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Advances in Intelligent Systems and Computing

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Janusz Kacprzyk, Polish Academy of Sciences, Warsaw, Poland
e-mail: kacprzyk@ibspan.waw.pl

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e-mail: escorchado@usal.es

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Thanh Binh Nguyen · Tien Van Do
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Advanced Computational Methods for Knowledge Engineering

Proceedings of the 4th International Conference on Computer Science, Applied Mathematics and Applications, ICCSAMA 2016, 2–3 May, 2016, Vienna, Austria

Springer

Editors
Thanh Binh Nguyen
International Institute for Applied Systems Analysis (IIASA)
Laxenburg
Austria

Tien Van Do
Department of Networked Systems and Services
Budapest University of Technology and Economics
Budapest
Hungary

Hoai An Le Thi
Laboratory of Theoretical and Applied Computer Science (LITA), UFR MIM
University of Lorraine
Ile du Saulcy, Metz
France

Ngoc Thanh Nguyen
Institute of Informatics
Wrocław University of Technology
Wrocław
Poland

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Preface

This volume contains papers presented at the 4th *International Conference on Computer Science, Applied Mathematics and Applications* (ICCSAMA 2016) held on 2–3 May 2016 in Vienna, Austria. The conference is co-organized by International Institute for Applied Systems Analysis (IIASA), Austria, in cooperation with Department of Information Systems (Wrocław University of Technology, Poland), Laboratory of Theoretical and Applied Computer Science LITA (Lorraine University, France), Analysis, Design and Development of ICT systems Laboratory, Budapest University of Technology and Economics, Hungary and IEEE SMC Technical Committee on Computational Collective Intelligence.

The aim of ICCSAMA 2016 is to bring together leading academic scientists, researchers and scholars to discuss and share their newest results in the fields of computer science, applied mathematics and their applications. After the peer-review process, 20 papers by authors from Algeria, Austria, France, Germany, Greece, Georgia, Hungary, Italy, Malaysia, Spain, Turkey and Vietnam have been selected for including in these proceedings. The presentations of 19 have been partitioned into five sessions: *Advanced Optimization Methods and Their Applications, Models for ICT applications, Topics on discrete mathematics, Data Analytic Methods* and *Applications and Feature Extraction.*

The clear message of the proceedings is that the potentials of computational methods for knowledge engineering and optimization algorithms are to be exploited, and this is an opportunity and a challenge for researchers. It is observed that the ICCSAMA 2013, 2014 and 2015 clearly generated a significant amount of interaction between members of both computer science and applied mathematics communities. The intensive discussions have seeded future exciting development at the interface between computational methods, optimization and engineering.

The works included in these proceedings can be useful for researchers, Ph.D. and graduate students in optimization theory and knowledge engineering fields. It is the hope of the editors that readers can find many inspiring ideas and use them to their research. Many such challenges are suggested by particular approaches and models presented in the proceedings.

We would like to thank all authors, who contributed to the success of the conference and to this book. Special thanks go to the members of the Steering and Program Committees for their contributions to keeping the high quality of the selected papers. Cordial thanks are due to the Organizing Committee members for their efforts and the organizational work.

Finally, we cordially thank Springer for support and publishing this volume.

We hope that ICCSAMA 2016 significantly contributes to the fulfilment of the academic excellence and leads to greater success of ICCSAMA events in the future.

May 2016

Thanh Binh Nguyen
Tien Van Do
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