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The First IEEE International Workshop on Advancements in Massive MIMO

In conjunction with IEEE PIMRC 2015, August 30th, 2015, Hong Kong, China

http://pimrc2015.eee.hku.hk/workshops.html

Due to explosive increase of smart phones and tablets usage, drastic growth of mobile data traffic has been observed in recent years. To cope with this high rate of traffic growth, the wireless industry has started looking into future 5G technologies to improve spectral efficiency and user experience. Massive MIMO is one of the promising techniques to improve the spectral efficiency and network performance. Deploying massive number of antennas in 2D array co-located at one base-station site is one way of massive MIMO deployment. 2D antenna array enables 3D beamforming including both elevation domain and azimuth domain. This form of massive MIMO deployment has drawn tremendous attention from the research community as well as the wireless industry. The 3rd Generation Partnership Project (3GPP), a leading standard organization for mobile communication, has started the study on elevation beamforming and full dimension (FD) MIMO. Various enhancement schemes have been studied. In the meantime, the industry has started planning commercial use of the base station with large number of antennas in standard transparent manner. It would be interesting to see how massive MIMO is realized in the field. Another way of massive MIMO deployment is distributed deployment of massive number of antennas in a network comprising ubiquitous and dense antennas coordinated to form a network-wide gigantic array. This ultra dense network architecture has drawn a lot of research interest recently. In addition to the existing licensed cellular bands and unlicensed bands, the industry is looking for bands which can provide ultra wideband communication. The mmWave band is one of the considerations for 5G network deployment. This workshop aims to bring together leading researchers from both academia and industry to share their views on massive MIMO and discuss the technical challenges after the recent advancements in massive MIMO.

Topics of interest include, but are not limited to the following:

- Massive MIMO for existing cellular frequency bands
- Massive MIMO for mmWave bands
- Network architecture/scenarios for massive MIMO
- Performance comparison between massive MIMO with co-located antennas and distributed antennas
- Active antenna systems
- Multiuser MIMO
- Beamforming
- Resource allocation
- Channel-state-information feedback
- Channel estimation
- Transmission scheme and modulation
- Demodulation
- Reference signal design
- Synchronization
- Interference coordination
- Massive MIMO for wireless backhaul
- Consideration on non-ideal fronthaul/backhaul
- mmWave MIMO channel model
- Antenna calibration and channel reciprocity
- System design aspects and hardware implementation
- Testbed and demo
Workshop Chairs:

- Yu-Ngok Ruyue Li, ZTE Corporation (li.ruyue at zte.com.cn)
- Kaibin Huang, The University of Hong Kong
- Guangyi Liu, China Mobile Research Institute
- Younsun Kim, Samsung Electronics

Important dates:

Paper Submission deadline: 3 July, 2015, 10 July, 2015
Acceptance notice: 17 July, 2015
Final paper due: 24 July, 2015
Workshop date: 30 August, 2015

Paper Submission Guidelines:

The workshop accepts novel and previously unpublished papers. Papers should not exceed 5 double-column pages, and should follow IEEE templates as indicated here. Submitted papers will be subject to a peer-review process. All accepted papers will be included in the PIMRC conference programme and will be published by the IEEE Xplore. Papers should be submitted through EDAS.