



IEEE Radio and Wireless Symposium

21-24 January 2024 Grand Hyatt San Antonio River Walk, San Antonio, TX, USA

Paper Deadline
25 July 2023



Part of **Radio and Wireless Week**

<https://www.radiowirelessweek.org/>

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Conference Management

Elsie Vega, *IEEE*
Cassandra Carollo, *IEEE*

Call For Papers

The 2024 IEEE Radio and Wireless Symposium (RWS 2024) will be held during the week of 21–24 January 2024 in the Grand Hyatt San Antonio River Walk, San Antonio, TX, USA.

RWS 2024 and the 24th IEEE Topical Meeting on Silicon Monolithic Integrated Circuits (SiRF 2024) are co-located and will continue to hold joint sessions. Topical conferences held in parallel provide more focused sessions in the areas of RF Power Amplifiers (PAWR), Wireless Sensors and Sensor Networks (WiSNet), and Space Hardware and Radio (SHaRC). The RWS Demonstration Track provides an interactive forum for hands-on demonstration of latest wireless experiments and innovations. There are also Special Sessions, Short Courses, and a Design Competition. RWS Papers featuring innovative work are solicited in (but not limited to) the following areas:

1. High-speed and Broadband Wireless Technologies

- 3G/4G/5G Wireless Communication Services
- Broadband Fixed Wireless and Last-Mile Access
- Optical Networks Systems and Microwave Photonics
- Ultra-High Data Rate Communications Links - Powerline Communication Technologies
- Ultra-Wideband (UWB) Systems

2. Emerging Wireless Technologies and Applications

- Femtocell and Heterogeneous Networks
- Green, Sustainable Wireless Tech. & Networks
- M2M & V2V Technologies & Applications
- Resource Management, Security
- Wireless Security and RFID Technologies
- Wireless Power Transfer
- Quantum Technologies with Microwaves

3. Wireless System Architecture and Propagation Channel Modeling

- Ad Hoc Network Techniques for Internetworking
- Distributed Network Architectures and Systems
- Frequency and Channel Allocation Algorithms
- Propagation Considerations and Fading Countermeasures
- Wireless Channel Characterization & Modeling
- Wireless Mesh and Local/Personal/Body Area Networks

4. Wireless Digital Signal Processing and Artificial Intelligence

- Digital/Analog Adaptive/Collaborative Signal Processing
- Dynamic Spectrum Sharing, Coexistence, Interoperability
- Interference Mitigation and Cancellation Techniques
- MAC, Networking protocols, Policies, Standardization
- Methods for Signal Integrity and Signal Conditioning
- Artificial Intelligence & Machine Learning in Radio and Wireless
- Spectrum Sensing Technologies

5. Applications to Bio-Medical, Environmental, and Internet of Things

- Miniaturization and Integration of Wireless Technologies
- Biological Material Characterization
- Personal Area Networks and Body area Sensor Networks
- Wireless Positioning Technologies & Remote Sensing

6. MIMO and Multi-Antenna Communications

- Cooperative/Collaborative Technology
- MIMO, MU-MIMO, Space-Time Processing - Relaying Technologies
- Multi-Beam Smart Antennas

7. Antenna Technologies

- Miniaturized, Multi-frequency and Broadband Antennas
- Passive and Active Antennas from RF to THz Frequencies

8. Transceiver and SDR Technologies

- Digital Transmitters for Sub-6 GHz Wireless
- Low-Power Cost-Effective IoT Solutions
- Multi-Mode Multi-Band Radios
- RF Imperfection Compensation Techniques
- Satellite Communication Systems

9. Passive Components & Packaging

- 3D-Packaging, Interconnects, and Applications
- Discrete and Highly Integrated Packaging
- Discrete, Embedded and Distributed Passive Components, Filters Couplers and Signal Separation Devices

10. MM-Wave to THz Technology & Applications

- Active and Passive Devices Demonstration
- Architectures for Next-Generation Large-Scale Systems

11. 3D & Novel Engineered Materials

- Additive 3D manufacturing for wireless applications
- Novel Engineered Materials for Antenna, Packaging, Passive Devices and Flexible Electronic Integration

RWS 2024 General Chair

Changzhi Li, *Texas Tech. University*

RWS 2024 General Co-Chair

Holger Maune, *Magdeburg University*

Paper submission instructions can be found at <http://www.radiowirelessweek.org/>. Submissions should be formatted according to the submission review template available on the RWW website. Authors should indicate preference for oral or poster presentation. All submissions must be received by **25 July 2023**. All accepted papers will be published in a digest and included in the IEEE Xplore® Digital Library. Submissions will be evaluated based on novelty, significance of the work, technical content, interest to the audience, and quality of writing.



