

# **Integration of Communication, Computation, and Caching in 5G Fog Radio Access Networks (3C F-RAN 2018)**

## **Call for Papers**

### **1. Introduction/Overview**

To satisfy the explosively increasing demands of high-speed data applications and massive access requirements of various mobile devices, a whole package of performance requirements has been proposed for the fifth-generation (5G) mobile communication system. In particular, 5G should be able to connect one million connections per square kilometer, and the system capacity will grow by a factor of 1000 compared to the fourth-generation (4G) system to deliver a consistent experience across a variety of scenarios.

Motivated by the necessity of network architecture enhancement, a paradigm of fog computing-based radio access networks (F-RANs) has emerged as a promising evolution path for 5G network architecture. In F-RANs, a fog-computing layer is formed at the edge of networks, and a part of service requirements can be responded locally without interacting with the cloud computing center via the fronthaul links. Therefore, by taking full advantages of distributed caching and centralized processing, F-RANs provide great flexibility to satisfy quality-of-service requirements of various 5G scenarios. F-RAN has become a research hotspot, and draws a lot of attention from both academia and industry. As integrating with artificial intelligence and other new emerging technologies, 5G faces new challenges, and the study of F-RANs is entering a new era as well.

This workshop will focus on the state-of-art protocols, techniques and applications of integrating communication, computation, and caching in 5G F-RANs. The aim of this workshop is to share and discuss recent advances and future trends of F-RANs, and to bring academic researchers and industry developers together. The topics of interest include, but are not limited to the following:

- Information-theoretic modeling and analysis of integrating communication, computation and caching in 5G F-RANs
- Network architecture and protocol design for artificial intelligence (AI)-enabled F-RANs
- Mobile cloud/fog computation offloading in 5G F-RANs
- Advanced communication and computation technologies
- Resource management and cross-layer design
- Network security for F-RANs
- Prototype and test-bed

## **2. Workshop organizers:**

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## **3. Program committee members**

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