

# Contents

---

## Part I. Keynote

---

Complexity Questions in Non-Uniform Random Variate Generation .....	3
<i>Luc Devroye</i>	
Computational Statistics Solutions for Molecular Biomedical Research: A Challenge and Chance for Both .....	19
<i>Lutz Edler, Christina Wunder, Wiebke Werft, Axel Benner</i>	
The Laws of Coincidence .....	33
<i>David J. Hand</i>	

---

## Part II. ABC Methods for Genetic Data

---

Choosing the Summary Statistics and the Acceptance Rate in Approximate Bayesian Computation .....	47
<i>Michael G.B. Blum</i>	
Integrating Approximate Bayesian Computation with Complex Agent-Based Models for Cancer Research .....	57
<i>Andrea Sottoriva, Simon Tavaré</i>	

---

## Part III. Algorithms for Robust Statistics

---

Robust Model Selection with LARS Based on S-estimators .....	69
<i>Claudio Agostinelli, Matias Salibian-Barrera</i>	
Robust Multivariate Methods for Compositional Data .....	79
<i>Peter Filzmoser, Karel Hron</i>	
Detecting Multivariate Outliers Using Projection Pursuit with Particle Swarm Optimization .....	89
<i>Anne Ruiz-Gazen, Souad Larabi Marie-Sainte, Alain Berro</i>	

---

## Part IV. Brain Imaging

---

Imaging Genetics: Bio-Informatics and Bio-Statistics Challenges	101
<i>Jean-Baptiste Poline, Christophe Lalanne, Arthur Tenenhaus, Edouard Duchesnay, Bertrand Thirion, Vincent Frouin</i>	

<b>The NPAIRS Computational Statistics Framework for Data Analysis in Neuroimaging .....</b>	111
<i>Stephen Strother, Anita Oder, Robyn Spring, Cheryl Grady</i>	

---

**Part V. Computational Econometrics**

---

<b>Bootstrap Prediction in Unobserved Component Models .....</b>	123
<i>Alejandro F. Rodríguez, Esther Ruiz</i>	

---

**Part VI. Computer-Intensive Actuarial Methods**

---

<b>A Numerical Approach to Ruin Models with Excess of Loss Reinsurance and Reinstatements .....</b>	135
<i>Hansjörg Albrecher, Sandra Haas</i>	

<b>Computation of the Aggregate Claim Amount Distribution Using R and Actuar .....</b>	145
<i>Vincent Goulet</i>	

<b>Applications of Multilevel Structured Additive Regression Models to Insurance Data .....</b>	155
<i>Stefan Lang, Nikolaus Umlauf</i>	

---

**Part VII. Data Stream Mining**

---

<b>Temporally-Adaptive Linear Classification for Handling Population Drift in Credit Scoring .....</b>	167
--	-----

*Niall M. Adams, Dimitris K. Tasoulis, Christoforos Anagnostopoulos, David J. Hand*

<b>Large-Scale Machine Learning with Stochastic Gradient Descent .....</b>	177
<i>Léon Bottou</i>	

---

**Part VIII. Functional Data Analysis**

---

<b>Anticipated and Adaptive Prediction in Functional Discriminant Analysis .....</b>	189
--	-----

*Cristian Preda, Gilbert Saporta, Mohamed Hadj Mbarek*

<b>Bootstrap Calibration in Functional Linear Regression Models with Applications .....</b>	199
---	-----

*Wenceslao González-Manteiga, Adela Martínez-Calvo*

<b>Empirical Dynamics and Functional Data Analysis . . . . .</b>	209
<i>Hans-Georg Müller</i>	

---

## **Part IX. Kernel Methods**

---

<b>Indefinite Kernel Discriminant Analysis . . . . .</b>	221
<i>Bernard Haasdonk, Elżbieta Pękalska</i>	
<b>Data Dependent Priors in PAC-Bayes Bounds . . . . .</b>	231
<i>John Shawe-Taylor, Emilio Parrado-Hernández, Amiran Ambroladze</i>	

---

## **Part X. Monte Carlo Methods in System Safety, Reliability and Risk Analysis**

---

<b>Some Algorithms to Fit some Reliability Mixture Models under Censoring . . . . .</b>	243
<i>Laurent Bordes, Didier Chauveau</i>	
<b>Computational and Monte-Carlo Aspects of Systems for Monitoring Reliability Data . . . . .</b>	253
<i>Emmanuel Yashchin</i>	

---

## **Part XI. Optimization Heuristics in Statistical Modelling**

---

<b>Evolutionary Computation for Modelling and Optimization in Finance . . . . .</b>	265
<i>Sandra Paterlini</i>	

