

# IEEE Internet of Things Journal Special Issue on Feedback Control for the Internet of Things

The Internet of Things (IoT) is a networked system that allows physical objects to be sensed and controlled with or without frequent human intervention. It thereby creates opportunities for a more direct integration between the physical world and cyber-systems. This brings potential gains in efficiency, accuracy and economic benefits. From an applications perspective, IoT solutions are being conceived of and implemented across the spectrum: smart homes, buildings, environments and cities, industrial plants, health care, smart grids and modern transportation systems.

Whilst in this first wave of IoT, most attention has concentrated on wireless sensors, cloud connectivity, big data analytics and mobile apps, the vision of IoT extends to closed loop operation: Sensors connect through algorithms to actuators, communication is over the Internet. Careful design of such control systems would enable a whole range of novel functionalities, including the capacity to coordinate systems that are not physically connected or collocated in real-time. However, control design for IoT imposes significant challenges, some of which can be tackled using, and further developing, contemporary feedback control methods. The papers in this special issue will present state-of-the-art fundamental and applied research on feedback control for the IoT. We solicit papers that cover a wide range of topics of interest that include, but are not limited to, the following:

- control architectures for IoT
- control over nondeterministic networks
- cloud-supported control of dynamical systems
- control in the presence of latency and jitter
- control with resource constraints
- predictive maintenance of dynamical systems
- formal methods for verification of IoT control systems
- IoT control applications

## Important Dates

Submissions Deadline: July 15, 2017

Final Manuscript Due: December 31, 2017

First Reviews: October 15, 2017

Publication Date: 2018

Second Reviews/ Notification: December 15, 2017

## Submission

All original manuscripts or revisions to the IEEE IoT Journal must be submitted electronically through IEEE Manuscript Central, <http://mc.manuscriptcentral.com/iot>. Solicited original submissions must not be currently under consideration for publication in other venues. Author guidelines and submission information can be found at <http://iot.ieee.org/journal>.

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