space Communications

Join us for an exciting evening at **MTT-S Space Night**, where innovation meets orbit! This special event brings together experts, researchers, and enthusiasts to discuss the latest breakthroughs shaping the future of satellite communications and space-borne RF technologies. The evening features a **panel discussion** on cutting-edge topics driving the next generation of space communication systems, including:

- Advances in Low-Noise, High-Speed SiGe BiCMOS for LEO Satellite Communications (Pascal Chevalier, STMicroelectronics)
- 3D Printed RF Payloads and Phased Arrays (Esteban Mengues, Swissto12)
- Advances in Solid-State Power Amplifiers for All Platforms (Naresh Deo, Visionary Solutions)
- Multiple Beam SATCOM Arrays (Gabriel Rebeiz, UCSD)

Gain insights from leading voices in the field as they explore emerging technologies that are redefining performance, efficiency, and scalability across space platforms. To cap off the night, attendees can participate in a **Space Technology Quiz** for a chance to win exciting prizes, followed by a **light reception** with complementary drinks and snacks—an ideal opportunity to connect, share ideas, and network with fellow professionals and enthusiasts in a relaxed atmosphere. Come be part of an evening that celebrates the spirit of discovery and collaboration driving the next era of space communications.

The Space Night is sponsored by the IEEE Future Direction Initiative Low Earth Orbit Satellite and Systems (LEO SatS).



19:30



Image credit: SHUTTERSTOCK.COM/Boris Rabtsevich

## Wednesday, 21 January 2026 • Early Morning Sessions

RWS Session We1A

### RWS - Antenna Technologies, MIMO and Multi-Antenna Communications

Chair: Holger Maune, Technische Universität Darmstadt  
Co-Chair: Shuping Li, Rutgers University

Room: Los Felix

WiSNet Session We1B

### WiSNet - Radar Applications & Methods 1

Chair: Thomas Kurin, Otto von Guericke University Magdeburg  
Co-Chair: Davi Rodrigues, University of Texas at El Paso

Room: Silver Lake

SHaRC Session We1C

### SHaRC - Space and Airborne Technologies, Systems and Applications

Chair: Jan Budroweit, DLR Group  
Co-Chair: Eduardo Rojas, Embry-Riddle Aeronautical University

Room: Echo Park

8:00

#### We1A-1: Multi-Level Outphasing With OTA Combining: 2D Beamforming and Measurements with Large Arrays

Authors: Nikoloz Glonti, Tampere University; Vesa Lampu, Tampere University; Matias Turunen, Tampere University; Mikko Heino, Tampere University; Lauri Anttila, Tampere University; Mikko Valkama, Tampere University

#### We1B-1: Golf Swing Classification Using FMCW Radar from Varying Angles of Observation

Authors: Anjali Sharma-Tiwari, Texas Tech University; Christopher Williams, Texas Tech University; Changzhi Li, Texas Tech University

#### We1C-1: 800W Efficient GaN SSPA for VHF Space Radar (Invited)

Authors: Rocco Giorè, University of Rome Tor Vergata; Francesco Manni, University of Rome Tor Vergata; Gianni Bosi, University of Milano-Bicocca; Francisco de Arriba, Celestia TTI; Lorena Cabria, Celestia TTI; Reinel Marante, Celestia TTI; Antonio Raffo, Università di Ferrara; Giorgio Vannini, Università Degli Studio Di Ferrara; Paolo Colantoni, University of Rome Tor Vergata

#### We1A-2: A Digitally Reconfigurable Quasi-Yagi Antenna Enabled by Direct Spatial Antenna Modulation

Authors: Shuping Li, Rutgers University; Shubin Xie, Rutgers University; Minning Zhu, Rutgers University; Chung-Tse Michael Wu, National Taiwan University

#### We1B-2: Eye-Blink Monitoring of Multiple Human Subjects Using mmWave Frequency-Modulated Continuous-Wave Radar

Authors: Fardin Shariar, University of Texas at El Paso; Davi V. Q. Rodrigues, University of Texas at El Paso

