

IEEE Global Communications Conference

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Accelerating the Digital Transformation through Smart Communications



CALL FOR PAPERS AND PROPOSALS

Selected Areas in Communications

Full-Duplex Communications

Symposium Co-Chairs

- Hirley Alves, 6G Flagship, CWC, University of Oulu, Finland, Hirley.Alves@oulu.fi

Scope and Motivation

Future wireless systems will experience a significant increase in 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, can potentially double the spectral efficiency and allow a more flexible use of the spectrum, therefore making it a promising technology for future wireless networks. 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 suppressed almost down to the noise floor. Recently, some realistic field trials have already 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.

Supported by the respective [IEEE ComSoc ETI](#), the Full-Duplex Communications track in the Selected Areas in Communication Symposium follows the [ICC'21 edition](#) and continues the [workshop series from ICC'17 through ICC'20, including GLOBECOM'17 and GLOBECOM'18](#). The track welcomes original and innovative research in all technical areas on full-duplex communications, encouraging high-quality papers that report state-of-the-art advances at both industry and academia.

Topics of Interest

The SAC: Full-Duplex seeks original research articles are solicited in, but not limited to, the following areas:

- Advanced antenna and transceiver designs for full-duplex
- Experimental evaluation of full-duplex transceivers and networks

- Advanced self-interference cancellation techniques for full-duplex
- Modelling of self-interference and channel measurements for full-duplex
- MIMO and mmWave full-duplex transceiver design
- Performance analysis of full-duplex transceivers, systems and networks
- New full-duplex MIMO techniques for multiuser interference cancellation
- Non-orthogonal multiple access (NOMA) and full-duplex techniques
- Physical layer security and full-duplex techniques
- Full-duplex relaying and cooperative communications
- Cognitive radio and full-duplex techniques
- Full-duplex techniques with wireless power and energy harvesting
- Full-duplex device-to-device and Machine-type Communication (mMTC and URLLC)
- Full-duplex small cell deployments, dynamic TDD and heterogeneous networks
- Ultra-reliable low-latency MAC and routing protocols for full-duplex networks
- Cross-layer design and virtualization for full-duplex networks
- Resource allocation, medium access control, and scheduling for full-duplex systems

Important Dates

Paper Submission: 15 April 2022

Notification: 25 July 2022

Camera Ready and Registration: 1 September 2022

How to Submit a Paper

All papers for technical symposia should be submitted via EDAS. Full instructions on how to submit papers are provided on the IEEE Globecom 2022 website: <https://globecom2022.ieee-globecom.org/>