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Call for Papers

Special issue on “Metaheuristics: Advances and Applications”

Guest Editors

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This special issue “*Metaheuristics: Advances and Applications*” of the *International Transactions in Operational Research* (ITOR) will focus on advances in the area of Metaheuristics and their applications. It is open to original contributions from the entire community of academicians and practitioners, including properly extended and revised versions of papers accepted at the 15th *Metaheuristics International Conference* (MIC 2024) that took place in Lorient (France).

Papers covering all aspects of metaheuristic research and applications are welcome, including (but not limited to):

- Metaheuristics such as tabu search, simulated annealing, greedy randomized adaptive search procedures, iterated local search, variable neighborhood search, memory-based optimization, dynamic local search, evolutionary algorithms, memetic algorithms, ant colony optimization, particle swarm optimization, scatter search, and path relinking.
- Techniques that enhance the usability and increase the potential of metaheuristics such as reactive search mechanisms for self-tuning, offline metaheuristic algorithm configuration techniques, algorithm portfolios, and parallelization of metaheuristics.
- Empirical and theoretical research in metaheuristics including large-scale experimental analyses, algorithm comparisons, new experimental methodologies, engineering methodologies for metaheuristics, search space analysis, theoretical insights into properties of metaheuristics, among others.
- High-impact applications of metaheuristics in fields such as bioinformatics, electrical and mechanical engineering, telecommunications, sustainability, business, scheduling and timetabling. Particularly welcome are innovative applications of metaheuristic algorithms that have a potential of pushing research frontiers.
- Contributions on the combination or hybridization of metaheuristics with other methods, such as integer programming, constraint programming, or machine learning.

- Contributions of metaheuristic techniques in machine learning and deep learning for finetuning and neural architecture search.
- Challenging applications areas such as continuous, mixed discrete-continuous, multi-objective, stochastic, or dynamic problems.

Each paper will be peer-reviewed according to the editorial policy of ITOR, published by the *International Federation of Operational Research Societies* – IFORS. Papers should be original, unpublished, and not currently under consideration for publication elsewhere. Manuscripts should be prepared according to the instructions to authors available at <https://onlinelibrary.wiley.com/page/journal/14753995/homepage/forauthors.html>. Authors should upload their contributions using the submission site <http://mc.manuscriptcentral.com/itor>, indicating in their cover letter that the paper is intended for this special issue and listing the novel contributions considering the related literature.

An important note concerns submissions on metaphor-inspired metaheuristics. ITOR is not interested in metaphor-based or bestial metaheuristics, or other methods of the same nature, based on concepts that are not clearly suitable to develop an optimization method and often similar to other, already existing approaches. The Guest Editors invite authors of manuscripts based on metaphor-inspired metaheuristics (other than well-established ones) to use a metaphor-free language. This also facilitates their conceptual comparison to other existing algorithms, as well as highlighting the algorithmic contributions to the literature.

The deadline for submissions is March 31, 2025. Other inquiries should be sent directly to any of the Guest Editors of this special issue: Patrick Meyer (patrick.meyer@imt-atlantique.fr), Marc Sevaux (marc.sevaux@univ-ubs.fr), Angelo Sifaleras (sifalera@uom.edu.gr), and Kenneth Sorensen (kenneth.sorensen@uantwerpen.be).