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Preface

This volume contains the proceedings of EvoApplications 2018, the International Conference on the Applications of Evolutionary Computation. The event was held in Parma, Italy, during April 4–6.

EvoAPPS, as it is familiarly called, is part of *Evo**, the leading event on bio-inspired computation in Europe. EvoAPPS aimed to show the applications of the research, ranging from proofs of concept to industrial case studies. At the same time, under the *Evo** umbrella, EuroGP focused on the technique of genetic programming, *EvoCOP* targeted evolutionary computation in combinatorial optimization, and *EvoMUSART* was dedicated to evolved and bio-inspired music, sound, art and design. The proceedings for all of these co-located events are available in the LNCS series.

This edition combines research from 14 different domains: business analytics and finance (*EvoBAFIN* track); computational biology (*EvoBIO* track); communication networks and other parallel and distributed systems (*EvoCOMNET* track); complex systems (*EvoCOMPLEX* track); energy-related optimization (*EvoENERGY* track); games and multi-agent systems (*EvoGAMES* track); image analysis, signal processing, and pattern recognition (*EvoIASP* track); real-world industrial and commercial environments (*EvoINDUSTRY* track); knowledge incorporation in evolutionary computation (*EvoKNOW* track); continuous parameter optimization (*EvoNUM* track); parallel architectures and distributed infrastructures (*EvoPAR* track); evolutionary robotics (*EvoROBOT* track); nature-inspired algorithms in software engineering and testing (*EvoSET* track); and stochastic and dynamic environments (*EvoSTOC* track).

This year we received 84 high-quality submissions, most of them well suited to fit in more than one track. We selected 36 papers for full oral presentation, while a further 23 works were presented as posters. All contributions, regardless of the presentation format, appear as full papers in this volume (LNCS 10784).

Many people contributed to this edition: We express our gratitude to the authors for submitting their works, and to the members of the Program Committees for devoting such a big effort to review papers pressed by our tight schedule.

The papers were submitted, reviewed, and selected through the MyReview conference management system, and we are grateful to Marc Schoenauer (Inria, Saclay-Île-de-France, France) for providing, hosting, and managing the platform.

We would also like to thank the local organizing team led by Stefano Cagnoni and Monica Mordinini from the University of Parma, Italy, for providing such an enticing venue and arranging an array of additional activities for delegates.

We would like to acknowledge Pablo García Sánchez (University of Cádiz, Spain) for his continued support in maintaining the *Evo** website and handling publicity.

We credit the invited keynote speakers, Una-May O'Reilly (MIT Computer Science and Artificial Intelligence Laboratory, USA) and Penousal Machado (Computational Design and Visualization Lab at the University of Coimbra, Portugal), for their fascinating and inspiring presentations.

We are grateful to the support provided by SPECIES, the Society for the Promotion of Evolutionary Computation in Europe and Its Surroundings, and its individual members (Marc Schoenauer, President; Anna I. Esparcia-Alcázar, Secretary and Vice-President; Wolfgang Banzhaf, Treasurer) for the coordination and financial administration.

And last but not least, we express our continued appreciation to Jennifer Willies for her ongoing support and expertise as one of the founding organizers of Evo* and also to Anna I Esparcia-Alcázar, from Universitat Politècnica de València, Spain, whose considerable efforts in managing and coordinating Evo* helped to build our unique, vibrant, and friendly atmosphere.

February 2018

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