
Contents

Foreword	VII
Preface	IX
List of Contributors	XIII
Topics in Algebraic Deformation Theory	
<i>Anthony Giaquinto</i>	1
Origins and Breadth of the Theory of Higher Homotopies	
<i>Johannes Huebschmann</i>	25
The Deformation Philosophy, Quantization	
and Noncommutative Space-Time Structures	
<i>Daniel Sternheimer</i>	39
Differential Geometry of Gerbes and Differential Forms	
<i>Lawrence Breen</i>	57
Symplectic Connections of Ricci Type and Star Products	
<i>Michel Cahen, Simone Gutt, and Stefan Waldmann</i>	93
Effective Batalin–Vilkovisky Theories, Equivariant	
Configuration Spaces and Cyclic Chains	
<i>Alberto S. Cattaneo and Giovanni Felder</i>	111
Noncommutative Calculus and the Gauss–Manin Connection	
<i>V.A. Dolgushev, D.E. Tamarkin, and B.L. Tsygan</i>	139
The Lie Algebra Perturbation Lemma	
<i>Johannes Huebschmann</i>	159
Twisting Elements in Homotopy G-Algebras	
<i>T. Kadeishvili</i>	181

Homological Perturbation Theory and Homological Mirror Symmetry	
<i>Hiroshige Kajiura</i>	201
Categorification of Acyclic Cluster Algebras: An Introduction	
<i>Bernhard Keller</i>	227
Poisson and Symplectic Functions in Lie Algebroid Theory	
<i>Yvette Kosmann-Schwarzbach</i>	243
The Diagonal of the Stasheff Polytope	
<i>Jean-Louis Loday</i>	269
Permutahedra, HKR Isomorphism and Polydifferential Gerstenhaber–Schack Complex	
<i>S.A. Merkulov</i>	293
Applications de la bi-quantification à la théorie de Lie	
<i>Charles Torossian</i>	315
Higher Homotopy Hopf Algebras Found: A Ten-Year Retrospective	
<i>Ronold N. Umble</i>	343