IEEE Topical Conference on RF/Microwave Power Amplifiers for Radio and Wireless Applications

21-24 January 2024 Grand Hyatt San Antonio River Walk, San Antonio, TX, USA



<https://www.radiowirelessweek.org/>

Paper Deadline
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Conference Management

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Cassandra Carollo, *IEEE*

Call For Papers

The 2024 IEEE Topical Conference on RF/Microwave Power Amplifiers for Radio and Wireless Applications (PAWR 2024) will be a part of 2024 IEEE Radio and Wireless Week (RWW 2024) which will be held during the week of 21-24 January 2024 in the Grand Hyatt San Antonio River Walk, San Antonio, TX, USA.

RWW 2024 will also feature:

- IEEE Radio and Wireless Symposium (RWS)
- 24th Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems (SiRF)
- IEEE Topical Conference on Wireless Sensors and Sensor Networks (WiSNet)
- IEEE Space Hardware and Radio Conference (SHaRC)
- Special Sessions, Short Courses, and a Design Competition

Each of these events will be organized separately, with their own call for papers found at <http://www.radiowirelessweek.org/>.

Power amplifiers for radio and wireless applications (PAWR) are often the most critical component of RF/microwave communications systems and consequently the focus of intense research to achieve increased linearity and power efficiency. New forms of power amplification are being developed to meet the needs of the wireless communication equipment industry and the world's demand for greater information transmission. PAWR 2024 will feature tracks on RF/microwave Power Amplifiers. Papers featuring innovative work are solicited in (but not limited to) the following areas of RF/microwave power amplifier technology:

- High Power/Wideband Active Devices
- Power Amplifiers for Mobile, Avionics and Space
- Modeling and Characterization
- Advanced Circuit Design and Topologies
- Green Power Amplifier Technology
- Integration Technology
- Packaging and Reliability
- Linearization and Efficiency Enhancement Techniques
- Applications, Novel Architectures and System Analysis

PAWR2024 Chair

Vittorio Camarchia, *Politecnico di Torino*

PAWR2024 Co-Chair

John Dooley, *Maynooth University*

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IEEE Topical Conference on Wireless Sensors and Sensor Networks

21-24 January 2024 Grand Hyatt San Antonio River Walk, San Antonio, TX, USA



<https://www.radiowirelessweek.org/>

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Call For Papers

The 2024 IEEE Topical Conference on Wireless Sensors and Sensor Networks (WiSNet 2024) will be a part of 2024 IEEE Radio and Wireless Week (RWW 2024) which will be held during the week of 21-24 January 2024 in the Grand Hyatt San Antonio River Walk, San Antonio, TX, USA.

RWW 2024 will also feature:

- IEEE Radio and Wireless Symposium (RWS)
- 24th Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems (SiRF)
- IEEE Topical Conference on RF/Microwave Power Amplifiers for Radio and Wireless Applications (PAWR)
- IEEE Space Hardware and Radio Conference (SHaRC)
- Special Sessions, Short Courses, and a Design Competition

Each of these events will be organized separately, with their own call for papers found at <http://www.radiowirelessweek.org/>.

Wireless sensors and wireless sensor networks (WiSNet) are crucial components for manufacturing, structural health, security monitoring, environmental monitoring, smart agriculture, transportation, commercial applications, localization, tracking systems and other important and emerging applications. WiSNet 2024 is intended to stimulate discussion and foster innovation on these components and applications.

Papers featuring innovative work are solicited in (but not limited to) the following areas:

- Wireless Sensors for Communication, Radar, Positioning and Imaging Applications
- Wireless Sensors for Localization and Tracking
- Wireless Integrated Sensors, Front-Ends and Building Blocks
- Wireless Sensors for Harsh Environments, Environmental, Health, Home and Commercial Applications
- Wireless Sensors Networks, Smart Sensor Systems, and Autonomous Networking
- RFID Sensors and Sensor Tags
- Sensor Networks for Sensor Network Topologies and Sensor Network Communication Architecture
- Coexistence, Synchronization and Scheduling in Hybrid and Social Networks
- Cryptography, Security, Privacy Issues in Ad-Hoc, Sensor and Mesh Networks
- Six-Port and Multi-Port Technology
- Internet of Things Hardware, Protocols and Applications
- Wireless Sensors Applications in Wearable Computing and Body Area Nets
- QoS Aware Design: Energy Optimization and Deployment Techniques Large, Dense and Dynamic Network Topologies

WiSNet 2024 Chair

Paolo Mezzanotte, *University of Perugia*

WiSNet 2024 Co-Chair

Fabian Lurz, *Hamburg University of Technology*

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The 24th IEEE Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems

21-24 January 2024 Grand Hyatt San Antonio River Walk, San Antonio, TX, USA



<https://www.radiowirelessweek.org/>

Paper Deadline
25 July 2023

Call for Papers

IEEE Topical Meetings on Silicon Monolithic Integrated Circuits in RF Systems have been at the forefront of moving Silicon technologies into microwave, millimeter-wave and THz applications – a development now widely accepted, and of great importance. RF CMOS and Si/SiGe BiCMOS technologies are well established in commercial and defense applications.

