



The 21st European Radar Conference

EUROPEAN RADAR CONFERENCE 2024 PARIS 25TH – 27TH SEPTEMBER 2024

The 21st European Radar Conference (EuRAD 2024) will be held from the 25th to 27th September 2024 in Paris, France, in the framework of the European Microwave Week 2024. This Radar Conference is the major European event for the present status and the future trends in the field of radar research, technology, system design, and applications. The EuRAD conference will bring together a global network of researchers, practitioners, and institutes working on topics related to the following four areas of focus.

The Radar Sub-systems and Phenomenology topic comprises radar electromagnetic phenomenology (including radar cross section) modelling and characterisation, antenna design (simulation and measurements) including innovations and methods in antenna characterisation, active or passive phased arrays and transceiver technologies as well as reconfigurable front-ends and sub-systems.

The Radar Signal and Data Processing topic aims to attract innovative research contributions on digital beamforming and other multi-antenna processing techniques (including MIMO, multi-static, and networked), interferometry, polarimetry, tomography, waveform diversity, detection, tracking, and target localisation, high-resolution radar signal processing techniques, classification, robust multidimensional signal processing techniques, and compressive sensing. Submissions are also

expected in the use of machine learning, deep learning, and adaptive techniques for radar. The Radar Architecture and Systems topic incorporates the latest development of sensors from the classical designs such as CW, over-the-horizon, passive, noise, and polarimetric radar, up to the most complex and sophisticated architectures, incorporated in, for example, remotely piloted aircraft, multi-sensor and multifunctional systems, UWB systems and millimetre-wave and THz radars. New tools for radar simulation and system performance modelling, model-based design, as well as new trends in cognitive, bio-inspired and software defined radars are encompassed.

The Radar Applications topic encompasses various domains such as automotive radars, radars for UAVs, defence and security, ground/space radar, remote sensing, subsurface and ground penetrating radar, surveillance, traffic control, as well as other radar uses, related to medical, industrial, and system diagnostic applications. Novel applications benefiting from multi-static radar systems, passive radar, short range and near-field radars, bio-medical imaging, millimetre-wave and THz technology or any other new emerging radar application are also included. A transversal focus is also expected on the re-emerging areas of electronic surveillance and countermeasures for radar applications also in relation to the growth of the internet-of-things.

EuRAD 2024 CONFERENCE TOPICS

RADAR Sub-systems and Phenomenology

- R01 Phenomenology and Modelling:
- R02 Antenna Design and Characterization (*)
- R03 Phased Arrays, Fully Digital Arrays, Circuits and Components, Tx/Rx Modules (*)
- R04 Radar Front-Ends:
- RADAR Techniques
- R05 Beamforming, Multi-Antenna, and MIMO Techniques
- R06 Robust Detection, Estimation, and Target Classification
- R07 Compressive Sensing and Information Extraction
- R08 Localisation, Tracking, and Sensor Data Fusion
- R09 Imaging and High-Resolution Techniques
- R10 Cognitive Techniques, Waveform Diversity, and Sensor Management
- R11 Spectrum Sharing and Joint Radar and Communication
- R12 Machine Learning and Artificial Intelligence for Radar

RADAR Architectures and Systems

- R13 Ultra-Wideband, Noise, and Polarimetric Radar Systems (*)
- R14 Imaging, Short Range, and Synthetic Aperture Radar Systems
- R15 HF and Over the Horizon Radar Systems
- R16 Passive and Multi-Sensor Architectures
- R17 MIMO Radar Systems and Radar Networks
- R18 Adaptive and Cognitive Radar Systems (*)
- R19 Multifunctional Radar
- R20 Radar Millimetre-wave, THz Technology and Systems
- R21 Quantum Radar
- R22 Low-cost and Software-Defined Radar
- R23 System Simulation and Modelling

RADAR Applications

- R24 Defence Applications, Electronic Surveillance (ES), and Electronic Warfare (EW)
- R25 Radar for UAVs and Security Applications
- R26 Industrial and Emerging Applications
- R27 Medical & Biological Applications
- R28 Human Activity Monitoring, including Gesture Recognition
- R29 Automotive & Transportation
- R30 Geoscience, Weather & Environmental Remote Sensing
- R31 Radar Systems and Missions for Space Exploration

(*) common topic with EuMC



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CONFERENCE HIGHLIGHTS

The conference is the ideal event to keep up to date with the latest achievements in the field of radar and to interact with international experts from industry and academia. The conference brings together researchers and radar designers and developers from all over the world to stimulate development of new trends, products, and services. International experts will present keynote papers on topics of current importance and on the latest advances. Tailored short-courses and workshops will complement the programme.

EUMA RADAR PRIZE

The EuMA Radar Prize is awarded by the EuRAD Technical Programme Committee and the EuMW Steering Committee to the best paper at the 21st European Radar Conference. The value of the EuMA Radar Prize is €3,000. An extended version of the winning paper will be considered for publication in the International Journal of Microwave and Wireless Technologies.

EuRAD YOUNG ENGINEER PRIZE

The EuRAD Technical Programme Committee and the EuMW Steering Committee will award a EuRAD Young Engineer Prize of €2,000 to young engineers or researchers who have presented an outstanding contribution at the European Radar Conference. To be eligible, candidates must (1) be under 30 years of age at date of award, (2) be 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 authors of the paper (effectively co-authors state that their contribution was merely advisory). Further rules are similar to EuMC and EuMIC.

REDUCED FEES AND SPECIAL GRANTS

Reduced registration fees are offered for students as well as senior persons aged 65 years or more and for military personnel (with proof of affiliation). The European Microwave Association will also provide up to five student grants of €750 and free EuRAD 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 EuRAD registration. Applications should be sent to the EuMW 2024 Grants Chair by emailing grants.eumw2024@eumwa.org within the deadline (see "Important Dates" section).

21ST EuRAD TEAM

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