Algorithms for Biological Network Modelling

Guest Editor:

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Deadline for manuscript submissions:
closed (1 April 2023)

Message from the Guest Editor

This Special Issue will bring together cutting-edge methods from diverse computational disciplines that are currently being employed to address this important problem. Of particular interest are (i) methods from evolutionary computing to efficiently explore and characterize the design space (e.g., evolutionary algorithms, multi-objective optimisation, surrogate-assisted optimisation, landscape-aware heuristic search) and (ii) methods from applied mathematics to construct model formulations that reduce complexity whilst preserving predictive capacity (e.g., logic-based models).

We encourage submissions across a broad range of application domains, including—but not restricted to—gene regulatory network modelling, metabolic modelling, synthetic biology and computational neuroscience.

- computational biology
- evolutionary algorithms
- surrogate models
- multi-objective optimization
- landscape analysis
- local optima networks

Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

Algorithms are the very core of Computer Science. The whole area has been considered from quite different perspectives, having led to the development of many sub-communities: Complexity theory (limitations), approximation or parameterized algorithms (types of problems), geometric algorithms (subject area), metaheuristics, algorithm engineering, medical imaging (applications), indicates the range of perspectives. Our journal welcomes submissions written from any of these perspectives, so that it may become a forum for exchange of ideas between the corresponding scientific subcommunities.

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