

Contents

Preface	v
I An Appreciation	1
A Brief Biography and Appreciation of Ingram Olkin	3
A Conversation with Ingram Olkin	7
Bibliography of Ingram Olkin	35
II Contributions to Probability and Statistics	47
A Probability Inequalities and Characterizations	49
1 A Convolution Inequality	51
Gavin Brown, Larry Shepp	
2 Peakedness of Weighted Averages of Jointly Distributed Random Variables	58
Wai Chan, Dong Ho Park, Frank Proschan	
3 Multivariate Majorization	63
Somesh Das Gupta, Subir Kumar Bhandari	
4 Some Results on Convolutions and a Statistical Application	75
M.L. Eaton, L.J. Gleser	
5 The $X + Y$, X/Y Characterization of the Gamma Distribution	91
George Marsaglia	

6	A Bivariate Uniform Distribution Albert W. Marshall	99
7	Multinomial Problems in Geometric Probability with Dirichlet Analysis Milton Sobel	107
8	Probability Inequalities for n-Dimensional Rectangles via Multivariate Majorization Y.L. Tong	146
9	Minimum Majorization Decomposition Joseph S. Verducci	160
B	Multivariate Analysis and Association	175
10	The Asymptotic Distribution of Characteristic Roots and Vectors in Multivariate Components of Variance T.W. Anderson	177
11	Univariate and Multivariate Analyses of Variance for Incomplete Factorial Experiments Having Monotone Structure in Treatments R.P. Bhargava	197
12	The Limiting Distribution of the Rank Correlation Coefficient R_g Rudy A. Gideon, Michael J. Prentice, Ronald Pyke	217
13	Mean and Variance of Sample Size in Multivariate Heteroscedastic Method Hiroto Hyakutake, Minoru Siotani	227
14	A Comparative Study of Cluster Analysis and MANCOVA in the Analysis of Mathematics Achievement Data. J.E. Lockley	241
15	Bayesian Inference in Factor Analysis S. James Press, K. Shigemasu	271
16	Computational Aspects of Association for Bivariate Discrete Distributions Allan R. Sampson, Lyn R. Whitaker	288

C	Linear and Nonlinear Models, Ranking and Selection, Design	301
17	A Comparison of the Performances of Procedures for Selecting the Normal Population Having the Largest Mean when the Variances are Known and Equal Robert E. Bechhofer, David M. Goldsman	303
18	Parametric Empirical Bayes Rules for Selecting the Most Probable Multinomial Event Shanti S. Gupta, TaChen Liang	318
19	Bayesian Estimation in Two-Way Tables With Heterogeneous Variances Irwin Guttman, Ulrich Menzefricke	329
20	Calibrating For Differences George Knafl, Jerome Sacks, Cliff Spiegelman	335
21	Complete Class Results For Linear Regression Designs Over The Multi-Dimensional Cube Friedrich Pukelsheim	349
22	A Unified Method of Estimation in Linear Models with Mixed Effects C. Radhakrishna Rao	357
23	Shrinking Techniques for Robust Regression Richard L. Schmoyer, Steven F. Arnold	368
24	Asymptotic Mean Squared Error of Shrinkage Estimators T. W. F. Stroud	385
D	Approaches to Inference	397
25	Likelihood Analysis of a Binomial Sample Size Problem Murray Aitkin, Mikis Stasinopoulos	399
26	Truncation, Information, and the Coefficient of Variation M.J. Bayarri, M.H. DeGroot, P.K. Goel	412
27	Asymptotic Error Bounds for Power Approximations to Multinomial Tests of Fit F.C. Drost, W.C.M. Kallenberg, D.S. Moore, J. Oosterhoff	429

28 Estimating the Normal Mean and Variance Under A Publication Selection Model	447
Larry V. Hedges	
29 Estimating Poisson Error Rates When Debugging Software	459
Gerald J. Lieberman, Sheldon M. Ross	
30 A Comparison of the Likelihood Ratio, Wald, and Rao Tests	465
Albert Madansky	
31 On the Inadmissibility of the Modified Step-Down Test Based on Fisher's Method For Combining Independent p-Values	472
John I. Marden, Michael D. Perlman	
32 On A Statistical Problem Involving the Measurement of Strength and Duration-of-Load for Construction Materials	486
Sam C. Saunders	
Index	501