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EuMW01 : EuMW/EuMC Opening

Chair: Mark Bentum, Technische Universiteit Eindhoven, The Netherlands

Co-Chair: Ioan E. Lager, Technische Universiteit Delft, The Netherlands

10:50-12:30, Tuesday 23rd September 2025, Beatrix Theatre











- (NA)  **Welcome Address: Opening of the European Microwave Week 2025**
Mark Bentum, Technische Universiteit Eindhoven, The Netherlands
- (NA)  **EuMA Welcome Address**
Frank van den Bogaart, EuMA, The Netherlands
- (NA)  **Greetings from the IEEE MTT-S**
Goutam Chattopadhyay, Jet Propulsion Laboratory, USA
- (NA)  **Greetings from the EuMW 2025 Platinum Sponsor**
Thierry Locquette, Keysight Technologies, France
- (NA)  **Technical Program of EuMW 2025**
Diego Caratelli, Technische Universiteit Eindhoven, The Netherlands
- (NA)  **Surprise Act**
- (NA)   **Antenna and Over-The-Air Measurement Innovation Enabling Next-Gen Wireless Systems — Our Journey in the Last Decade and the Road Ahead**
Benoit Derat, Rohde & Schwarz, Germany
- (NA)  **Awards Ceremony**
Frank E. van Vliet, TNO, The Netherlands

EuMC01 : Advances in Passive Components and Structures

Chair: Anthony Ghiotto, IMS (UMR 5218), France

Co-Chair: Ke Wu, Polytechnique Montréal, Canada

08:30-10:10, Tuesday 23rd September 2025, Auditorium

- 2   **Study and Design of a Dual-Cavity Differential Resonant Sensor for Small Liquid Samples**
Housseem Eddine Rouached¹, Josephine Pichereau¹, Julien Swifka¹, Saber Dakhli², Fethi Choubani³, Elodie Richalot¹
¹ESYCOM (UMR 9007), France; ²GeePs (UMR 8507), France; ³Université de Carthage, Tunisia
- 6   **Miniaturized 1-to-4 In-Phase/Out-of-Phase Power Splitter Using Fully-Packaged Hybrid SIDGS/CPWG Scheme with Wide Isolation Bandwidth**
Qiqi Luo, Jie Zhou, Xun Luo, UESTC, China
- 10   **Enhanced Robustness in Wideband Rectangular Waveguide-to-Substrate-Integrated-Waveguide Transition Using Dielectric Superstrate**
Samuel Rimbaut, Kamil Yavuz Kapusuz, Hendrik Rogier, Sam Lemey, Ghent University, Belgium
- 14   **A Compact Digitally Tuned Capacitor with Improved Tuning Range for mmWave Applications**
Arul Balasubramanian, Miguel Meza Campos, Abdellatif Bellaouar, GlobalFoundries, USA
- 18   **Frequency Tunable Circulator Using Spatiotemporal Modulation of Mixed Static and Time-Modulated Resonators**
Girdhari Chaudhary, Palaystint Thorng, Suyeon Kim, Yongchae Jeong, Jeonbuk National University, Korea

EuMC02 : Novel Antenna Solutions for Wireless Communications

Chair: Gabriele Federico, Technische Universiteit Eindhoven, The Netherlands

Co-Chair: Francesco Caminita, Wave Up, Italy

08:30-10:10, Tuesday 23rd September 2025, Spark

- 22  **Ⓢ SatCom Terminal Based on Rotating Metascreens with Extreme Control of Grating Lobes**
Francesco Caminita¹, Cristian Della Giovampaola¹, Massimo Nannetti¹, Gabriele Minatti¹, Nicola Bartolomei¹, Enrica Martini², Benedikt Byrne³, Giovanni Toso³, Stefano Maci²
¹Wave Up, Italy; ²Università di Siena, Italy; ³ESA-ESTEC, The Netherlands
- 26  **Ⓢ The Implementation and Measurement of a mm-Wave 60GHz LCP Short Range Communication Module**
Wei-Ting Lee¹, Chih-Yang Lou¹, Chu-Yu Chen², Sin-Siang Wang¹
¹QuantumZ, Taiwan; ²National University of Tainan, Taiwan
- (NA) **Ⓢ Fluidically Tunable Liquid Metal Antenna for Small Satellite Communication Applications**
Hao Huang, Jian Wang, Xin Zhao, Bin Yan, Ling Meng, Ming Tang, Lu Cao, Academy of Military Sciences, China
- 30  **Ⓢ X-Band Power Divider Based Phase Shifter**
Zehan Guo¹, Padraig Fitzgerald², Dimitra Psychogiou¹
¹University College Cork, Ireland; ²Analog Devices, Ireland
- 34  **Ⓢ SAID Fiber-Antenna Radio Head at 50GHz**
Sara Vega¹, Youssra Sadki¹, María C. Santos¹, Sebastian Lauck², Garrit Schwanke², Simon Nellen², Robert B. Kohlhaas², Lluís Jofre-Roca¹
¹Universitat Politècnica de Catalunya, Spain; ²Fraunhofer HHI, Germany

EuMC03 : Sub-THz Antennas, Systems, and Measurements

Chair: Joachim Oberhammer, KTH, Sweden

Co-Chair: David Marpaung, Universiteit Twente, The Netherlands

08:30-10:10, Tuesday 23rd September 2025, Flash

- 38  **Ⓢ A 58Gb/s D-Band NLOS Link Enabled by Active RIS**
Jose Luis Gonzalez Jimenez, Alexandre Siligaris, Abdelaziz Hamani, Antonio Clemente, Francesco Foglia Manzillo, Cedric Dehos, Jean-Baptiste Dore, Nicolas Cassiau, CEA-Leti, France
- 42  **Ⓢ 140GHz Wide Scan Lens Antenna Design**
J. Geng¹, N. Llombart¹, W.H. Syed², G. Carluccio², H. Nandagopal², M. Alonso-delPino¹, Kostas Doris², D. Cavallo¹
¹Technische Universiteit Delft, The Netherlands; ²NXP Semiconductors, The Netherlands
- 46  **Ⓢ Design and Optimization of a Conformal Lens for a Sub-THz Leaky-Wave Antenna**
Akanksha Bhutani, Joel Dittmer, Georg Gramlich, Luca Valenziano, Sebastian Randel, Thomas Zwick, KIT, Germany
- 50  **Ⓢ Miniaturized Orthomode Transducer with Layered Structure for D-Band**
Klas Eriksson, Ericsson, Sweden
- 54  **Ⓢ D-Band Wideband Phase Noise Reduction Utilizing Multiple Receivers with LO Delay Difference**
Dedar Rashid, Bilal Khan, Marko E. Leinonen, Aarno Pärssinen, Nuutti Tervo, University of Oulu, Finland

EuMC04: Advanced Interconnects and Packaging Technologies for Applications Beyond 100 GHz

Chair: Aurelian Crunteanu, XLIM (UMR 7252), France — Co-Chair: Nadine Collaert, imec, Belgium

08:30–10:10, Tuesday 23rd September 2025, Glow






- (NA)  **RF Silicon Interposer Packaging Technology for mm-Wave and Sub-THz Applications**
(Industrial Keynote)
Siddhartha Sinha, imec, Belgium
- 61  **An Ultra-Broadband Flip-Chip Interconnect Based on Flexible Polymer Foil from DC up to 240GHz**
Johannes Fleischmann¹, Andre Scheder¹, Stefan Sohr², Anna Bridier², Doris Aigner², Martin Vossiek¹
¹FAU Erlangen-Nürnberg, Germany; ²Rohde & Schwarz, Germany
- 65  **Dielectric Waveguide-Based Interconnects for Integrated mm-Wave and Terahertz Systems**
Ashish Kumar¹, Muhsin Ali², Daniel Headland³, Alejandro Rivera², Guillermo Carpintero¹
¹Universidad Carlos III de Madrid, Spain; ²Leapwave Technologies, Spain; ³University of Adelaide, Australia
- 69  **A 300GHz Bond-Wire Interconnect Solution for Heterogeneous System Integration**
Luca Valenziano¹, Joachim Hebler², Yiyang Bao¹, Christian Koos¹, Thomas Zwick¹, Akanksha Bhutani¹
¹KIT, Germany; ²Rohde & Schwarz, Germany
- 73  **Design of D-Band MMIC-WG Contactless Transition Based on Silicon Process**
Haojie Chang, Vessen Vassilev, Omid Habibpour, Herbert Zirath, Chalmers University of Technology, Sweden

EuMC05: Special Session: Antenna Challenges and Solutions for 6G Mobile Connectivity

Chair: Yvonne Weitsch, Rohde & Schwarz, Germany

Co-Chair: Matthias Geissler, IMST, Germany

13:50–15:30, Tuesday 23rd September 2025, Spark






- (NA)  **Link Budget for Direct to Cell**
Georg Strauß, Hochschule München, Germany
- (NA)  **Automotive Connectivity in the 3D Network of 6G**
M. Geissler, IMST, Germany
- (NA)  **Comparative Analysis of Antenna Technologies for High Data Rate CubeSat Communication**
Hans Adel, Armin Fischer, Noah Sielck, Christian Steinmetz, Frank Mayer, Fraunhofer IIS, Germany
- (NA)  **Reducing Cost and Complexity of User Terminal Antennas for Satcom-on-the-Move Applications**
S. Caizzone, A.P.T. Adithyababu, Simon P. Hehenberger, DLR, Germany
- (NA)  **Advancing Connectivity: Testing and Technologies for Electronically Steered Array Antennas in Future 3D Networks**
Yvonne Weitsch, Rohde & Schwarz, Germany

EuMC06: Cryogenic Applications of RF Technologies

Chair: Fabio Sebastiano, Technische Universiteit Delft, The Netherlands

Co-Chair: Marco Spirito, Technische Universiteit Delft, The Netherlands

13:50–15:30, Tuesday 23rd September 2025, Flash

- 95  **C** **Low-Temperature Superconducting MMIC Diplexers for RF Quantum AC-Voltage Standards**
Abdulrahman Widaa, Oliver Kieler, Frauke Gellersen, Michael Haas, Johannes Kohlmann, Mark Bieler, PTB, Germany
- 99  **C** **Model Parameter Estimation of Passive Components at Millikelvin Temperatures for Cryogenic Microwave Circuit Design**
Nicole Zocher, Martin Vossiek, Christian Carlowitz, FAU Erlangen-Nürnberg, Germany
- 103  **C** **A 45.4-dB Gain G_m-Boosting Triple Noise-Canceling LNA in 28-nm CMOS for Spin Qubit Readout**
Mahesh Kumar Chaubey¹, Yin-Cheng Chang², Po-Chang Wu², Hann-Huei Tsai², Shawn S.H. Hsu¹
¹National Tsing Hua University, Taiwan; ²NARLabs-TSRI, Taiwan
- 107  **C** **Enhanced Multi-Band Reception with MGT-Based PAM4 All-Digital Receivers**
José D. Domingues, Samuel S. Pereira, Luís Filipe Almeida, Hugerles Sales Silva, Arnaldo S.R. Oliveira, Nuno Borges Carvalho, Instituto de Telecomunicações, Portugal
- 111  **C** **Simulation-Based Verification of Radiometer Measurements for Human Subjects**
L. Furtmüller¹, M. Winklehner¹, F. Lehner¹, S. Schuster², S. Scheibhofer², Andreas Stelzer¹, Reinhard Feger¹
¹Johannes Kepler Universität Linz, Austria; ²voestalpine Stahl, Austria

EuMC07: Materials and Packaging Concepts for Microwave and mm-Wave Applications

Chair: Amelie Hagelauer, Technische Universität München, Germany

Co-Chair: Holger Maune, OvG Universität Magdeburg, Germany

16:10–17:50, Tuesday 23rd September 2025, Mission 2











- 115  **C** **Enhanced QFN Package Design Utilizing HTCC-Based GCPW Structures and Air Cavities for V-Band Applications**
Jin-Young Jeong¹, Juwan Kim¹, Wonshil Kang¹, Hyunchul Ku²
¹RF Materials, Korea; ²Konkuk University, Korea
- 119  **C** **Evaluation of CPW Transmission Lines on 3D Printed Alumina in D-Band**
Elizabeth Bekker, Till Glage, Alexander Quint, Luca Valenziano, Thomas Zwick, Akanksha Bhutani, KIT, Germany
- 123  **C** **A Wideband Waveguide Launcher in the Interposer for 79GHz Automotive Radar eWLB Package**
Rasoul Ebrahimzadeh¹, Abdellatif Zanati², Mohammad-Reza Nezhad-Ahmadi¹
¹mmSense Technologies, Canada; ²NXP Semiconductors, Germany
- 127  **C** **Electrooptical Integration of an Electronic Photonic Integrated Circuit into Plastic Substrates Using MID-Technology**
Stephan Kruse¹, Jabil Diri², Thomas Mager², Christian Kress¹, J. Christoph Scheytt¹
¹Universität Paderborn, Germany; ²Fraunhofer IEM, Germany
- 131  **C** **Electrical Extraction of Amorphization Ratio in Phase Change Material (PCM) RF Switches**
L. Henrique¹, N. Le Gall², J. Lintignat¹, P. Blondy¹
¹XLIM (UMR 7252), France; ²Thales, France

EuMC08: mm-Wave Antennas for Radar and Wireless Communications

Chair: Alexander Kölpin, Technische Universität Hamburg, Germany

Co-Chair: Akanksha Bhutani, KIT, Germany

16:10–17:50, Tuesday 23rd September 2025, Quest

- 135   **A Wideband Glass Resonator Antenna as AiP Concept for Sub-THz Application**
Mario Faliero, Alexander Quint, Luca Valenziano, Elizabeth Bekker, Thomas Zwick, Akanksha Bhutani, KIT, Germany
- 139   **Steerable High Gain E-Band Antenna**
Luigi Cervi, Marcello Salerno, GreenWaves, Italy
- 143   **2&4-Cascaded Imaging Radar Antennas Using Waffle-Iron Ridge Guide**
Yutaka Aoki¹, Naoki Ise¹, Hiroyuki Kamo¹, Hiroshi Tanaka¹, Takashi Shimizu²
¹Taiyo Yuden, Japan; ²Utsunomiya University, Japan
- 147   **A Scalable, Low-Cost, V-Band Bulls Eye Antenna**
Frederike Bartels, Dominik Langer, Alexander Koelpin, Technische Universität Hamburg, Germany
- 151   **2D Leaky-Wave Antenna with All-Dielectric Partially Reflecting Surface at mm-Wave Frequencies**
Guillaume François, Henrik Jansen, Amar Al-Bassam, Suramate Chalermwisutkul, Dirk Heberling, RWTH Aachen University, Germany

EuMC09: RF Engineering — An Educational Perspective

Chair: Alessandro Galli, Università di Roma “La Sapienza”, Italy

Co-Chair: Guy A.E. Vandenbosch, KU Leuven, Belgium

16:10–17:50, Tuesday 23rd September 2025, Expedition

- 155   **VO₂-Switchable Microwave Components in Planar Technology for At-Home Hands-On Teaching Deposition Techniques and Microwave Devices Characterization**
Baptiste Henriot¹, Manon Gireau², Olivier Tantot¹, Frédéric Dumas-Bouchiat², Corinne Champeaux², Aurélien Périgaud¹, Damien Passerieux¹, Serge Verdeyme¹
¹XLIM (UMR 7252), France; ²IRCER (UMR 7315), France
- 159   **Near-Field Visualization of Antennas' Radiated Electric Field by Infrared Thermography as a Supplement Tool for RF Engineering Education**
Ricardo Carrizales-Juarez, Adrien Laffont, Stephane Faure, Anyfields, France
- 163   **Integrating Research into Undergraduate EE Education: An MMIC RF Power Amplifier Design**
Laura M. van Vliet¹, David Niven², İlke Ercan¹, Simon J. Mahon²
¹Technische Universiteit Delft, The Netherlands; ²Macquarie University, Australia
- 167   **Transmitter Education Based on the Mixerless Architecture**
Lukas Hüssen, Muh-Dey Wei, Renato Negra, RWTH Aachen University, Germany
- 171   **Building a Low-Cost Solar Radio Telescope: An Effective Approach for Teaching Microwave Electronics, Antennas and Noise**
Giacomo Schiavolini¹, Francesco Alunni¹, Giulio Brancali¹, Giulia Orecchini¹, Valentina Palazzi¹, Camille C.A. Westerhof², Timo S. Prinz², Anna Engler², Martin Hübner², Sebastian Lange², Maurizio Burla², Federico Alimenti¹
¹Università di Perugia, Italy; ²Technische Universität Berlin, Germany

EuMC10: Special Session: Can Truly Environmentally Friendly ICT Become a Reality?