---

## **Part XII. Spatial Statistics / Spatial Epidemiology**

---

<b>Examining the Association between Deprivation Profiles and Air Pollution in Greater London using Bayesian Dirichlet Process Mixture Models . . . . .</b>	277
<i>John Molitor, Léa Fortunato, Nuoo-Ting Molitor, Sylvia Richardson</i>	
<b>Assessing the Association between Environmental Exposures and Human Health . . . . .</b>	285
<i>Linda J. Young, Carol A. Gotway, Kenneth K. Lopiano, Greg Kearney, Chris DuClos</i>	

---

**Part XIII. ARS Session (Financial) Time Series**

---

Semiparametric Seasonal Cointegrating Rank Selection .....	297
<i>Byeongchan Seong, Sung K. Ahn, Sinsup Cho</i>	
Estimating Factor Models for Multivariate Volatilities: An Innovation Expansion Method .....	305
<i>Jiazhu Pan, Wolfgang Polonik, Qiwei Yao</i>	
Multivariate Stochastic Volatility Model with Cross Leverage ..	315
<i>Tsunehiro Ishihara, Yasuhiro Omori</i>	

---

**Part XIV. KDD Session: Topological Learning**

---

A Bag of Pursuits and Neural Gas for Improved Sparse Coding .....	327
<i>Kai Labusch, Erhardt Barth, Thomas Martinetz</i>	
On the Role and Impact of the Metaparameters in t-distributed Stochastic Neighbor Embedding .....	337
<i>John A. Lee, Michel Verleysen</i>	

---

**Part XV. IFCS Session: New Developments in Two or Highermode Clustering; Model Based Clustering and Reduction for High Dimensional Data**

---

Multiple Nested Reductions of Single Data Modes as a Tool to Deal with Large Data Sets .....	349
<i>Iven Van Mechelen, Katrijn Van Deun</i>	
The Generic Subspace Clustering Model .....	359
<i>Marieke E. Timmerman, Eva Ceulemans</i>	
Clustering Discrete Choice Data .....	369
<i>Donatella Vicari,, Marco Alfò</i>	

---

**Part XVI. Selected Contributed Papers**

---

Application of Local Influence Diagnostics to the Buckley-James Model .....	381
<i>Nazrina Aziz, Dong Qian Wang</i>	

<b>Multiblock Method for Categorical Variables .....</b>	389
<i>Stéphanie Bougeard, El Mostafa Qannari, Claire Chauvin</i>	
<b>A Flexible IRT Model for Health Questionnaire: an Application to HRQoL .....</b>	397
<i>Serena Broccoli, Giulia Cavrini</i>	
<b>Multidimensional Exploratory Analysis of a Structural Model Using a Class of Generalized Covariance Criteria .....</b>	405
<i>Xavier Bry, Thomas Verron, Patrick Redont</i>	
<b>Semiparametric Models with Functional Responses in a Model Assisted Survey Sampling Setting : Model Assisted Estimation of Electricity Consumption Curves .....</b>	413
<i>Hervé Cardot, Alain Dessertaine, Etienne Josserand</i>	
<b>Stochastic Approximation for Multivariate and Functional Median .....</b>	421
<i>Hervé Cardot, Peggy Cénac, Mohamed Chaouch</i>	
<b>A Markov Switching Re-evaluation of Event-Study Methodology .....</b>	429
<i>Rosella Castellano, Luisa Scaccia</i>	
<b>Evaluation of DNA Mixtures Accounting for Sampling Variability .....</b>	437
<i>Yuk-Ka Chung, Yue-Qing Hu, De-Gang Zhu, Wing K. Fung</i>	
<b>Monotone Graphical Multivariate Markov Chains .....</b>	445
<i>Roberto Colombi, Sabrina Giordano</i>	
<b>Using Functional Data to Simulate a Stochastic Process via a Random Multiplicative Cascade Model .....</b>	453
<i>G. Damiana Costanzo, S. De Bartolo, F. Dell'Accio, G. Trombetta</i>	
<b>A Clusterwise Center and Range Regression Model for Interval-Valued Data .....</b>	461
<i>Francisco de A. T. de Carvalho, Gilbert Saporta, Danilo N. Queiroz</i>	
<b>Contributions to Bayesian Structural Equation Modeling .....</b>	469
<i>Séverine Demeyer, Nicolas Fischer, Gilbert Saporta</i>	
<b>Some Examples of Statistical Computing in France During the 19th Century .....</b>	477
<i>Antoine de Falguerolles</i>	

