



## Theory and Applications of Discrete Event Systems

Guest Editors:

**Prof. Dr. Shaolong Shu**

College of Electronics and  
Information Engineering, Tongji  
University, Shanghai, China

**Prof. Dr. Weilin Wang**

School of Optical-Electrical &  
Computer Engineering, University  
of Shanghai for Science and  
Technology, Shanghai, China

Deadline for manuscript  
submissions:

**31 December 2024**

### Message from the Guest Editors

Dear Colleagues,

The development of AI and IoT has led to the integration of physical systems into complex and large-scale cyber-physical systems. Discrete event system (DES) theory and methods play an increasingly important role in modeling and controlling these complex physical systems. While significant progress has been made in DES research over the past two decades, many theoretical challenges remain, and the application of DES is still limited to small case studies, with industrial relevance posing a challenge.

This Special Issue aims to focus on new DES approaches and their applications for complex physical systems. We welcome original research articles and reviews covering topics such as:

- Supervisory control of DES and cyber-physical systems
- State estimation of DES using models like automata and Petri nets
- Fault diagnosis of DES under network issues like delays and packet loss
- Security analysis and enforcement for DES networks under cyber attacks
- Application of DES to complex physical systems
- Property analysis and verification of formal methods

We look forward to your valuable contributions.



[mdpi.com/si/207034](https://mdpi.com/si/207034)

# Special Issue



## 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, Grosspeteranlage 5  
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)