

## Conference Program – Day 1

10 April 2025		
08:00-09:00	On-site registration	
09:00-09:30	Opening Session	<b>Welcome Address</b> Marco Pirola, Vittorio Camarchia <i>Conference Chairs</i> Elena Maria Baralis <i>Deputy Rector, Politecnico di Torino, Italy</i> Anding Zhu <i>President Elect, IEEE MTT-S</i>
09:30-10:10		<u>Keynote talk</u> <b>Advanced Strategies for Overcoming Simulation Challenges in Nonlinear Microwave Circuits</b> Almudena Suarez University of Cantabria, Spain
10:10-10:40		<u>Sponsors' talks</u> <b>Low Radiation, High Frequency Feed Type for MMIC Design</b> Lorenzo Benelli <i>Keysight, Italy</i> <b>Pitch Deck Anritsu: Advancing Beyond</b> Massimiliano Rota <i>Anritsu, Italy</i> <b>Solutions for High Power MMIC development: from the design to verification and test</b> Luigi Scopelliti <i>Advam, Italy</i>
10:40-11:20	Coffee Break & Poster Session	
11:20-11:40	<i>Technical session (M)MIC Design – 1</i> Chair: G. Lasser Co-chair: C. Ramella	<u>Invited Talk</u> <b>The second generation of GaN-on-Si HEMT Technology from Infineon Enables Wideband Integrated Doherty Power Amplifier Module for Next-Generation Massive MIMO</b> Mustazar Iqbal Infineon Technologies Austria AG
11:40-12:00		<b>A Simple Lumped-Element Topology for Wideband Class-E Operation at UHF and L Bands</b> P. Olmedillo, A. González, M. Ouadefli, <u>J. A. García</u> Universidad de Cantabria, Spain
12:00-12:20		<b>Highly Efficient and Linearity-Enhanced S-Band Doherty Power Amplifier</b> G. Bartolotti, <u>Z. Zhang</u> , A. Piacibello, V. Camarchia Politecnico di Torino, Italy
12:20-12:40		<b>Design of a 3.5 GHz Symmetric Doherty PA in an 8-Inch GaN on Silicon MMIC Technology for Base Station Applications</b> <sup>1</sup> D. D. Pandya, <sup>1</sup> C. Schuberth, <sup>1</sup> S. Ghosh, <sup>2</sup> M. Koh, <sup>1</sup> H. Brech, <sup>3</sup> R. Quay <sup>1</sup> Infineon Technologies AG, Germany; <sup>2</sup> Infineon Technologies AG, Netherlands; <sup>3</sup> University of Freiburg, Germany
12:40-13:00		<b>High-Efficiency C/X Dual-Band HPA in 250-nm Gate Length GaN HEMT Technology with 10W Pout</b> F. Bolli, <u>P. E. Longhi</u> , S. Colangeli, A. Pantellini, G. Polli, M. Castorio, W. Ciccognani, A. Serino, E. Limiti University of Rome Tor Vergata, Italy

