

Special Issue on
**Nonorthogonal Multiple Access for 5G
and Beyond**

CALL FOR PAPERS

Over the past decades, rapid developments and evolving demands of wireless communications changed the selected multiple access (MA) technique in each generation. Today, increasing demands of high spectral/energy efficiency, high connectivity, and low latency of future generations such as 5G and beyond can be satisfied by Nonorthogonal Multiple Access (NOMA). Different from conventional MA techniques such as frequency division MA, time division MA, code division MA, and orthogonal frequency division MA of previous generations, which are based on orthogonal resources, the key idea in NOMA is to allocate nonorthogonal resources to serve multiple users, yielding a high spectral efficiency while allowing some degree of interference at receivers. Recently proposed NOMA techniques can be mainly categorized into two groups: power domain and code domain. In power domain NOMA, multiple users are superposed by different power levels opposite to the channel conditions such that successive interference cancellation is applied at receivers, providing a good tradeoff between system throughput and user fairness. Other NOMA approaches include low density spreading (LDS), sparse code multiple access (SCMA), multiuser shared access (MUSA), and interleave division multiple access (IDMA).

Despite having several advantages for 5G and beyond, challenges and obstacles exist in the efficient deployment of NOMA such as developing low complexity algorithms for user clustering, coexistence of NOMA with conventional orthogonal MA techniques, cross-layer optimization, and the effect of practical impairments like channel estimation errors. In addition, combination of NOMA with key technologies of future wireless networks, particularly multiple-input multiple-output (MIMO), full duplex, cooperative communications, and cognitive radios, creates new challenges.

This special issue aims at collecting high quality papers containing original research results addressing the aforementioned challenges as well as review articles describing the current state of the art. Authors are encouraged to submit original research papers specifically devoted to power-domain NOMA.

Potential topics include but are not limited to the following:

- ▶ Modulation and coding for NOMA
- ▶ Performance analysis of NOMA
- ▶ MIMO-NOMA
- ▶ NOMA with cognitive radio networking
- ▶ Security in NOMA
- ▶ Integration of NOMA with conventional MA techniques
- ▶ Cross layer optimization in NOMA
- ▶ Resource allocation for NOMA
- ▶ Dense deployment scenarios for NOMA
- ▶ Emerging applications of NOMA
- ▶ Practical implementations of NOMA

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/wcmc/noma/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Oğuz Kucur, Gebze Technical
University, Kocaeli, Turkey
okucur@gtu.edu.tr

Guest Editors

Güneş K. Kurt, Istanbul Technical
University, Istanbul, Turkey
gkurt@itu.edu.tr

Muhammad Z. Shakir, University of the
West of Scotland, Paisley, UK
muhammad.shakir@uws.ac.uk

Imran S. Ansari, Texas A&M University
at Qatar, Doha, Qatar
imran.ansari@qatar.tamu.edu

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