Special Issue

Nonlinear Stochastic Dynamics and Control and Its Applications

Message from the Guest Editor

The goal of this Special Issue is to bring together theoretical and practical results with the aim of inspiring new ideas and solutions of existing and rising problems. Nonlinear stochastic dynamics arises in many fields of science, such as mathematics, physics, engineering, economics and finance, biology and medicine, etc. Mathematical models of stochastic dynamical systems are becoming increasingly complex. They can include forward and backward stochastic difference, differential, integral, and integro-differential equations, including equations with fractional and partial derivatives. There is a need for new methods of the analysis of nonlinear stochastic dynamic systems, for modern approaches to parametric optimization or optimal and suboptimal control, including methods based on metaheuristic optimization and machine learning. The problems of joint estimation and control have a notable place in theory, especially from an applied point of view. An important problem for researchers is the stability analysis of nonlinear stochastic dynamical systems. This Special Issue calls for high-quality research papers and surveys in the specified fields.

Guest Editor

Dr. Konstantin Alexandrovich Rybakov
Moscow Aviation Institute (National Research University), 125993 Moscow, Russia

Deadline for manuscript submissions

closed (30 December 2023)

Σ

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

mdpi.com/si/162181

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

mdpi.com/journal/mathematics

MDPI

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

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 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).

MDPI