<b>Imputation by Gaussian Copula Model with an Application to Incomplete Customer Satisfaction Data .....</b>	485
<i>Meelis Käärik, Ene Käärik</i>	
<b>On Multiple-Case Diagnostics in Linear Subspace Method .....</b>	493
<i>Kuniyoshi Hayashi, Hiroyuki Minami and Masahiro Mizuta</i>	
<b>Fourier Methods for Sequential Change Point Analysis in Autoregressive Models .....</b>	501
<i>Marie Hušková, Claudia Kirch, Simos G. Meintanis</i>	
<b>Computational Treatment of the Error Distribution in Nonparametric Regression with Right-Censored and Selection-Biased Data .....</b>	509
<i>Géraldine Laurent, Cédric Heuchenne</i>	
<b>Mixtures of Weighted Distance-Based Models for Ranking Data .....</b>	517
<i>Paul H. Lee, Philip L. H. Yu</i>	
<b>Fourier Analysis and Swarm Intelligence for Stochastic Optimization of Discrete Functions .....</b>	525
<i>Jin Rou New, Eldin Wee Chuan Lim</i>	
<b>Global Hypothesis Test to Simultaneously Compare the Predictive Values of Two Binary Diagnostic Tests in Paired Designs: a Simulation Study .....</b>	533
<i>J. A. Roldán Nofuentes, J. D. Luna del Castillo, M. A. Montero Alonso</i>	
<b>Modeling Operational Risk: Estimation and Effects of Dependencies .....</b>	541
<i>Stefan Mittnik, Sandra Paterlini, Tina Yener</i>	
<b>Learning Hierarchical Bayesian Networks for Genome-Wide Association Studies .....</b>	549
<i>Raphaël Mourad, Christine Sinoquet, Philippe Leray</i>	
<b>Posterior Distribution over the Segmentation Space .....</b>	557
<i>G. Rigaill, E. Lebarbier, S. Robin</i>	
<b>Parcellation Schemes and Statistical Tests to Detect Active Regions on the Cortical Surface .....</b>	565
<i>Bertrand Thirion, Alan Tucholka, Jean-Baptiste Poline</i>	

<b>Robust Principal Component Analysis Based on Pairwise Correlation Estimators .....</b>	573
<i>Stefan Van Aelst, Ellen Vandervieren, Gert Willems</i>	
<b>Ordinary Least Squares for Histogram Data Based on Wasserstein Distance .....</b>	581
<i>Rosanna Verde, Antonio Irpino</i>	
<b>DetMCD in a Calibration Framework.....</b>	589
<i>Tim Verdonck, Mia Hubert, Peter J. Rousseeuw</i>	
<b>Separable Two-Dimensional Linear Discriminant Analysis .....</b>	597
<i>Jianhua Zhao, Philip L.H. Yu, Shulan Li</i>	
<b>List of Supplementary Contributed Papers Only Available on springerlink.com .....</b>	605
<b>Author and Keyword Index.....</b>	617

---

#### Part XVII. Supplementary Contributed Papers

---

<b>Clustering of Waveforms-Data Based on FPCA Direction .....</b>	625
<i>Giada Adelfio, Marcello Chiodi, Antonino D'Alessandro, Dario Luzio</i>	
<b>Symbolic Data Analysis of Complex Data: Application to nuclear power plant .....</b>	633
<i>Filipe Afonso, Edwin Diday, Norbert Badez, Yves Genest</i>	
<b>Different P-spline Approaches for Smoothed Functional Principal Component Analysis .....</b>	641
<i>Ana M. Aguilera, M. Carmen Aguilera-Morillo, Manuel Escabias, Mariano J. Valderrama</i>	
<b>Peak Detection in Mass Spectrometry Data Using Sparse Coding .....</b>	649
<i>Theodore Alexandrov, Klaus Steinhorst, Oliver Keszöcze, Stefan Schiffler</i>	
<b>A Comparison between Beale Test and Some Heuristic Criteria to Establish Clusters Number .....</b>	657
<i>Angela Alibrandi, Massimiliano Giacalone</i>	
<b>Estimating Population Proportions in Presence of Missing Data</b>	665
<i>Encarnaciòn Álvarez-Verdejo, Antonio Arcos, Silvia González, Juan Francisco Muñoz, María Rueda</i>	

