Editorial

Advanced Applications of Wireless Sensor Network Using Sensor Cloud Infrastructure

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It is our pleasure to publish a special issue on advanced applications of wireless sensor network using sensor cloud infrastructure. This special issue contains seven high quality research papers related to the growing technologies of recent wireless sensor networks and sensor cloud infrastructure.

The paper "*Sensor resource sharing approaches in sensor-cloud infrastructure*" by Y. Lim and J. Park presents a survey on sensor-cloud infrastructure (SCI) and discusses technical issues of SCI such as architecture, sensor description methods, middleware based on publish/subscribe data exchange model, and case studies.

The paper "*Multiple wide tables with vertical scalability in multitenant sensor cloud systems*" by K. Ma and B. Yang proposes the multitenant multiple wide tables with vertical scalability by analyzing the features of multitenant data and shows the effectiveness of the proposed method by the experiments.

The paper "*Semantic reasoning with contextual ontologies on sensor cloud environment*" by K. Park et al. presents a massive contextual events handling scheme on a big data framework based on a context-aware inference model with the contextual ontologies and shows that the proposed collaboration framework allows many cooperating parties to collaborate with each other by sharing constituent entities.

The paper "*Modeling and analysis on congestion control for data transmission in sensor clouds*" by J. Huang et al. proposes an Improved Random Early Detection (IRED) algorithm that meets sensor cloud networking requirements better and develops a queueing model coupled with an analysis technique to evaluate the performance of the proposed congestion control scheme.

The paper "*Agriculture sensor-cloud infrastructure and routing protocol in the physical sensor network layer*" by K. Kim et al. proposes an agriculture sensor-cloud infrastructure to provide various services efficiently and to process large-scale sensor data effectively and evaluates the proposed techniques by simulation experiments.
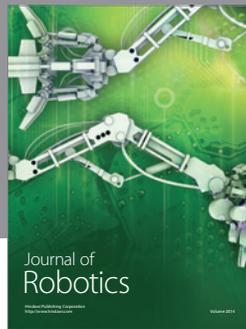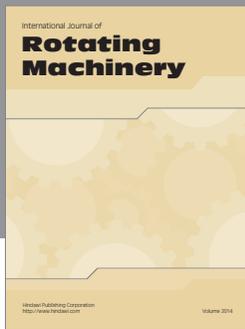
The paper "*Competition-based device-to-device transmission scheduling to support wireless cloud multimedia communications*" by R. Yao et al. presents a new algorithm to improve the data transmission quality for a mobile multimedia cloud network (MMCN) in a cloud device-to-device (D2D) communication and demonstrates the simulation results to show the effects of the proposed algorithm.

The paper "*Towards an environmental measurement cloud: delivering pollution awareness to the public*" by F. Domínguez et al. proposes a cloud platform with a federated two-layer architecture which integrates an environmental sensor network with a sensor web, in order to offer geographical environmental data to the public and also to serve as a test bed for scientific research on noise and air pollution. We hope that the papers of this issue contribute to the progress of research and the development of Wireless Sensor Networks.

Acknowledgment