5ᵗʰ Workshop on Non-Orthogonal Multiple Access Techniques for 5G

In conjunction with IEEE ICC 2019, Friday, 24 May 2019, Shanghai, China

Workshop Organizers

General Chairs	H. Vincent Poor (Princeton University, USA) Robert Schober (FAU, Germany) George K. Karagiannidis (AUTH, Greece) Octavia A. Dobre (Memorial Univ., Canada)
TPC Chairs	Mojtaba Vaezi (Villanova University, USA) Zhiguo Ding (Manchester University, UK)

TPC Members

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Wonjae Shin (Pusan University)
Wei Yang (Qualcomm, USA)
Xiang Cheng (Peking University, China)
Yonghui Li (University of Sydney, Australia)
Yongming Huang (Southeast University, China)
Zhi Chen (UEST, China)

Important Dates

Full Paper Submission: **January 15, 2018**
Acceptance Notification: February 16, 2019
Final Paper Submission: March 16, 2019
Workshop Date: May 24, 2019

Papers should be submitted for review through EDAS (submission link).

Call for Papers

Future radio access networks are expected to have the capability to support: 1) massive connectivity and dramatically higher capacity; 2) diverse sets of users and applications with radically different requirements in terms of delay, bandwidth, etc.; and 3) flexible and efficient use of all available resources, such as spectrum and time. The above requirements, especially the need for massive connectivity and diverging latency, challenge the current cellular networks in many ways, particularly the available multiple access (MA) methods. As a result, significant efforts have been recently made to design more spectrally and energy efficient MA schemes for future wireless networks. A common feature of these newly designed MA schemes is the avoidance of the use of conventional orthogonal schemes, such as time division multiple access (TDMA) and frequency division multiple access (FDMA). Instead, users are encouraged to share their bandwidth resources opportunistically according to their diverse channel conditions and their quality of service requirements. The superior spectral efficiency of these non-orthogonal multiple access (NOMA) schemes has been demonstrated by recent theoretical and experimental studies.

The **5ᵗʰ Workshop on Non-Orthogonal Multiple Access Techniques for 5G** will take place during IEEE ICC'19 in Shanghai, China, on May 24, 2019. The workshop will provide a forum for brainstorming on the emerging NOMA techniques for 5G cellular networks. We aim to bring together the leading researchers in the field, both from academia and industry, to share their recent findings and their views on what access methods best suit the diverse requirements of next generation networks. Topics of interest include, but are not limited to:

- *Non-orthogonal multiple access via the power domain*
  - ✓ Advanced coding and modulation for NOMA
  - ✓ Multi-cell/massive MIMO NOMA
  - ✓ Security concerns for NOMA
  - ✓ Cross-layer design and optimization of NOMA
  - ✓ Hardware implementation issues in NOMA
- *Non-orthogonal multiple access via the code domain*
  - ✓ Sparse code multiple access (SCMA)
  - ✓ Multi-user shared access (MUSA)
  - ✓ Lattice partition multiple access (LPMA)
  - ✓ Interleave division multiple access (IDMA)
- *Other multiple access protocols for*
  - ✓ Massive MTC applications
  - ✓ Massive internet-of-things (IoT)
  - ✓ Vehicle-to-X (V2X) and satellite networks
- *Coexistence of NOMA and OFDMA*
- *Machine learning and deep learning for NOMA*

The workshop features two keynotes given by world leading researchers in the field and a panel discussion including researchers from industry and academia. Submitted papers should follow the IEEE ICC paper submission guidelines. Papers should be submitted for review through EDAS.