#### We1C-2: 26.6-33.6 GHz CMOS Up-Conversion Mixer for Ka-Band LEO SATCOM UT Transmitter

Authors: Yo-Sheng Lin, National Chi Nan University; Chung-Ta Huang, National Chi Nan University; Yu-Rong He, National Chi Nan University

#### We1A-3: Quantized Bessel Phase and Embedded Gaussian Tapering for Near-Field Wireless Power Transfer Using Low-Cost Metasurface Lenses

Authors: Sakib Reza, University of Texas at Dallas; Azin Hojjati, The University of Texas at Dallas; Ifana Mahbub, The University of Texas at Dallas

#### We1B-3: Concurrent Eye-Blink & Vital Signs Monitoring Using mmWave Doppler Radar

Authors: Eric Oropeza, University of Texas at El Paso; Davi V. Q. Rodrigues, The University of Texas at El Paso

#### We1C-3: Tunable Acoustic Filter with high electro-acoustic coupling resonators

Authors: Edgar Navarro-Gessé, Universitat Politècnica de Catalunya; Ana Valenzuela-Pérez, Universitat Politècnica de Catalunya; José María González-Arbesú, Universitat Politècnica de Catalunya; Carlos Collado, Universitat Politècnica de Catalunya; Jordi Mateu, Universitat Politècnica de Catalunya; Luis Guillermo Villanueva, École Polytechnique Fédérale de Lausanne; Jaione Galdeano, European Space Agency

#### We1A-4: A Compact Near-Field Horn-Fed 3-Bit Phase Gradient Metasurface Lens with Low F-D for Low-Cost Efficient Focusing at ISM-Band

Authors: Azin Hojjati, University of Texas at Dallas; Sakib Reza, University of Texas at Dallas; Ifana Mahbub, University of Texas at Dallas

#### We1B-4: Auto-Calibration of Indoor Multi-site Radar Systems

Authors: Wenting SONG, Southern University of Science and Technology; Lang QIN, Southern University of Science and Technology; Mandong Zhang, Southern University of Science and Technology; Zhiqiang Huang, Hong Kong University of Science and Technology; Xiaohu WU, Southern University of Science and Technology; Xiaoguang Liu, Southern University of Science and Technology

#### We1C-4: A SiGe BiCMOS K-Band LNA with 1.5 dB Noise Figure for LEO SATCOM Terminals

Authors: Baudouin MARTINEAU, Université Grenoble Alpes - CEA, LETI; Benjamin Blampey, Université Grenoble Alpes - CEA, LETI; Ghita YAAKOUBI KHBIZA, CEA-LETI; Alexandre SILIGARIS, CEA-LETI; patrice garcia, STMicroelectronics; didier belot, STMicroelectronics

#### We1A-5: Ultra-Wideband H-Plane Horn Antenna with Chamfered Ridge Feed and AMC Reflectors Using Ridge Gap Waveguide Technology

Authors: Ankit Sharma, University of Wisconsin, Madison; Daniel van der Weide, University of Wisconsin, Madison

#### We1B-5: An Edge-Executed ML-Enabled Wearable Pedestrian Collision Avoidance Radar

Authors: Cavin Hajimiri, Polytechnic High School

#### We1C-5: A Linear E-W-Band Resistive IQ Mixer MMIC in a GaN-on-SiC HEMT Technology

Authors: Fabian Thome, Fraunhofer IAF; Patrick Umbach, Fraunhofer IAF; Peter Brückner, Fraunhofer IAF

9:40

# Wednesday, 21 January 2026 • Late Morning Sessions

RWS Session We2A

## RWS - Passive Components & Packaging

Chair: Roberto Gomez-Garcia, University of Alcala  
Co-Chair: Alexander Kölpin, Technische Universität Hamburg

Room: Los Felix

WiSNet Session We2B

## WiSNet - Radar Applications & Methods 2

Chair: Paolo Mezzanotte, University of Perugia  
Co-Chair: Jasmin Gabsteiger, Otto von Guericke University Magdeburg

Room: Silver Lake

SHaRC Session We2C

## SHaRC - Mission Concepts, Operations, Regulation, and Standardization

Chair: Charles Jackson, Director IEEE Division IV  
Co-Chair: Holger Maune, Technische Universität Darmstadt

