Special Issue

Stochastic Control and Optimization in Mathematical Finance

Message from the Guest Editors

Stochastic control and optimization have become indispensable tools in modern financial modeling and decision making. The dynamic nature of financial markets, coupled with the presence of uncertainty and risk, requires sophisticated mathematical techniques for the effective management and optimization of financial resources. This Special Issue aims to explore the intricate interplay between stochastic control theory, optimization techniques, and their applications in mathematical finance. It aims to provide a platform for researchers and practitioners to present their latest findings, and methods and insights related to tackling complex financial problems through stochastic control and optimization frameworks. This Special Issue welcomes contributions that address theoretical developments, algorithmic innovations, and empirical studies in areas including, but not limited to, portfolio optimization, risk management, derivative pricing, and asset allocation under uncertainty.

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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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