

1st Workshop on Rate-Splitting and Robust Interference Management for Beyond 5G

Call For Papers

To efficiently cope with the high throughput, reliability, heterogeneity of Quality-of-Service (QoS), and massive connectivity requirements of future MIMO wireless networks, multiple access and multiuser communication system design need to depart from two conventional and extreme interference management strategies, namely fully treat interference as noise (as commonly used in 4G/5G, MU-MIMO, CoMP, Massive MIMO, millimetre wave MIMO) and fully decode interference (as in Non-Orthogonal Multiple Access - NOMA).

This workshop is dedicated to the theory and applications of general and powerful transmission frameworks based on Rate-Splitting (RS) and Robust Interference Management (RIM). RS consists in decoding part of the interference and in treating the remaining part of the interference as noise. This enables RS to softly bridge and therefore reconcile the two extreme strategies of fully decode interference and treat interference as noise and provide room for spectral efficiency, energy efficiency and QoS enhancements in a wide range of network loads and user deployments, robustness against imperfect Channel State Information at the Transmitter (CSIT), as well as feedback overhead and complexity reduction.

This 1st International Workshop on Rate-Splitting and Robust Interference Management for Beyond 5G will take place during IEEE ICC 2020 in Dublin. The workshop will provide a forum for sharing new ideas, hearing recent developments and brainstorming on emerging RS and RIM for 5G and beyond networks. We aim to bring together leading researchers in the field, both from academia and industry, to share their recent findings and their views on how RS and RIM can tackle numerous challenges of future generation networks.

Topics of interest include, but are not limited to:

- RS and RIM to achieve the fundamental limits of wireless networks
- RS for multi-user/multi-cell multi-antenna networks
- RS-based robust interference management
- RS in MU-MIMO, CoMP, Massive MIMO, millimetre wave MIMO, relay, cognitive radio, coded caching, physical layer security, cooperative communications
- Rate-Splitting Multiple Access to generalize SDMA and NOMA
- Physical layer design of RS-based network
- Coding and Modulation for RS
- Cross-layer design, optimization and performance analysis of RS
- Implementation and standardization of RS
- RS applications in massive MTC, massive IoT, V2X, cellular, UAV and satellite networks

Full details of submission procedures are available at <http://icc2020.ieee-icc.org>

Important Dates

Paper Submission Deadline: January 20, 2020

Acceptance Notification: Feb. 20, 2020

Final Paper Submission: March 1, 2020

Keynotes and Industry Panel

- ❖ Prof. **Bruno Clerckx**, Imperial College London, UK
- ❖ Dr. **Wei Han**, Huawei, China
- ❖ Prof. **Aydin Sezgin**, Ruhr-University Bochum, Germany
- ❖ Dr. **Nader S. Alagha**, European Space Agency, Research and Technology Centre, The Netherlands
- ❖ Prof. **Syed A. Jafar**, UC Irvine, USA

Workshop Co-Chairs

Prof. Bruno Clerckx
Imperial College London, UK

Prof. Eduard Jorswieck
TU Braunschweig, Germany

Dr. Yijie (Lina) Mao
Imperial College London, UK

Technical Program Committee

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