Special Issue

Dynamics and Bifurcations in Mathematical Neuroscience: Analysis, Modeling and Applications

Message from the Guest Editors

For many years, mathematics and computational methods have played an important role in our understanding of the nervous system. The goal of this Special Issue is to present some examples of how mathematical techniques can be applied at a variety of levels to increase our understanding of neural systems. Mathematical neuroscience is an interdisciplinary field that combines analytical methods and computer simulations with experimental neuroscience to develop, simulate, and study multiscale models and theories of neural function—from the level of molecules, through cells and networks, and up to cognition and behavior. We welcome the submission of papers that introduce advanced mathematical techniques to illuminate these questions, including those that contain comparative studies, statistical data analysis, mathematical proofs, computer simulations, experiments, field observations, or even philosophical arguments, which are all methods to support or reject theoretical ideas. A clear statement of the biological significance of the problem being studied will be appreciated.

Guest Editors

Dr. Susanna Gordleeva

1. Institute of Biology and Biomedicine, Lobachevsky State University of Nizhny Novgorod, 603950 Nizhny Novgorod, Russia
2. Center for Technologies in Robotics and Mechatronics Components, Innopolis University, 420500 Innopolis, Russia

Dr. Shangbin Chen

1. Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology, Wuhan 430074, China
2. MoE Key Laboratory for Biomedical Photonics, School of Engineering Sciences, Huazhong University of Science and Technology, Wuhan 430074, China

Deadline for manuscript submissions

closed (30 April 2023)

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

mdpi.com/si/98052

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

mdpi.com/journal/mathematics

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 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).

MDPI