Room: Echo Park

10:10

### We2A-1: Novel Classes of Dual-Band Filters with all Positively Coupled Resonators

Authors: Wael M Fathelbab, Northrop Grumman Corporation

### We2B-1: Doppler radar respiratory displacement assessment method based on phase offset between thorax and abdomen

Authors: Jannatun Noor Sameera, University of Hawaii at Manoa; Victor Lubecke, University of Hawaii; Olga Boric-Lubecke, University of Hawaii

### We2C-1: Detecting and Measuring Global GNSS Signal Interference via Space-Based ADS-B Surveillance

Authors: Felix Eichstaedt, German Aerospace Center; Jan Budroweit, German Aerospace Center; Ferdinand Stehle, German Aerospace Center; Toni Delovski, German Aerospace Center

### We2A-2: Crosstalk Suppression by Shielding in Dielectric Waveguide Interconnect Arrays

Authors: Esra Ceylin Bormali, University of California, Santa Barbara; Mark Rodwell, University of California, Santa Barbara; Georgios Dogiamis, Deca Technologies; Neelam Prabhu Gaunkar, Intel Corporation; Nada Sekeljic, Intel Corporation

### We2B-2: The Role of Phase Demodulation and Digital Post-Distortion in 24-GHz Doppler Radar for Controlled Breathing Study

Authors: Brady R Gambrell, Texas Tech University; Christopher Williams, Texas Tech University; Syed-Doha Uddin, Texas Tech University; Changzhi Li, Texas Tech University

### We2C-2: Design of a Switch-Matrix for the Multi-Radio CubeSat Mission UWE-5

Authors: Narges Ezzatpoor, Julius-Maximilians-Universität Würzburg; Philip Bergmann, Universität Würzburg; Guido Dietl, Julius-Maximilians University Würzburg; Markus Gardill, Brandenburg Univ. of Technology

### We2A-3: On-Chip Dual-Band Balanced Power Divider with High Common-Mode Rejection

Authors: Wei-Chih Chang, National Central University; Yo-Shen Lin, National Central University

### We2B-3: Assessment of RCS in Close Range CW Doppler Radar Measurements

Authors: Jon H Itokazu, University of Hawaii; Shaylon I Mizukami, University of Hawaii; Olga Boric-Lubecke, University of Hawaii; Victor Lubecke, University of Hawaii

### We2C-3: A High Speed Modulator for Quantum Photon Encoding in CubeSat Applications

Authors: Thomas Kurin, Otto von Guericke University; Jonas Pudelko, Friedrich-Alexander-Universität Erlangen-Nürnberg; Ömer Bayraktar, Friedrich-Alexander-Universität Erlangen-Nürnberg; Christof Pfannenmüller, Otto von Guericke University; Joost Vermeer, Friedrich-Alexander-Universität Erlangen-Nürnberg; Marion Dafner, Platy-Platinen GmbH; Christoph Marquardt, Friedrich-Alexander-Universität Erlangen-Nürnberg; Fabian Lurz, Otto von Guericke University

11:10

### We2A-4: A 3D Printed Compact RF Signal Processing True Time Delay Block

Authors: Muhammad Uzair, Florida A&M University; Ayesha Naseem, Florida A&M University; Hanxiang Zhang, Florida State University; Saeed Zolfaghary pour, Florida A&M University; Hao Yan, Florida State University; Bayaner Arigong, Florida A&M University

### We2B-4: Over-the-Air Magnitude-Based RF Gesture Recognition Using A Single Printed, Stretchable Antenna-Sensor

Authors: James Stephenson, University of Glasgow; Manoj Kumar, University of Glasgow; Johannes Schneider, University of Glasgow; Shanmugam Kumar, University of Glasgow; Mahmoud Wagih, University of Glasgow

### We2C-4: Feasibility Study of Low-Cost Distributed Antenna Array Ground Stations for the S-band

Authors: Tushar Tandon, EnduroSat GmbH; Markus Gardill, Brandenburg Univ. of Technology

### We2A-5: Folded Electromagnetic Metas-structure for Microchip Packaging

Authors: Md. Omar Faruk Noman, University of North Carolina, Charlotte; Soumitra Joy, University of North Carolina at Charlotte

