## Advanced Studies in Pure Mathematics 33

## Computational Commutative Algebra and Combinatorics

## CONTENTS

Winfried BRUNS and Joseph GUBELADZE — Polyhedral Algebras, Arrangements of Toric Varieties, and their Groups	1
Art M. DUVAL — Algebraic Shifting and Spectral Sequences	53
Vesselin GASHAROV, Irena PEEVA and Volkmar WELKER — Coordinate Subspace Arrangements and Monomial Ideals	65
Jürgen HERZOG — Generic Initial Ideals and Graded Betti Numbers	75
Gil KALAI — Algebraic Shifting	121
Kayo MASUDA — Certain Moduli of Algebraic G-vector Bundles over Affine G-varieties	165
Masayoshi MIYANISHI — Completely Parametrized $\mathbf{A}^1_*\text{-}\text{fibrations}$ on the Affine Plane	185
Marko Petkovšek, James Pommersheim and Irena Swanson — The Zarankiew Problem via Chow Forms	icz 203
Claudio PROCESI — Notes on the Topology of Hyperplane Arrangements and Braid Groups	213
Vasudevan SRINIVAS — Some Geometric Methods in Commutative Algebra	231