

# International Federation of Classification Societies Newsletter

Number 18

Sept 1999

President: Chikio Hayashi

Editor: Paul De Boeck

## The International Federation of Classification Societies, founded in 1985, is composed of:

Associação Portuguesa de Classificação e Análise de Dados, British Classification Society, Classification Society of North America, Gesellschaft für Klassifikation, Japanese Classification Society, Korean Classification Society, Société Francophone de Classification, Società Italiana di Statistica, Vereniging voor Ordinatie en Classificatie, and Section of Classification and Data Analysis of the Polish Statistical Society.

The IFCS is a non-profit, non-political scientific organization, the aims of which are to further classification research. Among other activities, the IFCS organises a biennial conference, and supports the Journal of Classification.

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- 7<sup>th</sup> annual SFCmeeting

- 13<sup>th</sup> annual conference: SKAD 99

- 7<sup>th</sup> annual meeting of the CLAD

## From the President

For the Coming Century

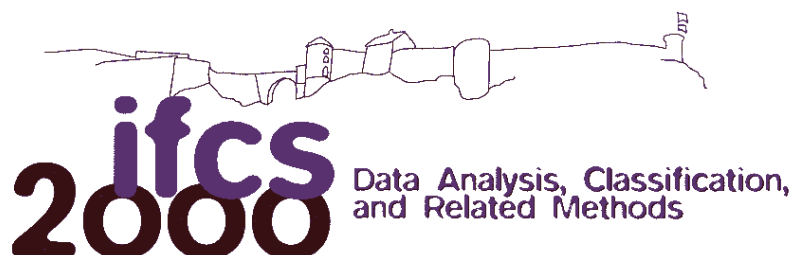
The guidelines for the IFCS Travel Awards Program (TAP) for funding young researchers who plan to attend the IFCS conference in Namur (in July 2000) have been elaborated by the IFCS Awards Committee for TAP (Chair: Hans H. Bock). The information on the program, is given on the IFCS homepage. I hope that the program will be successful with the help and collaboration from the Member Societies, and that it will encourage young researchers.

The potential energy of the IFCS is increasing over the years, and it keeps increasing since the last conference. We can say with firm confidence that the results of data science (including statistics, data analysis, classification and related methods in different respects) really contribute to the development of science and more in general to our civilization and global environment.

Further, I expect that new approaches, and new methodologies and methods in data science will be developed for the coming 21<sup>st</sup> century, and that the presentations of IFCS meetings will reflect these new ideas. I believe that signs of new movements will be found in the Namur conference in 2000.

We look forward to the Namur conference and we hope that many researchers will participate and present their papers. Good and lively discussions can be expected.

Chikio Hayashi



**7th Conference of the International Federation of Classification Societies, July 11-14, 2000, Namur, Belgium**

# IFCS 2000: Data Analysis, Classification, and Related Methods.

## 7th Conference of the International Federation of Classification Societies, July 11-14, 2000, Namur, Belgium.

### The IFCS

The conference will take place under the auspices of the International Federation of Classification Societies (IFCS) and is organized jointly by two of its member societies, the Société Francophone de Classification (SFC) and the Vereniging voor Ordinatie en Classificatie (VOC). Previous conferences were held in Aachen (Germany, 1987), Charlottesville (USA, 1989), Edinburgh (UK, 1991), Paris (France, 1993), Kobe (Japan, 1996), and Rome (Italy, 1998).

The member societies that participate in the IFCS are the British Classification Society (BCS), Associação Portuguesa de Classificação e Análise de Dados (CLAD), Classification Society of North America (CSNA), Gesellschaft für Klassifikation (GfKl), Japanese Classification Society (JCS), Korean Classification Society (KCS), Société Francophone de Classification (SFC), Società Italiana di Statistica (SIS), Sekcja Klasyfikacji i Analizy Danych PTS (SKAD), and Vereniging voor Ordinatie en Classificatie (VOC).

The IFCS promotes the dissemination of technical and scientific information concerning data analysis, classification, related methods, and their applications. The IFCS specifically encourages young researchers to attend its conferences.

### Call for papers

The program will be of interest to anyone concerned with classification, data analysis, and computational issues. Persons wishing to present a paper (as oral presentation or poster) should send:

- a title,
- an abstract for the book of abstracts of no more than 200 words,
- name(s) and affiliation(s) of the author(s), and
- keywords

to the Chair of the Scientific Program Committee, Henk A.L. Kiers, before March 1, 2000. Please send the above mentioned information to the conference e-mail address [ifcs2000@fundp.ac.be](mailto:ifcs2000@fundp.ac.be). The abstract should follow the guidelines as can be found at the conference web-site.