Chair: Jean-Pierre Raskin, UCLouvain, Belgium

Co-Chair: Ann Franchois, Ghent University, Belgium

16:10–17:50, Tuesday 23rd September 2025, Auditorium











- (NA)   **Circular and Environmentally Friendly ICT: A Distant Dream?**
Karel Van Acker, KU Leuven, Belgium
- (NA)   **Beyond the Quest for Performance in P. Electronics**
Jean-Christophe Crebier, Tugce Turkbay Romano, G2Elab (UMR 5269), France
- (NA)   **Eco-Reliability in Electronic Design: A Methodological Approach for Sustainable Technology Selection**
Leo Saillenfest, Marina Proske, Daniel Hahn, Fraunhofer IZM, Germany
- (NA)   **Sustainable ICT: Measuring is Knowing**
Koen De Bosschere, Ghent University, Belgium

EuMC11: Advancements in Active Antennas and Arrays

Chair: Alessandra Costanzo, Università di Bologna, Italy

Co-Chair: Alessandro Garufo, TNO, The Netherlands

16:10–17:50, Tuesday 23rd September 2025, Spark











- 188   **Waveform Synthesis for Active Loadpulling Mitigation in Multiuser MIMO Transmitters**
Jiayu Hou¹, Yuan Ding¹, George Goussetis¹, Symon Podilchak²
¹Heriot-Watt University, UK; ²University of Edinburgh, UK
- 192   **Improved Hybrid Numerical Methodology for Fast Design of Reconfigurable Transmit-Arrays Antenna**
Alessandro De Oliveira Cabral Junior¹, Hamza Kaouach², André Barka¹
¹ONERA, France; ²LAPLACE (UMR 5213), France
- 196   **Active Transmitarray with End-Fire Dipole Elements for E-Band**
Antti Lamminen, Jehki Pusa, Arto Rantala, Mikko Kaunisto, Mikko Varonen, Mikko Kantanen, Jussi Säily, D. Parveg, Hans Toivanen, VTT, Finland
- 200   **Hybrid Simulation-Measurement Characterization Method for Active Phased-Array Transmitters**
Alberto Maria Angelotti, Francesca Benassi, Mattia Mengozzi, Gian Piero Gibiino, Alberto Santarelli, Alessandra Costanzo, Università di Bologna, Italy
- 204   **A Single Element Antenna with Continuous Beam Steering Using a Versatile AMC**
Shahinshah Ali, Farhan A. Ghaffar, Lakehead University, Canada

EuMC12: Power Amplifier Design and Linearisation Techniques

Chair: Anding Zhu, University College Dublin, Ireland

Co-Chair: Anna Piacibello, Politecnico di Torino, Italy

08:30-10:10, Wednesday 24th September 2025, Mission 1










- 208   **Deep Learning Driven Design of Highly Efficient Harmonic-Tuned Class F⁻¹ Power Amplifiers**
Han Zhou, Haojie Chang, Christian Fager, Chalmers University of Technology, Sweden
- 212   **Phase-Controlled Matching Networks Using Quality Circles for Enhanced Efficiency in Wideband Power Amplifiers**
Sergio López de Pablo, Jordi Verdú, Pedro de Paco, Universitat Autònoma de Barcelona, Spain
- 216   **A Compact GaN-Based D-Band High-Power Waveguide Amplifier Module**
Nico Riedmann¹, Maciej Ćwikliński¹, Dirk Schwantuschke², Peter Brückner²
¹Rohde & Schwarz, Germany; ²Fraunhofer IAF, Germany
- 220   **Joint Full-Band and Sub-Band Modeling for Digital Predistortion of Broadband Power Amplifiers**
Lin Qi, Anding Zhu, University College Dublin, Ireland
- 224   **A Design of Self-Adaptive True-Time-Delay Alignment CMOS Module for Millimeter-Wave Power Amplifiers Linearization**
Yaojia Fan, Fei You, Longhao Li, Yingjie Liu, Zehua Xiao, Yin Chen, Songbai He, UESTC, China

EuMC13: Special Session: Antenna Systems for Non-Terrestrial Networks

Chair: Giuseppe Virone, CNR-IEIIT, Italy

Co-Chair: Thomas Delamotte, Universität der Bundeswehr München, Germany

08:30-10:10, Wednesday 24th September 2025, Mission 2









- (NA)   **Shared Aperture Full Duplex Phased Array User Terminals for Satellite-on-the-Move Applications**
Teanette vd Spuy¹, Rob Maaskant¹, Marianna V. Ivashina¹, Thomas Eriksson¹, Henrik Holter², Sten E. Gunnarson³, Lukas Nyström⁴
¹Chalmers University of Technology, Sweden; ²Ericsson, Sweden; ³SAAB, Sweden; ⁴Satcube, Sweden
- 232   **Active Antenna Array Experimental Platform**
Jiayu Hou, Yuan Ding, George Goussetis, Heriot-Watt University, UK
- (NA)   **Active Antennas Onboard LEO Satellites**
Roger Montoya-Roca¹, Sören Harms², Ashifa M. Musthafa³, Carlos Vazquez-Sogorb¹
¹Thales, Italy; ²Thales, France; ³Antenna Company, The Netherlands
- (NA)   **Millimeter Wave Antennas for Ground Terminals**
Theodoros Pavlidis¹, Dijun Lin², Saba Aslam², Ramonika Sengupta¹, Naila Rubab³
¹Satcube, Sweden; ²Ericsson, Sweden; ³ANTENNEX, The Netherlands
- (NA)  **Antenna Technology for Low-Earth-Orbit Satellites**
Adrian Martin, SWISSto12, Switzerland

EuMC14: Metasurfaces and Lenses

Chair: David González Ovejero, IETR (UMR 6164), France

Co-Chair: Giampiero Gerini, Technische Universiteit Eindhoven, The Netherlands

08:30-10:10, Wednesday 24th September 2025, Quest

- (NA)   **Design and Implementation of Reconfigurable Metasurfaces for Mobile Communication Antennas (Industrial Keynote)**
Francesco Caminita, Cristian Della Giovampaola, Wave Up, Italy
- 242   **From Design to Manufacturing of Metasurface Antenna System for LEO Satellite Communication in Ka-Band via Laser Direct Structuring**
Abdel Hadi Hobballah¹, Cristian Della Giovampaola², Gabriele Minatti², Amaury Veille¹, Maël Moguedet¹, Jean Chazelas², Charlotte Tripon-Canseliet³, Stefano Maci⁴
¹S2P, France; ²Wave Up, Italy; ³ULTIMETAS, France; ⁴Università di Siena, Italy
- 246   **Design of a 2D Beamforming Network Based on Geodesic Lenses with a Physical Optics Tool**
P. Castillo-Tapia¹, S. Garcia-Martinez², Francisco Mesa³, J. Rico-Fernandez⁴, Oscar Quevedo-Teruel¹
¹KTH, Sweden; ²Universidad Politécnica de Madrid, Spain; ³Universidad de Sevilla, Spain; ⁴Northern Waves, Sweden
- 250   **Dual-Beam Planar D-Band Antenna Array: Filtering Patch Antennas and Dielectric Lens**
Vitor Almeida¹, Mehmet Ahad Yurtoglu¹, Ramez Askar¹, Laurenz John², Jaehoon Chung³, Arnulf Leuther², Woochan Kim³, Chulkyu Mun³, Jeongin Kim³, Yonghak Suh³, Jongpil Lee³, Michael Peter¹, Thomas Haustein¹, Wilhelm Keusgen⁴
¹Fraunhofer HHI, Germany; ²Fraunhofer IAF, Germany; ³LG Electronics, Korea; ⁴Technische Universität Berlin, Germany

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EuMC14 continued...

- 254   **W-Band Horn Beam-Forming Network Fed Wide-Angle Multibeam Metasurface Antenna Based on Through Glass Via Technology**
Chun Geng, Ji-Wei Lian, Qing-Yuan Wu, Dazhi Ding, NJUST, China

EuMC15: Innovative Fabrication Techniques for Passive Components

Chair: Gerald Gold, FAU Erlangen-Nürnberg, Germany

Co-Chair: Hjalti H. Sigmarsson, University of Oklahoma, USA




08:30–10:10, Wednesday 24th September 2025, Expedition

- 258  **Micro Additively Manufactured Suspended Stripline for Sub-THz Applications**
*Hiba Lahlimi Alami¹, Cyril Guines¹, Nicolas Delhote¹, Aurélien Périgaud¹,
Damien Passerieux¹, Stéphane Bila¹, Pedro Rynkiewicz²*
¹XLIM (UMR 7252), France; ²CNES, France
- 262  **Fine Pitch Coplanar Waveguides on a 3D Printed Substrate Using an Optimized Laser Structuring Process**
*Alexander Quint, Luca Valenziano, Marius Kretschmann, Pascal Maier, Patrick Schwaab,
Georg Gramlich, Alexander Kotz, Christian Koos, Thomas Zwick, Akanksha Bhutani, KIT,
Germany*
- (NA)  **Monolithically 3-D Printed E-Plane-Stub Waveguide Filters with Flexible Polarization Rotation and Allocation of Transmission Zeros**
Zhihong Xu, Jin Li, Tao Yuan, Shenzhen University, China
- 270  **Analog Phase Shifter with Substrate Integrated Electrodes in Dielectric Image Line Technology**
Tobias Bader, Gerald Gold, FAU Erlangen-Nürnberg, Germany
- 274  **Post-Fab Local Porous Silicon Integration in Standard Resistivity Silicon Wafers for RF Applications**
*Romain Tuyaeerts¹, Gilles Scheen¹, Martin Rack², Massinissa Nabet²,
Arthur Vandroogenbroek², Amin Rassekh¹, Khaled Aouadi¹, Jean-Pierre Raskin²*
¹Incize, Belgium; ²UCLouvain, Belgium

EuMC16: Panel Session: EE Education in Paradigm-changing Times — Challenges & Opportunities

Chair: Guy A.E. Vandenbosch, KU Leuven, Belgium










08:30–10:10, Wednesday 24th September 2025, Auditorium

- (NA)  **Teaching Conceptual Electromagnetics: From Mathematics, over Physics, to Applications**
Guy A.E. Vandenbosch, KU Leuven, Belgium
- (NA)  **Pitches by European Educators**
Mark Bentum¹, Alessandro Galli², Dirk Heberling³, Hendrik Rogier⁴
¹Technische Universiteit Eindhoven, The Netherlands; ²Università di Roma “La Sapienza”, Italy; ³RWTH Aachen University, Germany; ⁴Ghent University, Belgium
- (NA)  **Panel Discussion**

EuMC17: Material Characterisation

Chair: Kamran Ghorbani, RMIT University, Australia — Co-Chair: Nicolas Delhote, XLIM (UMR 7252), France

08:30–10:10, Wednesday 24th September 2025, Spark











- 278   **Analysis of Parameters Impacting Measurement Uncertainties and Implementation of the Calibration Protocol for Permittivity Extraction Using a GSG Probe**
Ikrām Sbai¹, Damien Passerieux¹, Olivier Tantot¹, Nicolas Delhote¹, Emmanuel Perrin²
¹XLIM (UMR 7252), France; ²CISTEME, France
- 282   **RF Characterization of New Generations of Bio-Based PCB Substrates in Harsh Environment**
F. Guidoum¹, V. Grennerat¹, P. Xavier¹, A. Ciszar², P.-O. Jeannin³
¹CROMA (UMR 5130), France; ²Meshlin Composites, Hungary; ³G2Elab (UMR 5269), France
- 286   **Reflection TDS-THz Characterization and Drude Modelling of n-Type Doped c-Si from Room Temperature to 475K**
Laurens F.E. Beijnen, Martijn D. Huiskes, Andrea Neto, Paolo Sberna, Technische Universiteit Delft, The Netherlands
- 290   **Non-Uniform Rectangular Waveguide Sensor for Measuring the Dielectric Constant of Vegetable Oils**
Paula Viudes-Pérez¹, Héctor García-Martínez¹, Germán Torregrosa-Penalva¹, Julia Arias-Rodríguez¹, Enrique Bronchalo¹, Ernesto Ávila-Navarro¹, Ilona Piekarz², Jakub Sroocki²
¹Universidad Miguel Hernández de Elche, Spain; ²AGH UST, Poland
- 294   **Waveguide-Based Characterization of Magnetically-Biased Soft Ferrites for Nonreciprocal Devices at Sub-THz Frequencies**
S. Hossein Hosseini Buiki¹, Mehrdad Rezaei Golghand², Mohammad Memarian¹, Behzad Rejaei¹, Joachim Oberhammer²
¹Sharif University of Technology, Iran; ²KTH, Sweden

EuMC18: mm-Wave and THz Photonics: Devices, Systems, and Applications

Chair: David Marpaung, Universiteit Twente, The Netherlands

Co-Chair: Guillaume Ducournau, Université de Lille, France

08:30–10:10, Wednesday 24th September 2025, Flash











- 298   **Beam Steering for Long-Distance Sub-THz Links Using a Lens-Integrated Leaky-Wave Antenna**
Joel Dittmer¹, Akanksha Bhutani¹, Luca Valenziano¹, Felix Beuthan¹, Sandrine Wagner², Axel Tessmann², Thomas Zwick¹, Christian Koos¹, Sebastian Randel¹
¹KIT, Germany; ²Fraunhofer IAF, Germany
- (NA)   **Advanced Electro-Optic Comb Techniques for Dynamic THz Wave Generation and MWP RF Filtering**
Jean Berney, Ewelina Obrzud, Sanghoon Chin, CSEM, Switzerland
- 306   **Heterogeneous InGaAs/SiC UTC-PDs with Array Antennas Enabling On-Chip THz Wireless Communication**
Ming Che, Yoshiki Kamiura, Yuanhao Li, Kazutoshi Kato, Kyushu University, Japan
- 310   **Fully Photonic Wireless Link Operating Between 100 and 600GHz with up to 90Gbit/s Line Rate**
Milan Deumer, Oliver Stiewe, Simon Nellen, Robert Elschner, Ronald Freund, Martin Schell, Robert B. Kohlhaas, Fraunhofer HHI, Germany
- 314   **Compact Bidirectional Fiber-Antenna for Radio-over-Fiber**
Adrian Ramos Bardin, Victor Polo, Antoni Barlabé, María C. Santos, Josep Prat, Universitat Politècnica de Catalunya, Spain

