Special Issue

Multi-Objective Optimization and Evolutionary Computing with Applications

Message from the Guest Editor

In many real-world scenarios, we have to deal with multiple conflicting objectives. For such optimization scenarios, the goal is to find a set of pareto-optimal solutions representing the optimal trade-offs between different objectives. Solving this multi-objective optimization task is highly challenging when each objective function is nonlinear, discontinuous, or subject to constraints or when the decision vector consists of mixed-integer/categorical variables. As an alternative, Bayesian optimization has been generalized to multi-objective optimization problems for expensive-to-evaluate objective functions, focusing on reducing the queries to the objective function. We particularly welcome the authors to contribute to the following aspects:

- multi-objective optimization
- Bayesian optimization
- evolutionary algorithms
- evolution strategies
- black-box optimization
- performance measures/indicators
- benchmarking
- metaheuristics
- mathematical optimization
- machine learning

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closed (10 July 2025)

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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.

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