Foreword

The objective of this volume, *Modern Optimization Algorithms and Applications in Engineering and Economics*, is to provide readers with the cases studies of the applications of the state of the art optimization algorithms based on both combinations of heuristics and mathematically fully justified methods.

During of the XX century, Optimization Methods paved a road for modern development of various areas of computer science, inverse problems, bio and life sciences gaining the attention of engineers working in the fields of industrial mathematics, emerging analytics, algorithms, and information technologies, providing a strong impact on all areas of engineering, economics, finance, and social sciences. In many real world applications practitioner faces with various challenges caused by justified model absence, noisy and incomplete data, and mathematically such problems are related to inverse ill-posed problems. In order to tackle with such challenges, the various regularization methods are usually employed. From the other hand, meta-heuristics have become very successful in solving various real world problems. The purpose of this book is to fill the gap between the model-based and model-free streams of modern industrial mathematics.

This volume applications areas covers wide area of industrial mathematics including traffic networks design, power generation and distribution, manufacturing and supply chain management and other applications. The authors of this book chapters are experienced scientists and engineers from vibrant south Asia countries, Americas and Europe.

We extend sincere appreciation and thanks to all the authors for having shared their knowledge and bright ideas with the academic and engineering community. We are grateful to the IGI Global publishing house, Editor Prof. Dr. Pandian Vasant and the Editorial Advisory Board, for having provided the opportunity for authors to publish their newest results.

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