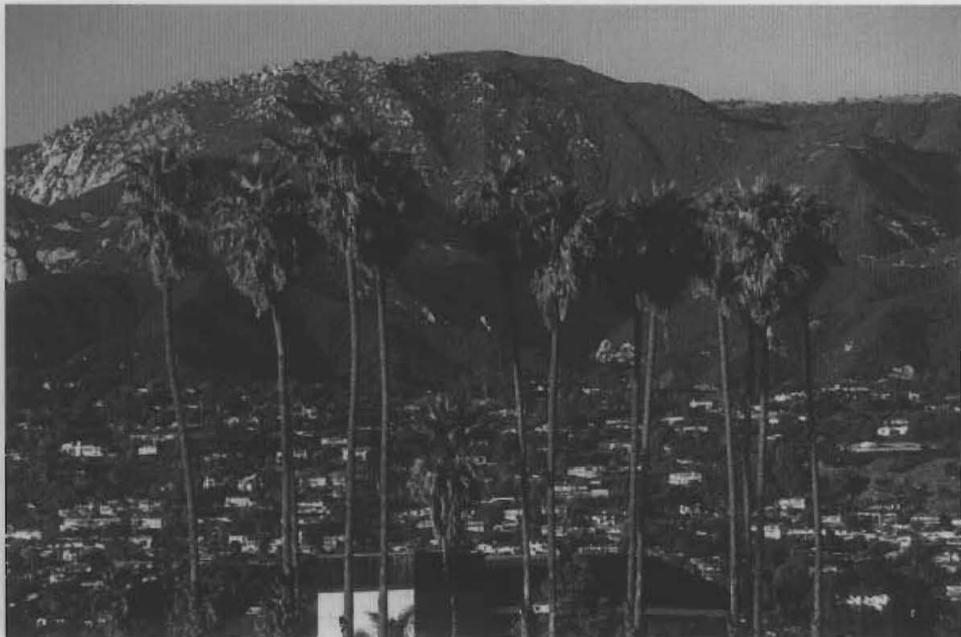


DCOSS '10

**International Conference on Distributed
Computing in Sensor Systems**

June 21 - 23, 2010

Santa Barbara, California



Adjunct workshop proceedings

IWSN, MOBISENSORS

Poster and Demo Sessions



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Preface

This Proceedings Volume contains the papers of the following Workshops as well as the accepted papers for Poster and Demo sessions, that were held together with the 6th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS '10), which took place at Santa Barbara, California during June 21 - 23, 2010:

First International Workshop on Interconnections of Wireless Sensor Networks (IWSN'10)

Co-Chairs:

Djamel Djenouri, Centre for Research on Scientific and Technical Information (CERIST), Algiers, Algeria.

Jianguo Ding, Norwegian University of Science and Technology (NTNU), Trondheim, Norway

Abdelouahid Derhab, Centre for Research on Scientific and Technical Information (CERIST), Algeria.

First International Workshop on Mobility in Wireless Sensor Networks (MobiSensor'2010)

Co-Chairs:

Damianos Gavalas, University of the Aegean, Greece

Grammati Pantziou, Technological Educational Institution of Athens, Greece

Charalampos Konstantopoulos, University of Piraeus, Greece

Poster and Demo Sessions

Co-Chairs:

Michael Rabbat, McGill University, Canada

Neal Patwari, University of Utah, USA

Sotiris Nikolettseas
DCOSS '10 Workshops Chair

**International Workshop on Interconnections of
Wireless Sensor Networks (IWSN'10)**

23 June 2010, Santa Barbara, California, USA

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Preface

We lately witness a tremendous development in wireless sensor networking (WSN), which makes it possible to monitor, unobtrusively and for long periods of time the physical environment and to collect the relevant data. For many applications, the sensor networks cannot operate in complete isolation. There must be a way enabling a monitoring entity or some end-users to gain access to the data produced by the sensor network, and even to interact with a particular sensor mote to activate/deactivate it, read the sensed value instantaneously, fix some inner parameters, make dynamic code loading into the mote, etc. By connecting the sensor network to an existing network infrastructure such as a local-area network, a private intranet, mobile smart networks, and notably the global internet, gaining remote access to the sensor network would be straightforward. However, many questions need answers, and many challenges must be tackled before such interconnection become effective. Suitability of IP standards must be investigated, as well as the connection architecture. Is it more effective to use fixed gateways? Or is it better to employ a dynamic ad hoc mode where all nodes (or several nodes) cooperatively and alternatively act as gateways. By openly connect a sensor network to other networks new vulnerabilities will take place. An intruder would not need to gain physical access to the network anymore, but it might remotely launch attacks. Security is thus a very important aspect that must be considered. Routing, QoS, node deployment and redeployment, interoperability are also important and challenging issues in the new heterogeneous systems. Interconnection of Wireless Sensor Networks (IWSN) workshop, in its the first edition, is the first form the focus on interconnection issues of WSN.

After a rigorous reviewing process, where each paper has been reviewed by at least three independent and expert reviewers from our program committee, seven papers have been accepted as regular papers for oral presentation. The first paper by Sook Young Lee and Mohamed Younis, presents a new solution for QoS-aware relay node placement, enabling to connect disjoint segments in wireless sensor networks. The second paper is about detecting border intrusion using wireless sensor network and artificial neural network, by Ashish Mishra, Komal Sudan, Hamdy Soliman. Skander Banaouas and Paul Muhlethaler propose a probabilistic event detection solution. The fourth paper by Shahid Raza, Thiemo Voigt provides different options for Interconnecting WirelessHART and Legacy HART networks. The fifth paper presents the development of an internet-accessible image/video sensor web testbed, Paul Bender and Yong Pei

. Yang Zou, Jiannong Cao, and Hejun Wu propose TrafficCast - a real-time Pub/Sub based video surveillance system over interconnected WMNs and WSNs. Finally Ketaki Vaidya and Mohamed Younis present an efficient failure recovery solution in wireless sensor networks, through active spare designation.

We present our gratitude to DCOSS workshops chair, Prof Sotiris Nikolettseas, for accepting our proposal, and thus giving us the opportunity to organize this workshop in conjunction with the prestigious DCOSS. We are also thankful to our technical program committee, for the time and effort they provide to ensure a high quality reviewing. We hope this workshop will successfully serve as a venue for researchers, academics, and industrials to debate the different issues related to deployment and interconnection issues of wireless sensor networks, and discuss relevant theoretical and practical solutions.

IWSN Co-chairs

Djamel Djenouri, Abdelouahid Derhab, and Jianguo Ding