

## Preface

This special issue of the journal “Applied Analysis and Optimization” includes manuscripts on Mathematical Programming: Theory and Applications. This issue covers a wide range of contributions on optimization theory as well as its applications in production and service systems, bridging the researcher–practitioner gap in mathematical programming methods and applications. The special issue shows the state of the art knowledge related to optimization, decision science and problem solving methods, as well as their applications in production and service systems. It highlights real life problems that are challenging and worthwhile, using theory, models and methods of mathematical programming. The issue can be a valuable reference for both researchers and practitioners in optimization. Mathematical programming is one of the most important components of operations research. The papers in this special issue encompass a broad area of mathematical programming theory and applications, including a feature selection method for machine learning problems, mathematical programming models for warehouse design problems, multi-objective evolutionary algorithms for parallel machine scheduling problems, algorithms for course evaluation and assignment, data envelopment analysis models for efficiency analysis, metaheuristic algorithms for the quadratic knapsack problem, incremental algorithms for semi-supervised clustering problem and new theoretical tools for investigating nonconvex optimization problems such as weak subgradients and augmented normal cones. All the manuscripts include new, unpublished, original research with quantitative results supported by a robust experimental analysis demonstrating the significance of the results. All submissions are reviewed by at least two reviewers to the standard of the journal. We deeply thank and express our gratitude to all the authors for their valuable efforts and contributions. We also thank the reviewers for their expert opinions and their voluntary contributions in the preparation process of this special issue.

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