



## Machine Learning and Data Analytics for Communication Networks in the 5G Era

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### Message from the Guest Editors

The next generation (5G) of communication networks will target unprecedented performance, in terms of network capacity, Quality of Service, network availability, user-experience, etc. In this context, the cloud computing and Network Function Virtualization (NFV) paradigms, together with the support of optical networking, play key roles, which are expected to enable 5G networking.

Advanced mathematical tools, such as those in the field of Machine Learning (ML) and Big Data Analytics, also represent an extremely important opportunity to help telecom operators with the design, operation and maintenance of their networks, especially if considering the continuous increase in network complexity. As a matter of fact, thanks to the possibility of efficiently leveraging large amounts of data, ML tools are expected to improve 5G networks through automation and self-optimization.

