

Special Section: Call for Papers

Announcing a Special Section in **IEEE Access**: **Recent Advances in Cloud Radio Access Networks**

Submission Deadline: August 15, 2014

IEEE Access invites manuscript submissions in the area of **Recent Advances in Cloud Radio Access Networks**.

The demand for high-speed data applications, such as high-quality wireless video streaming, social networking and machine-to-machine communication, has been growing explosively over the past 20 years and it is envisioned that asymmetric digital subscriber line (ADSL)-like user experience will be supported in the next generation wireless networks. The fifth generation (5G) system deployed initially in 2020 is expected to provide about 1000 times higher wireless area capacity and save up to 90% of energy consumption per service compared with the current 4G system. Furthermore, more than 1000 Gbit/s/km² area spectral capacity in dense urban environments, 10 times higher battery life time of connected devices, and 5 times reduced end-to-end (E2E) latency are expected in 5G systems. To meet such challenging goals, there is an urgent need for a revolutionary approach involving new wireless network architectures, as well as advanced signal processing and networking technologies.

Cloud Radio Access Networks (C-RANs) have emerged as a promising direction for providing high EE together with gigabit data rates across the software defined wireless communication networks. The virtualizations of the communication hardware and software elements are stressing the communication networks and protocols, especially when the large-scale cooperative signal processing and cooperative networking are centralized and cloud computed. Although the cloud computing technologies have been thoroughly investigated for the data computing networks, such as the software defined network (SDN) and the Internet of Things (IoTs), lower attention has been devoted to the aspects of radio access virtualizations, including the signal processing in the physical layer, scheduling and resources allocation in the medium access control (MAC) layer, and self-organizing and radio resources managements in the network layer.

This Special Section in *IEEE Access* will bring together academic and industrial researchers to identify and discuss technical challenges and recent results related to C-RANs.

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