

CALL FOR PAPERS
Special Issue Computer Networks (Elsevier) on
"Wireless Sensor Networks"

Recent advances in digital electronics, embedded systems and wireless communications are leading the way to a new class of distributed wireless sensor networks. These networks have a wide range of potential applications, including security and surveillance, control, actuation and maintenance of complex systems, and fine-grain monitoring of indoor and outdoor environments.

Sensor networks differ from conventional network systems in many aspects. They usually involve a large number of spatially distributed, energy-constrained, self-configuring and self-aware nodes. Furthermore, they tend to be autonomous and require a high degree of cooperation and adaptation to perform the desired coordinated tasks and networking functionalities. As such, they bring about new challenges and design considerations, which go much beyond conventional network systems.

This special issue of Computer Networks is intended to foster the dissemination of high quality research in communication protocols, data management and access techniques, and applications of wireless sensor networks. We hope that the resulting issue will significantly advance our understanding of this nascent area of research.

Only technical papers describing previously unpublished, original, state-of-art research, and not currently under review by another conference or journal, will be considered. We solicit papers covering a variety of topics related to wireless sensor networks including, but not limited to:

- Novel applications of sensor networks for surveillance, fine-grain instrumentation, and actuation
- New sensor network communication architectures
- Software platforms and tools for sensor network application development
- Energy-efficient media access, error control, and traffic management
- Energy-efficient systems services such as localization and time synchronization
- Scalable, and energy-efficient, data-dissemination schemes
- Robust distributed algorithms for collaborative processing
- Mechanisms for authenticated, secure communication
- Modeling and performance evaluation of large-scale sensor network algorithms
- Application specific network and systems services, including data-centric routing, attribute-based addressing, and location management

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