EuMC19: Advanced Rectification Techniques for High-Efficiency Wireless Power Systems

Chair: Nuno Borges Carvalho, Instituto de Telecomunicações, Portugal

Co-Chair: Jiafeng Zhou, University of Liverpool, UK

08:30–10:10, Wednesday 24th September 2025, Glow











- 318   **Small High-Efficiency Broadband Rectifier Based on Compact Coupled Structure**
Haoming He, Kai Song, Zhongqi He, Liping Yan, Changjun Liu, Sichuan University, China
- 322   **High-Power Class-F GaN MMIC Rectifier for Space-Based Solar Power Applications**
Xiaoqiang Gu, Jiteng Ma, Dongchi Zhang, Mark A. Beach, University of Bristol, UK
- 326   **Watt-Level X-Band GaN Schottky Diode Rectifier**
*Xiaochen Yu¹, Haoran Wang², Xiantao Yang¹, Shawn S.H. Hsu², Ta-Jen Yen²,
Yejun He³, Chaoyun Song³, Yi Huang¹, Jiafeng Zhou¹*
¹University of Liverpool, UK; ²National Tsing Hua University, Taiwan; ³Shenzhen University, China
- 330   **Compact Broadband Voltage Doubler Rectifier with Nonuniform Transmission Line Based Input Matching**
Lukas Hüssen, Muh-Dey Wei, Renato Negra, RWTH Aachen University, Germany
- 334   **Power Combining in Wireless Power Transfer Receivers Comparing RF and DC Combining**
Helena Ribeiro, Amit Baghel, Nuno Borges Carvalho, Universidade de Aveiro, Portugal

EuMC20: Active Circuits and Modules

Chair: Kamal K. Samanta, AMWT, UK

Co-Chair: Nils Weimann, Universität Duisburg-Essen, Germany

10:50–12:30, Wednesday 24th September 2025, Mission 1






- 338   **A Reconfigurable Modulator for All-Digital Multiphase Transmitters with Minimal Clock Complexity**
Dequang Sun, Andreas Wentzel, FBH, Germany
- 342   **A Q Band MMIC Low Noise Amplifier Design Using 100nm Gate Length GaAs pHEMT Technology**
Long Jiang, William McGenn, Elle M. Franks, Brian Ellison, Gary A. Fuller, Danielle George, University of Manchester, UK
- 346   **Robust Ku-Band Low-Noise Amplifier in GaN HEMT Technology**
*Luisa de la Fuente¹, Beatriz Aja¹, Enrique Villa¹, Eduardo Artal¹, P. Neininger²,
Christian Friesicke², Fabian Thome², Peter Brückner², Aintzane Lujambio³,
David Lobato³, Mario Rueda³, David Cuadrado-Calle⁴, Valerie Dutto⁴*
¹Universidad de Cantabria, Spain; ²Fraunhofer IAF, Germany; ³ALTER Technology TÜV Nord, Spain; ⁴ESA-ESTEC, The Netherlands
- 350   **Best-In-Class Phase Noise for Next Generation Connectivity by Super High Frequency Crystal Resonator**
Tadayuki Nomura, Murata Manufacturing, Japan
- 354   **A J-Band Low-Noise Amplifier with 100+GHz 3-dB Bandwidth in a 130-nm SiGe BiCMOS Technology**
*Arjith Chandra Prabhu¹, Janusz Grzyb¹, Marcel Andree¹, Zhichu Cao¹, Holger Rucker²,
Ullrich R. Pfeiffer¹*
¹Bergische Universität Wuppertal, Germany; ²IHP, Germany

EuMC21 : Tunable, Reconfigurable, and Acoustic-Wave Filters

Chair: Photos Vryonides, Frederick University, Cyprus

Co-Chair: Nicolas Delhote, XLIM (UMR 7252), France

10:50–12:31, Wednesday 24th September 2025, Mission 2






- (NA)  **Re-Imagining Acoustic Filters with Piezo-On-Insulator (POI) Technology** (*Industrial Keynote*)
S. Ballandras¹, A. Clairet¹, E. Courjon¹, T. Makdissy¹, T. Laroche¹, F. Bernard¹, S. N'diaye¹, G. Aspar¹, L. Roland du Roscoat¹, F. Alibert¹, A. Drouin¹, I. Huyet¹, L. Cappello¹, M. Brökeart¹, M. Bousquet², A. Reinhardt², W. Daniau³, T. Baron³, R. Salut³, G. Martin³, A. Alami-Idrissi¹, C. Didier¹
¹Soitec, France; ²CEA-Leti, France; ³FEMTO-ST (UMR 6174), France
- 359  **A Channelized RF Reconfigurable Filter MMIC Utilizing Differential Synthesis Structure**
Juncai Lv, Zhipeng Li, Li Gu, Tao Cao, Youjiang Liu, CAEP, China
- 363  **A Miniature Acoustic-Wave Bandstop Filter with a Broad Passband**
Mehran Golcheshmeh, Matthew Ou, Raafat R. Mansour, University of Waterloo, Canada
- 367  **RF Co-Designed Single- and Multi-Band Acoustic-Wave Filter-LNAs with Intrinsic Switching**
Steven Matthew Cheng, Dimitra Psychogiou, Tyndall National Institute, Ireland
- 371  **A Study on the Co-Design of On-Chip Varactor-Based Gallium Nitride Microstrip Bandpass Filters**
Andrés Fontana, Dimitra Psychogiou, Tyndall National Institute, Ireland

EuMC22 : Microwave Antennas with Radiation Control

Chair: Marlene Harter, Hochschule Offenburg, Germany

Co-Chair: Jo Tamura, Nihon University, Japan

10:50–12:30, Wednesday 24th September 2025, Quest


- 375  **A Compact Automotive Multi Antenna Module with New Octagonal GNSS Scarabaeus Antenna**
Maximilian Holzner, Josua Ephraim Immanuel Buschmann, Stefan Lindenmeier, Universität der Bundeswehr München, Germany
- 379  **A Trap-Loaded Tri-Band Antenna for Wi-Fi 7 (2.4/5/6GHz) Applications**
Jo Tamura¹, Hiroyasu Ishikawa¹, Hiroyuki Arai²
¹Nihon University, Japan; ²Yokohama National University, Japan
- 383  **Quasi-Absorptive Planar Monopole Antenna**
Runze Li¹, Li Yang¹, Zekai Luo², Roberto Gómez-García¹
¹Universidad de Alcalá, Spain; ²Sun Yat-sen University, China
- 387  **Differentially-Fed High-Selectivity Filtering Antenna Array with Quasi-Reflectionless Behavior and High Common-Mode Suppression**
Xi-Bei Zhao¹, Roberto Gómez-García²
¹Harbin Engineering University, China; ²Universidad de Alcalá, Spain
- 391  **Enhanced Low Frequency GPR Measurement Using Optimized Vivaldi Antennas**
Philip Arthur, Mathias Kromer, Marlene Harter, Hochschule Offenburg, Germany

EuMC23: Printed Antennas and Lenses for Microwave and mm-Wave Frequencies

Chair: Hjalti H. Sigmarsson, University of Oklahoma, USA

Co-Chair: Gerald Gold, FAU Erlangen-Nürnberg, Germany

10:50–12:30, Wednesday 24th September 2025, Expedition











- 395   **Inkjet-Printed Monolithically-Integrated Magneto-Electric Dipole Antennas**
Kevin Martin, Dimitra Psychogiou, Tyndall National Institute, Ireland
- 399   **A 3D-Printed Multi-Material GRIN Lens with an Integrated Matching Layer at 20GHz**
Simon P. Hehenberger¹, S. Caizzone¹, Alexander Yarovoy²
¹DLR, Germany; ²Technische Universiteit Delft, The Netherlands
- 403   **3D-Printed Pickett-Potter Horn With a Sine-Squared Antenna Profile**
Dominik Langer, Sarah Klass, Bartosz Tegowski, Frederike Bartels, Alexander Koelpin, Technische Universität Hamburg, Germany
- 407   **Effective Permittivity Determination Procedure for 3D-Printed Dielectric Lenses**
Rasmus Mentzer, Frederike Bartels, Nico Weiss, Alexander Koelpin, Technische Universität Hamburg, Germany
- 411   **Compact Geodesic Lens Antenna with 220° Field-of-View: From the Concept to Additive Manufacturing**
Aurélie Dorlé, Alessandro De Oliveira Cabral Junior, ONERA, France

EuMC24: Special Session: Microwave Photonics: Enabling the Future of Wireless, Radar, and Space Systems

Chair: Xin Scott Yin, imec, Belgium

Co-Chair: Chris Roeloffzen, LioniX International, The Netherlands

10:50–12:30, Wednesday 24th September 2025, Flash











- (NA)   **Optical Frequency Combs for Enabling Sub-THz 6G Communication Systems**
Liam P. Barry¹, Amol Delmade², Alison Kearney², Frank Smyth²
¹Dublin City University, Ireland; ²Pilot Photonics, Ireland
- 416   **Demonstration of a Widely Distributed Multistatic Multiband Coherent Photonics-Based MIMO Radar in a Coastal Surveillance Scenario**
Mirco Scaffardi¹, Filippo Scotti¹, Antonio Malacarne¹, Luca Rinaldi¹, Federico Camponeschi², Malik Muhammad Haris Amir², Salvatore Maresca³, Paolo Ghelfi¹, Antonella Bogoni²
¹CNIT, Italy; ²Scuola Superiore Sant'Anna, Italy; ³CNR-IEIT, Italy
- (NA)   **Astro-FG: Agile Optical Frequency Generators for Space Applications**
Amol Delmade¹, Alison Kearney¹, Gaurav Jain¹, Liam P. Barry², John Donegan³, Frank Smyth¹
¹Pilot Photonics, Ireland; ²Dublin City University, Ireland; ³Trinity College Dublin, Ireland
- (NA)   **Microwave Photonics Empowered Integrated Sensing and Communication for 6G**
Shilong Pan, Lihan Wang, NUA, China
- (NA)   **High-Speed Electronics for Microwave Photonics**
Xin Yin, imec, Belgium

EuMC25: Advanced Wireless Sensing and Communication Technologies: Systems, Sensors, and Security

Chair: Jasmin Grosinger, Technische Universität Graz, Austria

Co-Chair: Huib Visser, imec, The Netherlands

10:50–12:30, Wednesday 24th September 2025, Glow













- 427   **Wireless Lab-on-Chip: Inkjet Printed Flexible mm-Wave RFID Module with Integrated Embedded Fluidic Sensors for Salinity Monitoring**
Theodore W. Callis, Marvin Joshi, Manos M. Tentzeris, Georgia Tech, USA
- 431   **CASSIOPeiA Solar Power Satellite Antenna Array — Final Breadboard Results**
N. Buchanan, H. Mardani, Y. Chan, Queen's University Belfast, UK
- 435   **Lens-Based High-Sensitivity 5G mm-Wave Electromagnetic Field Sensors**
Leila Gottmer, Huasheng Zhang, N. Llombart, Marco Spirito, Technische Universiteit Delft, The Netherlands
- 439   **A New Genetic Algorithm Approach for Hybrid-Domain Spectral Signature Design**
Nathalia Duque-Madrid¹, M.A.G. Laso¹, Francisco Luna², Alejandro Pons-Abenza¹, Txema Lopetegui¹, Iván Arregui¹, Israel Arnedo¹, Arancha Sánchez³, Silvia Zabala³, Eduardo Trébol⁴, Germán Álvarez-Botero¹
¹Universidad Pública de Navarra, Spain; ²Universidad de Málaga, Spain; ³Centro Stirling, Spain; ⁴Embega, Spain
- 443   **A Novel Dual-Key Authentication via Wireless Power Transfer for Secure SWIPT-Based IoT Systems**
Taki E. Djidjekh, Gaël Loubet, Daniela Dragomirescu, Alexandru Takacs, LAAS-CNRS, France

EuMC26: EuMC Interactive Poster Session 1




Chair: Kamil Yavuz Kapsuz, Ghent University, Belgium

Co-Chair: Mark S. Oude Alink, Universiteit Twente, The Netherlands





10:50–12:30, Wednesday 24th September 2025, Hall 7

- 447   **An Analysis to Predict the Optimal Physical Length of the Coupled Lines of a Transformer Balun**
Nethini Weerathunge, Sudipta Chakraborty, Simon J. Mahon, Melissa C. Gorman, Macquarie University, Australia
- 451   **Loss Analysis of PCB-Based mm-Wave Air-Filled Substrate Integrated Waveguides**
Bram Hoflack, Kamil Yavuz Kapsuz, Samuel Rimbaut, Victor Van der Elst, Sam Lemey, Hendrik Rogier, Ghent University, Belgium
- 455   **Ultra-Wideband Common-Mode Rejection Filter Using Mode Conversion Technique**
Dong Jae Go, Byung Cheol Min, Mun Ju Kim, Hyun Chul Choi, Kang Wook Kim, Kyungpook National University, Korea
- (NA)   **A High-Isolation Dual-Frequency Co-Polarized Ku/Ka Array Antenna**
Bo Fu¹, Xiao Ding¹, Runjun Xiao², Yang Wang²
¹UESTC, China; ²Chengdu Huaxing Dadi Technology, China
- 463   **CPWG-to-Waveguide Transition-Integrated 8×1 Slot Array Antenna with Low Sidelobe Level for W-Band**
Deokjin Seo, Seokyeon Hong, Seungwoo Nam, Yunsik Park, Jongin Ryu, KETI, Korea
- 467   **Impact of Duty Cycle on Dynamic Frequency Selection Capabilities of WLAN Equipment During In-Service Monitoring According to ETSI EN 301 893 V2.1.1**
Zsolt Gulácsi, NMHH, Hungary

EuMC26 continued...



