CONTENTS

PREFACE v

ACKNOWLEDGEMENTS vi

LIST OF CONTRIBUTORS viii

SHORT COURSE LECTURES

Inference in Linear Models 1
T. W. Anderson

Coplots, Nonparametric Regression, and Conditionally Parametric Fits 21
William S. Cleveland

Multivariate Non-Normal Distributions and Models of Dependency 37
Ingram Olkin

Some Useful Notions for Studying Stochastic Inequalities in Multivariate Distributions 55
Y. L. Tong

INVITED PAPERS

Principles of Compositional Data Analysis 73
John Aitchison

On Multivariate Mixed Model Analysis 83
Yasuo Amemiya

Normal Linear Models with Lattice Conditional Independence Restrictions 97
Steen A. Andersson and Michael D. Perlman

On Some Distributional Properties of Quadratic Forms in Normal Variables and on Some Associated Matrix Partial Orderings 111
J. K. Baksalary, J. Hauke, and George P. H. Styan

A Testing Method for Covariance Structure Analysis 123
P. M. Bentler

Unlinking Theorem for Symmetric Convex Functions 137
S. K. Bhandari and S. DasGupta

The Circular Functional Model 143
N. N. Chan and Tak K. Mak

Asymptotical Optimality of Adaptive Nearest Neighbour Discrimination 149
Gui-Jing Chen and Y. H. Wang

A Comparison of Robust Linear Discriminant Procedures Using Projection Pursuit Methods 163
Zen-Yi Chen and Robb J. Muirhead

Invariant Measures on Stiefel Manifolds with Applications to Multivariate Analysis 177
Yasuko Chikuse

Correspondence Analysis and Seriation 195
Rouh-Jane Chou

Selection Paradoxes of Bayesian Inference 211
A. P. Dawid

Bayesian Implementation of a Complex Hierarchical Model 221
A. P. Dempster and J. S. Hwang

Applications of Number-Theoretic Method to Quantizers of Elliptically Contoured Distributions 237
K. T. Fang, K. H. Yuan, and P. M. Bentler

Higher Order Approximations with Generalized Linear Models 253
D. A. S. Fraser, G. Monette, K. W. Ng, and A. Wong

Interim Analysis for Normally Distributed Observables 263
Seymour Geisser and Wesley Johnson

Normal Multivariate Analysis of Families of Regression Coefficient Vectors 281
Alan T. James

Structural Equation Modeling with Ordinal Variables 297
Karl G. Jöreskog

Locally Best Invariant Test for Multivariate Normality in Curved Families with μ Known 311
Takeaki Kariya and Edward I. George

Bayesian Hypothesis Testing of Equality of Normal Covariance Matrices 323
H. J. Kim and S. J. Press

Nearly Optimal Generalized Sequential Likelihood Ratio Tests in Multivariate Exponential Families 331
Tze-Leung Lai and Li-Min Zhang

Covariance and Correlation Structure Analyses with Continuous and Polytomous Variables 347
Sik-Yum Lee, Wai-Yin Poon, and P. M. Bentler

Inference for Linear Models with Radially Decomposable Error 359
K. W. Ng and D. A. S. Fraser

On Cluster Regression and Factor Analysis Models with Elliptic t Errors 369
Brajendra C. Sutradhar

Stepdown Likelihood Ratio Test on Each Parameter Component in Testing Equality of Covariance Matrices 385
Akimichi Takemura

The Test and Confidence Interval for a Change-Point in Mean Vector of Multivariate Normal Distribution 397
Jing-Long Wang and Jin Wang

The Virtual System Method for Estimation of Parameter in Tree 413
Zhong-Guo Zheng

SELECTED CONTRIBUTED PAPERS

Locally Most Powerful Rank Tests for Random Effects in Two-Way Experiments 427
Ann Clemmens and Z. Govindarajulu

Multivariate Analysis of Real Estate Prices 439
Delores A. Conway and David Dale-Johnson

A Quasilinear Regression Model for Cross-Over Trials 445
Ji-Qian Fang, Shu-Ying Yang, and Byron Jones

A Model for Residential Fatal Fire in Hong Kong 449
Patrick S.L. Koh, Teresa W.C. Ling, and K.K. Wong

Unbiasedness of a Multivariate Outlier Test for Elliptically Contoured Distributions 457
Jian-Xin Pan and Xue-Ren Wang

Differential Geometric Method for Curved Exponential Families 461
Bo-Cheng Wei and Peter Che-Bor Lam

INDEX 467