

Special Issue

Stochastic Analysis and Applications in Financial Mathematics

Message from the Guest Editors

The origin of the application of rigorous mathematical and stochastic methods for asset pricing can be traced back to Louis Bachelier's 1900 doctoral thesis *Théorie de la spéculation*. From the early 1950s, economists, including Paul Samuelson, started to model asset prices using geometric Brownian motion. In addition to stochastic analysis in asset pricing, option and derivatives pricing, and interest rate modelling, techniques around stochastic optimal control, forward-backward stochastic differential equations (FBSDEs), and stochastic filtering, among others, have gained greater traction in addressing financial problems, such as portfolio management and optimization, risk management and measurement, algorithmic trading and trading strategies, among many other areas of application. In this Special Issue, we call for original papers that further extend the frontiers of the existing rich literature, as well as shorter insightful review and survey papers on the applications of stochastic analysis in financial mathematics.

Guest Editors

Dr. Gerald H. L. Cheang

Centre for Industrial and Applied Mathematics, UniSA STEM, University of South Australia, Adelaide 5001, Australia

Dr. Len Patrick Garces

School of Mathematical and Physical Sciences, University of Technology Sydney, Sydney 2007, Australia

Deadline for manuscript submissions

closed (28 February 2025)



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/158572

Mathematics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
mathematics@mdpi.com

[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)





Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)



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.

Editor-in-Chief

Prof. Dr. Francisco Chiclana

School of Computer Science and Informatics, De Montfort University,
The Gateway, Leicester LE1 9BH, UK

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:

JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).