Please classify the paper in one of the categories summarised in the topics section of this call for papers. By default, it will be assumed that the author wishes to present the paper orally. However, if there are too many oral presentations, some papers may be deferred to a poster session. In case the author actually prefers a poster presentation, he/she should specifically indicate this wish under the abstract. If there is more than one author, please indicate who will present the talk.

Each person is permitted to present at most one contributed paper. This limitation does not prevent an invited session speaker from presenting one, nor does it limit the number of papers on which one may be listed as co-author.

Overhead projectors will be available. For a computer screen projector, a slide projector or other means of presentation, please contact the Local Organizing Committee. The conference language is English.

### Proceedings

A proceedings volume with a selection of contributed and invited papers will be published by Springer. The volume will be available at the conference. Authors wishing to submit their paper for publication in these proceedings should send a file containing the LaTeX source of the paper to the Chair of the Scientific Program Committee, Henk A.L. Kiers, before December 1, 1999, at the special Proceedings e-mail address [ifcsproc@ppsw.rug.nl](mailto:ifcsproc@ppsw.rug.nl).

The paper should not exceed six pages in length and should follow the guidelines as can be found at the conference web-site. The paper should be written in LaTeX. In exceptional cases and provided that the author consults Henk Kiers before November 1, 1999, MS Word can be used. Publication in the proceedings volume is conditional on receiving the conference fee before March 1, 2000.

### Deadlines and time schedule

December 1, 1999	Deadline for submission of manuscript for proceedings.
January 29, 2000	Notification of acceptance of the manuscript.
February 29, 2000	Deadline for sending in revised manuscript.
March 1, 2000	Deadline for submission of abstract for oral presentation or poster.
	Deadline for paying the conference fee for authors of papers to be published in the Proceedings.
April, 2000	Notification of acceptance of the abstract.
June, 2000	Preliminary program will be sent to the participants.

### Location

The 7th Conference of the IFCS will be held in Namur, Belgium, at the University Notre-Dame de la Paix.

Namur is an attractive old city, located at the Meuse and Sambre rivers.

At the foot of the citadel, built by Vauban in the 17th century, one can find the Jesuit university Notre-Dame de la Paix, founded in 1835.

Namur is the capital of Wallonia at the border of the Ardennes, a region that is known for its beautiful nature. The charming old town of Namur has a wide range of modern facilities such as theaters, an exhibition center, cinemas, art galleries, shops, hotels, and gourmet restaurants.

Located at 50 kilometres south-east of Brussels, Namur can be easily reached through Brussels International Airport, and by train. Namur is located in the heart of Europe: interesting cities as Amsterdam, Brussels, Cologne, London and Paris are all reachable within three hours by train.

The conference meetings will be held in the Faculté des Sciences Economiques building (see the conference address), which is about five minutes walking from the railway station and the city center.

### Keynote speakers

- A. Buja (AT&T Labs)
- B. Efron (Stanford University)
- D.J. Hand (Imperial College)
- J.A. Hartigan (Yale University)

Other invited speakers and invited sessions will be announced later.

### Scientific Program

The program will be of interest to anyone concerned with classification, data analysis, their computational issues, and their applications in various disciplines. In addition, by millennium talks attention will be paid to talks that reflect classification and data analysis in the past and upcoming millennium.

### General Topics

- Bayesian Data Analysis
- Data Mining
- Genetic Algorithms and Related Approaches
- Graphical Representations
- Internet Surveys and Retrieval
- Mixture Models
- Neural Networks
- Social Networks
- Validation

### Classification

- Combinatorial Methods
- Consensus Theory
- Decision Trees
- Discriminant Analysis
- Distance Models and Hierarchical Clustering
- Fuzzy Clustering
- Pattern Recognition
- Philosophy and History of Classification
- Phylogenetic Methods
- Probabilistic Approaches to Classification

### Data Analysis

- Categorical Data Analysis
- Factor Analysis
- Multidimensional Scaling
- Multilevel Analysis
- Multivariate Analysis
- Multiway Data Analysis
- Ordination
- Sequential and Spatial Data Analysis
- Symbolic and Relational Data Analysis

### Applications of Classification or Data Analysis in

- Archaeology
- Biology
- Chemistry
- Cognition
- Communication
- Consumer Science
- Credit Scoring
- Environmental Science
- Finance
- Image Analysis
- Industry
- Medicine
- Quality Control
- Sensory Analysis
- Social Sciences
- Textual Analysis

### Fees and Registration

The conference fee is € 250 and includes the proceedings book, a book of abstracts, a welcome reception, coffee and tea during the breaks, and a social event. For accompanying persons, a social program will be organized. The conference fee for students is € 150 if a copy of the student card accompanies the registration card. A reduction of € 50 applies if payments are received before March 1, 2000.

