



The emerging 5th generation and beyond wireless systems will experience a significant increase on the number of connected devices and high volume of data traffic. Additionally, high traffic load variations among heterogeneous network cells over time pose an extra challenge, due to the possible asymmetric traffic and dynamics between the uplink and downlink communications. Full-duplex (FD) technology, by which devices transmit and receive simultaneously on the same frequency band, have attracted a lot of research attention lately. FD radios can potentially double the spectral efficiency and therefore are a promising technology for future wireless network. However, FD radios suffer from severe self-interference (SI), as well as extra cross interference between the uplink and downlink caused by simultaneous transmissions which further degrades the overall network performance. To this end, many research groups around the world have proposed new transceiver designs, implemented advanced FD prototypes and have shown that SI can be mitigated almost up to the noise floor. Recently, some field trials have also been completed in order to bring FD technology a step closer to practice. All these accomplishments show the feasibility of FD and its applicability for future wireless networks. Despite these fundamental results and achievements, still there are many challenges and open problems to resolve on FD operation. In order to achieve the full potential of FD transmission, it is necessary to cope with the self-interference and develop new mechanisms and efficient protocols, while reducing the energy consumption due to the required additional hardware.

The objective of the Workshop on Full-Duplex Communications for Future Wireless Networks is to present new research on FD techniques, protocols, and applications exploring all aspects of future wireless network design. This workshop will attract contributions exploring the following topics of interest (but not limited to):

- Advanced antenna designs for FD
- Transceiver design for FD
- Advanced self-interference cancellation techniques for FD
- MIMO full-duplex transceiver design
- Performance analysis of FD systems and networks
- New FD MIMO techniques for multiuser interference cancellation
- FD relaying techniques
- Physical layer security and FD techniques
- Cognitive radio and FD techniques
- Wireless-powered FD techniques
- FD device-to-device communications
- FD small cell deployments
- Latency issues of FD networks
- MAC and routing protocols for FD systems
- Cross layer design for FD networks
- FD communications over HetNets
- Resource allocation and medium access control for FD networks
- Scheduling for FD networks
- Experimental evaluation of FD prototypes

## Keynotes

### Full-duplex via Antenna Partitioning

Ashutosh Sabharwal, Rice University, USA

### Full-Duplex MIMO – Prospects and Enabling Technologies

Shilpa Talwar and Yang-seok Choi, Intel, USA

## Important Dates:

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## Organizing Committee:

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