

Special Issue

Advances in Probability Theory and Stochastic Analysis

Message from the Guest Editor

Recent advances in probability theory and stochastic analysis cover a wide range of theoretical and applied developments. These include the creation of stochastic differential equations (SDEs) for modeling complex systems in various fields such as physics, finance, biology, sports, and medicine. There have been significant strides in understanding and analyzing both Markovian and non-Markovian processes, developing new algorithms for stochastic control problems in finance, economics, and infectious disease modeling, and advancing the theory of mean-field games and multi-agent systems. Additionally, improved methods for parameter estimation and hypothesis testing in complex stochastic models, including Copula analysis, have been developed. This Special Issue gathers various articles that aim to reveal theoretical and applied advances in probability theory and stochastic analysis across other disciplines, including, but not limited to, economics, finance, game theory, sports analysis, statistics, epidemiology, machine learning, and medicine...

Guest Editor

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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