XVIII Contents

<b>Sub-Quadratic Markov Tree Mixture Models for Probability Density Estimation .....</b>	673
<i>Sourour Ammar, Philippe Leray, Louis Wehenkel</i>	
<b>Data Management in Symbolic Data Analysis .....</b>	681
<i>Teh Amouh, Monique Noirhomme-Fraiture, Benoit Macq</i>	
<b>Variable Selection for Semi-Functional Partial Linear Regression Models .....</b>	689
<i>Germán Aneiros, Frédéric Ferraty, Philippe Vieu</i>	
<b>Clustering Functional Data Using Wavelets .....</b>	697
<i>Anestis Antoniadis, Xavier Brossat, Jairo Cugliari, Jean-Michel Poggi</i>	
<b>Polynomial Methods in Time Series Analysis .....</b>	705
<i>Félix Aparicio-Pérez</i>	
<b>Cointegrated Lee-Carter Mortality Forecasting Method.....</b>	713
<i>Josef Arlt, Markéta Arltová, Milan Bašta, Jitka Langhamrová</i>	
<b>Empirical Analysis of the Climatic and Social-Economic Factors influence on the Suicide Development in the Czech Republic .....</b>	721
<i>Markéta Arltová, Jitka Langhamrová, Jana Langhamrová</i>	
<b>Yield Curve Predictability, Regimes, and Macroeconomic Information: A Data-Driven Approach .....</b>	729
<i>Francesco Audrino, Kameliya Filipova</i>	
<b>Socioeconomic Factors in Circulatory System Mortality in Europe: A Multilevel Analysis of Twenty Countries .....</b>	737
<i>Sara Balduzzi, Lucio Balzani, Matteo Di Maso, Chiara Lambertini, Elena Toschi</i>	
<b>Comparing ORF Length in DNA Code Observed in Sixteen Yeast Chromosomes .....</b>	745
<i>Anna Bartkowiak , Adam Szustalewicz</i>	
<b>Influence of the Calibration Weights on Results Obtained from Czech SILC Data .....</b>	753
<i>Jitka Bartošová, Vladislav Bína</i>	
<b>Continuous Wavelet Transform and the Annual Cycle in Temperature and the Number of Deaths .....</b>	761
<i>Milan Bašta, Josef Arlt, Markéta Arltová, Karel Helman</i>	

<b>EM-Like Algorithms for Nonparametric Estimation in Multivariate Mixtures .....</b>	769
<i>Tatiana Benaglia, Didier Chauveau, David R. Hunter</i>	
<b>On the use of Weighted Regression in Conjoint Analysis .....</b>	777
<i>Salwa Benammou, Besma Souissi, Gilbert Saporta</i>	
<b>Wavelet-PLS Regression: Application to Oil Production Data .....</b>	785
<i>Salwa Benammou, Kacem Zied, Hedi Kortas, Dhifaoui Zouhaier</i>	
<b>Variable Selection and Parameter Tuning in High-Dimensional Prediction .....</b>	793
<i>Christoph Bernau, Anne-Laure Boulesteix</i>	
<b>A Generative Model for Rank Data Based on Sorting Algorithm .....</b>	801
<i>Christophe Biernacki, Julien Jacques</i>	
<b>“Made in Italy” Firms Competitiveness: A Multilevel Longitudinal Model on Export Performance .....</b>	809
<i>Matilde Bini, Margherita Velucchi</i>	
<b>Statistical Inference on Large Contingency Tables: Convergence, Testability, Stability .....</b>	817
<i>Marianna Bolla</i>	
<b>A Class of Multivariate Type I Generalized Logistic Distributions .....</b>	825
<i>Salvatore Bologna</i>	
<b>Adaptive Mixture Discriminant Analysis for Supervised Learning with Unobserved Classes .....</b>	831
<i>Charles Bouveyron</i>	
<b>Forecasting a Compound Cox Process by means of PCP .....</b>	839
<i>Paula R. Bouzas, Nuria Ruiz-Fuentes, Juan Eloy Ruiz-Castro</i>	
<b>Cutting the Dendrogram through Permutation Tests .....</b>	847
<i>Dario Bruzzone, Domenico Vistocco</i>	
<b>Design of Least-Squares Quadratic Estimators Based on Covariances from Interrupted Observations Transmitted by Different Sensors .....</b>	855
<i>R. Caballero-Águila, A. Hermoso-Carazo, J. Linares-Pérez</i>	
<b>Pseudo-Bayes Factors .....</b>	863
<i>Stefano Cabras, Walter Racugno, Laura Ventura</i>	

