

INMM^{Turin}MC

10-11 APRIL 2025




10 April 2025		
08:00-09:00	On-site registration	
09:00-09:20	Welcome	
09:20-10:00	Keynote talk	Advanced Strategies for Overcoming Simulation Challenges in Nonlinear Microwave Circuits Almudena Suarez University of Cantabria, Spain
10:00-10:40	Sponsors	
10:40-11:20	Coffee Break	Poster session
11:20-11:40	Technical session 1 "Design 1"	Invited Talk The second generation of GaN-on-Si HEMT Technology from Infineon Enables Wideband Integrated Doherty Power Amplifier Module for Next-Generation Massive MIMO Mustazar Iqbal Infineon Technologies Austria AG
11:40-12:00		1571109303 A Simple Lumped-Element Topology for Wideband Class-E Operation at UHF and L Bands P. Olmedillo, A. González, M. Ouadefli, J. A. García Universidad de Cantabria, Spain
12:00-12:20		1571109266 Highly Efficient and Linearity-Enhanced S-Band Doherty Power Amplifier G. Bartolotti, Z. Zhang, A. Piacibello, V. Camarchia Politecnico di Torino, Italy
12:20-12:40		1571104042 Design of a 3.5 GHz Symmetric Doherty PA in an 8-Inch GaN on Silicon MMIC Technology for Base Station Applications ¹ D. D. Pandya, ¹ C. Schuberth, ¹ S. Ghosh, ² M. Koh, ¹ H. Brech, ³ R. Quay ¹ Infineon Technologies AG, Germany ² Infineon Technologies AG, Netherlands ³ University of Freiburg, Germany
12:40-13:00		1571108505 High-Efficiency C/X Dual-Band HPA in 250-nm Gate Length GaN HEMT Technology with 10W Pout F. Bolli, P. E. Longhi, E. Limiti University of Rome Tor Vergata, Italy
13:00-14:20	Lunch	

14:20-14:40	Technical session 2 "Design 2"	Invited Talk Designing RF/mm-Wave Power Amplifiers in Silicon for Large Scaled Phased Arrays Hua Wang ETH Zurich, Switzerland
14:40-15:00		1571108807 A 10 W C-Ku Band MMIC NDPA for Electronic Warfare Applications A. Forte, P. E. Longhi, E. Limiti University of Rome Tor Vergata, Italy
15:00-15:20		1571109314 A GaN-on-SiC Transmit/Receive MMIC Frontend for 6-to-18-GHz Phased Array Transceivers M. Ferreras, J. Grajal Universidad Politécnica de Madrid, Spain
15:20-15:40		1571104043 Optimization Methodology for Wideband SLMBA Design Considering Balanced Amplifiers' off-State Impedance ^{1,2} W. Liu, ^{2,3} L. Nunes, ^{2,3} F. Mm Barradas, ^{2,3} J. Pedro, ¹ Q. Liu ¹ Hunan University, China ² Instituto de Telecomunicações, Portugal ³ Universidade de Aveiro
15:40-16:00		1571109293 Design and Simulation of a Doherty-Mode OLMBA for Enhanced Back-off Efficiency over an Octave Bandwidth J.-B. Urvoy, R. Quaglia, S. Cripps Cardiff University, United Kingdom (Great Britain)
16:00-16:40	Coffee Break	Poster session
16:40-17:00	Technical session 3 "Modelling"	1571108208 On the Implementation of Capacitance Models in Electronic CAD Tools ^{1,2} Itcho Angelov, ¹ Christian Fager, ¹ Niklas Rorsman ¹ Chalmers University of Technology ² GOTMIC AB, Sweden
17:00-17:20		1571109273 An Example of the Role of Time-Modulated Capacitances in Microwave Time-Varying Systems ¹ T. Lira-Valdes, ¹ T. M. Martín-Guerrero, ^{1,2} Elena Abdo-Sánchez ¹ University of Málaga ² E. T. S. I. Telecomunicación, Spain
17:20-17:40		1571109239 A Behavioral Approach to Equivalent-Circuit Modeling of GaN MMIC Varactor Cells S. Cangini, A. M. Angelotti, G. P. Gibiino, C. Florian, A. Santarelli University of Bologna, Italy
17:40-18:00		1571109301 Sparse Volterra-Based Models for I/Q Impairments and Nonlinear Distortion of Power Amplifiers M. J. Madero-Ayora, J. A. Becerra, E. Marqués-Valderrama, C. Crespo-Cadenas Universidad de Sevilla, Spain
18:00-18:20		1571108557 Cardiff Behavioral Model of a Ka-Band SPDT Switch Trained on Structured Minimization of Load-Pull Characterization Data ¹ S. U. Ghazati, ¹ E. M. Azad, ¹ K. Chaudhry, ² R. Quaglia, ² P. J. Tasker ¹ Catapult, United Kingdom (Great Britain) ² Cardiff University, United Kingdom (Great Britain)

