



## Mathematical Modeling, Asymptotic Analysis and Stability of Solutions of Nonlinear Dynamical Systems

Guest Editor:

**Prof. Dr. Vladislav Vasilievich Lyubimov**

Department of Further  
Mathematics, Samara National  
Research University, 443086  
Samara, Russia

Deadline for manuscript  
submissions:

**closed (15 April 2024)**

### Message from the Guest Editor

Dear Colleagues,

As a rule, modern dynamical systems can be described by means of essential nonlinear differential equations and their systems. In most cases, analytical solutions to such systems cannot be found. In this regard, it is of interest to develop new and modernize known methods for the study of the stability of dynamic systems. In particular, it should be noted that the use of asymptotic methods makes it possible to study the evolution of slow variables and greatly simplifies the analysis of the stability of dynamical systems.

The intention of this Special Issue is to collect original and review articles devoted to the latest achievements in the field of mathematical modeling and the development of methods for the analysis of the stability of nonlinear dynamical systems.

Prof. Dr. Vladislav Vasilievich Lyubimov

*Guest Editor*





## Editor-in-Chief

### **Prof. Dr. Francisco Chiclana**

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

## 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.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

**Journal Rank:** JCR - Q1 (*Mathematics*) / CiteScore - Q1 (*General Mathematics*)

## Contact Us

---

*Mathematics* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/mathematics](http://mdpi.com/journal/mathematics)  
[mathematics@mdpi.com](mailto:mathematics@mdpi.com)  
[X@MathematicsMDPI](https://twitter.com/MathematicsMDPI)