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Special Section: Call for Papers

Announcing a Special Section in **IEEE *Access***:

5G Wireless Technologies: Perspectives of the Next Generation Mobile Communications and Networking

Submission Deadline: July 15, 2014

IEEE *Access* invites manuscript submissions in the area of **5G Wireless Technologies: Perspectives of the Next Generation Mobile Communications and Networking**.

With the accelerating accumulation, exchange and utilization of information for human social interactions and sensing/control in cyber-physical systems, the next wave of developments in wireless mobile communications is required to realize ubiquitous connectivity with massive volumes and diversity of data. Mobile communications have evolved from the first-generation mobile communication systems (1G) to the fourth-generation mobile communication systems (4G). In recent years, communication and computation technologies are converging rapidly, and various advanced wireless access technologies have become mature with successful implementations.

It can be predicted that the upcoming fifth-generation mobile communication system (5G) is no longer defined by a specific set of technical advancements. It is envisaged that 5G will incorporate multiple technologies to enable a rich range of services that meet the future's needs of dealing with a wide variety of digital media and big data, enhancing users' experiences, and supporting the rapid development of numerous businesses.

To meet the requirements of 5G to enable higher capacity, higher rate, more connectivity, higher reliability, lower latency, larger versatility and application-domain specific topologies, new concepts and design approaches are in great need. Current standardization works for 4G may influence the introduction of promising radio features and network solutions for 5G systems. New network architectures extending beyond heterogeneous networks and exploiting new frequency spectrum (e.g., mmWave) are emerging from research laboratories around the world. In addition to the network side, advanced terminals and receivers are being developed to optimize network performances. Splitting the control and data planes (currently studied in 3GPP) is an interesting paradigm for 5G, together with massive multi-input multi-output (MIMO), advanced antenna systems, software-defined networking (SDN), Network Functions Virtualization (NFV), Internet of Things (IoT) and cloud computing. Also new radio protocols enabling heterogeneous traffics are required.

This Special Section in IEEE *Access* aims to present the latest advances of the fundamental technologies and market trends that will impact the design and standardization of 5G networks by bringing together academic and industrial researchers to identify and discuss technical challenges related to 5G.

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