19:45-23:00	Gala dinner	
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09:00-09:20	Technical session 4 "System"	1571104493 A Ku-Band GaN PA with GaAs Gate Modulator for Improved Linearity R. Lucero, Z. Popovic University of Colorado at Boulder, USA
09:20-09:40		1571108910 A Design Method for Wide Bandwidth Reflective Analog Predistorters ¹ J. Yu, ² I. Pinto, ^{1,2} F. M. Barradas, ^{1,2} L. Nunes, ^{1,2} T. Cunha, ^{1,2} J. Pedro ¹ Instituto de Telecomunicações, Portugal ² Universidade de Aveiro, Portugal
09:40-10:00		1571107189 Impact on Linearity of Wideband Design Strategies for Integrated GaN Doherty Power Amplifiers G. Bartolotti, A. Piacibello, V. Camarchia Politecnico di Torino, Italy
10:00-10:20		1571109155 Digital Self-Interference Cancellation for in-Band Full-Duplex Communications A. Shahghasi, R. Criado Simón, G. Montoro, P. Gilabert Universitat Politècnica de Catalunya-Barcelona Tech (UPC), Spain
10:20-10:40		1571109297 Assessment of Dynamic Deviation Reduction-Based Volterra Modeling and Digital Predistortion of RF Passive Doubler ¹ A. H. Alsarraf, ² G. P. Gibiino, ¹ D. Schreurs ¹ KU Leuven, Belgium ² University of Bologna, Italy
10:40-11:20	Coffee Break	Poster session
11:20-11:40	Technical session 5 "Characterization"	Invited Talk Nonlinear Aspects in Wireless Power Transfer (WPT) Systems Nuno B. Carvalho University & IT of Aveiro
11:40-12:00		1571109324 Load/Source-Pull Evaluation of Modulated Performance in GaAs HBT Power Cells for WiFi-6 ¹ A. M. Angelotti, ¹ C. Florian, ¹ G. P. Gibiino, ² C. Ramella, ² M. Pirola, ³ F. Manni, ³ R. Giofrè, ³ P. Colantonio ¹ University of Bologna, Italy ² Politecnico di Torino, Italy ³ University of Roma Tor Vergata, Italy
12:00-12:20		1571109275 Characterization Procedure for Effective Evaluation of III-V Compound Semiconductor Technology ^{1,2} Negar Choupan, ¹ Valeria Vadalà, ¹ Gianni Bosi, ³ Chiara Ramella, ⁴ Marco Grassi, ⁵ Giovanni Crupi, ⁶ Rocco Giofrè, ⁷ Antonio Raffo, ⁷ Giorgio Vannini ¹ University of Milano-Bicocca, Italy ² Tarbiat Modares University, Iran ³ Politecnico di Torino, Italy ⁴ University of Pavia, Italy ⁵ University of Messina, Italy ⁶ University of Roma Tor Vergata, Italy ⁷ University of Ferrara, Italy
12:20-12:40		1571109255 Experimental Characterization of VSWR-Adaptive Balanced Power Amplifiers ¹ Alexis Carbonnière, ² Ludovic Bacqué, ^{1,3} Pierre Medrel, ³ Jean Michel Nebus ¹ University of Limoges, France ² Prana RF, France ³ XLIM, France
12:40-13:00		1571109179 Exploring Software-Defined Radio Based Noise Measurements: Performances Analysis and Opportunities G. Schiavolini, G. Orecchini, V. Palazzi, L. Roselli, P. Mezzanotte, F. Alimenti University of Perugia, Italy

