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W. Pulleyblank, G. Reinelt, G. Rinaldi, L. Wolsey (Editors)

50 Years of Integer Programming 1958–2008

In 1958, Ralph E. Gomory transformed the field of integer programming when he published a short paper that described his cutting-plane algorithm for pure integer programs and announced that the method could be refined to give a finite algorithm for integer programming. In January of 2008, to commemorate the anniversary of Gomory's seminal paper, a special session celebrating fifty years of integer programming was held in Aussois, France, as part of the 12th Combinatorial Optimization Workshop. This book is based on the material presented during this session.

50 Years of Integer Programming offers an account of featured talks at the 2008 Aussois workshop, namely

- Michele Conforti, Gérard Cornuéjols, and Giacomo Zambelli: Polyhedral Approaches to Mixed Integer Linear Programming
- William Cook: 50+ Years of Combinatorial Integer Programming
- François Vanderbeck and Laurence A. Wolsey: Reformulation and Decomposition of Integer Programs

It includes a DVD containing a recording of the three original lectures as well as a panel discussion with six pioneers.

The book contains reprints of key historical articles together with new introductions and historical perspectives by the authors: Egon Balas, Michel Balinski, Jack Edmonds, Ralph E. Gomory, Arthur M. Geoffrion, Alan J. Hoffman & Joseph B. Kruskal, Richard M. Karp, Harold W. Kuhn, and Ailsa H. Land & Alison G. Doig.

It also contains written versions of survey lectures on six of the hottest topics in the field by distinguished members of the integer programming community:

- Friedrich Eisenbrand: Integer Programming and Algorithmic Geometry of Numbers
- Raymond Hemmecke, Matthias Köppe, Jon Lee, and Robert Weismantel: Nonlinear Integer Programming
- Andrea Lodi: Mixed Integer Programming Computation
- François Margot: Symmetry in Integer Linear Programming
- Franz Rendl: Semidefinite Relaxations for Integer Programming
- Jean-Philippe P. Richard and Santanu S. Dey: The Group-Theoretic Approach to Mixed Integer Programming

Integer programming holds great promise for the future, and continues to build on its foundations. Indeed, Gomory's finite cutting-plane method for the pure integer case is currently being reexamined and is showing new promise as a practical computational method. This book is a uniquely useful celebration of the past, present and future of this important and active field. Ideal for students and researchers in mathematics, computer science and operations research, it exposes mathematical optimization, in particular integer programming and combinatorial optimization, to a broad audience.

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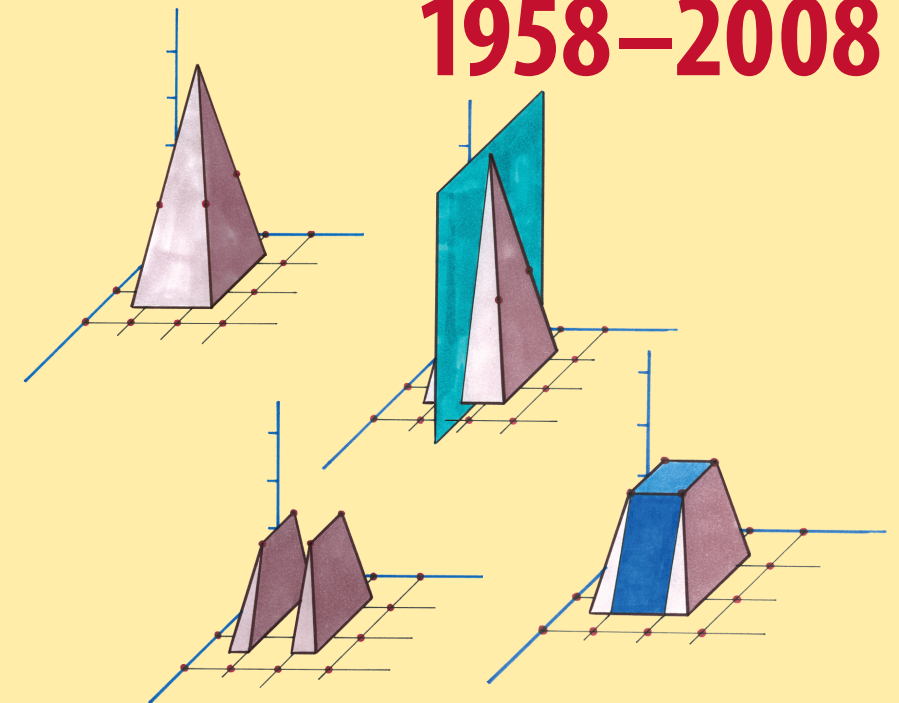


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