### We2B-5: Resilience Estimation of Radar Systems

Authors: Priscila Silva, University of Texas at El Paso; Davi Rodrigues, University of Texas at El Paso; Lance Fiondella, University of Massachusetts Dartmouth

11:50



# Wednesday, 21 January 2026 • Early Afternoon Sessions

RWS Session We3A

## RWS - mm-Wave to THz Systems & Applications

Chair: Glauco Fontgalland, University of Mount Union  
Co-Chair: Mario Pauli, Karlsruhe Institute of Technology

Room: Los Felix

WiSNet Session We3B

## WiSNet - Wireless Sensing, Positioning and Sensors

Chair: Armin Schuster, University of Erlangen-Nuremberg  
Co-Chair: Markus Gardill, Brandenburg University of Technology

Room: Silver Lake

Journal Paper Session JP4

## Passive Components & Packaging

Chair: Oscar Quevedo-Teruel, KTH Royal Institute of Technology  
Co-Chair: Lian Zhou, Shanghai Jiao Tong University

Room: Echo Park

13:30

### We3A-1: Compact Flip-Chip V-Band Fully Integrated Image Rejection Receiver Using 0.15 um mHEMT Technology

Authors: Chinchun Meng, National Yang Ming Chiao Tung University; Jen-Yi Su, National Yang Ming Chiao Tung University; Yan-Shen Chen, National Yang Ming Chiao Tung University; Guo-Wei Huang, Taiwan Semiconductor Research Institute

### We3B-1: Joint Communication and Sensing using OFDM: System Considerations and Measurements

Authors: Samira Faghih-Naini, Friedrich-Alexander-Universität Erlangen-Nürnberg; Tobias Fontius, Friedrich-Alexander-Universität Erlangen-Nürnberg; Sebastian Peters, Friedrich-Alexander-Universität Erlangen-Nürnberg; Armin Schuster, Friedrich-Alexander-Universität Erlangen-Nürnberg; Robert Weigel, Friedrich-Alexander-Universität Erlangen-Nürnberg; Norman Franchi, Friedrich-Alexander-Universität Erlangen-Nürnberg; Torsten Reissland, Friedrich-Alexander-Universität Erlangen-Nürnberg

### JP4-1: Complete Modal Analysis of Planar Waveguide Junctions With a 2-D Hybrid FEM/Leontovich Framework Including Conductor Losses

Authors: Hui Jiang; Juan Córcoles; Jorge A. Ruiz-Cruz

### We3A-2: Tomography System Using sub-THz Radio Links and Cameras

Authors: praneeth susarla, Oulun Yliopisto ; Naveeth Lafir, University of Oulu; Aprotim Paul, University of Oulu; Siva Ariram, University of Oulu; Ankit Regmi, University of Oulu; Marko E. Leinonen, University of Oulu; Nuutti Tervo, University of Oulu

### We3B-2: Proposal of Positioning Method Considering Received Signal Strength Indicator for Indoor Positioning Using Zigbee Terminals

Authors: Haruki Shibata, Shinshu University; Osamu Takyu, Shinshu University; David Asano, Shinshu University

### JP4-2: A D-Band Self-Packaged Low Loss Grounded Coplanar Waveguide to Rectangular Waveguide Transition With Silicon-Based Air Cavity-Backed Structure

Authors: Zi-Qi Zhang; Xiao-Long Huang; Liang Zhou; Yin-Shan Huang; Cheng-Rui Zhang

### We3A-3: High-Output Power Optically Injection-Locked Oscillator in 250 nm SiGe BiCMOS EPIC Technology

Authors: Nicola Pelagalli, IHP Microelectronics; Andrea Malignaggi, IHP Microelectronics; Corrado Carta, IHP Microelectronics

### We3B-3: Resonant Surface Acoustic Wave Sensors for In-Situ Monitoring of Cutting Forces in Turning Processes

Authors: Marie Horlbeck, Otto von Guericke University; Sebastian Junghans, Hamburg University of Technology; Jan Dege, Hamburg University of Technology; Benedict Scheiner, Sykno GmbH; Fabian Lurz, Otto von Guericke University