<b>Diagnostic Checking of Multivariate Normality Under Contamination . . . . .</b>	871
<i>Andrea Cerioli</i>	
<b>On Computationally Complex Instances of the <math>c</math>-optimal Experimental Design Problem: Breaking RSA-based Cryptography via <math>c</math>-optimal Designs . . . . .</b>	879
<i>Michal Černý, Milan Hladík, Veronika Skočdopolová</i>	
<b>Estimation and Detection of Outliers and Patches in Nonlinear Time Series Models . . . . .</b>	887
<i>Ping Chen</i>	
<b>Two-way Classification of a Table with non-negative entries: Validation of an Approach based on Correspondence Analysis and Information Criteria . . . . .</b>	895
<i>Antonio Ciampi, Alina Dyachenko, Yves Lechevallier</i>	
<b>A Mann-Whitney Spatial Scan Statistic for Continuous Data .</b>	903
<i>Lionel Cucala</i>	
<b>Quantile Regression for Group Effect Analysis . . . . .</b>	911
<i>Cristina Davino, Domenico Vistocco</i>	
<b>Regularized Directions of Maximal Outlyingness . . . . .</b>	919
<i>Michiel Debruyne</i>	
<b>A New Approach to Robust Clustering in <math>\mathbb{R}^p</math> . . . . .</b>	927
<i>Catherine Dehon, Kaveh Vakili</i>	
<b>An Exploratory Segmentation Method for Time Series . . . . .</b>	935
<i>Christian Derquenne</i>	
<b>Using Auxiliary Information Under a Generic Sampling Design</b>	943
<i>Giancarlo Diana, Pier Francesco Perri</i>	
<b>Improving Overlapping Clusters obtained by a Pyramidal Clustering . . . . .</b>	951
<i>Edwin Diday, Francisco de A. T. de Carvalho, Luciano D.S. Pacifico</i>	
<b>Visualizing and Forecasting Complex Time Series: Beanplot Time Series . . . . .</b>	959
<i>Carlo Drago, Germana Scipì</i>	
<b>M-estimation in INARCH Models with a Special Focus on Small Means . . . . .</b>	967
<i>Hanan El-Saied, Roland Fried</i>	

<b>Score Moment Estimators .....</b>	975
<i>Zdeněk Fabián</i>	
<b>Testing the Number of Components in Poisson Mixture Re-</b>	
<b>gression Models .....</b>	983
<i>Susana Faria, Fátima Gonçalves</i>	
<b>Support Vector Machines for Large Scale Text Mining in R ..</b>	991
<i>Ingo Feinerer, Alexandros Karatzoglou</i>	
<b>Computation of the Projection of the Inhabitants of the Czech</b>	
<b>Republic by sex, age and the highest education level.....</b>	999
<i>Tomáš Fiala, Jitka Langhamrová</i>	
<b>Two Kurtosis Measures in a Simulation Study .....</b>	1007
<i>Anna Maria Fiori</i>	
<b>Clustering of Czech Household Incomes Over Very Short Time</b>	
<b>Period .....</b>	1015
<i>Marie Forbelská, Jitka Bartošová</i>	
<b>Model-Based Nonparametric Variance Estimation for System-</b>	
<b>atic Sampling. An Application in a Forest Survey .....</b>	1023
<i>Mario Francisco-Fernández, Jean Opsomer, Xiaoxi Li</i>	
<b>Thresholding-Wavelet-Based Functional Estimation of Spa-</b>	
<b>tiotemporal Strong-Dependence in the Spectral Domain .....</b>	1031
<i>María Pilar Frías, María Dolores Ruiz-Medina</i>	
<b>Boolean Factor Analysis by the Expectation-Maximization Al-</b>	
<b>gorithm.....</b>	1039
<i>Alexander. A. Frolov, Pavel. Y. Polyakov, Dusan Húsek</i>	
<b>Modeling and Forecasting Electricity Prices and their Volatil-</b>	
<b>ities by Conditionally Heteroskedastic Seasonal Dynamic Fac-</b>	
<b>tor Analysis .....</b>	1047
<i>Carolina García-Martos, Julio Rodríguez, María Jesús Sánchez</i>	
<b>Consensus Analysis Through Modal Symbolic Objects .....</b>	1055
<i>Jose M. Garcia-Santestmases, M. Carmen Bravo</i>	
<b>Nonlinear Regression Model of Copper Bromide Laser Gen-</b>	
<b>eration .....</b>	1063
<i>Snezhana Georgieva Gocheva-Ilieva, Iliycho Petkov Iliev</i>	
<b>Random Forests Based Feature Selection for Decoding fMRI</b>	
<b>Data.....</b>	1071
<i>Robin Genuer, Vincent Michel, Evelyn Eger, Bertrand Thirion</i>	

