Call for Papers for
Workshop on Next Generation Backhaul/Fronthaul Networks (BackNets'2016)

Workshop Co-Chairs

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http://icc2016.ieee-icc.org/cfw

Scope

There are considerable market interests on the development of smart backhaul/fronthaul solutions for next generation of communications network that are an evolution of the existing backhaul technologies, i.e., SDH, ATM, MPLS and Ethernet. One of the main considerations the operators are faced with today is how to migrate existing backhaul/fronthaul networks toward a smart backhauling/fronthauling infrastructure suitable for the next generations of cellular technology. The 2016 edition of Workshop on Next Generation Backhaul/Fonthaul Networks BackNets 2016 will be organized in conjunction with IEEE ICC'2016, May 23-27, 2016, Kuala Lumpur. Proceedings of BackNets 2016 will be a collection of outstanding technical research/position and industrial papers covering novel backhaul/fronthaul solutions and recent research results with wide range of technologies within the 5G frameworks. The workshop will examine the technical challenges, review the economic feasibility, and discuss possible paths to regulatory solutions for future generation of backhaul/fronthaul communications and networking. The workshop will provide an opportunity for exchanging ideas and creating new space for innovative game-changing backhaul/fronthaul solutions to the challenging problems of designing smart backhauling/fronthauling for the excessive heterogeneous-types of traffic in heterogeneous 5G networks.

Topics of Interest

The topics of interest for the workshop include, but are not limited to:

- Requirements and limitations for backhaul/fronthaul communications and networking (data rate, scalability, latency, cost effectiveness, etc.)
- Backhaul/fronthaul design and their capabilities for multi-tier ultra-dense heterogeneous small cell networks
- Unmanned aerial vehicles (UAVs) based backhaul/fronthaul design for ultra-dense and sparsely populated areas
- Hybrid backhaul/fronthaul solutions (wired/wireless, point-to-point (PtP)/Point-to-Multi-Point (PtMP), line-of-sight (LOS)/Non-line-of-sight (NLOS), etc.)
- Usability of higher frequency bands for backhaul/fronthaul design (Free Space Optical (FSO)/mm-wave based communications)
- Interference management in wireless backhaul/fronthaul networks, e.g., Coordinated Multipoint (CoMP), Cloud Radio Access Networks (CRAN), and Split frame architectures.
- PtP wireless backhaul/fronthaul interfaces for high data rate demanding links (LOS communications, multi-hop communications, e.g., FSO/Microwave based communications)
- Migration to IP based backhaul/fronthaul design for 5G networks
- Massive MIMO based backhaul/fronthaul for ultra-dense small cell deployment
- Software-defined radio/Cognitive radio based backhaul/fronthaul designs
- Orchestration of in-band and out-of-band frequency usage for backhaul/fronthaul
- Joint design and optimization of radio access and backhaul/fronthaul networks
- Synchronization approaches and latency issues to combat delays introduced in backhaul/fronthaul operations
- Scheduling techniques and radio resource management (RRM) in backhaul/fronthaul networks
- Green backhaul/fronthaul solutions and energy consumption models for new backhaul/fronthaul technologies

- Backhaul/fronthaul relaxation in heterogeneous networks including traffic offloading and data caching
- Comparative case studies with legacy backhaul networks
- Backhaul/fronthaul convergence and application driven business models for commercial/regulatory deployments

Technical Program Committee:

- Syed Ali Raza Zaidi, *University of Leeds, UK*
- Marco Maso, *Huawei France Research Center, France*
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Important Dates

Paper submission deadline: December 4, 2015
Acceptance notification: February 21, 2016
Camera-ready paper: March 13, 2016