

Special Issue

Nonlinear Dynamics Research in Biomedicine

Message from the Guest Editors

The mathematical modelling of complex biological and physiological systems is a powerful tool for gaining a fundamental understanding of the processes of life. However, the construction of a comprehensive model requires both profound knowledge of the system and large amounts of experimental data. Here, the methods and approaches of nonlinear dynamics are of immense utility, allowing both the reduction of systems of equations and the investigation of possible modes of their functioning. The aim of this Special Issue is to highlight papers that demonstrate the usefulness of nonlinear dynamics methods to the investigation of physiological systems' structure, the determination of key modules and control stages in biological systems, and the application of the acquired knowledge to the problems of biomedicine.

Guest Editors

Prof. Dr. Anastasia Sveshnikova

1. Faculty of Physics, Lomonosov Moscow State University, 1/2 Leninskie Gory, 119991 Moscow, Russia
2. Center for Theoretical Problems of Physico-Chemical Pharmacology, Russian Academy of Sciences, 30 Srednyaya Kalitnikovskaya Str., 109029 Moscow, Russia
3. National Medical Research Center of Pediatric Hematology, Oncology and Immunology Named after Dmitry Rogachev, 1 Samory Mashela St, 117198 Moscow, Russia

Prof. Dr. Fazoil Ataullakhanov

1. Dmitry Rogachev National Medical Research Center of Pediatric Hematology, Oncology and Immunology, Ministry of Healthcare of Russian Federation, Samory Mashela Str., 1, GSP-7, 117198 Moscow, Russia
2. Center for Theoretical Problems of Physicochemical Pharmacology, Russian Academy of Sciences, Srednyaya Kalitnikovskaya Str., 30, 109029 Moscow, Russia
3. Department of Biophysics, Physics Faculty, Lomonosov Moscow State University, Leninskie Gory, 1, Build. 2, GSP-1, 119991 Moscow, Russia
4. Moscow Institute of Physics and Technology, National Research University, Institutskiy Per., 9, 141701 Dolgoprudny, Russia
5. Perelman School of Medicine, University of Pennsylvania, 3400 Civic Center Blvd., Philadelphia, PA 19104, USA

Deadline for manuscript submissions

closed (31 May 2024)



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/127138

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).