Special Issue

Swarm Intelligence and Optimization Algorithms, Variants, and Real-World Applications

Message from the Guest Editor

Swarm intelligence (SI), inspired by collective behaviors in nature, has emerged as a powerful paradigm for solving complex optimization problems. This Special Issue seeks to publish cutting-edge research on SI-based algorithms, including variants of ant colony optimization, particle swarm optimization, and artificial bee colony algorithms, as well as hybrid approaches integrating machine learning or metaheuristics. Contributions may explore theoretical advancements, such as parameter tuning, convergence analysis, or multi-objective extensions, or practical innovations addressing scalability, robustness, and adaptability. Real-world applications span engineering, logistics, robotics, and beyond. Topics of interest include, but are not limited to, the following areas: SI-driven solutions for smart grids, drone coordination, supply chain optimization, and disaster response. Case studies demonstrating superiority over traditional methods or interdisciplinary collaborations are particularly encouraged. We welcome original research, surveys, and comparative studies that advance the state-of-the-art in SI and its practical impact.

Guest Editor

Prof. Dr. Yiying Zhang

College of Electrical Engineering and Automation, Shandong University of Science and Technology, Qingdao 266590, China

Deadline for manuscript submissions

30 April 2026

Σ

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2 CiteScore 4.6

MDPI

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).