- 471  **➤ Digital-Twin Solutions for IC-Package-PCB-Antenna Systems: Correlation-Aware Equivalent Circuit Representation Using Eigen-State Formulation**
S. Wane¹, W. Saabe², D. Bajon¹, C.-A. Tavernier³, D. Floriot³, P. Eudeline¹, J. Sombrin¹, T. Gasseling²
¹eV-Technologies, France; ²Dassault Systèmes, France; ³UMS, France
- 475  **➤ Compact and Robust Low-Power Termination for Ridge-Waveguides**
Gian Marco Zampa¹, Maurizio Cirillo², Antonio Morini¹
¹Università Politecnica delle Marche, Italy; ²Rheinmetall, Italy
- 478  **➤ 90° H-Plane Transition Design from Standard Waveguide to Half-Mode Groove Gap Waveguide in E-Band**
Wasim Alshrafi, Felix Kaltwasser, Carlos Galvis Salzburg, Thomas Bertuch, Fraunhofer FHR, Germany
- 482  **➤ Fabrication and Characterization of Eco-Friendly Non-Isocyanate Polyurethane Nanocomposites for Electromagnetic Shielding by Absorption**
Ahmad Mamoun Khamis¹, Laetitia Urbanczyk², Christophe Detrembleur², Isabelle Huynen¹
¹UCLouvain, Belgium; ²Université de Liège, Belgium
- 486  **➤ Design, Realization and Screwless Assembly of a Hybrid PCB-Waveguide Module Using Additive Manufacturing**
Odette Denis¹, Romain Ammar¹, Benjamin Potelon¹, Cedric Quendo¹, Julien Haumant², Kyrian Mear², Dylia Bechiti², Julien Deza³, Romain Hubert³, Thomas Merlet³, Christophe Goujon⁴, Rachid Jaoui⁴
¹Lab-STICC (UMR 6285), France; ²GTID, France; ³Thales, France; ⁴DGA, France

*EuMC26 continues next page...**EuMC26 continued...*

- 490  **➤ Fabrication of Cavity-Backed Serial-Fed Microstrip Patch Antenna Array for D-Band (140GHz) Using Quartz Glass on Silicon Hybrid Bonded Wafer**
Kentaro Tani¹, Naotake Okada¹, Masato Tokai¹, Shoichiro Yamaguchi¹, Jungo Kondo¹, Makoto Iwai², Uwe Maaß³, Alexander Gäbler³, Wojciech Partyka³, Ivan Ndip³
¹NGK, Japan; ²NGK, Germany; ³Fraunhofer IZM, Germany
- 494  **➤ PTFE-Core Flexible Waveguide and Application to High-Data-Rate Interconnects at 80GHz**
Alexandre Renau¹, Prakash Gyawali¹, Ronan Cranny², Julien Logette², Stéphanie Géas², Antoine Baudin², Yanis Charif², Ludovic Burgnies¹, Pascal Szriftgiser³, Guillaume Ducournau¹
¹IEMN (UMR 8520), France; ²Axon' Cable, France; ³PhLAM (UMR 8523), France
- 498  **➤ A Wideband Low Return Loss Measurement Fixture for Load-Pull Verification of Power Transistors**
Mohammadamin Kamali, Ioannis Peppas, Arezoo Abdi, Arash Arsanjani, Helmut Paulitsch, Michael Ernst Gadringer, Wolfgang Bösch, Technische Universität Graz, Austria
- 502  **➤ 15GHz Independently Controllable Dual-Polarized 2-Bit Reconfigurable Intelligent Surface**
Mehmet Ahad Yurtoglu¹, Ramez Askar¹, Sven Wittig¹, Mathis Schmieder¹, Michael Peter¹, Wilhelm Keusgen²
¹Fraunhofer HHI, Germany; ²Technische Universität Berlin, Germany

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EuMC26 continued...

- 506  **Characterization of a Frequency Dependent Reflective Surface at 300GHz: Absorption, Bandwidth and Losses**
Frédéric Dutin¹, Victor Torres², Jorge Teniente³, Abdu Subahan Mohammed¹, Rita Younes¹, Pascal Szriftgiser⁴, Guillaume Ducournau¹
¹IEMN (UMR 8520), France; ²Anteral, Spain; ³Universidad Pública de Navarra, Spain; ⁴PhLAM (UMR 8523), France
- 510  **A Sequentially Rotated Dual-Polarizations Antenna Array with Arbitrary Linear Polarization Beam Scanning**
Shengqi Gao, Zhang-Cheng Hao, Southeast University, China

EuMC27: New Synthesis, RF Design, and Integration Techniques for Microwave Filters

Chair: Roberto Gómez-García, Universidad de Alcalá, Spain

Co-Chair: Giuseppe Macchiarella, Politecnico di Milano, Italy

13:50–15:30, Wednesday 24th September 2025, Mission 2

- 514  **Accurate Cascade Synthesis of High-Order Stopband Filters**
Matteo Oldoni¹, S. Tamiazzo², Giuseppe Macchiarella¹, Gian Guido Gentili¹
¹Politecnico di Milano, Italy; ²ANDREW, Italy
- 518  **Fully Formula-Based Design Approach of Asymmetric-Response Transmission-Line Filters Without Electromagnetic Coupling Tests**
Hyunjong Choi, Juseop Lee, Korea University, Korea
- 522  **A Wideband Superconducting Filter with Extended Stopband Rejection for Radio Astronomy Receivers**
Bahare Mohamadzade, Alex Dunning, Ken Smart, Douglas B. Hayman, Yoon Chung, Santiago Castillo, Stephanie L. Smith, CSIRO, Australia
- 526  **Substrate-Embedded Ka-Band Input Filter for Satellite Multibeam Payloads**
Paolo Vallerotonda¹, Andriy Verbitskyi¹, Luca Pelliccia¹, Francesco Vitulli², Aurora De Padova², Sergio Di Nardo², Oilid Bouzekri³, Francois Deborgies³
¹RF Microtech, Italy; ²Thales, Italy; ³ESA-ESTEC, The Netherlands
- 530  **Split-Type Dual- and Tri-Band Filter Design Using Miniaturized Substrate-Integrated Coaxial Cavities**
Min-Hua Ho¹, Gawn-Wei Su², Wanchu Hong¹, Mingchih Chen³
¹National Changhua University of Education, Taiwan; ²Wistron Technology, Taiwan; ³Fu Jen Catholic University, Taiwan

EuMC28: Antenna Arrays and Beamforming Networks I

Chair: Marianna Ivashina, Chalmers University of Technology, Sweden

Co-Chair: Cyrille Menudier, XLIM (UMR 7252), France

13:50–15:30, Wednesday 24th September 2025, Quest






- (NA)  **C** **LOFAR: A Hundred Thousand Element Antenna Array (Industrial Keynote)**
P. Paulus Krüger, ASTRON, The Netherlands
- 536  **C** **Phase-Offset Based Sidelobe Suppression for Co-Frequency Multi-Beam Systems**
Chanhee Lee¹, Seong-Ju Lim¹, Young-Jun Lim¹, Ga-Yeong Park¹, Chihyun Cheong², Jong-Won Yu¹
¹KAIST, Korea; ²Hanwha Systems, Korea
- 540  **C** **Polarization-Agile SatCom Antennas with Beamforming Chips on a Hexagonal Grid**
Bilal Cetin, Rens Baggen, Jens Leiß-Tibudd, Pia Bergtholdt, Jürgen Kunisch, Constantine Kakoyiannis, Michael Wleklinski, Jochen Mosig, Wolfgang Wischmann, IMST, Germany
- 544  **C** **Monolithic Dual-Polarized Leaky-Wave Array with Off-Axis Pointing, 36dBi Gain and Unbalanced Beamforming Networks for Radar Applications**
Valentin Lourenço Martins¹, Erwan Rahault², Aurélie Dorlé¹, Stéphane Méric², Esteban Menargues³, María García Viguera²
¹ONERA, France; ²IETR (UMR 6164), France; ³SWISSto12, Switzerland
- 548  **C** **Dual Pattern Elements for Scan Loss Reduction in Wide-Angle Scanning Phased Arrays**
Giacomo Giannetti, Stefano Maddio, Monica Righini, Stefano Selleri, Università di Firenze, Italy

EuMC29: Advanced Resonator Technologies for Wireless Communications and Power Transfer

Chair: Simon Hemour, IMS (UMR 5218), France

Co-Chair: Changjun Liu, Sichuan University, China

13:50–15:30, Wednesday 24th September 2025, Expedition











- 552  **C** **Novel Coil Structures for Resonator-Coupled WPT Systems Enabling Long Distance Transmission**
Daichi Togiya, Toshio Ishizaki, Ryukoku University, Japan
- (NA)  **C** **Enhancing Microstrip Resonators Through LTCC and New Photo-Imageable Paste Technology**
Martin Ihle¹, Lynn Ratajczak¹, Kathrin Reinhardt¹, Stefan Körner¹, Benedykt Sikorski², Kamil Trzebiatowski², Lukasz Kulasz², Krzysztof Nyka²
¹Fraunhofer IKTS, Germany; ²Gdansk University of Technology, Poland
- 560  **C** **Compact WPT System Using Four Resonators for Biomedical Implants**
Mohamed Aboualalaa¹, Ramesh K. Pokharel²
¹Electronics Research Institute, Egypt; ²Binghamton University, USA
- 564  **C** **Design of a Dual-Band Polarization-Insensitive Rectifying Metasurface for Wireless Power Transfer**
Kai Song, Liping Yan, Changjun Liu, Sichuan University, China
- 568  **C** **Establishing BackCom Links Beyond Antenna Resonances**
Yishan Wang¹, Jayakrishnan M. Purushothama¹, Wei Gong², Symon Podilchak³, George Goussetis¹, Vincent Fusco⁴, Yuan Ding¹
¹Heriot-Watt University, UK; ²USTC, China; ³University of Edinburgh, UK; ⁴Queen's University Belfast, UK

EuMC30: Advanced Linear Measurements

Chair: Ilona Rolfes, Ruhr-Universität Bochum, Germany

Co-Chair: Xiaobang Shang, NPL, UK

13:50–15:30, Wednesday 24th September 2025, Spark











- 572   **A Reliable 2nd-Tier Procedure for Characterizing Devices with N+1 Ports Using an N-Port VNA**
Ziad Hatab, Bart Schrijver, Keysight Technologies, USA
- 576   **Automatic Probe Adjustment for 4-Port On-Wafer Measurement without VNA Calibration**
R. Sakamaki¹, S. Kon², T. Yoshida¹, S. Tanaka¹, S. Amakawa¹, M. Fujishima¹
¹Hiroshima University, Japan; ²AIST, Japan
- 580   **Enhanced Machine-Learning Based Probe Alignment for On-Wafer RF Measurements**
Domenico Vitali¹, Alessandro Chillico¹, Bruno Puri², René Heldmaier², René Pascal Klausen², Wojciech Samek², Olof Bengtsson¹
¹FBH, Germany; ²Fraunhofer HHI, Germany
- 584   **Influence of RF Probe Tip Geometry on Surface Wave Generation in Millimeter-Wave on-Wafer Characterization**
Arash Masrouri, Quentin Courte, Jean-Pierre Raskin, Dimitri Lederer, UCLouvain, Belgium
- 588   **Experimental Study on the Repeatability of Nanoscale On-Wafer Calibration Structures on High Resistivity Silicon Substrate up to 110GHz**
Daouda Seck¹, Florent Marlec², Clément Lenoir², Mohamed Sebbache², Djamel Allal¹, Kamel Haddadi²
¹LNE, France; ²IEMN (UMR 8520), France

EuMC31: THz Circuits and Systems

Chair: Guillaume Ducournau, Université de Lille, France

Co-Chair: Joachim Oberhammer, KTH, Sweden

13:50–15:30, Wednesday 24th September 2025, Flash





- (NA)   **Superconducting Integrated Circuits for Sub-mm Wave Astronomy (Industrial Keynote)**
Jochem Baselmans¹, Akira Endo²
¹SRON, The Netherlands; ²Technische Universiteit Delft, The Netherlands
- 594   **320-GHz InP-HEMT Low Noise Amplifier with Modified Ridge Coupler**
Ibrahim Abdo¹, Hiroshi Hamada¹, Teruo Jyo¹, Takuya Tsutsumi², Taro Sasaki¹, Hiroyuki Takahashi¹
¹NTT, Japan; ²Osaka Metropolitan University, Japan
- 598   **High Power Characterization of SIW-Based D-Band Traveling Wave Amplifiers**
Weifeng Wu¹, Lei Li², James C.M. Hwang², Patrick Fay¹
¹University of Notre Dame, USA; ²Cornell University, USA
- 602   **A Photonic Assisted Visible Light FMCW Lidar System for Large Aperture Phased Array MIMO Based on LEDs**
Stephan Kruse, Jan Brockmeier, Max Schwengelbeck, Tobias Schwabe, J. Christoph Scheytt, Universität Paderborn, Germany
- 606   **A High-Gain 300GHz Upconversion Mixer Circuit in SiGe 130nm BiCMOS Technology**
Enrico Jimenez Tuelo, Seyyid Dilek, Andrea Malignaggi, Corrado Carta, IHP, Germany

EuMC32 : Modelling for Remote Sensing and Scattering

Chair: Andrea Neto, Technische Universiteit Delft, The Netherlands

Co-Chair: Alessandro Galli, Università di Roma "La Sapienza", Italy

13:50–15:30, Wednesday 24th September 2025, Glow

- 610  **C** **Fast Determination of the Monostatic Radar Channel in the Near-Field of Electrically Large Targets**
Bartosz Tegowski, Dominik Langer, Nils C. Albrecht, Alexander Koelpin, Technische Universität Hamburg, Germany
- 614  **C** **A Fast Method for Real-Time SAR Computation in Homogeneous Virtual Models in the HF to the Low-UHF Bands**
D. Ferrante¹, M. Colella¹, Giuseppe Vecchi², F. Apollonio¹, M. Liberti¹
¹Università di Roma "La Sapienza", Italy; ²Politecnico di Torino, Italy
- 618  **C** **3D-Modeling of Electro-Magnetic Parameters of Microwave Plasmas**
Christoph Schopp, Holger Heuermann, FH Aachen, Germany
- 622  **C** **A PMCHWT-SMW Based Fast Solver for the EM Scattering Problems of Composite Metallic-Dielectric Structures**
Jie Kang, Jihong Gu, Zhaoyuan Wang, Qing-Yuan Wu, Dazhi Ding, NJUST, China

EuMC33 : Innovations in Gap Waveguide Technology

Chair: Vicente E. Boria-Esbert, Universitat Politècnica de València, Spain

Co-Chair: Nicolas Delhote, XLIM (UMR 7252), France

16:10–17:50, Wednesday 24th September 2025, Mission 2




- (NA)  **C** **Passive Components, Active Innovation: Gap Waveguide Technology for Next-Generation Millimeter Wave Circuits (Industrial Keynote)**
Abbas Vosoogh, Gapwaves, Sweden
- 626  **C** **Passive Intermodulation Mitigation in Waveguide Bandpass Filters Using Groove Gap Waveguide Technology**
Mónica Martínez-Mendoza¹, Raúl Cervera¹, Davide Smacchia², Jose V. Morro¹, Pablo Soto¹, Vicente E. Boria¹
¹Universitat Politècnica de València, Spain; ²ESA-VSC European High Power RF Space Laboratory, Spain
- 630  **C** **3D Printed 260GHz Drawer-Like Bandpass Filter Using Groove Gap Waveguide Concept**
Aurélien Périgaud¹, Nicolas Delhote¹, Damien Passerieux¹, Christian Wolff², Andreas Frölich²
¹XLIM (UMR 7252), France; ²Horizon Microtechnologies, Germany
- 634  **C** **Optimized Flange Designs for a Multigap-Waveguide Liquid Crystal Phase Shifter at Ka-Band**
Marc Späth¹, Robin Neuder¹, Téo Nespolet², Martin Schüßler¹, Rolf Jakoby¹, Alejandro Jiménez-Sáez¹
¹Technische Universität Darmstadt, Germany; ²IETR (UMR 6164), France
- 638  **C** **Ku-Band Sharp-Rejection Dual-Band Bandpass Filter in Groove Gap Waveguide Using Input/Output Extracted Cavities and Frequency Transformation**
Mohamed Malki, Roberto Gómez-García, Universidad de Alcalá, Spain

