

## Special Issue on New Advances in Wireless Sensor Networks

# Guest Editorial

WSNs (wireless sensor networks) received tremendous interests from both academics and industries in the last decade. Recent advances in wireless and electronic technologies have enabled a wide range of applications of WSNs in military sensing, traffic surveillance, target tracking, environment monitoring, healthcare monitoring, and so on. There are many new challenges for the design of WSNs to meet requirements of various applications.

This special issue provides a timely venue to publish new research results and new development of systems in WSNs. All papers submitted to this Special Issue underwent a rigorous peer review process and only 3 papers were finally selected by the Guest Editors. There are 2 invited papers from famous experts in specific areas of WSNs. These authors represent academic and research institutions from USA, UK, Germany, Italy, etc..

In the first paper, Z. Wang, M. Tian and Y. Wang proposed a novel statistical-based approach for reliable data reception in environment monitoring of sensor networks. A channel-aware Bayesian model is presented to choose a proper quantization level at the sink node, such that the probability of a correct decision is maximized.

In the second paper, P. Suriyachai, U. Roedig, A. Scott, N. Gollan and J. Schmitt addressed the problem of constructing WSNs in time-critical applications. A dimensioning framework was proposed to efficiently construct WSNs and ensure timely data delivery in WSNs.

S. Barr, J. Wang and B. Liu, in the third paper, pointed out that an effective solution for anti-submarine warfare is to place large-scale underwater sensors to form 3-dimensional barriers. An energy efficient scheme was proposed to place mobile sensors to cover grid points using distributed auction algorithms, such that the maximum travel distance between any sensor and its assigned grid point is minimized.

In one invited paper, Y. Wang, X. Li and J. Wu addressed multicasting in delay tolerant networks where it usually lacks continuous network connectivity. A delegation forwarding multicast algorithm was proposed and compared with single and multiple copy multicast algorithms. It was pointed out that the single copy multicast suffers from large latency while the delegation forwarding multicast has the least delay.

The other invited paper was contributed by A. Marcus, M. Cardei, I. Cardei, E.B. Fernandez, F. Frati and E. Damiani. The paper describes a pattern for the architecture of web-based WSN monitoring. In the web-based WSN monitoring, users can access data remotely via smartphones which serve as gateways between the users/sensors and the Internet.

Finally, the Guest Editors would like to express their sincere gratitude to all reviewers who have dedicated their valuable time and provided timely review. The professional service of the reviewers ensures that the Special Issue accepts high-quality papers with significant novelty and contributions. Last but not the least the Guest Editors would extend their appreciation to the Editor-in-Chief, Dr. Haohong Wang, for offering this excellent opportunity, providing great support and help, and giving detailed instructions, which ensures the success of this special issue.

### Guest Editors

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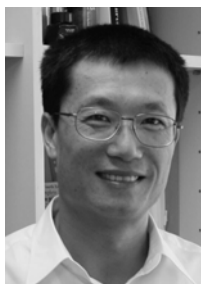
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