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Bogdan Filipič · Edmondo Minisci ·
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Bioinspired Optimization Methods and Their Applications

9th International Conference, BIOMA 2020
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Proceedings

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Preface

Welcome to the proceedings of the 9th International Conference on Bioinspired Optimization Methods and Their Applications (BIOMA 2020), held during November 19–20, 2020, Brussels, Belgium.

BIOMA was launched in 2004 as an international scientific forum for presenting new ideas in bioinspired optimization and reporting on the applications of this methodology. It is held biennially and known among the attendees for its collaborative atmosphere and networking opportunities. However, organizing the conference this year, we were faced with an unforeseen challenge, the COVID-19 pandemic. After considering the options of either postponing the meeting or adapting to the new reality, we decided for the latter and held the conference virtually, with online presentations. While from the scientific quality point of view it was carried out in its best tradition, the social dimension was certainly different as we had to rely on the distance conferencing technology. Nevertheless, it was a learning experience that both the organizers and attendees can build upon under the new circumstances.

The conference was held jointly with the international conference on Uncertainty Quantification and Optimization (UQOP), organized by the H2020 UTOPIAE network. While the two forums share optimization as a common topic, BIOMA specializes in bioinspired algorithms as a means for solving the optimization problems. As such, it benefited from the paper submissions contributed by the UTOPIAE members studying and applying these algorithms. The event received 68 submissions. These were evaluated by the members of the Program Committee in a single-blind peer-review procedure where each paper was evaluated by three reviewers. Based on the evaluation scores, 24 papers, contributed by 73 authors from 14 countries, were accepted for presentation at the conference and publication in the LNCS proceedings. They come in two categories: theoretical studies and methodology advancements on the one hand, and algorithm adjustments and their applications on the other.

The conference mission of building on the synergy between theoretical research and practical aspects of bioinspired optimization was also reflected in the two invited keynotes that complemented the program of regular paper presentations. Gabriela Ochoa from the University of Stirling, UK, talked about recent advances in local optima and search trajectory networks, and Enrique Alba from the University of Málaga, Spain, on bioinspired algorithms for smart cities. We are grateful to them for accepting our invitation to present some of the the most recent achievements in the field to our forum.

We want to thank all of you who made BIOMA 2020 possible: the authors for submitting the papers, the members of the Program Committee and additional reviewers for reviewing, the Organizing Committee members for preparing and running the conference under demanding conditions, as well as the invited speakers, paper

presenters, and other attendees for making the virtual event lively and interactive. We are glad to see the community is adapting to new circumstances and staying connected.

October 2020

Bogdan Filipič
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