<b>Differentiation Tests for the Mean Shape and the Mean Variance of Renal Tumours appearing in early Childhood .....</b>	1079
<i>Stefan Markus Giebel, Jens-Peter Schenk, Jang Schiltz</i>	
<b>Local or Global Smoothing? A Bandwidth Selector for Dependent Data.....</b>	1087
<i>Francesco Giordano, Maria Lucia Parrella</i>	
<b>Panel Data Models for Productivity Analysis .....</b>	1095
<i>Luigi Grossi, Giorgio Gozzi</i>	
<b>A Stochastic Gamma Diffusion Model with Threshold Parameter. Computational Statistical Aspects and Application .....</b>	1103
<i>Ramón Gutiérrez, Ramón Gutiérrez-Sánchez, Ahmed Nafidi, Eva María Ramos-Ábalos</i>	
<b>On the Correlated Gamma Frailty Model for Bivariate Current Status Data.....</b>	1111
<i>Niel Hens, Andreas Wienke</i>	
<b>Evolutionary Stochastic Portfolio Optimization and Probabilistic Constraints .....</b>	1119
<i>Ronald Hochreiter</i>	
<b>Boosting a Generalised Poisson Hurdle Model .....</b>	1127
<i>Vera Hofer</i>	
<b>Fast and Robust Classifiers Adjusted for Skewness.....</b>	1135
<i>Mia Hubert, Stephan Van der Veeken</i>	
<b>Modelling the Andalusian Population by Means of a non-Homogeneous Stochastic Gompertz Process .....</b>	1143
<i>Maria Dolores Huete Morales, Francisco Abad Montes</i>	
<b>Neural Network Approach for Histopathological Diagnosis of Breast Diseases with Images .....</b>	1151
<i>Yuichi Ishibashi, Atsuko Hara, Isao Okayasu, Koji Kurihara</i>	
<b>Detection of Spatial Cluster for Suicide Data using Echelon Analysis .....</b>	1159
<i>Fumio Ishioka, Makoto Tomita, Toshiharu Fujita</i>	
<b>Time-Varying Coefficient Model with Linear Smoothing Function for Longitudinal Data in Clinical Trial .....</b>	1167
<i>Masanori Ito , Toshihiro Misumi, Hideki Hirooka</i>	

<b>Metropolis-Hastings Algorithm for Mixture Model and its Weak Convergence .....</b>	1175
<i>Kengo Kamatani</i>	
<b>A Method for Time Series Analysis Using Probability Distribution of Local Standard Fractal Dimension .....</b>	1183
<i>Kenichi Kamijo, Akiko Yamanouchi</i>	
<b>Assessment of Scoring Models Using Information Value .....</b>	1191
<i>Jan Koláček, Martin Řezáč</i>	
<b>The Moving Average Control Chart Based on the Sequence of Permutation Tests .....</b>	1199
<i>Grzegorz Konczak</i>	
<b>Depth Based Procedures for Estimation ARMA and GARCH Models .....</b>	1207
<i>Daniel Kosiorowski</i>	
<b>Half-Taxi Metric in Compositional Data Geometry Rcomp .....</b>	1215
<i>Katarina Košmelyj, Vesna Žabkar</i>	
<b>LTPD Plans by Variables when the Remainder of Rejected Lots is Inspected .....</b>	1223
<i>J. Klufa, L. Marek</i>	
<b>A Comparison between Two Computing Methods for an Empirical Variogram in Geostatistical Data .....</b>	1231
<i>Takafumi Kubota, Tomoyuki Tarumi</i>	
<b>Improvement of Acceleration of the ALS Algorithm Using the Vector <math>\varepsilon</math> Algorithm .....</b>	1239
<i>Masahiro Kuroda, Yuchi Mori, Masaya Iizuka, Michio Sakakihara</i>	
<b>Unsupervised Recall and Precision Measures: a Step towards New Efficient Clustering Quality Indexes .....</b>	1247
<i>Jean-Charles Lamirel, Maha Ghribi, Pascal Cuxac</i>	
<b>Performance Assessment of Optimal Allocation for Large Portfolios .....</b>	1255
<i>Fabrizio Laurini, Luigi Grossi</i>	
<b>Clustering of Multiple Dissimilarity Data Tables for Documents Categorization .....</b>	1263
<i>Yves Lechevallier, Francisco de A. T. de Carvalho, Thierry Despeyroux, Filipe M. de Melo</i>	

