

## Special Issue

# Theory and Applications of Probability Theory and Stochastic Analysis

### Message from the Guest Editor

Probability, stochastic processes, and statistics form the mathematical backbone for understanding uncertainty, modeling dynamic random systems, and transforming data into actionable knowledge across science, engineering, and social sciences. In an era of unprecedented data complexity—characterized by high dimensionality, non-stationarity, and cross-disciplinary fusion—these fields face critical challenges. This Special Issue aims to showcase cutting-edge research that bridges theoretical rigor and practical impact. We welcome contributions spanning foundational advances (e.g., novel probability bounds, robust stochastic process models) and interdisciplinary applications (e.g., biostatistical modeling of disease spread, stochastic optimization in finance, probabilistic AI for decision-making). By fostering dialogue between theorists and practitioners, the Issue seeks to address modern uncertainties, from climate variability to algorithmic bias, through innovative methodological developments.

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### Guest Editor

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### Deadline for manuscript submissions

closed (30 April 2026)



## Mathematics

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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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### Editor-in-Chief

Prof. Dr. Francisco Chiclana  
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manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).