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International Journal of Distributed Sensor Networks

Special Issue on

**Adaptive Sensing in Emerging Sensor Networks**

# CALL FOR PAPERS

Quality of sensing (a.k.a. coverage) has been a fundamental issue in wireless sensor networks (WSNs). Given the fact that sensor nodes are of typically small size and are powered by batteries, it is conflicting to ensure the quality of sensing while maximizing the lifetime of sensor networks. Adaptive sensing, which is concerned with how to adaptively determine the sensing time and sensing frequency of sensor nodes by taking into account the quality of sensing requirement, remaining energy, and sensor coordination, has been proven to be an efficient approach to quality of sensing in traditional sensor networks.

With technology advance, new types of sensor networks have emerged recently, such as camera sensor networks, wireless rechargeable sensor networks, and radar sensor networks. These emerging sensor networks have radically different sensing models, ways of energy provisioning, and network topology from traditional sensor networks, and thus existing studies on adaptive sensing cannot be applied. This calls for more sophisticated and tailored algorithms to coordinate sensing scheduling adaptively among sensor nodes by exploiting the unique characteristics of these emerging sensor networks.

The purpose of this special issue is to publish high-quality research papers as well as review articles addressing recent advances on adaptive sensing in emerging sensor networks. Original, high quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences are sought.

Potential topics include, but are not limited to:

- ▶ New sensing models and coverage problems
- ▶ System designs for mobile sensing
- ▶ Adaptive algorithms for data fusion
- ▶ Tradeoff between quality of sensing and energy provisioning
- ▶ Sensor deployment for coverage
- ▶ Distributed adaptive sensing
- ▶ Energy-efficient coverage problem
- ▶ Incentives mechanism to guarantee the coverage
- ▶ Architecture, modeling, and simulation of mobile sensing
- ▶ New applications on mobile sensing
- ▶ Sensing strategies design in rechargeable sensor networks
- ▶ Large-scale data collection and processing
- ▶ New sensing scenarios in the Internet of things
- ▶ Privacy and security preserving protocol for adaptive sensing

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