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Special Issue on

Mobility in Wireless Sensor Networks

http://www2.aegean.gr/dgavalas/ComputerJ_SI.pdf

Introduction

Wireless Sensor Networks (WSNs) offer unprecedented capabilities for integrating sensing with computing and communication as well as for distributed sensing, coordination and control. While WSNs have been a subject of intensive research for about a decade, most research activities to date focus on sensor nodes that are deployed in static, pre-determined locations with sensor readings taken at regular intervals and with packet forwarding that take place in multiple hops to sinks where storage and analysis takes place. The next step for sensor networks is to handle mobility in all possible forms. Thus we need to consider the mobility of sinks, mobility of sensors and of actuators as well as the mobility of the applications and their software.

This extension towards represents a recent research subject in sensor networking that opens up a new research opportunities and challenges, and significantly expands the types of applications for which WSNs can be used.

This Special Issue therefore aims at identifying the benefits and challenges raised by mobility in WSNs, addressing the state of the art and advances in this particularly promising research area.

Topics of interest include (but are not limited to):

- Sink mobility in Wireless Sensor Networks
- Actuator networks
- Mobile sensor-actuator networks
- Code mobility in Wireless Sensor Networks
- Mobile agent-based data aggregation in Wireless Sensor Networks
- Mobility issues in underwater Wireless Sensor Networks
- Mobility-assisted communication in Wireless Sensor Networks
- Topology coverage and connectivity maintenance in Wireless Sensor Networks with mobile elements
- Mobility management in Wireless Sensor Networks
- Mobility for maximizing network lifetime in Wireless Sensor Networks
- Mobility models for sinks and actuators in Wireless Sensor Networks
- MAC protocols and QoS provisioning in Wireless Sensor Networks with mobile elements
- Routing protocols for handling mobility
- Distributed algorithms and reasoning in Wireless Sensor Networks with mobile elements
- Data aggregation, fusion and dissemination techniques in Wireless Sensor Networks with mobile elements
- Synchronization and scheduling issues in Wireless Sensor Networks with mobile elements
- Security, trust and privacy in Wireless Sensor Networks with mobile elements
- Mobile GeoSensor Networks

- Simulation, evaluation and validation of Wireless Sensor Networks with mobile elements
- Applications, testbeds and deployment experiences

Submission

The submitted papers must be written in grammatically correct English and should describe original research which is not published nor currently under review by other journals or conferences.

Paper submissions should be accompanied by a cover letter clearly stating that the paper is meant for the “Special Issue on Mobility in Wireless Sensor Networks”, otherwise it will be handled as normal submission. Papers should be submitted through the online submission system: <http://mc.manuscriptcentral.com/compj>. Guidelines for manuscript preparation can be found at <http://comjnl.oxfordjournals.org/>.

All papers will be reviewed based on their originality, scientific quality, organization, clarity of writing and support provided for assertions and conclusion.

Important Dates

Submission deadline:	November 30, 2010 December 21, 2010
First revision notification:	February 10, 2011
Submission of revised paper:	March 20, 2011
Final acceptance notification:	April 20, 2011
Final manuscript due:	May 20, 2011

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