



The 19th European Microwave Integrated Circuits Conference

EUROPEAN MICROWAVE INTEGRATED CIRCUITS CONFERENCE 2024 PARIS 23RD – 24TH SEPTEMBER 2024

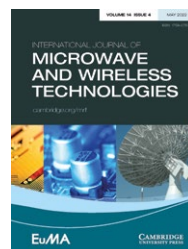
The 19th European Microwave Integrated Circuits Conference (EuMIC) will be held in Paris, France, as part of the European Microwave Week 2024. Initiated by the GAAS® Association in 1990 and renamed in 2006, the conference is being held from the 23rd to the 24th of September 2024 in Paris, France, Porte de Versailles. Paris, as the capital of France is an international hub for technical, financial, and entrepreneurial start-up activities in a truly dynamic city that never goes to sleep! The EuMIC conference is jointly organized by the GAAS® Association and EuMA, and is the premier European technical conference for all topics ranging from RF, microwave, and terahertz electronics over to ultra-fast mixed-signal circuits and systems to optoelectronics. Established as the key contributor to the success of the overall European Microwave Week the EuMIC conference is the largest scientific event in Europe related to microwave integrated circuits.

The aim of the conference is to showcase recent notable achievements and innovative trends within our industry and to encourage the exchange of scientific and technical information covering a broad range of high-frequency related topics in integrated circuits, ranging from devices and technologies to monolithic integrated circuits dedicated to system-in-package and system-on-chip applications; encompassing all relevant aspects such as theory, modelling, simulation, design, and measurement. Research in the field of microwave, terahertz, and optical electronics is crucial to enable innovations on the technology and infrastructure level in new and emerging applications of information and communication technology and sensing.

Mega trends such as 6G and terahertz connectivity, connected and environmental-aware vehicles, smart and intelligent sensing, pan-global satellite coverage, Smart City & Smart Factory developments all rely on high frequency devices and solutions. In addition, they drive the technology-pull and motivate in which field to invest and where to focus your IC start-up company.

Traditionally, the EuMIC conference has focused mostly on III-V compound semiconductor technologies, we are particularly keen and encourage more Si-based contributions as we recognise the rapidly progressing applicability of SiGe BiCMOS and CMOS/SOI solutions for microwave and millimetre-wave applications. The targeted technological

innovations continue to drive challenges for modelling fidelity, simulation complexity, design specifications as well as for the characterisation techniques applied at both device and circuit levels. While GaAs and silicon-based IC technologies are extensively used in today's systems, technologies such as wide-bandgap semiconductor (SiC, GaN, etc.), CNT, and graphene-based devices demonstrate a huge impact on the overall system performance and energy-efficiency. Moreover, new materials and devices push integrated circuit capability to millimetre-wave and even to THz bands, while in high-speed mixed-signal and digital integrated circuits microwave-oriented design techniques and paradigms become essential. The combination of photonics and electronics in optoelectronic integrated circuits represent other key areas of interest. In the modelling area, topics related to devices and circuits, small- and large-signal characterisation, test setups using single or multi-tone or wideband modulated excitation signals up to the THz regime are of prime interest. In the technology area, contributions in the field of nanotechnologies for microwaves, as well as wide-bandgap devices and technologies for microwave photonics are specifically solicited. Topics related to semiconductor devices, IC reliability, wafer-level packaging and 3D-interconnects of ICs are also invited to the conference. Finally, contributions in the areas of application-specific circuit design, RF, and microwave ICs, millimetre- and submillimetre-wave ICs, photonic ICs, mixed-signal and high-speed digital ICs, tuneable and reconfigurable ICs as well as integrated detectors, receivers, transmitters, and complete transceivers are highly encouraged.



If you are eager to hear of the latest advances in RF/microwave/mmWave device or IC technology, and how these will drive the next Telecom, Industrial, Automotive and Smart City revolutions, attend the EuMIC conference in September 2024! The organizational team is putting together an outstanding program, which ensures that you will be excited.

Authors of EuMIC 2024 papers will be encouraged to submit an extended version of their paper to a special issue dedicated to EuMIC in the EuMA's International Journal of Microwave and Wireless Technologies.

EuMIC 2024 CONFERENCE TOPICS

Modelling, Simulation of Devices and Circuits

- G01 TCAD and Multi-Physics Based Device and IC Modelling and Simulations
- G02 Linear, Nonlinear and Noise Characterisation and Modelling Techniques
- G03 Linear and Nonlinear CAD Techniques for Devices and Circuits
- G04 Advanced Methods for Microwave Integrated Circuit Design and Modelling (also including AI, DL, ML, ANN)

Technologies, Devices and IC-Processes

- G05 Nano-materials, Technologies and Devices for Microwave to THz Applications
- G06 Device and IC Manufacturing: Reliability, Processes, and Testing
- G07 Passive Devices, Hetero-Integration, and 3D-Interconnects in ICs
- G08 Si-Based Microwave and Millimetre-wave Technologies and Devices