XXIV Contents

<b>Slimming Down a High-Dimensional Binary Datatable: relevant Eigen-Subspace and Substantial Content .....</b>	1271
<i>Alain Lelu</i>	
<b>Comparing Two Approaches to Testing Linearity against Markov-switching Type Non-linearity .....</b>	1279
<i>Jana Lenčuchová, Anna Petričková, Magdaléna Komorníková</i>	
<b>Numerical Error Analysis for Statistical Software on Multi-Core Systems .....</b>	1287
<i>Wenbin Li, Sven Simon</i>	
<b>Sparse Bayesian Hierarchical Model for Clustering Problems .....</b>	1295
<i>Heng Lian</i>	
<b>Data Mining and Multiple Correspondence Analysis via Polynomial Transformations .....</b>	1303
<i>Rosaria Lombardo</i>	
<b>Structural Modelling of Nonlinear Exposure-Response Relationships for Longitudinal Data .....</b>	1311
<i>Xiaoshu Lu, Esa-Pekka Takala</i>	
<b>Empirical Composite Likelihoods .....</b>	1319
<i>Nicola Lunardon, Francesco Pauli, Laura Ventura</i>	
<b>A Fast Parsimonious Maximum Likelihood Approach for Predicting Outcome Variables from a Large Number of Predictors .....</b>	1327
<i>Jay Magidson</i>	
<b>A Bootstrap Method to Improve Brain Subcortical Network Segregation in Resting-State fMRI Data .....</b>	1335
<i>Caroline Malherbe, Eric Bardinet, Arnaud Messé, Vincent Perlbarg, Guillaume Marrelec, Mélanie Pélégriini-Issac, Jérôme Yelnik, Stéphane Lehéricy, Habib Benali</i>	
<b>The Problem of Determining the Calibration Equations to Construct Model-calibration Estimators of the Distribution Function .....</b>	1343
<i>Sergio Martínez, María Rueda, Antonio Arcos, Helena Martínez, Juan Francisco Muñoz</i>	
<b>Dealing with Nonresponse in Survey Sampling: an Item Response Modeling Approach .....</b>	1353
<i>Alina Matei</i>	

<b>Estimation of the Bivariate Distribution Function for Censored Gap Times .....</b>	1359
<i>Luís Meira-Machado, Ana Moreira</i>	
<b>Two Measures of Dissimilarity for the Dendrogram Multi-Class SVM Model .....</b>	1367
<i>Rafael Pino Mejías, María Dolores Cubiles de la Vega</i>	
<b>Visualizing the Sampling Variability of Plots .....</b>	1375
<i>Rajiv S. Menjoge, Roy E. Welsch</i>	
<b>Empirical Mode Decomposition for Trend Extraction. Application to Electrical Data.....</b>	1383
<i>Farouk Mhamdi, Mériem Jaïdane-Saïdane, Jean-Michel Poggi</i>	
<b>The Evaluation of Non-centred Orthant Probabilities for Singular Multivariate Normal Distributions .....</b>	1391
<i>Tetsuhisa Miwa</i>	
<b>Variable Inclusion and Shrinkage Algorithm in High Dimension .....</b>	1397
<i>Abdallah Mkhadri, Mohamed Ouhourane</i>	
<b>Application of a Bayesian Approach for Analysing Disease Mapping Data: Modelling Spatially Correlated Small Area Counts .....</b>	1405
<i>Mohammadreza Mohebbi, Rory Wolfe</i>	
<b>Clusters of Gastrointestinal Tract Cancer in the Caspian Region of Iran: A Spatial Scan Analysis .....</b>	1413
<i>Mohammadreza Mohebbi, Rory Wolfe</i>	
<b>The Financial Crisis of 2008: Modelling the Transmission Mechanism Between the Markets .....</b>	1421
<i>M. Pilar Muñoz Maria Dolores Márquez, Helena Chuliá</i>	
<b>Determining the Direction of the Path Using a Bayesian Semiparametric Model .....</b>	1429
<i>Kei Miyazaki, Takahiro Hoshino,, Kazuo Shigemasu</i>	
<b>Data Visualization and Aggregation .....</b>	1437
<i>Junji Nakano, Yoshikazu Yamamoto</i>	
<b>Longitudinal Data Analysis Based on Ranks and its Performance .....</b>	1445
<i>Takashi Nagakubo, Masashi Goto</i>	

<b>Multiple Change Point Detection by Sparse Parameter Estimation</b> .....	1453
<i>Jiří Neubauer, Vítězslav Veselý</i>	
<b>Quasi-Maximum Likelihood Estimators for Threshold ARMA Models: Theoretical Results and Computational Issues</b> .....	1461
<i>Marcella Niglio, Cosimo Damiano Vitale</i>	
<b>A Case Study of Bank Branch Performance Using Linear Mixed Models</b> .....	1469
<i>Peggy Ng, Claudia Czado, Eike Christian Brechmann, Jon Kerr</i>	
<b>Numerical Methods for some Classes of Matrices with Applications to Statistics and Optimization</b> .....	1477
<i>Juan M. Peña</i>	
<b>Maximum Margin Learning of Gaussian Mixture Models with Application to Multipitch Tracking</b> .....	1485
<i>Franz Pernkopf, Michael Wohlmayr</i>	
<b>Low-Pass Filter Design using Locally Weighted Polynomial Regression and Discrete Prolate Spheroidal Sequences</b> .....	1493
<i>Tommaso Proietti, Alessandra Luati</i>	
<b>A Statistical Survival Model Based on Counting Processes</b> .....	1501
<i>Jose-Manuel Quesada-Rubio, Julia García-Leal, María-José Del-Moral-Avila, Esteban Navarrete-Alvarez, María-Jesús Rosales-Moreno</i>	
<b>Bootstrapping Additive Models in Presence of Missing Data</b> .....	1509
<i>Rocío Raya-Miranda, M. Dolores Martínez-Miranda, Andrés González-Carmona</i>	
<b>On Aspects of Quality Indexes for Scoring Models</b> .....	1517
<i>Martin Řezáč, Jan Koláček</i>	
<b>Data Clustering with Mixed Type Variables and Cluster Number Determination</b> .....	1525
<i>Hana Řezanková, Dušan Húsek, Tomáš Löster</i>	
<b>A General Strategy for Determining First-Passage-Time Densities Based on the First-Passage-Time Location Function</b> .....	1533
<i>Patricia Román-Román, Juan José Serrano-Pérez, Francisco Torres-Ruiz</i>	
<b>Rplugin.Econometrics: R-GUI for Teaching Time Series Analysis</b> .....	1541
<i>Dedi Rosadi</i>	

