

Special Issue on
Energy Harvesting in Distributed Sensor Networks

CALL FOR PAPERS

Distributed sensor networks (DSNs) have emerged as a result of advances in sensing and wireless technologies, and they now support a variety of applications, including continuous environmental monitoring, surveillance, household automation, livestock, agriculture, tracking, healthcare, detection of forest fires and floods, and many more. These applications, however, are frequently impeded because sensor nodes are energy-constrained, with limited operating lifetimes and power storage capabilities. Sensors used in DSN applications are low-power, low-cost devices with multipurpose capabilities. Hence, if they are used for extended periods, a rapid battery drain occurs. Battery recharging and replacement have substantial disadvantages, due to both the accompanying economic implications and the mode of deployment of the sensor nodes, especially in hostile and inaccessible environments.

Energy harvesting (EH) exploits a variety of energy sources, including solar power, wind, electromagnetic, mechanical vibrations, and temperature fluctuations. EH subsystems enable wireless sensor network (WSN) nodes to potentially persist indefinitely by continuously providing energy and storing it for future use. EH and wireless power transfer (WPT) have thus become crucial for applications that run for extended periods of time.

This Special Issue aims to collect original research and review articles with meaningful contributions on topics relating to the theory, design, implementation, and application of energy harvesting in distributed sensor networks.

Potential topics include but are not limited to the following:

- ▶ Energy harvesting techniques for wireless sensor networks
- ▶ Energy harvesting applications in biosensors and medical implants
- ▶ Machine learning-based solutions for energy harvesting in distributed sensor networks and wireless sensor networks
- ▶ Design of energy harvesting systems for environmental monitoring
- ▶ Microcontroller-based implementation of energy harvesting systems
- ▶ Power-up bioengineering models and biomedical circuits using energy harvesting subsystems
- ▶ Design of energy harvesting systems for distributed sensor networks
- ▶ Design of embedded systems that use energy harvesting techniques
- ▶ Applications of energy harvesting in general and mechatronic embedded systems
- ▶ Applications of energy harvesting techniques in WSNs
- ▶ Applications of energy harvesting techniques in robotics

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.wiley.com/submit?specialIssue=693847>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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Submission Deadline

Friday, 27 September 2024

Publication Date

January 2025