



## Selected Areas in Communications Symposium

### Track on Internet of Things and Smart Connected Communities

#### TRACK CO-CHAIRS:

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#### SCOPE AND MOTIVATION

With the promise of revolutionizing the way we live, work and manufacture, it is no surprise why the Internet of Things (IoT) has picked up the momentum in both industry and academia. According to various studies, tens of billions of devices are expected to be connected to the internet by 2020. Thanks to the increased connectivity and the continued miniaturization of computers and smart devices, IoT will generate huge volumes of data that will have to be analyzed to uncover hidden patterns, correlations and other insights. Moreover, in the industrial environments (Industry 4.0) as well in smart spaces (building, houses, etc.) and connected cars communications will require higher reliability, lower latency and scalability. Several technologies such as BLE, Zigbee, WirelessHART, 6TiSCH, LPWAN (LoRa, Sigfox, etc.) have been proposed to tackle these requirements. The forthcoming 5G networks promise not only increased data rates but also ultra-low data latency communication for critical IoT applications that require extreme reliability. 5G will enable Machine Type Communication (MTC) one of the most promising technologies for IoT applications which is gaining a tremendous interest among mobile network operators, equipment vendors, MTC specialist companies, and research bodies. This anticipated high-traffic demands, low-latency and deterministic delivery requirements stemming from IoT and machine-to-machine (M2M) communications can be met only with radical changes in terms of architecture and communication solutions. Recently, Fog/Edge-to-thing continuum is proposed to mitigate the heavy burden on the network due to the centralized processing and storing of the massive IoT data. Fog/Edge-enabled IoT architectures ensure closer processing in proximity to the things, which results in small, deterministic latency that enables real-time applications and enforced security.

The aim of the Internet of Things and Smart Connected Communities Track is to provide a forum that brings together scientists and researchers to present their cutting-edge innovations in all aspects of the field. This track solicits technical papers describing original, previously unpublished papers pertaining to trends, issues and challenges of the Internet of Things.

#### TOPICS OF INTEREST

We invite submissions on a wide range of research topics, spanning both theoretical and systems research, including results from industry and academic/industrial collaborations, related but not restricted to the following topics:



- IoT for smart manufacturing (industry 4.0) and smart spaces
- IoT for the developing countries
- IoT big data and predictive analysis
- Innovative routing and scheduling protocols
- New communications mediums for Low Power Wide Area Networks
- Dynamic scheduling, power control, interference management, and QoS management in IoT networks
- Software Defined Networking (SDN) and NFV for IoT
- Mobility, Localization and context-adaptive Internet of Things
- RFID sensing technology
- Practical Perspectives on IoT in 5G Networks
- Communications technologies: NB-IoT, LoRa, Sigfox, ...
- Sensor Integration
- Complex and Compound Sensors
- Cooperative Sensor Systems
- Ambient Intelligence
- Smart Cities, Smart Home
- Application of Fog/Edge computing to IoT: architectures and implementations
- Fog/Edge Caching techniques for IoT
- Massive MTC (mMTC)
- Web of Things
- Messaging Technologies for the Industrial IoT (Google QUIC, DDS, AMQP, MQTT, MQTT-SN, CoAP, etc)



- Secure and privacy-preserving IoT communications
- Blockchain technology for IoT
- IoT standards platforms interworking
- Experience and lessons learnt for standard-based IoT large scale pilots/demonstrators
- Interoperability methodologies for heterogeneous IoT
- Autonomic Computing
- Mobile platforms as sensors
- Low Power Computing
- Cooperative Computing
- Horizontal application development for IoT
- Design principals and best practices for IoT application development
- Connected Car, Automotive, Intelligent Transport
- Data Collection and Data Mining for Smart Connected Communities
- Expression and Visualization of Urban Data
- Urban Monitoring and Optimization
- Intelligent Transport Systems
- Urban Traffic Flow Prediction
- Enterprise Manufacturing and Management Informatization
- Green Industry and Sustainable Manufacturing
- Resource Allocation Efficiency Promotion Technologies
- Integration of Information and Industrialization



- Energy Informatics
- E-Government for Smart Connected Communities
- E-Health for Smart Connected Communities
- E-Education for Smart Connected Communities
- E-Social Services for Smart Connected Communities
- Social Mobility Analysis and Social Life Informatization
- Cloud Computing for Smart Connected Communities
- Collaborative Cloud and Edge Computing for Smart Connected Communities
- Collaborative Cloud and Fog Computing for Smart Connected Communities
- Future Computing with Multiple Clouds
- Security and Privacy across Clouds
- Structural Health Monitoring in Smart Connected Communities
- Smart Grids and Energy
- Smart Water and Food Systems
- Applications for Smart Communities and Smart Pension
- Applications for Smart Environment and Smart Economy

## **IMPORTANT DATES**

**Paper Submission:** 15 April 2020

**Notification:** 25 July 2020

**Camera Ready and Registration:** 1 September 2020





## **SUBMISSION INSTRUCTION**

All papers for technical symposia should be submitted via EDAS through the following link: <https://edas.info/N27054>