### JP4-3: Metal-Only Additive Manufacturing of V-Band Lightweight Waveguide and Horn Components

Authors: Mingzheng Chen; José Rico-Fernández; Francisco Mesa; Oscar Quevedo-Teruel

14:30

### We3A-4: Low Phase Noise Millimeter-wave Voltage Controlled Oscillators based on Electromagnetic Bandgap Material Resonators

Authors: Indra S Ghosh, IMST GmbH; Enrico Lia, European Space Agency; Horst Fischer, IMST GmbH; Stephen M Hanham, Imperial College London; Rüdiger Follmann, IMST GmbH

### We3B-4: Design and Fabrication of a Novel E-band Interferometric Mixer

Authors: Mehrdad Harifi mood, Institut National de la Recherche Scientifique; Djilali Hammou, Institut National de la Recherche Scientifique; Emilia Moldovan, Institut National de la Recherche Scientifique; Serioja Ovidiu Tatu, Institut National de la Recherche Scientifique

### JP4-4: Multigap-Waveguide Liquid Crystal Phase Shifter at Ka-Band

Authors: Marc Späth; Robin Neuder; Martin Schüßler; Rolf Jakoby; Alejandro Jiménez-Sáez

### We3A-5: A mm-Wave Wideband Tunable Electrical Balance Duplexer with an Integrated Low-Noise Amplifier in 22-nm CMOS FDSOI

Authors: Mohamad Mahdi Rajaei Rizi, Texas A&M University; Mohammad Ghaedi Bardeh, Texas A&M University; Jeyanandh Paramesh, Texas A&M University; Kamran Entesari, Texas A&M University

### We3B-5: Compact Dual-Band MIFA for Harmonic Tag Applications (2.45 GHz and 4.9 GHz)

Authors: Goncalo Martins, Instituto De Telecomunicacoes; Nuno B Carvalho, Instituto De Telecomunicacoes

### JP4-5: 3-D-Printed CRLH Circuits and Ultracompact Butler Matrices for Wideband Millimeter-Wave Beamforming

Authors: Yang Yang

15:10

# Wednesday, 21 January 2026 • Late Afternoon Sessions

RWS Session We4A

## RWS - Wireless System Architecture and Propagation Channel Modeling

Chair: Rashaunda Henderson, University of Texas at Dallas  
Co-Chair: Markus Gardill, Brandenburg University of Technology

Room: Los Felix

Journal Paper Session JP5

## Communications & Radar

Chair: Tobias Körner, Ruhr-Universität Bochum  
Co-Chair: Francesca Schenkel, Ruhr-Universität Bochum

Room: Silver Lake

Journal Paper Session JP6

## Advanced RF and mmWave Devices

Chair: Yansong Yang, The Hong Kong University of Science and Technology  
Co-Chair: Thomas Robert Jones, Purdue University

Room: Echo Park

15:40

### We4A-1: Multipath Signal Determination Using Stochastic Approach for Power Delay Profile of Local 5G System

Authors: Takashi Shiba, Tohoku University; Tomoyuki Furuchi, Tohoku University; Noriharu Suematsu, Tohoku University

### JP5-1: Interference-Resilient Communication With a 28 GHz Transceiver Utilizing OAM Waves

Authors: Atif H. Shah; Alireza Kiyaei; Subhan Zakir; Waleed Ahmad; Ebrahim M.Al Seragi; Ali Nikkhah; Mohammadreza F. Imani; Saeed Zeinolabedinzadeh

### JP6-1: Ultra-Wideband Silicon Plasma Switches

Authors: Alden Fisher; Thomas R. Jones; Dimitrios Peroulis

15:40

16:00

### We4A-2: Efficient Statistical Modeling of Wireless Channels in Complex Reflective Spaces

Authors: Till Droemmer, Brandenburg University of Technology; Nicolai Kröger, Technical University of Munich; Matthias Reinhardt, Mercedes-Benz AG; Wolfgang Kellerer, Technical University of Munich; Markus Gardill, Brandenburg University of Technology