EuMC34: Antenna Arrays and Beamforming Networks II

Chair: Stefania Monni, TNO, The Netherlands

Co-Chair: Kamil Yavuz Kapusuz, Ghent University, Belgium

16:10–17:50, Wednesday 24th September 2025, Quest






- (NA)  **➤ Additively Manufactured Antennas and Slotted Waveguide (Array) Antennas**
(Industrial Keynote)
M. Sippel, Konstantin Lomakin, Golden Devices, Germany
- 644  **➤ Dual-Polarized Cosecant-Squared Beam-Shaped Array Antenna for mmWave Mobile Communications**
Ahmed Z. Ashoor, Mehri Borhani-Kakhki, Wenyao Zhai, Hari Krishna Pothula, David Wessel, Huawei Technologies, Canada
- 648  **➤ A 4:1 Dual-Polarized Connected Array Prototype with Parallel Plate Waveguide Feeds**
R. Ozzola¹, U. Imberg², D. Cavallo¹
¹Technische Universiteit Delft, The Netherlands; ²Huawei Technologies, Sweden
- 652  **➤ Wide Angle Scanning Phased Array Antenna for Ka-Band Applications**
C. Dagnaw, Cyrille Menudier, Marc Thevenot, XLIM (UMR 7252), France
- 656  **➤ A Wide-Scanning Evanescent Mode Waveguide Array with Enhanced Thermal Performance**
Thijs Brouwers¹, Guilherme Theis², A. Bart Smolders², Diego Caratelli¹
¹Antenna Company, The Netherlands; ²Technische Universiteit Eindhoven, The Netherlands

EuMC35: Bioelectromagnetic Interaction for Healthcare Applications

Chair: Katia Grenier, LAAS-CNRS, France

Co-Chair: Chung-Tse Michael Wu, Rutgers University, USA

16:10–17:50, Wednesday 24th September 2025, Expedition



- 660  **➤ 120Mb/s Fat-Intrabody Communication (Fat-IBC)**
Johan Engstrand, Ted Johansson, Roger L. Karlsson, Robin Augustine, Uppsala University, Sweden
- 664  **➤ Dielectric Tissue Phantom Fabrication and Automated Compression Test System for Non-Invasive Blood Glucose Monitor**
Dominika Kazieczko¹, Maxime Weiss², Bettina Gouyet², Adrian Porch³, Heungjae Choi³
¹University of Cambridge, UK; ²ENSEIRB-MATMECA, France; ³Cardiff University, UK
- 668  **➤ Experimental Setup for Modulated Electro-Hyperthermia (mEHT) Investigations with Arbitrary Modulation and Real-Time Impedance Monitoring**
C. Schulze¹, E. Oberacker², P.D. Veltsista³, A. Dieper³, P. Ghadjar³, Wolfgang Heinrich¹, Olof Bengtsson¹
¹FBH, Germany; ²Sensius, The Netherlands; ³Charité, Germany
- 672  **➤ Optimizing Prediction of Electromagnetic and Biological Parameters for Cardiac Ablation Using Deep Learning**
Raffaele Crusi¹, Nicolò Colistra², Francesca Camera², Giuseppina Monti¹, Marco Salvatore Zappatore¹, Caterina Merla², Luciano Tarricone¹
¹Università del Salento, Italy; ²ENEA, Italy
- 676  **➤ Instantaneous Electromagnetic Exposure from Vehicle-to-Everything Communication**
Tobias Struck, Berk Altinel, Christian Bornkessel, Matthias A. Hein, Technische Universität Ilmenau, Germany

EuMC36: MTT-ISTP Panel Session: Photovoltaic Power Orbital Station — A Future at Reach with Microwaves?

Chair: Simon Hemour, IMS (UMR 5218), France

Co-Chair: Naoki Shinohara, Kyoto University, Japan

16:10–17:50, Wednesday 24th September 2025, Polar











- (NA)   **Photovoltaic Power Orbital Station — A Future at Reach with Microwaves?**
*Simon Hemour¹, Stela Tkatchova², Paul Jaffe³, Koichi Ijichi⁴, Duan Baoyan⁵,
Martin Soltau⁶, Nuno Borges Carvalho⁷*
¹Université de Bordeaux, France; ²European Innovation Council, Belgium; ³DARPA, USA;
⁴Japan Space Systems, Japan; ⁵Xidian University, China; ⁶Space Solar, UK; ⁷Universidade
de Aveiro, Portugal

EuMC37: Measurements of Active Devices

Chair: Denis Barataud, XLIM (UMR 7252), France

Co-Chair: Mauro Marchetti, Maury Microwave, The Netherlands






16:10–17:50, Wednesday 24th September 2025, Spark

- (NA)   **Recent Advances in Load-Pull and Noise Parameter Measurement Techniques**
(Industrial Keynote)
*M. Marchetti, G. Avolio, J. Urbonas, C. De Martino, D. Ribeiro, K. Haider, A. Doggalli,
Maury Microwave, The Netherlands*
- 683   **On the Repeatability of Low Cost Varactor-Based RF Impedance Tuners**
Jonathan Okocha¹, Cristina Andrei², Matthias Rudolph²
¹BTU Cottbus-Senftenberg, Germany; ²FBH, Germany
- 687   **On-Wafer 16-Term Calibration for Characterization of InP HBTs Featuring Sub-THz f_{\max}**
*Abhijeet Kankar¹, Ralf Doerner¹, Tom K. Johansen², Wolfgang Heinrich¹,
Thomas Flisgen¹*
¹FBH, Germany; ²Technical University of Denmark, Denmark
- 691   **Thermal Characterization of Radio Frequency Power Amplifier with Thermal Transient Test**
A. Mirza Gheytaghi¹, Z. Sarkany², V. Cuoco¹
¹Ampleon, The Netherlands; ²Siemens, Hungary
- 695   **In-situ Calibration with Silicon-Based Noise Diode for Enhanced Industrial RF Testing**
*Samuel Nguyen Dinh An¹, Cybelle Belem Goncalves², Victor Fiorese², Daniel Gloria²,
Federico Alimenti³, Giacomo Schiavolini³, Guillaume Ducournau¹,
Joao Carlos Azevedo Goncalves²*
¹IEMN (UMR 8520), France; ²STMicroelectronics, France; ³Università di Perugia, Italy

EuMC38: Focused Session: Terahertz Technologies — Actual and Future Trends

Chair: Dirk Nüßler, Fraunhofer FHR, Germany — Co-Chair: Christoph Reising, Fraunhofer FHR, Germany

16:10–17:50, Wednesday 24th September 2025, Flash






- 699  **C** **Current Trends in Terahertz Technology — Transition from Fundamentals to Practical Applications**
Christoph Reising¹, Steffen Hansen¹, Dirk Nüßler², Christian Bredendiek¹, Dominik Funke¹, Till-Stefan Ziegler-Bellenberg¹, Philipp Stockel¹, Siying Wang¹, Patrick Wallrath¹, Jan Wessel¹
¹Fraunhofer FHR, Germany; ²Ruhr-Universität Bochum, Germany
- 703  **C** **Development and Design of THz-Pulse Generators for Broadband Pulse-Based Transceiver Systems**
Olga Krylova¹, Klaus Aufinger², Nils Pohl¹
¹Ruhr-Universität Bochum, Germany; ²Infineon Technologies, Germany
- 707  **C** **Towards Energy-Efficient High-Speed THz Communications Links**
N. Llombart¹, M. Alonso-delPino¹, A. Bechrakis Triantafyllos¹, Huasheng Zhang¹, D. Cavallo¹, Marco Spirito¹, M. Dörpinghaus², D. Swist², Herbert Zirath³, Frida Strömbeck³, Yu Yan³, Vessen Vassilev³, M. Mollaalipouramiri³, G. Lasser³, F. Dielacher⁴, Klaus Aufinger⁴, K. Konstantinos⁵, P. Aghdam⁶, W.-C. Liao⁶, S. An⁶
¹Technische Universiteit Delft, The Netherlands; ²Technische Universität Dresden, Germany; ³Chalmers University of Technology, Sweden; ⁴Infineon Technologies, Germany; ⁵OTE, Greece; ⁶Ericsson, Sweden
- 711  **C** **Sub-mm Wave Thermal Radiation from Silicon Wafers**
Laurens F.E. Beijnen, Juan Bueno, Paolo Sberna, Marco Spirito, Andrea Neto, Technische Universiteit Delft, The Netherlands
- 715  **C** **An Integrated Terahertz Near-Field Edge Sensing Probe in a 130-nm SiGe Technology**
Xinpeng Du¹, Marcel Andree¹, Janusz Grzyb¹, Holger Rucker², Ullrich R. Pfeiffer¹
¹Bergische Universität Wuppertal, Germany; ²IHP, Germany

EuMC39: Numerical Modelling

Chair: Oscar Quevedo-Teruel, KTH, Sweden

Co-Chair: Luca Perregrini, Università di Pavia, Italy

16:10–17:50, Wednesday 24th September 2025, Glow






- 719  **C** **A Fast Frequency Sweep Method for Second-Order EM Adjoint Sensitivity Analysis Based on MOR**
Jianguo Xue¹, Feng Feng¹, Jinyi Liu¹, Xiaolong Li¹, Mutian Li¹, Jiali Zhang¹, Qi-Jun Zhang²
¹Tianjin University, China; ²Carleton University, Canada
- 723  **C** **An Adaptive Frequency Sweep Algorithm Employing Additive Perturbation in the Loewner Matrix Model for Electromagnetic Simulations**
Shilpa T.N., Rakesh Sinha, NIT Rourkela, India
- 727  **C** **A 3D TCAD Thermal vs Electro-Thermal Analysis of Large Area Discrete RF Power Transistors**
Gabriele Formicone, Integra Technologies, USA
- 731  **C** **Double-Resonance Diffraction Radiation Antenna Grating Exited by Modulated Electron Beam**
Dariia O. Herasymova, NASU, Ukraine
- 735  **C** **Novel Design Dimension Reduction Technique for Internal Acceleration of 3-D EM Topology Optimization for Waveguide Structures**
Jiali Zhang¹, Feng Feng¹, Jing Jin², Ke Liu¹, Jianguo Xue¹, Qi-Jun Zhang³
¹Tianjin University, China; ²Central China Normal University, China; ³Carleton University, Canada

EuMC40: Machine Learning and Optimization

Chair: Tom Dhaene, Ghent University, Belgium

Co-Chair: Luca Perregrini, Università di Pavia, Italy

08:30-10:10, Thursday 25th September 2025, Quest






- 739  **C** **Functionality Pre-Encoding: Indirect Learning Technique for Radio Frequency Devices Characterization**
Abdullah Muhammad Mahfouz, Ahmed A. Kishk, Concordia University, Canada
- 743  **C** **Synthesis of 3-Pol Low-Cost Phased Arrays via Element Polarization Optimization**
Eren Hamamci¹, Jonas Heylen¹, Guilherme Theis², Yanki Aslan¹
¹Technische Universiteit Delft, The Netherlands; ²Robin Radar Systems, The Netherlands
- 747  **C** **Data-Driven Path Loss Estimation in Human Body Communication: Enhancing Efficiency via Parameter Prioritization and Transfer Learning**
Hamideh Esmaeili¹, Lijia Liu², Cheng Yang¹, Jianqing Wang², Christian Schuster¹
¹Technische Universität Hamburg, Germany; ²Nagoya Institute of Technology, Japan
- 751  **C** **Data-Driven Full-Functionality Modeling of Broadband Radio Frequency Components**
Abdullah Muhammad Mahfouz, Ahmed A. Kishk, Concordia University, Canada
- 755  **C** **Accelerating Automated Microwave Planar Circuit Design Using Population-Based Metaheuristics with Models Addressing to Data Drift**
Yuta Takayama, Takuma Akada, Kazuhiro Fujimori, Okayama University, Japan

EuMC41: Integration and Reconfiguration Approaches for Non-Planar Filters

Chair: Michael Höft, CAU, Germany

Co-Chair: Eric Rius, Université de Brest, France

08:30-10:10, Thursday 25th September 2025, Expedition

- 759  **C** **Compact Reconfigurable Filtering Components Using Dual-Mode TM-Mode Dielectric Resonators**
Abdulrahman Widaa¹, Michael Höft²
¹PTB, Germany; ²CAU, Germany
- 763  **C** **Plastic 3D-Printed Tunable Microwave Filters for Very Low-Cost Applications**
Axel Detrain¹, Ad Nieuwenhuizen¹, Richard Groefsema¹, Auke Veninga¹, Erik Van Der Meer¹, Jarno Panman¹, Martin Eggens¹, Marco Guglielmi², Vicente E. Boria²
¹SRON, The Netherlands; ²Universitat Politècnica de València, Spain
- 767  **C** **Monolithically Integrated Half-Cylindrical Resonator-Based Bandpass Filters**
Ajay Mothe, Dimitra Psychogiou, Tyndall National Institute, Ireland
- 771  **C** **Coaxial Bandpass Stub Filters Based on a New Interconnection**
Eric Rius, Jessica Benedicto, Jean François Favennec, Juan Pablo Guzmán Vélez, Lab-STICC (UMR 6285), France
- 775  **C** **Ultra-Compact Inkjet-Printed Folded Waveguide Resonator-Based Bandpass Filters**
Berkay Dogan, Deepal Deepak Patil, Dimitra Psychogiou, Tyndall National Institute, Ireland

EuMC42 : Reconfigurable Intelligent Surfaces

Chair: Alejandro Jiménez-Sáez, Technische Universität Darmstadt, Germany

Co-Chair: Dirk Heberling, RWTH Aachen University, Germany

08:30-10:10, Thursday 25th September 2025, Spark

- 779   **A Broadband Liquid Crystal Reconfigurable Intelligent Surface with 750 Elements Operating Around 60GHz**
Robin Neuder, Julia Schwarzbeck, Marc Späth, Alejandro Jiménez-Sáez, Technische Universität Darmstadt, Germany
- 783   **Water-Controlled 1-Bit Reconfigurable Surface**
Rasoul Fakhteh, Yi-Wen Wu, Yi Wang, University of Birmingham, UK
- 787   **The Choice of Time Gating Parameters for Characterization of the Reconfigurable Intelligent Surfaces with Continuous Amplitude and Phase Control**
Pavlo S. Krasov, Oleg A. Iupikov, Yuqing Zhu, Marianna V. Ivashina, Chalmers University of Technology, Sweden
- 791   **Design and Analysis of Phase Configuration in RIS-Assisted Communication Systems**
Ga-Yeong Park, Hyo-Won Lee, Young-Jun Lim, Chanhee Lee, Ji-Young Kim, Jong-Won Yu, KAIST, Korea
- 795   **N78 Frequency Band Modular RIS Design and Implementation**
Sefa Kayraklık¹, Recep Baş², Hasan Oğuzhan Çalışkan², Samed Şahinoğlu¹, Sercan Erdoğan², İlhami Ünal³, İbrahim Hökelek¹, Kıvanç Nurdan¹, Ali Görçin¹
¹TÜBİTAK BİLGEM, Türkiye; ²TÜBİTAK MAM, Türkiye; ³University College Dublin, Ireland