The IFCS Travel Awards Program (TAP) offers a limited number of travel grants for young researchers (say, under 35 years) wishing to participate in the IFCS-2000 meeting. For details see <http://edfu.lis.uiuc.edu/~class/ifcs> or ask the TAP chairman (H.H. Bock, Institute of Statistics, RWTH Aachen, D-52056 Aachen, Germany). Applications are typically to be sent to the president of your IFCS member society before January 18, 2000.

Please register by using the accompanying registration card. A preliminary program will be sent in the first half of June, 2000. The registration desk in the conference building is open on Monday, July 10, from 16:00 - 20:00, and during the conference from 8:00 - 18:00.

### Method of payment

#### By bank

Remit your payment to Générale de Banque (6, rue Godefroid, B-5000 Namur, Belgium) account nr. 250-0074027-04 of Facultés Universitaires Notre-Dame de la Paix (61, rue de Bruxelles, B-5000 Namur, Belgium), mentioning 'IFCS-2000 / Cpte 9413 / name(s) of the participant(s)'.

#### By credit card

The registration fee can also be paid by credit card (Visa, Eurocard, and American Express).

### Hotel reservation

A list of hotels is given at the conference web site. Reduced prices are offered for conference participants. Direct reservations (by fax and credit card) are encouraged. Just mention that your reservation is for a conference held at the University of Namur. In case of problems, contact the Local Organizing Committee.

During the conference low cost single room student dormitories are available at the university. For reservation, see the conference web site.

## Scientific Program Committee

### Executive Members

H.A.L. Kiers (Chair, The Netherlands), J.-P. Rasson (Co-chair, Belgium), P. de Boeck (Belgium), P.J.F. Groenen (The Netherlands), Y. Lechevallier (France), F.A. van Eeuwijk (The Netherlands).

### International Members

P. Arabie (USA), D. Banks (USA), V. Batagelj (Slovenia), H.-H. Bock (Germany), J.D. Carroll (USA), F. da Costa Nicolau (Portugal), W. Gaul (Germany), A.D. Gordon (UK), J.C. Gower (UK), C. Hayashi (Japan), S.C. Hirtle (USA), K. Jajuga (Poland), N.C. Lauro (Italy), J.C. Lee (Korea), T.R. Lee (Korea), B.G. Mirkin (Russia), C.B. Moncrieff (UK), N. Ohsumi (Japan), O. Opitz (Germany), A. Rizzi (Italy), M. Vichi (Italy).

### Members of the Organizing Societies

J.-P. Asselin de Beauville (France), J.-P. Barthélemy (France), L. Devroye (Canada), E. Diday (France), G.B. Dijksterhuis (The Netherlands), P.H.C. Eilers (The Netherlands), B. Fichet (France), A. Hardy (Belgium), W.J. Heiser (The Netherlands), L. Lebart (France), I.C. Lerman (France), J.J. Meulman (The Netherlands), P.J. Rousseeuw (Belgium), G. Saporta (France), T.A.B. Snijders (The Netherlands), J.M.F. ten Berge (The Netherlands), C.J.F. ter Braak (The Netherlands), I.A. van der Lans (The Netherlands), I. van Mechelen (Belgium), M. Wedel (The Netherlands).

### Local Organizing Committee

J.-P. Rasson (Chair), A. Hardy (Secretary), M. Rémon (Financial Responsibility), V. Bertholet, C. Charles, H. Claes, E. Depiereux, A. Dessy, L. Dumortier, D. Jacquemin, H.A.L. Kiers, M. Noirhomme-Fraiture, F. Orban-Ferauge.