13:00-14:20	<b>Lunch</b>	
14:20-14:40	<p><i>Technical session (M)MIC Design – 2</i> Chair: J. A. García Co-chair: A. Piacibello</p>	<p><u>Invited Talk</u> <b>Designing RF/mm-Wave Power Amplifiers in Silicon for Large Scaled Phased Arrays</b> Hua Wang ETH Zurich, Switzerland</p>
14:40-15:00		<p><b>A 10 W C-Ku Band MMIC NDPA for Electronic Warfare Applications</b> A. Forte, P. E. Longhi, S. Colangeli, W. Ciccognani, G. Polli, M. Castorio, A. Pantellini, E. Limiti University of Rome Tor Vergata, Italy</p>
15:00-15:20		<p><b>A GaN-on-SiC Transmit/Receive MMIC Frontend for 6-to-18-GHz Phased Array Transceivers</b> M. Ferreras, J. Grajal Universidad Politécnica de Madrid, Spain</p>
15:20-15:40		<p><b>Optimization Methodology for Wideband SLMBA Design Considering Balanced Amplifiers' off-State Impedance</b> <sup>1,2</sup>W. Liu, <sup>2,3</sup>L. Cotimos Nunes, <sup>2,3</sup>F. M. Barradas, <sup>2,3</sup>J. Pedro, <sup>1</sup>Q. Liu <sup>1</sup>Hunan University, China; <sup>2</sup>Instituto de Telecomunicações, Portugal; <sup>3</sup>Universidade de Aveiro</p>
15:40-16:00		<p><b>Design and Simulation of a Doherty-Mode OLMBA for Enhanced Back-off Efficiency over an Octave Bandwidth</b> J.-B. Urvoy, R. Quaglia, S. Cripps Cardiff University, United Kingdom (Great Britain)</p>
16:00-16:40	<b>Coffee Break &amp; Poster Session</b>	
16:40-17:00	<p><i>Technical session Devices and Circuits Modelling</i> Chair: S. Maas Co-chair: V. Vadalà</p>	<p><b>On the Implementation of Capacitance Models in Electronic CAD Tools</b> <sup>1,2</sup>I. Angelov, <sup>1</sup>C. Fager, <sup>1</sup>N. Rorsman <sup>1</sup>Chalmers University of Technology; <sup>2</sup>GOTMIC AB, Sweden</p>
17:00-17:20		<p><b>An Example of the Role of Time-Modulated Capacitances in Microwave Time-Varying Systems</b> <sup>1</sup>T. Lira-Valdes, <sup>1</sup>T. M. Martín-Guerrero, <sup>1,2</sup>Elena Abdo-Sánchez <sup>1</sup>University of Málaga; <sup>2</sup>E. T. S. I. Telecomunicación, Spain</p>
17:20-17:40		<p><b>A Behavioral Approach to Equivalent-Circuit Modeling of GaN MMIC Varactor Cells</b> S. Cangini, A. M. Angelotti, G. P. Gibiino, C. Florian, A. Santarelli University of Bologna, Italy</p>
17:40-18:00		<p><b>Sparse Volterra-Based Models for I/Q Impairments and Nonlinear Distortion of Power Amplifiers</b> M. J. Madero-Ayora, J. A. Becerra, E. Marqués-Valderrama, C. Crespo-Cadenas Universidad de Sevilla, Spain</p>
18:00-18:20		<p><b>Cardiff Behavioral Model of a Ka-Band SPDT Switch Trained on Structured Minimization of Load-Pull Characterization Data</b> <sup>1</sup>S. U. Ghozati, <sup>1</sup>E. M. Azad, <sup>1</sup>K. Chaudhry, <sup>2</sup>R. Quaglia, <sup>2</sup>P. J. Tasker <sup>1</sup>Catapult, United Kingdom; <sup>2</sup>Cardiff University, United Kingdom</p>
19:45-23:00	<p><b>Gala Dinner</b> Sale storiche del Centro Congressi Unione Industriali Via Vela 17, Torino</p>	