EuMC43 : Sustainable Technologies for Microwave Systems

Chair: Jean-Pierre Raskin, UCLouvain, Belgium

Co-Chair: Bertrand Parvais, imec, Belgium

08:30-10:10, Thursday 25th September 2025, Flash











- (NA)   **Life Cycle Assessment (LCA)-Driven Design for the Microwave Engineer: How to Develop Sustainable Wireless Systems? (Industrial Keynote)**
Mahmoud Wagih, University of Glasgow, UK
- 800   **On the Carbon Footprint of D-Band Point-to-Point Radio Links for 6G**
Wolfgang Heinrich¹, Andreas Wentzel¹, Lutz Stobbe²
¹FBH, Germany; ²Fraunhofer IZM, Germany
- 804   **Sustainable Wireless Technologies with SUSTAIN 6G**
Olivier Bouchet, Marie-Hélène Hamon, Rodolphe Legouable, Bruno Jahan, Orange Innovation, France
- 808   **Advancing the Circular Economy: Enhancing Black Plastic Recycling Through Sub-THz Technology**
S. Leuchs, C. Krebs, Dirk Nüßler, C. Ludwig, M. Gräf, C. Schwäbig, J. Perske, S. Wickmann, S. Gütgemann, Fraunhofer FHR, Germany
- 812   **Thermal Analysis of a Transmission Line Made on a Bio-Sourced Substrate Using an Analytical Model**
R. Berro, N.-H. Nguyen, T.-P. Vuong, N. Corrao, V. Grennerat, P. Xavier, CROMA (UMR 5130), France

EuMC44 : Microwave Sensing Techniques for Biological and Medical Systems

Chair: Luciano Tarricone, Università del Salento, Italy

Co-Chair: Robin Augustine, Uppsala University, Sweden

08:30-10:10, Thursday 25th September 2025, Glow

- 816   **Solenoid Transceive Coil for Rodent Imaging with 3T Deuterium MRI**
Rasmus A. Jepsen, Kristina Pilgaard Jacobsen, Wenjun Wang, Jan Henrik Ardenkjær-Larsen, Vitaliy Zhurbenko, Technical University of Denmark, Denmark
- 820   **Feasibility Study of UWB Radar for Non-Invasive Fluidothorax Monitoring**
Ondrej Fiser, Jakub Kollar, Marek Novak, Tomas Drizdal, David Vrba, Jan Vrba, CTU, Czechia
- 824   **Active UWB-Based Microwave Catheter Tracking: An In Silico Study for MWA Navigation**
Jakub Kollar, Barbora Smahelova, Marek Novak, Jan Vrba, Ondrej Fiser, CTU, Czechia
- 828   **Detection of Dielectrically Heterogeneous 3D Multicellular Objects with Microwave Dielectric Spectroscopy**
Y. Li, O. Peytral-Rieu, D. Dubuc, K. Grenier, LAAS-CNRS, France
- 832   **Single-Channel Continuous-Wave Radar for Multi-Target Vital Sign Detection via Spatio-Spectral Mapping with Space-Time Coding Array**
Shuping Li¹, Donglin Gao¹, Shaghayegh Vosoughitabar², Chung-Tse Michael Wu³
¹Rutgers University, USA; ²Apple, USA; ³National Taiwan University, Taiwan

EuMC45 : Special Session: Computational Electromagnetics in the Netherlands and Belgium

Chair: Kristof Cools, Ghent University, Belgium

Co-Chair: Martijn van Beurden, Technische Universiteit Eindhoven, The Netherlands

10:50-12:30, Thursday 25th September 2025, Quest

- (NA)   **Effective Forward and Inverse Numerical Solution Procedures in Computational Electromagnetics**
Rob F. Remis, Technische Universiteit Delft, The Netherlands
- (NA)   **The Future of Electromagnetic Engineering Research and Education: A NL-B Perspective**
Adrianus P.M. Zwamborn¹, Martijn C. van Beurden²
¹TNO, The Netherlands; ²Technische Universiteit Eindhoven, The Netherlands
- (NA)   **Modelling Quantum Effects in Metallic Nanoantennas with Deep-nanometric Features**
Xuezhi Zheng, Christos Mystilidis, Guy A.E. Vandenbosch, KU Leuven, Belgium
- (NA)   **Differential Surface Admittance Boundary Integral Equation Modeling of Advanced Interconnects**
M. Huynen, D. De Zutter, D. Vande Ginste, Ghent University, Belgium
- (NA)   **Domain Decomposition Methods for the Flexible and Efficient Modelling of EM Fields**
Paul Olyslager, Hendrik Rogier, Kristof Cools, Ghent University, Belgium

EuMC46: Non-Planar Passive Components and Channel Filter Approaches

Chair: Raafat R. Mansour, University of Waterloo, Canada

Co-Chair: Jordi Verdú, Universitat Autònoma de Barcelona, Spain

10:50–12:30, Thursday 25th September 2025, Expedition











- 850   **Low Insertion Loss Transition Design for Repeatable Measurements of Polymer Microwave Fibers**
Lukas Ebner¹, Stefan Wögerbauer², Helmut Paulitsch², Siegfried Krainer³, Michael Ernst Gadringer¹
¹CD-Labor TONI, Germany; ²Technische Universität Graz, Austria; ³Infineon Technologies, Austria
- 854   **Development of a Dual-Circularly-Polarized W-Band Receiver Front End**
J. Vukusic¹, P. Sobis², J. Stenarson², E. Froen³, W. Brubakk³, Sascha Krause³, J. Stake¹
¹Chalmers University of Technology, Sweden; ²Low Noise Factory, Sweden; ³Kongsberg Defence & Aerospace, Norway
- 857   **Monolithically-Integrated Nested Ridge Waveguide Dual-Channel Filters**
Berkay Dogan, Dimitra Psychogiou, Tyndall National Institute, Ireland
- 861   **Novel Contiguous Multiplexer Serving Channels with Extreme Bandwidth Differences**
Mustafa Bakr¹, Smain Amari¹, Uwe Rosenberg²
¹University of Oxford, UK; ²Mician Global Engineering, Germany
- 865   **Extracting the Path of Rotations from the Orthogonal Transformation Matrix for a Filter with Irregular Coupling**
Ricardo Pampliega, Lluís Acosta, Gustavo Piris, Carlos Caballero, Jordi Verdú, Pedro de Paco, Universitat Autònoma de Barcelona, Spain

EuMC47: Metasurfaces

Chair: Erio Gandini, ESA-ESTEC, The Netherlands

Co-Chair: Alejandro Jiménez-Sáez, Technische Universität Darmstadt, Germany

10:50–12:30, Thursday 25th September 2025, Spark

- 869   **Dispersion-Diagram Beam Steering Analysis of a Dual-Band Multibeam Metasurface Antenna Based on Innovative Dynamic Spatial Harmonics Interval**
Mohammed H. Arif¹, Firas Slewa Dawod², Adrien A. Guth¹, Muh-Dey Wei¹, Dirk Heberling¹, Renato Negra¹
¹RWTH Aachen University, Germany; ²South Dakota Mines, USA
- 873   **The Frequency Intersection of Toroidal Multipole Resonances in All-Dielectric Hexagonal Metasurface**
Oleksiy A. Breslavets, Zoya E. Eremenko, NASU, Ukraine
- 877   **A Mimicry Metasurface with Independent Amplitude-Phase Control for Radar Deception**
Boyang Qian, Hanjun Zhao, Hui Chu, NJUST, China
- 881   **Dual-Function Polarization-Rotating Metasurfaces for Beam Steering and Focusing Applications**
Mona M.K. Mohamed¹, Ahmed M. Mahmoud², Amr M.E. Safwat²
¹Ain Shams University, Egypt; ²Nile University, Egypt
- 885   **Multifunctional Reflective Metasurface Based on a Pair of Exceptional Points**
Chongpu Guo, Jiaran Qi, Harbin Institute of Technology, China

EuMC48: mm-Wave Antenna Arrays and Applications

Chair: Mark Bentum, Technische Universiteit Eindhoven, The Netherlands

Co-Chair: Thomas Musch, Ruhr-Universität Bochum, Germany

10:50–12:30, Thursday 25th September 2025, Flash











- (NA)   **Antenna Arrays for Satellite Communications (Industrial Keynote)**
M. Carolina Viganó, Viasat, Switzerland
- 890   **A K/Ka Band 5G Satellite Payload for LIDE Mission**
*Francesco Adamo¹, Simone Pauletto¹, Nicholas Sesto Gorella¹, Fabio Zanchetta¹,
Andrea Loppi¹, Ivan Zebochin¹, Guendalina Simoncini¹, Mario Fragiaco¹,
Anna Gregorio¹, Sergio Carrato²*
¹PICOSATS, Italy; ²Università di Trieste, Italy
- 894   **Coverage Estimation of 5G mmWave in Indoor Environment Considering Human Body Shadowing**
*Hyeon-Jeong Cho, Ji-Hoon Lee, Ji-Young Kim, Dong-Min Seo, Yeong-Ju Seo, Jong-Won Yu,
KAIST, Korea*
- 898   **A 60GHz Precise Reflection-Type Phase Shifter with Extremely Small Phase Shift, Based on GeTe Phase-Change Switches**
*A. Naoui¹, C. Hellion¹, M. Allain¹, J. Denizart¹, Rémi Velard¹, Loïc Vincent², B. Reig¹,
E. Perret², F. Podevin²*
¹CEA-Leti, France; ²Université Grenoble Alpes, France
- 902   **Carrier Phase Noise Impact on OFDM Performance at D-Band: Concepts and Experimental Assessment**
Yalin Zhou, Zichuan Zhou, Zhixin Liu, Izzat Darwazeh, University College London, UK

EuMC49: Planar Sensors

Chair: Alexander Kölpin, Technische Universität Hamburg, Germany

Co-Chair: Ilona Rolfes, Ruhr-Universität Bochum, Germany

10:50–12:30, Thursday 25th September 2025, Glow







- (NA)   **Tunable Microwave Sensor for High-Sensitivity Detection of Minor Impurities in Liquids**
Mohammadmahdi Javanmardi¹, Vahid Nayyeri¹, Adib Abrishamifar¹, Ugur C. Hasar²
¹IUST, Iran; ²Gaziantep University, Türkiye
- 910   **Low Profile and High Sensitivity Phase-Variation Sensor Applied to Relative Humidity Measurements**
*Xavier Canalias, Paris Vélez, Pau Casacuberta, Lijuan Su, Nazmia Kurniawati,
Ferran Martín, Universitat Autònoma de Barcelona, Spain*
- 914   **Planar Low-Cost Microwave Ring Resonator Temperature Sensor Using a PDMS Active Layer**
*Zabdiel Brito-Brito¹, Jesús Salvador Velázquez-González¹, Fermín Mira¹, Yi Wang²,
Ignacio Llamas-Garro¹*
¹CTTC, Spain; ²University of Birmingham, UK
- 918   **Terahertz Wave Profile Imaging Based on Phase-Shifting Interferometry**
Mahdi Montazery¹, Mohammad Neshat²
¹University of Tehran, Iran; ²University of Sussex, UK
- 922   **Highly Sensitive Capacitive Proximity Sensor Based on Microwave Technology**
*Amirhossein Karami-Horestani¹, Ferran Paredes¹, Karl Adolphs-Saura¹,
Amir Ebrahimi², Ferran Martín¹*
¹Universitat Autònoma de Barcelona, Spain; ²RMIT University, Australia

EuMC50: EuMC Interactive Poster Session 2

Chair: Kamil Yavuz Kapusuz, Ghent University, Belgium







Co-Chair: Mark S. Oude Alink, Universiteit Twente, The Netherlands

10:50–12:30, Thursday 25th September 2025, Hall 7

- 926  **C** **Intermodulation Based Non-Linear Behavior Prediction Towards Electronic Waste Reduction**
Till Schmidt, Raphaël Dauny, Corinne Dejous, Valerie Vigneras, Laurent Oyhenart, Simon Hemour, IMS (UMR 5218), France
- 930  **C** **Analytical Expressions for Antenna On-Chip Efficiency at mm-Wave and Sub-THz Frequencies**
Louis Delait, Christophe Craeye, Jean-Pierre Raskin, Dimitri Lederer, UCLouvain, Belgium
- 934  **C** **Characterization of D- and Y-Band Filters with a Photonic THz System Continuously Tunable from 130 to 510GHz**
Garrit Schwanke, Milan Deumer, Sebastian Lauck, Lars Liebermeister, Mehmet Ahad Yurtoglu, Ramez Askar, Michael Peter, Martin Schell, Robert B. Kohlhaas, Fraunhofer HHI, Germany
- 938  **C** **Sub-THz PA EVM Measurements with Ultra-Wideband Test Signals**
Jean-Pierre Teyssier¹, Vincent Gillet¹, Johan Ericsson¹, Gerhard Schoenthal²
¹Keysight Technologies, USA; ²Virginia Diodes, USA
- 942  **C** **Ultra-Wide Band THz Directional Coupler**
Nikolaos Xenidis, Joachim Oberhammer, Dmitri Lioubtchenko, KTH, Sweden
- 945  **C** **Filtering Power Divider with Reflectionless Response at All Ports Based on Cascaded Building Blocks**
Minahil Shirazi¹, Adnan Nadeem¹, Symeon Nikolaou¹, Kexin Li², Dimitra Psychogiou², Photos Vryonides¹
¹Frederick University, Cyprus; ²University College Cork, Ireland













EuMC50 continues next page...

EuMC50 continued...

- 949  **C** **8-Port Network Analysis up to 110GHz Using Multi-VNA Port Extension**
Jens Löffler, Manuel Koch, Sascha Breun, Robert Weigel, Norman Franchi, FAU Erlangen-Nürnberg, Germany
- 953  **C** **Statistical Analysis on Interlaboratory Comparison Case Study of Dielectric Measurements**
Yuhui Luo¹, Xiaobang Shang¹, Liam Ausden¹, Nick Ridler¹, Djamel Allal², Marcin Wojciechowski³
¹NPL, UK; ²LNE, France; ³GUM, Poland
- 957  **C** **Passive Intermodulation Products Radiated from an Antenna Reflector: Theory and Experiments**
J. Sombrin¹, I. Albert², N. Fil², C. Feat³, J. Sinigaglia³
¹TéSA, France; ²CNES, France; ³Thales, France
- 961  **C** **Compensation of Fano Resonances in Microwave Resonators**
Felix Bachbauer, Gerald Gold, FAU Erlangen-Nürnberg, Germany
- 965  **C** **Design of Multimode Horn Feed for Parallel Plate Waveguide-Based Offset Dual-Reflector Antenna**
Thi-Kim-Ngan Nguyen¹, Artem R. Vilenskiy², David González-Ovejero¹, Ronan Sauleau¹, Marianna V. Ivashina³
¹IETR (UMR 6164), France; ²XPANCEO, UAE; ³Chalmers University of Technology, Sweden
- 969  **C** **Investigation of the Radiation Characteristics of Circular Open-End Polymer Microwave Fibers**
Stefan Wögerbauer¹, Helmut Paulitsch¹, Siegfried Krainer², Michael Ernst Gadringer¹
¹Technische Universität Graz, Austria; ²Infineon Technologies, Austria

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EuMC50 continued...

