Special Issue on
Emerging Data Center Technologies to Support Future Mobile Paradigms

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Wireless communications and mobile computing technologies require extensive use of data centers to access both stored data and processing power. As future mobile paradigms come with strict requirements in terms of, for example, bandwidth and latency, it is required that data centers support such requirements to provide satisfactory user experience and effective service access. Besides, wireless communications themselves are finding their way into data centers, as enabling technology (instead of fiber or copper based links).

The scope of this special issue relates to emerging data center technologies in the physical layer that enable better utilization of processing and memory blocks, specifically, new approaches in fiber based interconnects and emerging alternatives using wireless or copped media. This special issue is expected to attract theoretical studies on new technologies offering significant advances using different metrics and experimental demonstrations of new technologies to support larger capacity data centers. This includes the use of wireless communications in data centers instead of traditional copper and fiber based communication channels.

Potential topics include but are not limited to the following:

▸ Advances in copper, fiber, and wireless communication systems

▸ Visible light communications in data centers

▸ High capacity interconnects and advanced modulation formats

▸ Beam steering and millimeter/terahertz communications in data centers

▸ Beyond state-of-the-art devices for transceivers in data centers

▸ Multimode and multicore fiber based links in data centers

▸ Optical switching and all-optical switching

▸ Top of rack systems for high capacity data centers

▸ Innovative energy-saving strategies in emerging data centers

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

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