## Conference Program – Day 2

11 April 2025		
09:00-09:20	<p><i>Technical session</i> <b>System-level Techniques</b> Chair: J. C. Pedro Co-chair: P. Gilabert</p>	<p><b>A Ku-Band GaN PA with GaAs Gate Modulator for Improved Linearity</b> R. Lucero, Z. Popovic University of Colorado at Boulder, USA</p>
09:20-09:40		<p><b>Impact on Linearity of Wideband Design Strategies for Integrated GaN Doherty Power Amplifiers</b> G. Bartolotti, A. Piacibello, V. Camarchia Politecnico di Torino, Italy</p>
09:40-10:00		<p><b>A Design Method for Wide Bandwidth Reflective Analog Predistorters</b> <sup>1</sup>J. Yu, <sup>2</sup>I. Pinto, <sup>1,2</sup>F. M. Barradas, <sup>1,2</sup>L. Cotimos Nunes, <sup>1,2</sup>T. Cunha, <sup>1,2</sup>J. Pedro <sup>1</sup>Instituto de Telecomunicações, Portugal; <sup>2</sup>Universidade de Aveiro, Portugal</p>
10:00-10:20		<p><b>Digital Self-Interference Cancellation for in-Band Full-Duplex Communications</b> A. Shahghasi, R. Criado Simón, G. Montoro, P. Gilabert Universitat Politècnica de Catalunya-Barcelona Tech (UPC), Spain</p>
10:20-10:40		<p><b>Assessment of Dynamic Deviation Reduction-Based Volterra Modeling and Digital Predistortion of RF Passive Doubler</b> <sup>1</sup>A. H. Alsarraf, <sup>2</sup>G. P. Gibiino, <sup>1</sup>D. Schreurs <sup>1</sup>KU Leuven, Belgium; <sup>2</sup>University of Bologna, Italy</p>
10:40-11:20	<b>Coffee Break &amp; Poster session</b>	
11:20-11:40	<p><i>Technical session</i> <b>Nonlinear Characterization</b> Chair: P. Colantonio Co-chair: L. Côtimos Nunes</p>	<p>Invited Talk <b>Nonlinear Aspects in Wireless Power Transfer (WPT) Systems</b> Nuno B. Carvalho University &amp; IT of Aveiro</p>
11:40-12:00		<p><b>Load/Source-Pull Evaluation of Modulated Performance in GaAs HBT Power Cells for WiFi-6</b> <sup>1</sup>A. M. Angelotti, <sup>1</sup>C. Florian, <sup>1</sup>G. P. Gibiino, <sup>2</sup>C. Ramella, <sup>2</sup>M. Pirola, <sup>3</sup>F. Manni, <sup>3</sup>R. Giofrè, <sup>3</sup>P. Colantonio <sup>1</sup>University of Bologna, Italy; <sup>2</sup>Politecnico di Torino, Italy; <sup>3</sup>University of Roma Tor Vergata, Italy</p>
12:00-12:20		<p><b>Characterization Procedure for Effective Evaluation of III-V Compound Semiconductor Technology</b> <sup>1,2</sup>N. Choupan, <sup>1</sup>V. Vadalà, <sup>1</sup>G. Bosi, <sup>3</sup>C. Ramella, <sup>4</sup>M. Grassi, <sup>5</sup>G. Crupi, <sup>6</sup>R. Giofrè, <sup>7</sup>A. Raffo, <sup>7</sup>G. Vannini <sup>1</sup>University of Milano-Bicocca, Italy; <sup>2</sup>Tarbiat Modares University, Iran; <sup>3</sup>Politecnico di Torino, Italy; <sup>4</sup>University of Pavia, Italy; <sup>5</sup>University of Messina, Italy; <sup>6</sup>University of Roma Tor Vergata, Italy; <sup>7</sup>University of Ferrara, Italy</p>
12:20-12:40		<p><b>Experimental Characterization of VSWR-Adaptive Balanced Power Amplifiers</b> <sup>1</sup>A. Carbonnière, <sup>2</sup>L. Bacqué, <sup>1,3</sup>P. Medrel, <sup>3</sup>J. M. Nebus <sup>1</sup>University of Limoges, France; <sup>2</sup>Prana RF, France; <sup>3</sup>XLIM, France</p>
12:40-13:00		<p><b>Exploring Software-Defined Radio Based Noise Measurements: Performances Analysis and Opportunities</b> G. Schiavolini, G. Orecchini, V. Palazzi, L. Roselli, P. Mezzanotte, F. Alimenti University of Perugia, Italy</p>

