

Preface

There have been significant developments in the theory and practice of combinatorial optimization in the last 15 years. This progress has been evidenced by a continuously increasing number of international and local conferences, books and papers in this area. This book is also another contribution to this burgeoning area of operations research and optimization.

This volume contains the contributions of the participants of the recent NATO Advanced Study Institute, *New Frontiers in the Theory and Practice of Combinatorial Optimization*, which was held at the campus of Bilkent University, in Ankara, Turkey, July 16-29, 1990. In this conference, we brought many prominent researchers and young and promising scientists together to discuss current and future trends in the theory and practice of combinatorial optimization. The Bilkent campus was an excellent environment for such an undertaking. Being outside of Ankara, the capital of Turkey, Bilkent University gave the participants a great opportunity for exchanging ideas and discussing new theories and applications without much distraction.

One of the primary goals of NATO ASIs is to bring together a group of scientists and research scientists primarily from the NATO countries for the dissemination of advanced scientific knowledge and the promotion of international contacts among scientists. We believe that we accomplished this mission very successfully by bringing together 15 prominent lecturers and 45 promising young scientists from 12 countries, in a university environment for 14 days of intense lectures, presentations and discussions.

The subjects covered in this book illustrate the importance and diversity of the area of combinatorial optimization. In the theoretical area of combinatorial optimization, we have papers and extended abstracts dealing with facet lifting cuts, polyhedral combinatorics, general decomposition in mathematical programming, scheduling theory, graph theory, maximization of submodular functions and traveling salesman problems. In the area of application of combinatorial optimization methodology to decision problems, we have papers and extended abstracts dealing with computerized tomography, emergency area

evacuations, school timetabling, cost allocation in oil industry, robotic assembly problems in electronics industry, telecommunications network design, vehicle routing, traffic control at intersections, cutting stock problems, machine loading in FMS environment, and VLSI layout problems.

We would like to thank the Scientific Affairs Division of the North Atlantic Treaty Organization for their generous support which made this Advanced Study Institute possible. We also would like to extend our sincere thanks and gratitude to The Honorable Professor Dr. İhsan Dođramacı, the chairman of the Council of Higher Education of Turkey and the founder and the chairman of the board of directors of Bilkent University, and to Professor Dr. Mithat Çoruh, the Rector of Bilkent University for allowing us to use all required resources at the Bilkent University at a moment's notice for the entire duration of the Institute. Their contribution to the success of this ASI has been fundamental and most generous. We would like to thank the Department of Industrial and Systems Engineering at the University of Florida, in Gainesville, Florida and to the Fachbereich für Mathematik at the University of Kaiserslautern, Germany, for their contributions before, during and after this ASI. Finally we would like to thank two graduate students, Bassam ElKhoury and George Vairaktarakis of the Department of Industrial and Systems Engineering at the University of Florida for their help in writing this proceedings volume in LaTeX. It was a learning experience for all of us.

December 1991

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