SiRF 2024 will mark the 24th topical meeting on SiRF, with a renewed emphasis on promoting a dialogue between IC designers and researchers promoting non-standard technologies, exploiting the maturity of Silicon processes, but addressing the challenges of tomorrow. The three days of SiRF 2024 will chronicle recent advances in our dynamic field, and provide the platform for developing new ideas, and candid exchange, facilitated by SiRF's single-session format. As in past years, a line-up of reputed invited speakers will stimulate our discussions, with an emphasis on emerging technologies.

For more details, visit: <https://www.radiowirelessweek.org/conferences/sirf/>

SiRF 2024 solicits papers in the following focus areas:

1. RF, Millimeter-wave and THz Integrated Circuit

- Front ends
- Integrated Transceivers and Transceiver sub-systems
- MIMO and Phased Array Integrated Circuits
- Ultra-Wideband Front ends and Building Blocks
- Emerging Technologies, 5G and 6G Front ends
- mmw & THz Imaging Circuits
- System-on-Chip and System-on-Package
- Smart Antennas and Integrated Meta-Surfaces
- RF, mmW and THz Circuit Building Blocks
- Reconfigurable Radio Front ends
- Wireless Sensors and Sensor Systems
- Low Power RFIC for Biomedical Applications

2. Wireline Communication Circuits and Building Blocks

- Wideband Transmitter, Receiver and Transceivers
- High Frequency Oscillators and Signal Generators
- PLLs and Frequency Synthesizer Integrated Circuits
- Clock and Data Recovery Circuits
- Precise Timing Circuits
- High-Speed Modulators and Drivers

3. High Speed Data Converters & Mixed Signal Circuits

- Nyquist Rate and Oversampling A/D and D/A Converters
- Embedded & Application-Specific A/D and D/A Converters
- Analog to Information Conversion
- Time-to-Digital Converters
- Analog Circuits and Building Blocks
- Digitally Assisted Analog Circuits and Analog Calibration
- MEMS/sensor Interface Circuits

4. Silicon Photonics and Electronic-Photonic Integrated Circuits

- Wideband Electronic-Photonic Circuits
- Electronic-Photonic Modulators
- Electronic-Photonic Receives
- Wideband TIAs and Drivers
- LIDARS
- Optical PLLs
- Radio Over Fiber Circuits

5. Devices, Technology, Modeling and Materials

- Advanced RF CMOS and SiGe BiCMOS Devices
- Si-Based Heterostructures
- Through-Silicon Via Integration
- RF MEMs and Micromachining
- Advanced Device Modeling
- Advanced Packaging
- Epitaxy
- Strain Engineering
- Characterization and Stability Issues
- Smart Materials
- Nano Technologies Including CNT, Nanowire and Graphene

6. Measurement and Modeling

- Multi-Physics Modeling
- EM Simulation of Complex RFICs
- Robust Measurement and De-Embedding
- Built-In Self-Test
- Self-Calibration
- High Throughput RFIC Testing

MEETING DETAILS

SiRF 2024 will be held during Radio and Wireless Week in San Antonio, TX, along with the Radio and Wireless Symposium (RWS), the Topical Conference on Power Amplifiers for Wireless and Radio Applications (PAWR), the Topical Meeting on Wireless Sensors and Sensor Networks (WisNet), and the Space Hardware and Radio Conference (SHaRC).

Conference Chair

Robert Schmid, *Johns Hopkins Applied Physics Lab*

Technical Program Chair

Mehmet Kaynak, *IHP Microelectronics*

Publicity Chair

Ickhyun Song, *Hanyang University*

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ESA / ESTEC

Roe Ben Yishay
Intel Corporation

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IEEE Space Hardware and Radio Conference

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IEEE



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Call For Papers

The 2024 IEEE Space Hardware and Radio Conference (SHaRC 2024) will be a part of 2024 IEEE Radio and Wireless Week (RWW 2024) which will be held during the week of 21-24 January 2024 in the Grand Hyatt San Antonio River Walk, San Antonio, TX, USA.

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The IEEE Space Hardware and Radio Conference (IEEE SHaRC) addresses new concepts, novel implementations, as well as emerging applications for space-based electronic systems for communications, earth observation, and other novel disruptive services. To meet recent needs, there has been a renaissance of interest and investment in space- and suborbital-based systems especially for high-data-rate communications networks. These new global satellite networks are disruptive, rely on new system and subsystem design paradigms, and are an enabler for many novel applications. The IEEE Space Hardware and Radio Conference provides a forum for discussions on this new frontier.

Papers featuring innovative work are solicited in (but not limited to) the following areas of the space hardware and systems:

- Manufacture and Deployment of LEO satellite constellations and formations
- Lower-Cost Alternatives
- Unmanned Air Systems
- Terrestrial Systems & Ground Stations
- CubeSat Hardware and Systems
- Satellite and Balloon Concepts
- Small and Micro-Satellite Design
- Orbital Configurations & Operations
- Radiation Effects
- Phased Arrays
- High Data Rate Links
- Geolocation
- Earth Observation
- Frequency Spectrum Allocations
- International Regulations & Standards
- SIGHT Applications of the IoS

SHaRC 2024 Chair

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