<b>Computational Statistics: the Symbolic Approach .....</b>	1549
<i>Colin Rose</i>	
<b>EOFs for Gap Filling in Multivariate Air Quality data: a FDA Approach .....</b>	1557
<i>Mariantonietta Ruggieri, Francesca Di Salvo, Antonella Plaia, Gianna Agró</i>	
<b>A Transient Analysis of a Complex Discrete <math>k</math>-out-of-<math>n</math>:<math>G</math> System with Multi-State Components.....</b>	1565
<i>Juan Eloy Ruiz-Castro, Paula R. Bouzas</i>	
<b>Using Logitboost for Stationary Signals Classification .....</b>	1573
<i>Pedro Saavedra, Angelo Santana, Carmen Nieves Hernández, Juan Artiles, Juan-José González</i>	
<b>Test of Mean Difference for Longitudinal Data Using Circular Block Bootstrap .....</b>	1581
<i>Hirohito Sakurai, Masaaki Taguri</i>	
<b>An Empirical Study of the Use of Nonparametric Regression Methods for Imputation .....</b>	1589
<i>Ismael R. Sánchez-Borrego, María Rueda, Encarnación Álvarez-Verdejo</i>	
<b>A Simulation Study of the Bayes Estimator of Parameters in an Extension of the Exponential Distribution .....</b>	1597
<i>Samira Sadeghi</i>	
<b>A Cluster-Target Similarity Based Principal Component Analysis for Interval-Valued Data.....</b>	1605
<i>Mika Sato-Ilic</i>	
<b>Bayesian Flexible Modelling of Mixed Logit Models .....</b>	1613
<i>Luisa Scaccia, Edoardo Marcucci</i>	
<b>A Decision Tree for Symbolic Data .....</b>	1621
<i>Djamal Seck, Lynne Billard, Edwin Diday, Filipe Afonso</i>	
<b>The Set of <math>3 \times 4 \times 4</math> Contingency Tables has 3-Neighborhood Property .....</b>	1629
<i>Toshio Sumi, Toshio Sakata</i>	
<b>Visualization Techniques for the Integration of Rank Data .....</b>	1637
<i>Michael G. Schimek, Eva Budinská</i>	

XXVIII Contents

<b>Comprehensive Assessment on Hierarchical Structures of DNA markers Using Echelon Analysis .....</b>	1645
<i>Makoto Tomita, Koji Kurihara</i>	
<b>Non-Hierarchical Clustering for Distribution-Valued Data .....</b>	1653
<i>Yoshikazu Terada, Hiroshi Yadohisa</i>	
<b>On Composite Pareto Models.....</b>	1661
<i>Sandra Teodorescu, Raluca Vernic</i>	
<b>Visualisation of Large Sized Data Sets : Constraints and Improvements for Graph Design .....</b>	1669
<i>Jean-Paul Valois</i>	
<b>Selecting Variables in Two-Group Robust Linear Discriminant Analysis .....</b>	1677
<i>Stefan Van Aelst, Gert Willems</i>	
<b>How to Take into Account the Discrete Parameters in the BIC Criterion? .....</b>	1685
<i>Vincent Vandewalle</i>	
<b>Analysis of Breath Alcohol Measurements Using Compartmental and Generalized Linear Models .....</b>	1693
<i>Chi Ting Yang, Wing Kam Fung, Thomas Wai Ming Tam</i>	
<b>Fisher Scoring for Some Univariate Discrete Distributions .....</b>	1701
<i>Thomas W. Yee</i>	
<b>Constructing Summary Indexes via Principal Curves .....</b>	1709
<i>Mohammad Zayed, Jochen Einbeck</i>	
<b>Censored Survival Data: Simulation and Kernel Estimates .....</b>	1717
<i>Jiří Zelinka</i>	