- 973   **Analysis of Bessel and Bessel-Gauss Beams in the Transition Region from Near to Far Field**
Stella Ventucci¹, Edoardo Negri¹, Walter Fuscaldo², Paolo Burghignoli¹, Alessandro Galli¹
¹Università di Roma "La Sapienza", Italy; ²CNR-IMM, Italy
- 977   **Generation of Admissible Grid Topologies for Coupled-Resonator Filters**
S. Tamiazzo¹, Giuseppe Macchiarella², Matteo Oldoni²
¹ANDREW, Italy; ²Politecnico di Milano, Italy
- 981   **A Millimeter-Wave Switchable SIW Diplexer with Controllable Bandwidths and Transmission Zeros**
Pei-Ling Chi¹, Yu-Hsien Chang¹, Tao Yang²
¹NYCU, Taiwan; ²UESTC, China
- 985   **A Miniaturized Integrated Passive Device On-Chip Bandpass Filter with High Selectivity for Satellite Communication System**
Lybo Ma¹, Haoran Zhu¹, Shunchuan Yang², Yufa Sun¹
¹Anhui University, China; ²Beihang University, China
- 989   **Low Cost FR4 Substrate Based Credit Card Sized Chipless RFID Tags and Switching Probe Reader**
Fuminori Sakai¹, Yoshimasa Amano¹, Mitsuo Makimoto², Koji Wada²
¹Sakura Tech, Japan; ²University of Electro-Communications, Japan
- 993   **Patch Antenna for Microwave Ablation: Numerical Design and ex vivo Experimental Validation**
Leonard Leiner¹, Margarethus M. Paulides², Kemal Sumser², Christopher L. Brace¹
¹University of Wisconsin-Madison, USA; ²Technische Universiteit Eindhoven, The Netherlands

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EuMC50 continued...

- 997   **Series Selection of LC Components in Microwave Rectifier Using Multi-Stage Matching for Wideband Operation**
Takehiro Yamaki, Kodai Nakao, Satoshi Yoshida, Ryukoku University, Japan
- (NA)   **Optimization-Driven Design of a High-Efficiency Pixelated Rectenna for Low-Power Wireless Power Transfer**
Rasool Keshavarz¹, Ali Raza¹, Md. Amanath Ullah¹, Akifumi Nagatani², Negin Shariati¹
¹UTS, Australia; ²NTT, Japan

EuMC51 : Multiphysics Simulation Techniques

Chair: Alessandro Galli, Università di Roma "La Sapienza", Italy

Co-Chair: Andrea Neto, Technische Universiteit Delft, The Netherlands

13:50–15:30, Thursday 25th September 2025, Quest


- 1005  **Systematic Optimization Methodology for mm-Wave Power Amplifiers**
Armen Harutyunyan, Padmanava Sen, Barkhausen Institut, Germany
- 1009  **Radiation Characteristics of Layered Cylindrical Luneburg Lens Antenna Equipped with Conformal Graphene Strip: Effect of Graphene Parameters**
Iryna O. Mikhailikova, Sergii V. Dukhopelnykov, NASU, Ukraine
- 1013  **Optimization of Hypersonic Re-Entry Vehicle Aerodynamics for Communication Blackout Mitigation**
Gian Marco Zampa, Tony Di Fabbio, Eric Segalerba, Joel Guerrero, Leonardo, Italy
- 1017  **Physics Based Modeling of Multi-Finger GaN-HEMTs: Device Width Optimization**
Soheil Nouri, Bilal S. Pirzada, Amirreza G. Avval, Samir M. El-Ghazaly, University of Arkansas, USA
- 1021  **Graphene Strip Grating on Substrate as Conventional and Inverse Polarizer in Terahertz Range**
Fedir O. Yevtushenko, NASU, Ukraine

EuMC52 : MTT-S ISTP Panel Session: Microwaves for a Sustainable Future — Innovations and Challenges in Technology, Energy, and Resources

Chair: Jasmin Grosinger, Technische Universität Graz, Austria

Co-Chair: Peter Siegel, Caltech, USA

13:50–15:30, Thursday 25th September 2025, Expedition











- (NA)  **Microwaves for a Sustainable Future — Innovations and Challenges in Technology, Energy, and Resources**
Malgorzata Celuch¹, Helmuth P.E. Morath², Jean-Pierre Raskin³, Jasmin Grosinger⁴, Sulekha Chattopadhyay⁵, Debabani Choudhury⁶
¹QWED, Poland; ²Technische Universität Dresden, Germany; ³UCLouvain, Belgium; ⁴Technische Universität Graz, Austria; ⁵California Air Resources Board, USA; ⁶SeraTech, USA

EuMC53 : EuMC/EurAAP Special Session: Beamforming Networks for Active Array Antennas

Chair: Bart Smolders, Technische Universiteit Eindhoven, The Netherlands

Co-Chair: Maria Carolina Viganó, Viasat, Switzerland

13:50–15:30, Thursday 25th September 2025, Auditorium



- (NA)   **Mutual Coupling Between Antennas: A Simple Modal Representation**
Jean Cavillot, Christophe Craeye, UCLouvain, Belgium
- (NA)   **All Digital Beamforming Concepts for RADAR Applications**
Gilberto Rossi, Jürgen Rauscher, HENSOLDT Sensors, Germany
- (NA)   **Reconfigurable Photonics Integrated Multibeam Beamformer Networks**
Ronis Maximidis¹, Roel Botter², Paul van Dijk², Chris Roeloffzen²
¹Stellar Phronesis Technology, Greece; ²LioniX International, The Netherlands
- (NA)   **Integrated Microwave Photonic Functionalities on a Hybrid Integrated InP-Si3N4 PIC Platform: Photonic Components for Beamforming Array Antennas**
Chris Roeloffzen, Paul van Dijk, Ilka Visscher, Marcel Hoekman, Roelof Bernardus Timens, Charoula Mitsolidou, Ahmad Mohammad, Robert Grootjans, Roel Botter, Carlos Ruiz Pineda, Sadoon Al-Obaidi, LioniX International, The Netherlands
- (NA)   **Over-the-Air Testing of Front-End Losses in Active Array Antennas**
A.J. van den Biggelaar, Marc Vanden Bossche, ANTENNEX, The Netherlands

EuMC54 : Periodic Structures and Metamaterials

Chair: Antoine Calteau, Swissto12, Switzerland

Co-Chair: Erio Gandini, ESA-ESTEC, The Netherlands

13:50–15:30, Thursday 25th September 2025, Spark

- 1040   **Design of a Topological Waveguide Using Two Types of Rhombic Unit Cell Structures with Exchanged Microstrip-Line Arrangements**
Tsutomu Nagayama, Kagoshima University, Japan
- 1044   **A Two-Dimensional Active Magnetic Metamaterial Cell**
Hongtao Zhong, Shian Su, David S. Ricketts, North Carolina State University, USA
- 1048   **Active Metamaterial Mini-Array Using Inter-Cell Stability Compensation**
Shian Su, Hongtao Zhong, David S. Ricketts, North Carolina State University, USA
- 1052   **Single-Layer, Dual-Passband, High-Reject, Beam-Pointing FSS for SatCom Applications**
Ashifa¹, Elmine Meyer², Ulf Johannsen², Diego Caratelli¹
¹Antenna Company, The Netherlands; ²Technische Universiteit Eindhoven, The Netherlands
- 1056   **Analysis of Forward and Backward Modes in One-Dimensional Periodic Bounded Structures**
Oskar Zetterstrom¹, Raúl Rodríguez Berral², Francisco Mesa², Oscar Quevedo-Teruel¹
¹KTH, Sweden; ²Universidad de Sevilla, Spain

EuMC55 : Wireless Communications and Sensing

Chair: Padmanava Sen, Barkhausen Institut, Germany — Co-Chair: Fabian Lurz, OvG Universität Magdeburg, Germany
13:50–15:30, Thursday 25th September 2025, Glow

- (NA)  **Industrial Applications of THz-Technology: A Fraunhofer View** (*Industrial Keynote*)
*Dirk Heberling*¹, *Dirk Nüßler*², *Christoph Reising*²
¹RWTH Aachen University, Germany; ²Fraunhofer FHR, Germany
- 1061  **Point-to-Multipoint Wireless Communication at 100GHz with a Photonic Switched-Beam Transmitter**
*Simon Nellen*¹, *Garrit Schwanke*¹, *Sara Vega*², *Oliver Stiewe*¹, *Sebastian Lauck*¹,
*Milan Deumer*¹, *Robert Elschner*¹, *Colja Schubert*¹, *Ronald Freund*¹, *María C. Santos*²,
*Martin Schell*¹, *Robert B. Kohlhaas*¹
¹Fraunhofer HHI, Germany; ²Universitat Politècnica de Catalunya, Spain
- 1065  **A Distributed Radar Architecture above 100GHz Using Lens Arrays for Sensing Applications**
*A. Nair*¹, *G. Carluccio*², *W.H. Syed*², *H. Nandagopal*², *M. Alonso-delPino*¹, *D. Cavallo*¹,
*Kostas Doris*², *N. Llombart*¹
¹Technische Universiteit Delft, The Netherlands; ²NXP Semiconductors, The Netherlands
- 1068  **Performance and Potentials of 6G-Based Joint Communication and Sensing for Low-Level Airspace Monitoring**
*Shikhar Chandra*¹, *Nunzio Sciammetta*¹, *Markus Klügel*¹, *Vlad C. Andre*², *Xinyang Li*²,
*Holger Boche*², *Dominic A. Schupke*¹
¹Airbus, Germany; ²Technische Universität München, Germany
- 1072  **Harmonic Response Characterization of Mobile Devices for Application in Avalanche Rescue**
*Moritz Schabinger*¹, *Thomas Schaechtle*¹, *Georg K.J. Fischer*², *Fabian Höflinger*¹,
*Stefan J. Rupitsch*¹
¹Albert-Ludwigs-Universität Freiburg, Germany; ²Fraunhofer EMI, Germany

EuMW03 : EuMW/EuMC Closing and Awards Ceremony

Chair: Ioan E. Lager, Technische Universiteit Delft, The Netherlands

Co-Chair: Ann Franchois, Ghent University, Belgium

16:10–17:50, Thursday 25th September 2025, Polar






- (NA) **Session Welcome**
*Ioan E. Lager*¹, *Ann Franchois*²
¹Technische Universiteit Delft, The Netherlands; ²Ghent University, Belgium
- 1076  **Applications of Exceptional Degeneracy Points in Nonlinear Circuits, Oscillators and Arrays**
Filippo Capolino, University of California, Irvine, USA
- (NA) **Awards Ceremony: EuMW 2025 Awards, EuMC Prize, EuMC Young Engineer Prizes**
Andrea Neto, *Ioan E. Lager*, Technische Universiteit Delft, The Netherlands
- (NA) **Closing Remarks and Invitation to EuMW 2026**
*Mark Bentum*¹, *Stephen Harman*²
¹EuMW 2025 General Chair; ²EuMW 2026 General Chair

EuMIC/EuMC01 : Load-Modulated High-Efficiency Power Amplifiers

Chair: José Carlos Pedro, Instituto de Telecomunicações, Portugal, Portugal

Co-Chair: Mark Ingels, imec, Belgium

08:30–10:10, Tuesday 23rd September 2025, Mission 1

- 1079  **RF-Input Sequential Circulator Load Modulated Amplifier with Back-Off Efficiency Enhancement**
Han Zhou, Haojie Chang, Christian Fager, Chalmers University of Technology, Sweden
- 1083  **A Single-Driver Doherty Power Amplifier Module with Harmonic Load Insensitivity**
Ioannis Peppas¹, Mustazar Iqbal², Marco Pitton², Peter Singer²
¹Technische Universität Graz, Austria; ²Infineon Technologies, Austria
- 1087  **GaN-Based Digital Class-E Doherty Power Amplifier for 5G FR1 Frequency Band**
Giulia Bartolotti¹, Anna Piacibello¹, Vittorio Camarchia¹, Deguang Sun², Thomas Hoffmann², Andreas Wentzel²
¹Politecnico di Torino, Italy; ²FBH, Germany
- 1091  **High Efficiency 2-Stage MMIC GaN Doherty Power Amplifiers with More Than 38% Fractional Bandwidth in C Band**
Victor Dufrene¹, Wilfried Demenitroux¹, Michel Campovecchio², Denis Barataud², Julien Ceugnart¹, Pablo Rochas¹, Olivier Jardel¹, Pierre-Yves Mailloux¹, Nicolas Berthou¹
¹Thales, France; ²XLIM (UMR 7252), France
- 1095  **Design of a Fast-Switchable Three-Stage GaN Doherty PA for High DC-to-RF Efficiency**
Maximilian Gottfried Becker, Robert Krämer, Marco Gunia, Frank Ellinger, Technische Universität Dresden, Germany

EuMIC/EuMC02 : Panel Session: On-Going R&D and Industrial Projects Towards More Sustainable Microwave Engineering

Chair: Ann Francois, Ghent University, Belgium

Co-Chair: Jean-Pierre Raskin, UCLouvain, Belgium

13:50–15:30, Tuesday 23rd September 2025, Auditorium







- (NA) **EIC Engagement with the European Sustainable Electronics Ecosystems**
Isabel Obieta, European Innovation Council, Belgium
- (NA) **Pitches by Panelists from Industry and RTOs**
Bertrand Parvais¹, Gregory Clark², Duncan Platt³, Moritz Schlagmann⁴, Hugues Ferreboeuf⁵
¹imec, Belgium; ²Qorvo, USA; ³RISE, Sweden; ⁴Infineon Technologies, Germany; ⁵The Shift Project, France
- (NA) **Panel Discussion**
Jean-Pierre Raskin, UCLouvain, Belgium

EuMIC/EuMC03 : EuMIC/EuMC Interactive Poster Session

Chair: Piyush Kaul, Technische Universiteit Eindhoven, The Netherlands








Co-Chair: Mark S. Oude Alink, Universiteit Twente, The Netherlands

13:50–15:30, Tuesday 23rd September 2025, Hall 7

- 1099  **C** **X-Band GaN Low Noise Amplifier with Oscillation Suppression Techniques**
Bohyeon Kim, Hyojin Yoon, Jaeyong Lee, Changkun Park, Soongsil University, Korea
- 1103  **C** **Interference and Blockage Mitigation Through Direct RF System-on-Chip Receiver**
Francesco Raimondo, Xiaoqiang Gu, Mark A. Beach, University of Bristol, UK
- 1107  **C** **An Integrated W-Band Dual-Polarization Receiver Front-End Featuring Ultra-Low Noise Figure**
P. Neining¹, Fabian Thome¹, S. Chartier¹, R. Henneberger², B. Thomas³,
Ouid Bouzekri³, E. Richard³
¹Fraunhofer IAF, Germany; ²RPG Radiometer Physics, Germany; ³ESA-ESTEC, The Netherlands
- 1111  **C** **GaN/Si 26–30GHz T/R Chip MMIC for 5G Communications**
A. Al Hajjar, V. Deremaux, M. El Kaamouchi, A. Gasmî, MACOM, France
- 1115  **C** **Design of High-Power Harmonic Controlled Doherty Power Amplifier Using Internally Matched 350-W GaN HEMT for RF Plasma Source**
Jisu Park¹, Minjae Ahn¹, Dongsu Kim², Yunsik Park², Hyunchul Ku¹
¹Konkuk University, Korea; ²KETI, Korea
- 1119  **C** **Active RIS Element in Ka-Band Based on Slot Antennas and 1-Bit Digital Phase Shifter: A Novel Dual Input SiGe BiCMOS Low Noise Amplifier Implementation**
Roberto Vincenti Gatti, Giulio Brancali, Ethan Bernardini, Guendalina Simoncini,
Giacomo Schiavolini, Giulia Orecchini, Federico Alimenti, Università di Perugia, Italy

