CALL FOR PAPERS : IEEE Internet of Things Journal Special Issue on

Wireless Energy Harvesting for Internet of Things

The ubiquitous sensor-rich mobile devices (e.g., smartphones, wearable devices, and smart vehicles) have been playing a vital role in the evolution of the Internet of Things (IoT), which bridges the gap between digital and physical spaces. The powerful computing/communication capacities, huge population, and inherent mobility make mobile device networks a much more flexible and cost-effective IoT solution than traditional wireless sensor networks. However, the energy issue of mobile terminals poses significant challenges to the widespread use of IoT: not only the mobile terminals have short lifetime with the proliferation of mobile applications, but also the current networking and communication technologies are not adequately taking the energy efficiency into account. Therefore, the sustainable issue of IoT has attracted considerable attention from both academia and industry. Wireless energy harvesting and transfer technology was recently proposed as an effective mean to address this issue. It enables the mobile terminals to harvest energy from the ambient environment to prolong its battery. Although some forms of energy harvesting have been applied to WSNs, networking and communication solutions must be redesigned for wireless powered IoT with massive number of mobile terminals.

This special issue (SI) will bring together leading researchers and developers from both industry and academia to discuss and present their views on all the aspects of wireless energy harvesting in the IoT system. In light of the increasing interest of these topics, this SI will focus on, but will not be limited to, the following subjects of interest:

- Simultaneous wireless information and power transfer (SWIPT) in IoT,
- Secure IoT with wireless energy harvesting,
- Relay-based wireless energy harvesting IoT systems,
- MAC protocols for wireless energy harvesting and transfer in IoT,
- Economics of wireless energy and data transmission,
- Energy Efficient transmissions and network architecture,
- Scheduling and optimization of both users for energy transfer and of data packets,
- Hardware design and prototyping for SWIPT applications in IoT,
- Interference aided wireless energy harvesting,
- Waveform design and optimization for wireless power transfer,
- Optimal Control for wireless energy transfer and harvesting,
- Wireless power enabled machine-to-machine (M2M) and device-to-device (D2D) communications,
- Optimal wireless power transfer enabled IoT transceiver architectures

Important Dates

Submissions Deadline: October 1, 2017;
First Reviews Due: December 15, 2017;
Revision Due: February 15, 2018;
Second Reviews Due/Notification: March 15, 2018;
Final Manuscript Due: April 1, 2018;
Publication Date: 2018

All original manuscripts or revisions to the IEEE IoT Journal must be submitted online through IEEE Manuscript Central, http://mc.manuscriptcentral.com/iot. Author guidelines and submission information can be found at http://iot.ieee.org/journal.

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