

# Special Issue

## Evolutionary Computation, Optimization, and Their Applications

### Message from the Guest Editors

With the exponential growth of system complexity in Industry 4.0, artificial intelligence, and data-driven decision making, traditional optimization methods face significant challenges in addressing high-dimensional, multi-objective, and dynamically uncertain problems. Inspired by natural evolution, evolutionary computation (EC) has demonstrated unique advantages in handling non-convex, discontinuous, and multi-modal optimization landscapes. Topics of interest include, but are not limited to, the following:

- Multiobjective optimization, constraint handling, dynamic environments, and hybrid metaheuristics.
- Neural architecture search, hyperparameter optimization, and automated machine learning pipelines.
- GPU/quantum-accelerated EC, federated optimization, and cloud-edge deployment.
- EC in sustainable energy systems, healthcare decision support, and LLM fine-tuning.
- Convergence analysis, complexity theory, and interpretability of EC frameworks.

### Guest Editors

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### Deadline for manuscript submissions

30 November 2025



## Mathematics

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### 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.

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### Editor-in-Chief

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