13:00-14:20	<b>Lunch</b>	
14:20-14:40	<i>Technical session</i> <b>Special session on High Frequency Metrology</b> Chair: O. Bengtsson Co-chair: A. M. Angelotti	<u>Invited Talk</u> <b>On-Wafer S-Parameter Measurements at Millimetre-Wave and Sub-Terahertz Frequencies: Recent Advancements from a Metrology Perspective</b> Xiaobang Shang National Physical Laboratory, United Kingdom
14:40-15:00		<b>Automated on-Wafer Radio-Frequency Transistor Characterization with Adaptive Probing and Features Extraction with Uncertainties</b> <sup>1</sup> A. Chillico, <sup>1</sup> D. Vitali, <sup>1</sup> W. Samek, <sup>1,2</sup> O. Bengtsson <sup>1</sup> Ferdinand Braun Institut (FBH), Germany; <sup>2</sup> Leibniz-Institut für Höchstfrequenztechnik, Germany
15:00-15:20		<b>Temperature-Dependent Vector-Calibrated Large-Signal Measurements of a GaN-Based SPDT Ka-Band Switch</b> D. Matlock, D. Frey, M. Hodek, N. C. Miller, E. Gebara Michigan State University, USA
15:20-15:40		<b>Temperature and Concentration Retrieval in Microwave Dielectric Spectroscopy Using a Two-Tier Machine Learning Framework</b> <sup>1</sup> M. Chavoshi, <sup>1</sup> S. S. Charandabi, <sup>1</sup> Y. Zheng, <sup>1</sup> G. Vandenbosch, <sup>1</sup> B. K. J. C. Nauwelaers, <sup>1,2</sup> T. Markovic, <sup>1</sup> D. Schreurs <sup>1</sup> KU Leuven, Belgium; <sup>2</sup> University of Zagreb, Croatia
15:40-16:00		<b>Towards Quantifying Two-Mode Correlation Linewidths in Quantum Circuits</b> <sup>1</sup> A. Allocco, <sup>1</sup> A. Celotto, <sup>2</sup> L. Fasolo, <sup>3</sup> B. Galvano, <sup>2</sup> E. Palumbo, <sup>2</sup> L. Oberto, <sup>2</sup> L. Callegaro, <sup>3,4</sup> F. F. Tafuri, <sup>5</sup> P. Livreri, <sup>2</sup> E. Enrico <sup>1</sup> Politecnico di Torino, Italy; <sup>2</sup> Istituto Nazionale di Ricerca Metrologica (INRIM), Italy; <sup>3</sup> Aalborg University, Denmark; <sup>4</sup> Keysight Technologies, Spain; <sup>5</sup> University of Palermo, Italy
16:00-16:40	Closing session	<u>Keynote talk</u> <b>The importance of the research of advanced radiofrequency components for 5G and 6G. An industry view.</b> Renato Lombardi Huawei Technologies
16:40-17:30		Prizes and final remarks
19:00-21:30	<b>Young Professionals Social Event</b> Open Baladin Piazzale Valdo Fusi 1, Torino	



## Social Event

<b>12 April 2025</b>	
<b>10:30-13:30</b>	<b>Social Event: Tour + Lunch</b> Half-day guided tour of Turin downtown, meeting at Teatro Regio di Torino, Piazza Castello, Torino Lunch (12:30) at Circolo dei Lettori, Via Gianbattista Bogino 9, Torino

Sala Torino

**A 10 W Ultra-Wideband MMIC HPA for EW Applications**

<sup>1</sup>G. Venanzoni, <sup>1</sup>A. Forte, <sup>1</sup>P. E. Longhi, <sup>2</sup>A. Pitaro, <sup>2</sup>D. Mercuri, <sup>1</sup>E. Limiti  
<sup>1</sup>University of Rome Tor Vergata, Italy, <sup>2</sup>Elettronica Group, Italy

**Analysis and Development of a Two RF Input Load Modulated Envelope Tracking PA**

A. Cidronali, M. Righini, M. Badii, L. Pagnini, G. Lasagni, G. Collodi  
 Università degli Studi di Firenze, Italy

**A PA Model for Fast Linearity and Efficiency Evaluation Under Modulated Signal Excitations**

<sup>1,2</sup>F. M. Barradas, <sup>1,2</sup>L. Cotimos Nunes, <sup>2</sup>P. Cabral  
<sup>1</sup>Instituto de Telecomunicações, Portugal, <sup>2</sup>University of Aveiro, Portugal

**A Two-Octave GaN Power Amplifier Based on a Multi-Section Chebyshev Transformer**

R. Koliaei, G. Bartolotti, Z. Zhang, A. Piacibello, V. Camarchia  
 Politecnico di Torino, Italy

**Characterization and Modeling of Dual-Input Doherty Power Amplifier for High Efficiency and Bandwidth**

<sup>1</sup>G. Basaglia, <sup>2</sup>H. Zhou, <sup>1</sup>G. Bosi, <sup>1</sup>V. Vadalà, <sup>1</sup>A. Raffo, <sup>1</sup>G. Vannini, <sup>2</sup>C. Fager  
<sup>1</sup>University of Ferrara, Italy, <sup>2</sup>Chalmers University of Technology, Sweden

**Evaluation of Trapping Dynamics in GaN HEMTs from Double-Pulse RF Load-Pull Measurements**

<sup>1</sup>M. Tiberi, <sup>2</sup>G. Avolio, <sup>1</sup>A. M. Angelotti, <sup>2</sup>M. Marchetti, <sup>1</sup>G. P. Gibiino  
<sup>1</sup>Università di Bologna, Italy, <sup>2</sup>Maury Microwave, The Netherlands

