



First Call for Papers

URSI AT- RASC 2024

May 19 – 24, 2024

ExpoMeloneras Convention Centre, Gran Canaria

The triennial URSI Atlantic Radio Science Conference (URSI AT-RASC) is one of the URSI flagship conferences besides the URSI General Assembly and Scientific Symposium and the AP-RASC (Asia-Pacific Radio Science Conference).



This 4th URSI AT-RASC will be held as an in-person conference with only on-site presentations. The conference will have a series of convened and open sessions within the domains covered by all ten Commissions of URSI:

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| Commission A: Electromagnetic Metrology | Commission F: Wave Propagation and Remote Sensing |
| Commission B: Fields and Waves | Commission G: Ionospheric Radio and Propagation |
| Commission C: Radiocommunication and Signal Processing Systems | Commission H: Waves in Plasmas |
| Commission D: Electronics and Photonics | Commission J: Radio Astronomy |
| Commission E: Electromagnetic Environment | Commission K: Electromagnetics in Biology and Medicine |

Paper submission deadline: January 20, 2024

Detailed information on paper submission as well as travel information will become available through the website: www.at-rasc.org. Authors can opt to submit papers presented at this 4th URSI AT-RASC to IEEE Xplore and can take advantage of reduced page charges when submitting and extended or updated version of the papers to Radio Science Letters. In addition, there will be special programs for young scientists, a student paper competition, and programs for accompanying persons.

Technical Programme Committee Chair: Stefan J. Wijnholds

Organizing Committee Chair: Peter Van Daele

Publication Chair: Inge Lievens

Important deadlines

Paper submission
January 20, 2024

Notification
February 28, 2024

Early bird & Author registration
March 30, 2024

Conference start
May 19, 2024

Please consult
www.at-rasc.org
for the latest
updates
information





Topics of Interest



Commission A – Electromagnetic Metrology

Antennas, Atomic-based mechatronics, Bioeffects and medical applications, EMC and EM metrology, High-frequency and millimeter wireless metrology, Impulse radar, Interconnect and packaging, Materials,

Measurements and calibration in propagation, Microwave to submillimeter measurements/standards, Noise, Quantum metrology and fundamental concepts, Space plasma characterization, Techniques for remote sensing, Test facilities, THz metrology, Time and frequency, Time-domain metrology and other topics of interest.

Commission B – Fields and Waves

Antenna arrays, Antennas: recent advances and future outlook, Antenna theory, design and measurements, Cognitive radio, Complex media (bandgap structures, biological and geophysical media, metamaterials, and others), Educational methods and tools,

Electromagnetic interaction and coupling, Guided waves and waveguiding structures, High-frequency techniques, Imaging, inverse scattering and remote sensing, Mathematical modeling of electromagnetic problems, Microstrip antennas and printed devices,



Multiphysics electromagnetics, Nanoscale electromagnetics, Nonlinear electromagnetics, Numerical methods (differential- and integral-equation based, hybrid and other techniques), Optical phenomena, Optimization techniques in electromagnetics, Propagation phenomena and effects, Rough surfaces and random media, Scattering and diffraction, Theoretical electromagnetics, THz antennas and propagation, Transient fields, effects, and systems, Ultra-wideband electromagnetics, Wireless communications and other topics of interest.

Commission C – Radiocommunication Systems and Signal Processing



Cognitive radio and software defined radio, Distributed sensor networks and sensors array processing, Energy-efficient (“green”) communications, Information theory, coding, modulation and detection, MIMO and MISO systems, Novel radio communication systems, Physics-based signal

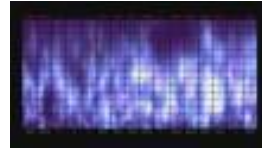
processing, Radar target detection, localization, and tracking, Radio localization and positioning, Signal and image processing, Spectrum and medium utilization, Statistical signal processing of waves in random media, Synthetic aperture and space-time processing, Wireless networking and other topics of interest.

Commission D – Electronics and Photonics

Broadband ubiquitous network, Energy harvesting in wireless systems, Fiber lasers and solid state lasers, Graphene nanoelectronics applications, Multi-physics modeling in radio frequency nanoelectronics, Optical sensors and biosensors, Plasmonics, RF MEMS and NEMS, Signal processing antennas, 60 GHz electronics, Trends in RFID for identification and sensing, Trends in THz communications and other topics of interest.



Commission E – Electromagnetic Environment and Interference



Communication in the presence of noise, Crosstalk, Electromagnetic compatibility education, Electromagnetic compatibility measurements and standards, Electromagnetic noise of natural origin, Electromagnetic radiation hazards, High-power effects of transients on electronic systems, Spectrum management and utilization and other topics of interest.

Commission F – Wave Propagation and Remote Sensing

Propagation measurements/models for fixed and mobile links, Measurements of fixed and mobile channels, Propagation models, Multipath/mitigation, Fixed terrestrial links: measurements and design

strategies, Surface/atmosphere interaction, Dispersion/delay, Effects of natural/man-made structures, Outdoor to indoor propagation, Multi link MIMO channels, UWB channel characteristics, Small cell



propagation, Remote sensing of the Earth/planets by radio waves, Passive sensing at millimeter wavelengths, Interferometry and SAR, Sensing of snow in open and forested environments, Remote sensing of precipitation, Atmospheric sensing, Sensing of soil moisture and biomass, Ocean and ice sensing, Urban environments, Radio Frequency Interference (RFI), Underground imaging, Propagation and remote sensing in complex and random media and other topics of interest.

Commission G – Ionospheric Radio and Propagation

Ionospheric imaging, Ionospheric morphology, Ionospheric modeling and data assimilation, Radar and radio techniques for ionospheric diagnostics, Space weather – radio effects, Transionospheric radio propagation and systems effects and other topics of interest.



Commission H – Waves in Plasma

Chaos and turbulence in plasma, Plasma instabilities and wave propagation, Spacecraft-plasma interactions, Solar/planetary plasma interactions, Wave-wave and wave-particle interactions, Waves in laboratory plasmas and other topics of interest.



Commission J – Radio Astronomy

Detection of short-duration transients, Developments in array technology for radio astronomy, New telescopes, techniques, and observations, Radio frequency interference mitigation and spectrum usage, SKA, Timely technical tutorials and other topics of interest.



Commission K – Electromagnetics in Biology and Medicine

Biological effects, Dosimetry and exposure assessment, Electromagnetic imaging and sensing applications, Human body interactions with antennas and other electromagnetic devices, Therapeutic, rehabilitative, and other biomedical applications and other topics of interest.

