



Connected Mathematics for Next Generation Communication Networks

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Message from the Guest Editors

Mathematics has played the role of the pathbreaker in the development of new communication procedures, and it is an essential instrument in the planning and optimization of networks. For example, statistical theories and discrete mathematics are used in information theory; linear algebra, convex optimization and game theory are used in the development of new methods of transmission, and linear, combinatorial, and stochastic optimization are used in planning radio networks. In these cases, it is the collaboration of applied mathematics and communications engineering that deliver essential contributions to the potential solutions.

Despite this immense contribution, essential foundational issues and challenges exist for mathematical theories, such as the need to redefine itself according to current needs and requirements. Therefore, in this Special Issue, we focus on those applied mathematical models and methods that can be connected and the specific features of DCN systems that differ from past and present ones. We may deliberate on diverse mathematical approaches for machine intelligence based on stochastic processes, queueing theory, statistics, stochastic geometry, and others.





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Message from the Editor-in-Chief

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