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- 1123  **C** **Frequency-Dependent Power Consumption Modeling of CMOS Transmitters for WNoC Architectures**
Mohammad Shahmoradi¹, Korkut Kaan Tokgöz², Eduard Alarcón¹, Sergi Abadal¹
¹Universitat Politècnica de Catalunya, Spain; ²Sabancı University, Türkiye
- 1127  **C** **An Iterative Electro-Thermal Model for an Active Antenna Element and its Application to Arrays**
Feza Turgay Celik¹, Christian Fager², Alexander Yarovoy¹, Yanki Aslan¹
¹Technische Universiteit Delft, The Netherlands; ²Chalmers University of Technology, Sweden
- (NA)  **C** **A 9W Low-Cost GaAs MMIC Power Amplifier for X-Band Communications**
Carlo Poledrelli, Michael Ciardullo, Joseph Merenda, Mini-Circuits, USA
- (NA)  **C** **A 0.4–2GHz MMIC LNA with Integrated Limiter**
Sergio Colangeli¹, Antonio Serino¹, Patrick Ettore Longhi¹, Walter Ciccognani¹,
Francesco Vitulli², David Cuadrado-Calle³, Valerie Dutto³, Ernesto Limiti¹
¹Università di Roma “Tor Vergata”, Italy; ²Thales, Italy; ³ESA-ESTEC, The Netherlands
- (NA)  **C** **X-Band Asymmetric GaN HEMT SPDT Switch Using LC Resonator and Quarter-Wave Stub for High Power Handling Capability and High Isolation**
Seungjong Moon, Jaehyun Kwon, Jaeyong Lee, Changkun Park, Soongsil University, Korea
- (NA)  **C** **Thermal Resistance Estimation for AlGaIn/GaN HEMTs with Trapping Effects**
Zhijian Yu, A. Mirza Gheytaghi, Ampleon, The Netherlands
- (NA)  **C** **Machine Learning Assisted Design of Frequency Variants of Low-Noise Amplifiers Using Hybrid of NN with Bayesian Optimization**
Mikko Kaikkonen, Sumra Batool, Muditha Ranaweera, Janne P. Aikio, Timo Rahkonen,
Mikko Hietanen, Olli-Erkki Kursu, Olli Silvén, Aarno Pärssinen, University of Oulu, Finland




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EuMIC/EuMC03 continued...

- (NA)  **mm-Wave CMOS Layout Optimization and Accurate Noise Deembedding for Super-300GHz f_{MAX} and Minimum Noise**
Adhi Cahyo Wijaya, Jinq-Min Lin, Jyh-Chyurn Guo, NYCU, Taiwan
- (NA)  **50nm InP HEMTs with Tgates Fabricated by Single-Step Electron Beam Lithography for High-Frequency Applications**
Huihua Cheng¹, Long Jiang², Afesomeh Ofiare¹, Jichun Shi¹, Taiyu Ju¹, William McGenn², Danielle George², Chong Li¹
¹University of Glasgow, UK; ²University of Manchester, UK
- (NA)  **Ka-Band True Time Delay in a 130-nm SiGe-BiCMOS Technology for Phased-Array Applications**
Lukas Schmitz, Olaf Saalman, Fraunhofer FHR, Germany
- (NA)  **A 28-nm CMOS D-Band Passive Modulator Achieving 43-dB Image Rejection Ratio**
Tian-Wei Huang¹, Kai-Jie Chuang¹, Kin-Ping Tang¹, Yi-Wen Wang¹, Ting-Yu Chang¹, Jeng-Han Tsai²
¹National Taiwan University, Taiwan; ²National Taiwan Normal University, Taiwan
- (NA)  **A Millimeter-Wave Ultralow-Power Injection-Locked Frequency Divider with Dual-Mixing Technique in 90-nm CMOS Process**
Sheng-Chun Chen¹, Chau-Ching Chiong², Yun-Shan Wang¹, Huei Wang¹
¹National Taiwan University, Taiwan; ²Academia Sinica, Taiwan
- (NA)  **Design of an X-Band Low Noise Amplifier with Integrated Limiter for Front-End Modules**
Tan Do, Huong Ngo, Nhat-Minh Ta, Binh L. Pham, Viettel Group, Vietnam

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EuMIC/EuMC03 continued...

- (NA)  **A DC to 17GHz Area-Efficient VGA with 20dB Linear dB Tuning Range in 22nm FDSOI**
Kai Scheller, Andre Engelmann, Philip Hetterle, Jens Löffler, Robert Weigel, Albert-Marcel Schrotz, Norman Franchi, FAU Erlangen-Nürnberg, Germany
- (NA)  **Dual-Band Techniques in a 79/135GHz Power Amplifier in 28nm Bulk CMOS**
Yiqin Hou, Rainier van Dommele, Evangelos Zaoutis, Dusan Milosevic, Vojkan Vidokovic, Technische Universiteit Eindhoven, The Netherlands
- (NA)  **Integrated Time Domain Multiplexer for Superconducting Qubit Control at Millikelvin Temperatures**
Vanessa Wirth, Sascha Breun, Jens Löffler, Manuel Koch, Michael Loose, Marco Dietz, Christian Carlowitz, Robert Weigel, Norman Franchi, FAU Erlangen-Nürnberg, Germany

EuMC/EuRAD01 : Special Session: Dutch Ecosystem for Defence Radar

Chair: R.I.A. Harmanny, Thales, The Netherlands

Co-Chair: Frank E. van Vliet, TNO, The Netherlands

16:10-17:50, Wednesday 24th September 2025, Mission 1







- (NA)  **C Excellence in Radar Systems: The Netherlands in the Lead**
Frank E. van Vliet, TNO, The Netherlands
- (NA)  **C Anticipating the Threat**
Dolf Verhoeven, Ministry of Defence, The Netherlands
- (NA)  **C Radar Systems at Thales Nederland, Past, Present and the Future**
Hans Schurer, Thales, The Netherlands
- (NA)  **C Radar Research and Education at Dutch Academia**
Alexander Yarovoy, Technische Universiteit Delft, The Netherlands
- (NA)  **C Radar Innovation at TNO's Department of Radar Technology**
Jacco J.M. de Wit, TNO, The Netherlands

EuMC/EuRAD02 : EuMC/EuRAD Interactive Poster Session


Chair: Francesco Fioranelli, Technische Universiteit Delft, The Netherlands

Co-Chair: Mark S. Oude Alink, Universiteit Twente, The Netherlands

16:10-17:50, Wednesday 24th September 2025, Hall 7

- (NA)  **C A 10W, High Gain, Multi-Octave Bandwidth Driver Amplifier for HF Radar's Transmitter Application**
Chiranjit Majumder¹, Nagaditya Poluri¹, Basudev Majumder²
¹IIT Kanpur, India; ²IIST, India
- 1195  **C Power Amplifier Modeling and Active Antenna Simulation**
Jeremy Michel¹, Guillaume Neveux¹, Cyrille Menudier¹, Marc Thevenot¹, Clément Hallépée¹, Damien Pithon², Faycel Fezai², Michel Stanislawiak²
¹XLIM (UMR 7252), France; ²Thales, France
- (NA)  **C Active Backscatter Modulation Using FMCW Radar Sensor for V2X Communication**
Christoph Domnik, Michael Meuleners, Christoph Degen, Hochschule Niederrhein, Germany
- 1203  **C A Local Interferometric Technique to Distinguish Between Different Radio-Vortices at 15GHz**
Lorenzo Scalcinati, Bruno Paroli, Mirko Siano, Marco A.C. Potenza, Università di Milano, Italy
- 1207  **C A Multi-Band Full-Duplex Prototype for Integrated Sensing and Communication**
Bixing Yan, André B.J. Kokkeler, Yang Miao, University of Twente, The Netherlands
- 1211  **C Extraction of Target Poles with High Accuracy Matrix Pencil Method Based on Ultra-Wideband Radar**
Junyi Huang, Yu Ji, Yang Wu, Ang Liu, Yafeng Wang, Yuqi Tan, Shen Dong, Guangxin Wu, Yuhao Yang, Linghao Xia, NRIET, China

EuMC/EuRAD02 continued...

- 1215   **Compact and Lightweight Harmonic Tags for Insect Tracking with an X-Band Harmonic Radar**
Andrei Mogilnikov, Anastasia Lavrenko, University of Twente, The Netherlands
- 1219   **Evaluation of the Downlink Communication Parameters of an Indoor 5G Non-Public Network for the Constant Jammer Detection**
Jimmy Nauzad, Maximilian Lübke, Norman Franchi, FAU Erlangen-Nürnberg, Germany
- 1223   **Low-Cost Phased Array for Land Mobile Application**
Przemyslaw Gorski, Frederic Bongard, Daniel Llorens del Rio, Alvaro Diaz Bolado, Michael Elsbury, Maxime Renard, Jose Sarmiento, M. Carolina Viganó, Viasat, Switzerland
- 1227   **Eigenvector Informed Precoder Design for Active MIMO Transmitters**
Jiayu Hou¹, George Goussetis¹, John S. Thompson², Yuan Ding¹
¹Heriot-Watt University, UK; ²University of Edinburgh, UK
- (NA)   **Application of Gradient Descent Algorithm in RFC Optimization and Data Transmission Strategy of MIMO System**
Yifeng He, Yinyu Wei, Feng Su, CAST Xi'an, China

EuMC/EuRAD03 : Design of (MIMO) Radar Antenna Arrays

Chair: Reinhard Feger, Johannes Kepler Universität Linz, Austria

Co-Chair: Rob van der Meer, Robin Radar Systems, The Netherlands

08:30-10:10, Thursday 25th September 2025, Mission 1

- (NA)   **Sparse Array Design for Cost-Efficient Automotive Imaging Radar**
Ebrahim Sadeghpour, Saeid Sedighi, Marco Heinen, Maximilian Pöpperl, Valeo, Germany
- (NA)   **Sidelobe Level Reduction in Antenna Arrays via Element Spacing Optimization**
Masoud Dorvash, Oliver Lang, Reinhard Feger, Johannes Kepler Universität Linz, Austria
- 1243   **76.5GHz Hybrid Phased Array Radar with Grating-Lobes-Free Array Distribution for Automotive Radar Applications**
Masato Kohtani, Sungwoo Cha, Toshihiko Matsuoka, Shinji Yamaura, MIRISE Technologies, Japan
- (NA)   **Maximum Gain Multi-Beam Pattern Synthesis for Phased Array Radar using Convex Optimisation**
W. Bouwmeester, Rob van der Meer, Robin Radar Systems, The Netherlands
- (NA)   **Optimization of MIMO Radar Antenna Arrays for Precise and Reliable 2D Direction-of-Arrival Estimation**
Reza Aliabadi¹, Thomas Zwick², Marlene Harter¹
¹Hochschule Offenburg, Germany; ²KIT, Germany

EuMC/EuRAD04: Special Session: Space Microwave Technology — The ESA Experience

Chair: Iain Davies, ESA-ESTEC, The Netherlands — Co-Chair: Elisa Cipriani, ESA-ESTEC, The Netherlands

08:30–10:10, Thursday 25th September 2025, Auditorium










- (NA)   **Q-Band Front End Radiating Module for Next Generation Active Antennas at Thales Alenia Space**
Vincent Oullion¹, David Serres¹, Benoît Lejay¹, Nicolas Ferrando¹, Julien Rotureau¹, Claire Giraudeau¹, Benoît Lefebvre¹, Fabrice Delahaye¹, Olivier Vendier¹, Václav Valenta²
¹Thales, France; ²ESA-ESTEC, The Netherlands
- (NA)   **GaN MMIC Based Solid State Power Amplifier for X-Band for Long Range High Capacity Communication**
Benoît Lefebvre¹, Aymeric Le Brun¹, Nicolas Poitrenaud², Véronique Serru², Martin Kuball³, James Pomeroy³
¹Thales, France; ²UMS, France; ³University of Bristol, UK
- (NA)   **Taking a Leap in Integration Density for Radio Telescopes with a SiGe Based Single-Chip LO Generation**
Tobias T. Braun¹, Marcel van Delden¹, Christian Bredendiek², Nils Pohl¹
¹Ruhr-Universität Bochum, Germany; ²Fraunhofer FHR, Germany
- (NA)   **Characterization of a V-Ka Band Receiver Module with Ultra-Low Noise Figure, High Gain and Linearity for Geostationary Satellite Communication**
Sascha Krause, Øystein Jensen, Bård Eirik Nordbø, Grunde Joheim, Deokki Min, Sigmund Bardal, Stein Hollung, Kongsberg Defence & Aerospace, Norway
- (NA)   **Characterization Method for a GaN Based Amplifier, Controlled in Amplitude and Phase Through IQ Modulator and Drain Bias Regulation**
Elia Pancini, Fabrizio Marrese, Alessandro Piana, Gianluigi Cassani, Massimo Maspero, Juri Romano, Matteo Squinzi, Omar Leoni, Leonardo, Italy

EuMC/EuRAD05: Recent Developments in Antenna Measurements

Chair: Marco Spirito, Technische Universiteit Delft, The Netherlands

Co-Chair: A.J. van den Biggelaar, ANTENNEX, The Netherlands

10:50–12:30, Thursday 25th September 2025, Auditorium

- 1276   **Realtime 3D Radiation Pattern Measurement: Experimental Demonstration**
Mohammad Azadifar¹, Carlos Romero²
¹HEIG-VD, Switzerland; ²armasuisse, Switzerland
- 1280   **Amplitude-Only Measurement Based Calibration for Phased Arrays with Limited Power Detection Range**
Young-Jun Lim¹, Chanhee Lee¹, Hyeon-Jeong Cho¹, Ji-Young Kim¹, Hyuk-Ja Kwon², Jong-Won Yu¹
¹KAIST, Korea; ²Hanwha Systems, Korea
- 1284   **Near-Field Test of Millimeter-Wave Patch Antenna Arrays with Dielectric Probes**
Athanasios Papanikolaou¹, Jan Hesselbarth¹, Jose Moreira²
¹Universität Stuttgart, Germany; ²Advantest, Germany
- 1288   **Performance Characterization of an Active Phased Array Antenna by Simultaneously Measuring the Radiation Pattern and the Error Vector Magnitude**
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- 1292   **Compact Multi-Probe Planar Near Field Antenna Measurement System**
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Additional Paper

- 1296 **CMOS Compact Concurrent Transceiver Pixel Arrays for Terahertz Imaging Applications**
Wooyeol Choi, Kenneth K. O