- G09 Compound Semiconductor Technologies and Devices
- G10 New and Emerging Material and Device Concepts (Quantum Electronics, Topological insulators, 2D materials, M-Xenes, Organic, etc)
- G11 Devices for THz Electronics and Integrated Microwave Photonics
- G12 Wafer Level Packaging
- Integrated Circuit Design**
- G13 RF, Microwave, and Millimetre-wave Integrated Circuits up to 100 GHz
- G14 Millimetre-wave (beyond 100 GHz) and THz Integrated Circuits
- G15 Integrated Receivers, Transmitters, and High-Speed Transceivers (*)
- G16 Power Amplifier Integrated Circuits
- G17 Integrated Frequency Sources and Frequency Conversion (*)
- G18 ICs for Phased Array Antennas, MIMO, and Beamforming Transceivers and Building Blocks

- G19 Microwave Photonics Integrated Circuits and Silicon Photonic Transceivers
- G20 Mixed-signal Integrated Circuits and GB/s Data Converters
- G21 Low Noise Integrated Circuits
- G22 Si-based Integrated Circuits Design
- G23 Si-based Power Amplifier Integrated Circuits

Emerging Technologies and Applications

- G24 Microwave and Millimetre-wave Integrated Circuits for Innovative Applications (Smart Industry, Smart Devices, 6G, M2M, LoRa, RFID, IoT, ...)
- G25 Wearable Integrated Electronics for Sensing Applications from MHz to THz
- G26 Microwave Integrated Circuits for Autonomous Systems and Vehicular Communications (V2X, C-ITS, ...)
- G27 Microwave Integrated Circuits for Quantum Computing

(*) common topic with EuMIC



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Integrated Circuits Conference

CONFERENCE HIGHLIGHTS

More than 100 papers and poster papers will be presented with contributions from Europe, Asia, Middle East, North and South America as well as emerging countries. High-quality papers and posters will be accepted after a rigorous review process and made available in the conference proceedings and online. Keynote speakers from industry and academia will present invited talks on hot topics. Tailored short-courses, workshops and lively panels round off the programme.

EUMIC MICROWAVE PRIZE

The EuMIC Technical Programme Committee and the EuMW Steering Committee will award the EuMIC 2024 Prize of €3,000 to the author(s) of the best contributed paper at the 19th European Microwave Integrated Circuits Conference. An extended version of the winning paper will be considered for publication in the International Journal of Microwave and Wireless Technologies.

EUMIC YOUNG ENGINEERS PRIZE

The EuMIC Technical Programme Committee and the EuMW Steering Committee will award an EuMIC Young Engineer Prize of €2,000 to young engineers or researchers who have presented an outstanding paper at the European Microwave Integrated Circuits Conference. To be eligible, candidates must be (1) under 30 years of age at date of award, (2) the first author of the paper, and (3) be the contribution presenter in an oral or a poster session. The first author must have made a major contribution to the work reported, which must be described in an electronic statement signed by all co-authors of the paper (effectively co-authors state that their contribution was merely advisory). Further rules are similar to EuRAD and EuMC.

TOM BRAZIL FELLOWSHIP AWARD STUDENT ESSAY COMPETITION

As part of the fellowship award, for the next three years, starting in 2021, the GAAS® Association will promote an essay competition in memory of Prof. Tom Brazil, a great contributor to the Microwave Community and a well-known friend and colleague to many of us. To be eligible to participate, the student has to be enrolled in a full-time PhD or graduate degree programme in microwave electronics.

A two-stage approach is taken to select the Tom Brazil Fellowship Award winners. Interested authors must submit a four-page abstract on His/Her view on "Microwaves in supporting global challenges," using one of the EuMIC conference topics, thus describing what kind of future microwave activities would be important and why. This abstract has to be submitted to the EuMIC conference using the paper submission portal until the 17th March. During the paper reviewing process, a shortlist of authors is determined. These authors are requested to provide an extended version of their contribution with a maximum of 4000 words or max of 12 pages. The shortlisted authors have to submit their essays by the 24th August 2024 to brazilaward.eumw2024@eumwa.org.

The best essay will be awarded a prize of €2,500. For the second and third place, prizes of €1,500 and €1,000 are granted. More information on the award is provided at the EuMW Awards page

REDUCED FEES AND SPECIAL GRANTS

Reduced registration fees are offered for students as well as senior persons aged 65 years or more. The European Microwave Association will also provide up to six student grants of €750 and free EuMIC registration. Applicants for a student grant must be aged 30 or younger at the time of the European Microwave Week, be a full-time student, i.e., an undergraduate or a PhD student, and they will be asked to provide a supervisor's written confirmation of their current student status. The European Microwave Association will also provide a number of grants for delegates coming from the Newly Independent States and from low-income countries. We are particularly proud to support applications from Ukrainian scholars. The value of the grant is €750 in addition to a free EuMIC registration. Applications should be sent to the EuMW 2024 Grants Chair by emailing grants.eumw2024@eumwa.org within the deadline (see "Important Dates" section).

19TH EUMIC TEAM

Function	Name	Email
Chair	Nathalie Deltimple, IMS Lab, Bordeaux INP	eumic.chair.eumw2024@eumwa.org
Co-Chair	Andreia Cathelin, Technology R&D Fellow STMicroelectronics	eumic.cochair.eumw2024@eumwa.org
TPC Chair	Jean Christophe Nallatamby, XLIM Lab., Univ. Limoges	eumic.tpc.chair.eumw2024@eumwa.org
TPC Co-Chair	Joaquín Portilla, UPV/EHU, Univ of the Basque Country	eumic.tpc.cochair.eumw2024@eumwa.org