Contents

Preface	vii
List of Participants	ix
Lattice reformulation of integer programming problems KAREN AARDAL	1
Local Euler-Maclaurin expansion of Barvinok valuations and Ehrhart coefficients of a rational polytope VELLEDA BALDONI, NICOLE BERLINE, and MICHÈLE VERGNE	15
Combinatorial aspects of mirror symmetry VICTOR BATYREV and BENJAMIN NILL	35
Ehrhart polynomial roots and Stanley's non-negativity theorem BENJAMIN BRAUN and MIKE DEVELIN	67
Enumeration of integer solutions to linear inequalities defined by digraphs J. William Davis, Erwin D'Souza, Sunyoung Lee, and Carla D. Savage	79
Perfect Delaunay polytopes and perfect quadratic functions on lattices ROBERT ERDAHL, ANDREI ORDINE, and KONSTANTIN RYBNIKOV	93
Quasi-period collapse and $\mathrm{GL}_n(\mathbb{Z})$ -scissors congruence in rational polytopes Christian Haase and Tyrrell B. McAllister	115
Quadratic Gröbner bases arising from combinatorics TAKAYUKI HIBI and HIDEFUMI OHSUGI	123
Ehrhart analogue of the h -vector Kalle Karu	139
Saturation points on faces of a rational polyhedral cone AKIMICHI TAKEMURA AND RURIKO YOSHIDA	147
An explicit formulation for two dimensional vector partition functions ZHIQIANG XU	163
Let me tell you my favorite lattice-point problem MATTHIAS BECK and BRUCE REZNICK (EDITORS)	179