

# **Studies in Computational Intelligence**

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## **Series editor**

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Stefka Fidanova  
Editor

# Recent Advances in Computational Optimization

Results of the Workshop on Computational  
Optimization WCO 2017

 Springer

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# Organization

Workshop on Computational Optimization (WCO 2017) is organized in the framework of Federated Conference on Computer Science and Information Systems (FedCSIS—2017).

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# Preface

Many real-world problems arising in engineering, economics, medicine, and other domains can be formulated as optimization tasks. Every day, we solve optimization problems. Optimization occurs in the minimizing time and cost or the maximization of the profit, quality, and efficiency. Such problems are frequently characterized by non-convex, non-differentiable, discontinuous, noisy, or dynamic objective functions and constraints which ask for adequate computational methods.

This volume is a result of very vivid and fruitful discussions held during the Workshop on Computational Optimization. The participants have agreed that the relevance of the conference topic and quality of the contributions have clearly suggested that a more comprehensive collection of extended contributions devoted to the area would be very welcome and would certainly contribute to a wider exposure and proliferation of the field and ideas.

The volume includes important real problems like modeling of physical processes, wildfire modeling, modeling processes in chemical engineering, workforce planning, wireless access network topology, parameter settings for controlling different processes, expert knowledge, berth allocation, identification of homogeneous domains, quantum computing. Some of them can be solved by applying traditional numerical methods, but others needs a huge amount of computational resources. Therefore for them are more appropriate to develop algorithms based on some metaheuristic method like evolutionary computation, ant colony optimization, particle swarm optimization, constraint programming.

Sofia, Bulgaria  
April 2018

Stefka Fidanova  
Co-Chair, WCO'2017

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