Foreword

by Gerhard-Wilhem Weber and Sevtap Kestel

The aim of the project of this book, *Soft Computing Intelligent Algorithms in Engineering, Management, and Technology,* has been to explore the emerging and current cutting edge technology in the research fields of soft computing intelligent algorithms and their original, novel and innovative modern-time real-world applications. During the past decades, the use of emerging smart algorithms in engineering, technology, modelling, computing, data mining, machine learning and simulation has gained the attention of numerous researchers from all over the world. These smart or intelligent algorithms have their roots in the engineering sciences, in computer science and informatics. They are often called heuristics and model-free, and they are usually less firm in mathematical rigor, but liberated from the strictness of calculus in order to integrate nature-inspired and, especially, bio-inspired approaches to solve hard problems efficiently. Herewith, the rise of those intelligent algorithms happened in some sense parallel to the developments in mathematics which are more model-based. Under labels and, in fact, great scientific projects such as Statistical Learning and Machine Learning, but also Metaheuristics and Matheuristics and, in a wider sense, Operational Research, both model-free and model-based methods meet today and more and more exchange in many research centres, at excellent conferences and in ambitious projects worldwide in order to overcome misunderstanding and prejudices between these academic and applied traditions and streams, to bring scientific advances ahead and to contribute to the solution of great and important real-world problems. Such challenges do exist in all areas of academic life, in economy, engineering, social sciences, and, especially, life, human sciences, and the development sector. It is a great achievement of this book and of its editor to also having given a great contribution to this important process in science and humanity, to open the floor for scientists and practitioners from all over the world to represent their latest insights and important results. To the authors of the valuable chapters, we extend our appreciation and thankfulness for having shared their excellence, devotion, and vision with us all in the academic community and in mankind. As we stated before, we are very thankful to the publishing house IGI Global, USA and to the editor, Dr. Pandian Vasant, for having given these experts the opportunity and honour of publishing their achievements and contributions as a service to the people on Earth. We express our gratitude to them for having prepared a premium work of a remarkable scientific and social value!

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