Contents

Part I Monte-Carlo Techniques

Joint Generation of Binary, Ordinal, Count, and Normal Data with Specified Marginal and Association Structures in Monte-Carlo Simulations ........................................... 3
Hakan Demirtas, Rawan Allozi, Yiran Hu, Gul Inan and Levent Ozbek

Improving the Efficiency of the Monte-Carlo Methods Using Ranked Simulated Approach ........................................... 17
Hani Michel Samawi

Normal and Non-normal Data Simulations for the Evaluation of Two-Sample Location Tests ........................................... 41
Jessica R. Hoag and Chia-Ling Kuo

Anatomy of Correlational Magnitude Transformations in Latency and Discretization Contexts in Monte-Carlo Studies ............... 59
Hakan Demirtas and Ceren Vardar-Acar

Monte-Carlo Simulation of Correlated Binary Responses ............... 85
Trent L. Lalonde

Quantifying the Uncertainty in Optimal Experiment Schemes via Monte-Carlo Simulations ........................................... 107
H.K.T. Ng, Y.-J. Lin, T.-R. Tsai, Y.L. Lio and N. Jiang

Part II Monte-Carlo Methods in Missing Data

Markov Chain Monte-Carlo Methods for Missing Data Under Ignorability Assumptions ........................................... 129
Haresh Rochani and Daniel F. Linder

A Multiple Imputation Framework for Massive Multivariate Data of Different Variable Types: A Monte-Carlo Technique .......... 143
Hakan Demirtas
Hybrid Monte-Carlo in Multiple Missing Data Imputations with Application to a Bone Fracture Data ........................... 163
Hui Xie

Statistical Methodologies for Dealing with Incomplete Longitudinal Outcomes Due to Dropout Missing at Random ........ 179
A. Satty, Henry Mwambi and G. Molenberghs

Applications of Simulation for Missing Data Issues in Longitudinal Clinical Trials ............................................ 211
G. Frank Liu and James Kost

Application of Markov Chain Monte-Carlo Multiple Imputation Method to Deal with Missing Data from the Mechanism of MNAR in Sensitivity Analysis for a Longitudinal Clinical Trial ......................................... 233
Wei Sun

Part III Monte-Carlo in Statistical Modellings and Applications

Monte-Carlo Simulation in Modeling for Hierarchical Generalized Linear Mixed Models ................................. 255
Kyle M. Irimata and Jeffrey R. Wilson

Monte-Carlo Methods in Financial Modeling .................................................. 285
Chuanshu Ji, Tao Wang and Leicheng Yin

Simulation Studies on the Effects of the Censoring Distribution Assumption in the Analysis of Interval-Censored Failure Time Data ............................................. 319
Tyler Cook, Zhigang Zhang and Jianguo Sun

Robust Bayesian Hierarchical Model Using Monte-Carlo Simulation .................................................. 347
Geng Chen and Sheng Luo

A Comparison of Bootstrap Confidence Intervals for Multi-level Longitudinal Data Using Monte-Carlo Simulation ................ 367
Mark Reiser, Lanlan Yao, Xiao Wang, Jeanne Wilcox and Shelley Gray

Bootstrap-Based LASSO-Type Selection to Build Generalized Additive Partially Linear Models for High-Dimensional Data ........ 405
Xiang Liu, Tian Chen, Yuanzhang Li and Hua Liang

Erratum to: Monte-Carlo Simulation-Based Statistical Modeling .... E1

Index .................................................................................................................................. 425
Monte-Carlo Simulation-Based Statistical Modeling
Chen, D.-G.; Chen, J.D. (Eds.)
2017, XX, 430 p. 64 illus., 33 illus. in color., Hardcover
ISBN: 978-981-10-3306-3