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# Guest Editorial

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## **Guest Editorial: Special Issue on Applications and Technologies in Human-Centric Internet of Things**

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# Guest Editorial: Special Issue on Applications and Technologies in Human-Centric Internet of Things

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## Abstract

In the last few years, the emergence of Internet of Things (IoT) and the availability of sensing devices capable of wireless communications enabled a wide range of human-centric applications, such as e-health, smart building, smart grids, traffic, and environmental monitoring. In these systems, people are not only the end users but are integral parts of IoT. Generally, human-centric IoT consists of a number of sensing devices attached to people, which are connected and managed through wireless communication networks. The distributed mobile IoT devices self-organize and transmit the sensory data towards one or multiple back-end cloud-based servers through the existing wireless infrastructure. Moreover, the mobile IoT devices can receive data in opportunistic sensing according to mobile geolocation, dynamic social relationship, interests of people, and so on. Therefore, human-centric IoT enables information forwarding and disseminating within and among the opportunistic communities formed based on the movement and opportunistic contact nature of human.

This raises interesting questions and prospects regarding the development of new intelligent wearable sensing device and platform, exploiting sensory data for people mobility analysis, system deployment and localization given unpredictable people movement, security and privacy protection for real-time data communication, network protocol design, and resource management in human-centric IoT architecture. In particular, the IoT devices can get complex tasks offloaded to and processed at the infrastructure, which requires reducing the cost of data collection without compromising functionalities and services. Furthermore, the real-time sensory data collected by human-centric IoT can be utilized to provide valuable and actionable insights into urban planners, and various urban applications can be developed in different business domains.

Special Issue on  
**Applications and Technologies in Human-Centric  
Internet of Things**

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New sensing system and data management technologies at urban scale can play a fundamental role in smart cities, by enabling innovative human-centric IoT solutions, increasing performance of the offered urban services, and guaranteeing data security and privacy. Therefore, the aim of this special issue is to publish timely and topical technical articles reflecting the most recent applications and technologies related to human-centric IoT.

Our proposed special section covers multiple and diverse research fields in terms of data communication considering people mobility in human-centric IoT. Moreover, our editorial summarizes the new findings and suggests perspectives for further work. The reader of the journal will acquire advanced knowledge and technology of human-centric IoT. Moreover, the good quality submissions in the special section will attract and enlighten more readers to contribute to the research and development of human-centric IoT.

Potential topics include but are not limited to the following:

- ▶ Human-centric IoT applications and architectures
- ▶ Human-centric IoT security and privacy
- ▶ Human-centric IoT networks and protocols
- ▶ Wearable devices, platforms and testbeds for human-centric IoT
- ▶ Deployment and localization in human-centric IoT
- ▶ Service and resource management
- ▶ Human sensing systems
- ▶ Fog computing and big data for human-centric IoT
- ▶ Mobile edge computing
- ▶ Embedded and real-time computing technologies

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

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