

Special Issue

Energy-Efficient Wireless Communication and Networking for Intelligent IoT Systems

Message from the Guest Editors

The next generation of IoT devices will require seamless integration of energy-efficient communication, intelligent sensing, and adaptive networking to meet the growing demand for ubiquitous, reliable, and sustainable connectivity. Unlike traditional IoT deployments that rely on power-hungry architectures and centralized data processing, future IoT systems must combine advances in wireless sensor networks, energy harvesting, and embedded artificial intelligence (AI) with optimized protocols for edge and cloud integration. This Special Issue invites original research, reviews, and applications focusing on novel solutions for energy-aware wireless communication and networking in the IoT. Topics of interest include, but are not limited to, ultra-low-power RF transceivers, ambient backscatter communication, energy harvesting-assisted networking, machine learning-driven adaptive protocols, AI-enhanced edge intelligence, and secure, scalable architectures for large-scale IoT deployments.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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