13:00-14:20	Lunch	
14:20-14:40	Technical session 6 "Special session on metrology"	Invited Talk On-Wafer S-Parameter Measurements at Millimetre-Wave and Sub-Terahertz Frequencies: Recent Advancements from a Metrology Perspective Xiaobang Shang National Physical Laboratory, United Kingdom
14:40-15:00		1571104175 Automated on-Wafer Radio-Frequency Transistor Characterization with Adaptive Probing and Features Extraction with Uncertainties ¹ A. Chillico, ¹ D. Vitali, ¹ W. Samek, ^{1,2} O. Bengtsson ¹ Ferdinand Braun Institut (FBH), Germany ² Leibniz-Institut für Höchstfrequenztechnik, Germany
15:00-15:20		1571104456 Temperature-Dependent Vector-Calibrated Large-Signal Measurements of a GaN-Based SPDT Ka-Band Switch D. Matlock, D. Frey, M. Hodek, N. C. Miller, E. Gebara Michigan State University, USA
15:20-15:40		1571104431 Temperature and Concentration Retrieval in Microwave Dielectric Spectroscopy Using a Two-Tier Machine Learning Framework ¹ M. Chavoshi, ¹ S. S. Charandabi, ¹ Y. Zheng, ¹ G. Vandenbosch, ¹ B. K. J. C. Nauwelaers, ^{1,2} T. Markovic, ¹ D. Schreurs ¹ KU Leuven, Belgium ² University of Zagreb, Croatia
15:40-16:00		1571109221 Towards Quantifying Two-Mode Correlation Linewidths in Quantum Circuits ¹ A. Alocco, ¹ A. Celotto, ² L. Fasolo, ³ B. Galvano, ² E. Palumbo, ² L. Oberto, ² L. Callegaro, ³ P. Livreri, ² E. Enrico ¹ Politecnico di Torino, Italy ² Istituto Nazionale di Ricerca Metrologica (INRIM), Italy ³ University of Palermo, Italy
16:00-16:40	Closing session	Keynote talk The importance of the research of advanced radiofrequency components for 5G and 6G. An industry view. Renato Lombardi Huawei Technologies
16:40-17:00		Prizes
17:00-18:00		Presentation of next INMMiC Final remarks

19:00-23:00	Social Event	
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12 April 2025

10:30-13:30	Social Event (Guided tour of Turin downtown + Lunch – 50€)
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Posters

1571104636	Enhancement of mmW Detection Using Dual-Terminal Excitation in Transistors ¹ P. Artillan, ² G. Paz, ¹ E. Rochefeuille, ² H. Sánchez-Martín, ² S. Garcia-Sanchez, ² T. González, ² J. Mateos, ² I. Iñiguez-de-la-Torre ¹ Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Grenoble, France, ² University of Salamanca, Spain
1571104580	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
1571109272	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
1571109180	Design of Multi-Octave RF PA Based on PSO Method with Individually Self-Adaptive Hyperparameters ¹ J. Cai, ¹ B. Jin, ² G. Crupi ¹ Hangzhou Dianzi University, China, ² University of Messina, Italy
1571109181	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
1571109211	A 10 W Ultra-Wideband MMIC HPA for EW Applications ¹ G. Venanzoni, ¹ A. Forte, ¹ P. E. Longhi, ² A. Pitaro, ² D. Mercuri, ¹ E. Limiti ¹ University of Rome Tor Vergata, Italy, ² Elettronica Group, Italy
1571109230	Evaluation of Trapping Dynamics in GaN HEMTs from Double-Pulse RF Load-Pull Measurements ¹ M. Tiberi, ² G. Avolio, ¹ A. M. Angelotti, ² M. Marchetti, ¹ G. P. Gibiino ¹ Università di Bologna, Italy, ² Maury Microwave, The Netherlands
1571109227	Transformer Based Waveform Engineered Power Amplifier in a 65 nm Bulk-CMOS Process Praveen Saraswat Indian Institute of Technology, Guwahati, India
1571109330	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
1571109299	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)
1571109146	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
1571109333	Tunable Inductive Output Matching for W-Band Power Amplifier ^{1,2} I. Kraus, ² H. Knapp, ^{1,3} Nils Pohl ¹ Ruhr University Bochum, Germany, ² Infineon Technologies AG, Germany, ³ Fraunhofer FHR, Germany
1571107278	A PA Model for Fast Linearity and Efficiency Evaluation Under Modulated Signal Excitations ^{1,2} F. M. Barradas, ^{1,2} L. Nunes, ² P. Cabral ¹ Instituto de Telecomunicações, Portugal, ² University of Aveiro, Portugal
1571109026	A Knowledge-Based Transfer Learning Capacitance Model for GaN HEMTs ¹ L. Huang, ¹ S. Mao, ¹ Q. Wu, ² M. Tang, ¹ Y. Xu ¹ University of Electronic Science and Technology of China, China, ² Shanghai Jiao Tong University, China
1571104563	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
1571107967	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
1571109318	MMIC Power Amplifier in GaAs HBT Technology for Wi-Fi 6 Applications ¹ C. Ramella, ² C. Florian, ³ F. Manni, ² A. M. Angelotti, ² G. P. Gibiino, ³ R. Giofrè, ¹ M. Pirola, ³ P. Colantonio ¹ Politecnico di Torino, Italy, ² University of Bologna, Italy, ³ University of Rome Tor Vergata, Italy
1571109271	Characterization and Modeling of Dual-Input Doherty Power Amplifier for High Efficiency and Bandwidth ¹ G. Basaglia, ² H. Zhou, ¹ G. Bosi, ¹ V. Vadalà, ¹ A. Raffo, ¹ G. Vannini, ² C. Fager ¹ University of Ferrara, Italy, ² Chalmers University of Technology, Sweden