INTRODUCTION

For three decades, statisticians from the University of Łódź have been pleased to present the International Annual Conference on Multivariate Statistical Analysis in Łódź, Poland. Its Thirtieth Anniversary Edition was held from 7th to 9th November 2011 and was dedicated to the memory of Professor Józef Kleczyński and Professor Samuel Dickstein. The Conference was organized by the Department of Statistical Methods of the University of Łódź and the Institute of Statistics and Demography of the University of Łódź in cooperation with the Committee on Statistics and Econometrics of the Polish Academy of Sciences and the Polish Statistical Association. The MSA 2011 Scientific Committee was led by Czesław Domański. Aleksandra Kupis--Fijałkowska and Anna Witaszczyk were respectively first and second scientific secretaries of the Committee.

Each edition of Multivariate Statistical Analysis Conference aims to provide an opportunity for scientists and practitioners of Statistics to present and discuss recent theoretical achievements in the field of Multivariate Statistical Analysis, as well as their applications in business and management, economy, finance and insurance, sociology and psychology, medicine and other disciplines. Since the beginning of the Multivariate Statistical Analysis Conferences history, Authors and Participants have given particular attention to the following areas: Sampling Theory, Multivariate Distributions, Statistical Inference, Non-parametric Methods, Classification Methods and Discriminant Analysis, Monte Carlo Methods, Bayesian Methods and recently this list has been expanded by Imputation and Calibration Techniques, Big Data and Data Mining.

Multivariate Statistical Analysis. Theory and practice is the result of the 30th edition of the MSA Conference and altogether it presents 26 papers, including 2 historical and 24 scientific articles dealing with a broad scope of the theoretical concepts and applications covering Multivariate Statistical Analysis. The articles were grouped into the following sections by focus: The History of Statistics, Statistical Inference, Classification Methods, Regression Modeling, Weighing Designs and Other Topics and Statistical Methods in Practice.

The book is opened by *the History of Statistics* section, which includes profiles of two outstanding scientists, respectively *Samuel Dickstein (1851–1939)* and *Józef Kleczyński (184 –1900)*. Both of the mentioned above papers were prepared by Czesław Domański.

The next group of articles includes *Statistical Inference* theory topics and the following works are presented here: *Some Remarks on the Symmetry Kernel Test* by Aleksandra Baszczyńska, *The Significance of Prior Information in Bayesian Parametric Survival Models* by Wioletta Grzenda, *Bayesian Statistical Tests for Proportion for Independent and Dependent Sampling* by Dorota Pekasiewicz, *Testing Differences between Populations with Eigenvectors* by Jacek Stelmach and *On Parameter Estimation of Some Longitudinal Model* by Tomasz Żądło.

The following papers were selected to the third section on Classification Methods: *Classification of Large Data Sets. Comparison of Performance of Chosen Algorithms* by Andrzej Dudek, *Modification of Talavera Method of Variable Selection in Cluster Analysis* by Jerzy Korzeniewski, *Clustering of Symbolic Data with Application of Ensemble Approach* by Marcin Pełka and *Comparison of Accuracy of Spectral Clustering and Cluster Ensembles based on Co-Occurrence Matrix* by Dorota Rozmus.

The fourth group of articles is devoted to the *Regression Modeling* and presents three papers altogether, including *Model Selection Methods in Log--Linear Analysis* by Justyna Brzezińska, *On Model Selection in Some Regularized Linear Regression Methods* by Mariusz Kubus and *Properties of Transformation Quantile Regression* Model by Grażyna Trzpiot.

In the fifth section, titled *Weighing Designs and Other Topics* there are 2 articles about Spring Balance Weighing Designs, namely *Construction of E–Optimal Spring Balance Weighing Designs for Even Number of Objects* by Bronisław Ceranka and Małgorzata Graczyk and *Optimality of Spring Balance Weighing Designs* by Małgorzata Graczyk. The other 4 four papers present topics not grouped anywhere else, including *The Influence of Choice of Methods of Checking on Total Quality Control Costs* by Magdalena Chmielińska, *Some Remarks on the Data Imputation Using "missForest" Method* by Małgorzata Misztal, *Some Construction of Factorial Designs* by Małgorzata Szerszunowicz and *Geometrical Presentation of Preferences by Using Profit Analysis and R Program* prepared by Artur Zaborski and Marcin Pełka.

The last section of this book consists of 6 articles, which are focused on the application aspects of statistical methods and it is titled *Statistical Methods in Practice*. The following papers can be found here: *The Application of the Tools of Spatial Statistics to Evaluation Regional Differentiation of Polish Agriculture* by Agnieszka Kamińska, *GARCH Process Application in Risk Valuation for WIG20 Index* by Marta Małecka, *Men's and Women's Economic Activity in Poland* presented by Iwona Markowicz and Beata Bieszk-Stolorz, *Statistical*

Time Series Analysis of Macro Indicators of Educational, Professional and Family Careers of Women in Poland by Dorota Raczkiewicz, *A Content Analysis of the Representation of the European Uprising in Turkish News Media* discussed by Meral Yay, Elif Ozge Ozdamar and Esra Arsan, and *The Role and Importance of an Actuary in the Insurance* investigated by Tomasz Zapart.

Czesław Domański,
Aleksandra Kupis-Fijałkowska