### JP5-2: A 28 GHz Phased-Array Transmitter Based on Doherty Spatial Combining Technique With a Local Sub-Sampling PLL

Authors: Itamar Melamed; Avraham Sayag; Emanuel Cohen

### JP6-2: Bifocal Polarization Insensitive Fresnel Lens Tuning Using Lubricant Oil for MM-Wave Applications

Authors: Amit Kumar Baghel; Vinicius Uchoa Oliveira; Pedro Pinho; Nuno Borges Carvalho

16:20

### We4A-3: Development of Multi-Channel MIMO SC-FDE Modem for 700-Mbps-class Immersive Video Transmission Using Millimeter-Wave Band

Authors: Tomohiro SHIMAZAKI, Japan Broadcasting Corporation; Nobuaki TANAKA, Japan Broadcasting Corporation; Junichiro KAWAMOTO, Japan Broadcasting Corporation; Yoshifumi MATSUSAKI, Japan Broadcasting Corporation; Naohiko IAI, Japan Broadcasting Corporation; Tsuyoshi NAKATOGAWA, Japan Broadcasting Corporation

### JP5-3: Simultaneous Localization and Mapping (SLAM) for Room Exploration Using Ultrawideband Millimeterwave FMCW Radar

Authors: Tobias Körner; Aman Batra; Thomas Kaiser; Nils Pohl; Christian Schulz; Ilona Rolfes; Jan Barowski

### JP6-3: Q-Band LNA-Antenna Co-Design: Exploiting Antenna Matching for System Noise Figure Optimization

Authors: Kirill Alekseev; Martin Johansson; Klas Eriksson; Bart Smolders; Roger Lozar; Remco Heijis; Ulf Johannsen

16:40

16:40

### JP5-4: Smoke Detection and Combustion Analysis Using Millimeter-Wave Radar Measurements

Authors: Francesca Schenkel; Thorsten Schultze; Christoph Baer; Jan C. Balzer; Ilona Rolfes; Christian Schulz

### JP6-4: Periodically Poled Piezoelectric Single-Layered and Multilayered Lithium Niobate for Thickened High-Order Lamb Wave Acoustic Devices

Authors: Junyan Zheng; Zijun Ren; Jiashuai Xu; Xingyu Liu; Fangsheng Qian; Yansong Yang

17:00

### JP6-5: Sharp-Rejection In-Line Groove-Gap-Waveguide Bandpass Filter With Multiple Transmission Zeros for Ku-Band Application

Authors: Mohamed Malki; Li Yang; Roberto Gomez-Garcia

17:20

17:20

## ARFTG Abbreviated Program

### 106th ARFTG Microwave Measurement Conference

Software Architectures and Automation of Microwave Measurement Methods and Systems  
Los Angeles, California, US, January 18-21, 2026

#### Sunday January 18th

08:00-17:00	Registration	Foyer
08:00-17:00	ARFTG/NIST Short Course	Elysian Park
19:00-20:50	Joint WIM/YP Panel	Hollywood Ballroom A-B

#### Monday January 19th

07:00-17:00	Registration	Foyer
08:00-11:50	ARFTG/NIST Short Course	Elysian Park
13:30-13:40	Welcome to the 106th ARFTG Conference – Opening	Mt. Olympus
13:40-14:10	ARFTG Keynote	Mt. Olympus
14:10-14:50	Session A: Wireless Measurements	Mt. Olympus
15:10-15:40	Exhibition, Poster Session, Coffee Break	Hollywood Ballroom
15:40-17:20	Session B: On-Wafer Measurements	Mt. Olympus
18:30-19:30	RWW/ARFTG Joint Reception	Hollywood Ballroom

#### Tuesday January 20th

07:00-17:00	Registration	Foyer
08:00-09:40	Session C: Material Characterisation	Mt. Olympus
10:10-11:50	RWW/ARFTG Joint Plenary Session	Dolby Ballroom 1-2
12:00-13:30	ARFTG Awards Luncheon	Doheny-Laurel
13:30-15:10	Session D: Calibration and Other Metrology Aspects	Mt. Olympus
15:40-17:05	Session E: Cryogenic and Non-linear Measurements	Mt. Olympus
17:05-17:15	ARFTG Closing Session	Mt. Olympus

The full program is available at: <https://arftg.org/106-conference/>



## Exhibitors

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Hotel Map

