Preface

Duality is a fundamental concept that underlies almost all natural phenomena. During the last forty years, much research has been devoted to the developments of duality theory and methods. The field now is well developed in many directions, especially in mathematical programming, engineering mechanics, economics, game theory, global optimization and control. In view of the importance of duality theory and methods, the Second International Conference on Optimization and Control with Applications (OCA) was held in the Yellow Mountains, Anhui, China, during August 18–22, 2002. The conference was co-organized by The Hong Kong Polytechnic University, Anhui University of Science and Technology (AUST), Institute of System Science, CAS and Nanjing Normal University. This conference brought together world class researchers working in fundamental and applications aspects of optimization and control. Duality is one of the main topics of the Conference. The conference provided participants an excellent forum for exchanging ideas on the latest developments as well as future trends in duality theory, methods and algorithms with applications to engineering, sciences and economics. We would also like to take this opportunity to thank Professor Wenxian Zhang, the President of AUST, for his enthusiastic support, and to our colleagues, L. Qi, X.Q. Yang, S.Y. Wang, Wenyu Sun and Z.C. Xu for their major roles in the organization of the Conference.

This Special Issue of the Journal of Global Optimization contains 11 papers from selected lectures presented at the Conference, and a few invited papers by subject experts. These papers dealt with fundamental duality theory, methods, algorithms and applications in multidisciplinary fields of global optimization, including nonlinear programming, mathematical economics, nonsmooth and nonconvex variational problems in mathematical physics, vector optimization in Banach space, post buckling analysis of engineering structures, as well as NP-hard problems in computational science.

The completion of this Special Issue would not have been possible without the assistance of many of our colleagues. We wish to express our sincere appreciation to all those who helped. In particular, our special thanks to Professor P.M. Pardalos for inviting us to edit this Special Issue. We are deeply grateful to our referees who provided prompt and extensive reviews for all submissions. Their constructive comments contributed to the quality of the Special Issue.

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