

Special Issue on **Advanced Wireless Communications and Mobile Computing Technologies for the Internet of Things**

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Over the past decade, the Internet of Things (IoT) has become one of the most influential technologies in the fields of wireless communications and mobile computing. Originated from RFID and wireless sensor networks (WSNs), the paradigm of IoT has been transforming every aspect of human life including healthcare, energy, transportation, and manufacturing. Recent predictions show that there will be more than 20 billion IoT devices by 2020.

Since its very beginning, wireless communication has been focused on serving human-to-human interaction or human accessing information. Due to IoT, the scope of wireless communication becomes ubiquitous communication among all people and all devices, and the major challenge now becomes how to realize large-scale device-to-device (D2D) communication in an intelligent and energy efficient fashion. On the other hand, mobile computing is expected to be more pervasive and resource constrained than any time before. To facilitate IoT, there are tremendous innovation opportunities in different disciplines and perspectives.

The present special issue is seeking high-quality research articles as well as reviews about state-of-the-art technologies in wireless communications and mobile computing that contribute to the formation and advancement of IoT. Since power and cost constraints are major factors of IoT development, they will be the main focus of this special issue.

Potential topics include but are not limited to the following:

- ▶ Ubiquitous wireless sensor networks for healthcare
- ▶ Power-line communication for smart grid and home area networks
- ▶ Body area networks with Bluetooth and other low power communication techniques
- ▶ Communication protocols for RFID, NFC, and passive wireless sensors
- ▶ Emerging techniques in ZigBee and low power Wifi
- ▶ Energy efficient networks in IoT systems
- ▶ Software-defined radios and cognitive radios for IoT
- ▶ Self-organizing network and SoN algorithm in IoT systems
- ▶ Energy-constrained wireless sensing techniques
- ▶ Compressed sensing for signal with sparse structure in IoT applications
- ▶ Low-Power Wide-Area Network (LPWAN) and Long Range Wide Area Network (LoRaWAN)
- ▶ 5G technologies and their application in IoT
- ▶ Biosignal processing with mobile computing
- ▶ Cyber-physical system architecture
- ▶ Peer-to-peer device networking
- ▶ IoT traffic characterization
- ▶ Modeling of large-scale IoT
- ▶ Interoperability and integration of emerging standards with existing standards
- ▶ Machine learning algorithm for adaptive computing in IoT
- ▶ Security and privacy innovation for IoT applications

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/wcmc/awcm/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Haiyu Huang, University of Texas at Austin, Austin, USA
harryhuang@utexas.edu

Guest Editors

Kejie Lu, University of Puerto Rico, Mayagüez, Puerto Rico
kejie.lu@upr.edu

Giovanni Pau, Kore University of Enna, Enna, Italy
giovanni.pau@unikore.it

Yong Ren, Tsinghua University, Beijing, China
reny@tsinghua.edu.cn

Pai-Yen Chen, Wayne State University, Detroit, USA
pychen@wayne.edu

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