

## Preface

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**Biographical notes:** Rongbo Zhu is currently an Associate Professor in College of Computer Science of South-Central University for Nationalities. He received his PhD in Communication and Information Systems from Shanghai Jiao Tong University, China, in 2006. He has published over 50 papers in international journals and conferences in the areas of mobile computing, and wireless communications. He is Editor-in-Chief of *International Journal of Satellite Communications Policy and Management*. He has been actively involved in around ten international conferences, serving as General Co-chair of ICICA'10. He is a member of the ACM and IEEE.

Hui Wang received his PhD in Communication and Information Systems from Shanghai Jiao Tong University, China, in 2007. From 2008 to 2009, he was a post-doctoral researcher in University of Evry, Paris, France. Since September 2009, he has been a post-doctoral researcher in the division of ITCE at Pohang University of Science and Technology, Pohang, Korea. His research interests include wireless communication theory, cooperative communications, cross-layer design and optimisation for energy-constrained wireless networks. He has several patents and over 40 papers in international journals and conferences. He currently serves as an associate editor or guest editor for several international journals.

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Radio Frequency Identification (RFID) technology is emerging as one of the most pervasive computing technologies due to its low cost and broad applicability. RFID systems consist of tiny integrated circuits equipped with antennas (RFID tags) that communicate with their reading devices (RFID readers) using radio-frequency waves without line of sight. This creates tremendous opportunities for linking various objects from real world. While RFID provides promising benefits such as inventory visibility and business process automation, some significant challenges need to be overcome before these benefits can be realised. Such as the important issues, how to process and manage RFID data, how to seamlessly integrate low-level RFID data into enterprise information

infrastructures, how to protect the privacy and security of businesses and consumers in RFID environments. The objective of this special issue is to present a collection of high-quality research papers that report the latest research advances in the area of RFID technology and applications.

There were 60 papers submitted for consideration for publication in this special issue. Those papers came from more than ten countries. We thank those who submitted papers to this special issue. After two rounds of rigorous peer-review and revision processes, only ten papers were selected for publication. Given the volume of papers received, we were able to accept only papers that are clearly outstanding and without any negative comments. We briefly summarise those papers as follow.

The first paper in this issue, 'Performance analysis on the TMN-scheduling algorithm for industrial internet of things', by Jun Wang and Jing Zeng, proposes an optimal scheduling algorithm based on throughput maximise of non-periodic information to optimise communication window chip and solve on the real-time problem in the industrial wireless networked control.

The second paper, 'Analysis of tunnel diode loaded H-shape microstrip antenna', by Ganga Prasad Pandey, Binod Kumar Kanaujia, Surendra K. Gupta and Shayna Jain, presents a compact H-shape microstrip antenna loaded with tunnel diode, and tunnel diode was loaded which provided tunability to the microstrip antenna.

The third one, 'A new method for data filtering in RFID middleware', by Farahnaz Vahdati, Reza Javidan and Ahmad Faraahi, investigates a new 'smoothing filtering' approach based on the concept of processing the status of tag's readings, which uses some rules for solving false positives and false negatives to provide accurate RFID data for applications.

The fourth paper, 'The RFID mechanism design based on CDMA and hash function', by Songsen Yu and Peng Yun, presents an anti-collision algorithm integrating security mechanism in RFID systems, which can resist re-transmission attack, tracking-attack, blocking-attack and tampering-attack.

The fifth paper, 'Security and privacy protection in RFID-enabled supply chain management', by Manmeet Mahinderjit Singh, Xue Li and Zhanhuai Li, enables us to know how privacy and security protection can be maintained in an open-loop RFID supply chain.

The five remaining papers will be published in *IJRFITA* 2012, Vol. 4, No. 1.

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