

CALL FOR PAPERS

5G Wireless with Cognitive Radio and IoT

With 5G's aim to provide data speeds up to 10 Gbps and sub-millisecond latency, the vision of IoT to connect everyone to everything everywhere is ramping up. Smart devices connected to Internet will grow from 10 billion to 34 billion by 2020 out of which IoT alone will account for 24 billion smart devices. 40% of the world's data (approximately 129 yottabytes) will be generated by IoT sensors and devices. In the next five years, research organizations, industries and governments collectively are expected to spend nearly \$6 trillion on IoT solutions. Currently, 70% of IoT devices are based on 2G/3G as they are not manufactured for high-bandwidth networks. This is because LTE is largely deployed for mobile services. With the advent of 5G, vision of IoT has broadened. In the years to come, IoT will be one of the major 5G network service platform, which will transform the wireless communication devices beyond handset, to an end-to-end ecosystem of a smart connected world.

Therefore, it is crucial to develop smart cum self-organizing communication protocols and architectures for next generation wireless network, which can comply with diverse applications of IoT (like real time applications, safety critical systems, etc.). With the growth in the volume and types of smart devices in IoT along with the humungous data generated by such devices, there is a stringent need to develop smart radio technologies of variable characteristics matching the changing demand for data communication. Such smart communication protocols, architectures and radio technologies should be able to support low to high power operations, handle diverse traffic and different operating environments. On the other hand, it is also believed that upcoming 5G networks have to be engineered to meet the high data handling demands of IoT and other stringent requirements concerning spectral efficiency and energy, cost, and growing number of connected devices. Cognitive radio (CR) with its capability to use under-utilized spectrum bands, is emerging as one of the promising solution that can meet the aforesaid requirements of IoT.

It appears that the 5G can ideally suit the growing data communication requirements of IoT and hence, it is projected to be commercially deployed by 2020. While IoT is already being deployed and used, it still awaits faster networks, which can truly connect everything. This unique vision of 5G and IoT needs great efforts from industry, academia, government and standard bodies. This supplement issue aims to collect and present high-quality research articles containing latest research advancements on **5G Wireless with Cognitive Radio and IoT**.

We solicit papers in the following topics of interest, but not limited to:

- Innovations in 5G-IoT architecture
- 5G protocols for IoT
- Resource allocation and management schemes for IoT over 5G
- QoS (Quality of Service) / QoE (Quality of Experience) in 5G IoT
- SDN (Software Defined Networking) / NFV (Network Function Virtualization) solutions for IoT
- Energy Efficiency (EE) in 5G IoT

- Cross layer design techniques in IoT
- Experimental results, field trials or test beds for 5G IoT
- Cognitive Radio and spectrum management for 5G
- Data reliability, privacy and security for IoT over 5G
- Cognitive D2D, Internet of Vehicles (IoV), M2M and HetNets
- Massive/multiple antenna and cooperative spectrum sensing for 5G
- Emerging Next Gen IoT applications
- Big Data processing for 5G-IoT applications
- C-RAN (Cloud-Radio Access Network) for 5G IoT
- Information Centric Network architectures for IoT

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About the Journal:

IETE Technical Review is a world leading journal which publishes original research papers and state-of-the-art review/tutorial papers, which demonstrates significant advances in current and futuristic technologies in the area of electronics and telecommunications engineering.

All the articles published in this supplement issue will be permanently available for free online access – open access – immediately on publication to anyone, anywhere, at any time. The Open Select fee for this supplement issue will be \$750 per article.

All submissions should be made online at the Technical Review ScholarOne Manuscripts site (link: <https://mc.manuscriptcentral.com/titr>). Authors need to login and submit the article under supplement issue titled “5G Wireless with Cognitive Radio and IoT”. Detailed instructions for authors can be found on IETE Technical Review webpage on the following link: <http://www.tandfonline.com/toc/titr20/current>.

Tentative schedule of supplement issue development:

The following tentative schedule will be followed subject to approval of this proposal:

- Paper Submission Deadline: **May 15th, 2017**
- Feedback to Authors: **July 31st, 2017**
- Last date for submission of revised version: **August 15th, 2017**
- Notification of final acceptance: **August 31st, 2017**
- Publication of supplement Issue: **Fourth quarter of 2017**