**Fast Optimization of RF Power Transistors with mmWave Active Load-Pull Techniques**

C. Schulze, W. Heinrich, O. Bengtsson  
 Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik, Germany

**Impact of Incomplete Conversion Data Extraction on Large-Signal Stability Analysis**

S. Colangeli, W. Ciccognani, P. E. Longhi, A. Serino, E. Limiti  
 University of Rome Tor Vergata, Italy

**Improved Iterative Envelope Simulation for the Efficient Prediction of the Impact of Wideband Modulated Signals on Power Amplifier Performance**

I. van den Heuvel, R. Quaglia, P. J. Tasker, S. Cripps  
 Cardiff University, United Kingdom (Great Britain)

**MMIC Power Amplifier in GaAs HBT Technology for Wi-Fi 6 Applications**

<sup>1</sup>C. Ramella, <sup>2</sup>C. Florian, <sup>3</sup>F. Manni, <sup>2</sup>A. M. Angelotti, <sup>2</sup>G. P. Gibiino, <sup>3</sup>R. Giofrè, <sup>1</sup>M. Pirola, <sup>3</sup>P. Colantonio  
<sup>1</sup>Politecnico di Torino, Italy, <sup>2</sup>University of Bologna, Italy, <sup>3</sup>University of Rome Tor Vergata, Italy

**Non-Linear Microwave Transistor Modeling Through ANNs: a Frequency-Domain CAD Implementation**

C. Ramella, S. Donati Guerrieri, S. Corbellini, M. Pirola  
 Politecnico di Torino, Italy

**Tunable Inductive Output Matching for W-Band Power Amplifier**

<sup>1,2</sup>I. Kraus, <sup>2</sup>H. Knapp, <sup>1,3</sup>Nils Pohl  
<sup>1</sup>Ruhr University Bochum, Germany, <sup>2</sup>Infineon Technologies AG, Germany, <sup>3</sup>Fraunhofer FHR, Germany

**Sala Piramide**

**A 10W GaN/Si Doherty Power Amplifier Designed for 15GHz 6G Band with 8dB Backoff Efficiency**

H. Zaheri, H. Zhou, G. Lasser

Chalmers University of Technology, Sweden

**A Knowledge-Based Transfer Learning Capacitance Model for GaN HEMTs**

<sup>1</sup>L. Huang, <sup>1</sup>S. Mao, <sup>1</sup>Q. Wu, <sup>2</sup>M. Tang, <sup>1</sup>Y. Xu

<sup>1</sup>University of Electronic Science and Technology of China, China, <sup>2</sup>Shanghai Jiao Tong University, China

**A 200/400GHz Cascade SiGe Voltage-Controlled Oscillator Exploiting Harmonic Optimization Technique for mmWave Applications**

M. Khanebeygi, G. Tatangelo, L. Pantoli, G. Leuzzi

University of L'Aquila, Italy

**Design of Multi-Octave RF PA Based on PSO Method with Individually Self-Adaptive Hyperparameters**

<sup>1</sup>J. Cai, <sup>1</sup>B. Jin, <sup>2</sup>G. Crupi - [online: for any questions write to caijialin@hdu.edu.cn](mailto:caijialin@hdu.edu.cn)

<sup>1</sup>Hangzhou Dianzi University, China, <sup>2</sup>University of Messina, Italy

**Enhancement of mmW Detection Using Dual-Terminal Excitation in Transistors**

<sup>1</sup>P. Artillan, <sup>2</sup>G. Paz, <sup>1</sup>E. Rochefeuille, <sup>2</sup>H. Sánchez-Martín, <sup>2</sup>S. Garcia-Sanchez, <sup>2</sup>T. González, <sup>2</sup>J. Mateos, <sup>2</sup>I. Iñiguez-de-la-Torre

<sup>1</sup>Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Grenoble, France, <sup>2</sup>University of Salamanca, Spain

**Transformer Based Waveform Engineered Power Amplifier in a 65 nm Bulk-CMOS Process**

P. Saraswat, M. Arrawatia - [online: for any questions write to saraswat18@iitg.ac.in](mailto:saraswat18@iitg.ac.in)

Indian Institute of Technology, Guwahati, India