### Conference Address

IFCS-2000: Data Analysis, Classification, and Related Methods

Prof. A. Hardy, Secretary Local Organizing Committee  
Department of Mathematics  
Namur University Notre-Dame de la Paix  
Rempart de la Vierge, 8  
B-5000 Namur  
Belgium

phone: + (32) 81 72 49 05

fax: + (32) 81 72 49 14

e-mail: ifcs2000@fundp.ac.be

### World Wide Web

Updates of information concerning the conference will become available at: <http://www.fundp.ac.be/~ifcs2000>

## Registration card

Please send in or fax this form to the Conference Address as soon as possible. Registration is only valid after receipt of payment. For cancellations after May 1, a cancellation fee of € 50 will be charged. No refunds will be given for cancellations after June 16, 2000.

first name:

surname:

title:

affiliation:

address:

city/zip-code:

country:

phone:

fax:

e-mail:

BCS CLAD CSNA GfKI JCS KCS SFC SIS SKAD VOC  
Group at Large None

Regular conference fee € 250, or before March 1, 2000, € 200

Students conference fee (include copy of student card) € 150, or before March 1, 2000, € 100

Payment by bank Remit your payment to Générale de Banque (6, rue Godefroid, B-5000 Namur, Belgium) account nr. 250-0074027-04 of Facultés Universitaires Notre-Dame de la Paix (61, rue de Bruxelles, B-5000 Namur, Belgium), mentioning `IFCS-2000 / Cpte 9413 / name(s) of the participant(s)'.

Payment by credit card

Visa EuroCard/MasterCard American Express

card number: name of the owner:

expiration date:

I have remitted my dues,

date: signature:

your classification society:

## News from the member societies

### News from the CLAD

CLAD - ASSOCIACAO PORTUGUESA DE CLASSIFICACAO E ANALISE DE DADOS

E-mail: [clad.lead@mail.telepac.pt](mailto:clad.lead@mail.telepac.pt)  
[cladlead@fc.ul.pt](mailto:cladlead@fc.ul.pt)

**1. ASMDA-99.** The CLAD Portuguese Association sponsored the IX International Symposium on "Applied Stochastic Models and Data Analysis", ASMDA-99, which was held in Lisbon, June 14-17, 1999, at the University of Lisbon. The ASMDA-99 Symposium, a Conference of the Quantitative Methods in Business and Industry Society, was organised by the Laboratory of Statistics and Data Analysis (LEAD) / Faculty of Psychology and Education of the University of Lisbon, in Cupertino with the Rectories of the University of Lisbon and the Portuguese Open University. CLAD is located at the LEAD. The Scientific Organisation Committee was formed by H. Bacelar-Nicolau (Universidade de Lisboa, Portugal), F. Costa Nicolau (Universidade Nova de Lisboa / Universidade Aberta, Portugal) and J. Janssen (Université Libre de Bruxelles, Belgium).

ASMDA-99 focused on new trends in theory, applications and software of Applied Stochastic Models and Data Analysis. Main topics were: Management and Administration; Production; Inventory and Logistics; Marketing; Finance; Insurance; Planning and Control; Quality, Reliability and Safety; Information Systems and Official Statistics; Sample Surveys; Research and Development; Human Resources; Environment and Travel and Tourism. Particular attention was paid to the application of new technologies in Business and Industry such as Data Mining, Data Warehousing, Symbolic Learning, Neural Networks, Genetic and Fuzzy Algorithms, Computer Graphics, Knowledge-Based Systems, and Decision Support Systems.

Two tutorials were presented on "Mining Superlarge Datasets" by David Banks (IFCS Secretary/ NIST, USA) and "Foundations of Cluster Analysis" by John Van Ness (Univ. Dallas, USA), as well as a satellite short course on "Applied Regression Analysis" by Yadolah Dodge (University of Neuchatel, Switzerland).

The first general assembly of the ASMDA-IS, the Applied Stochastic Models and Data Analysis International Society, was held during the meeting.

The book of ASMDA-99 Proceedings was edited by H. Bacelar-Nicolau, F. Costa Nicolau and J. Janssen. The publisher is the INE - Instituto Nacional de Estatística - of Portugal. There were 175 authors from 24 countries of the 5 continents. Papers cover a broad and interdisciplinary area of research and application of methods in the ASMDA domain, certainly representative of the main goals of the new ASMDA-IS. The volume includes invited papers, papers forming specialised sessions on real-life problems, and 36 contributed papers. The ASMDA-99 Proceedings are being distributed by the LEAD.

### Invited speakers and conferences were:

*Banks, D. (IFCS Secretary/ NIST, USA), "Statistical Inference in Metric Spaces, and Issues that Arise from Group-Induced Equivalence Classes"; Bobrowski, L. (Inst. Biocybernetics/Biomed. Engineering PAS, Poland), "Data Mining Procedures Related to the Dipolar Criterion Function"; Braumann, C. (Univ. Evora, Portugal), "Population Growth in a Random Environment: Some Modelling and Statistical Issues"; Delecroix, M. (Univ. Rennes, France), "Bandwidth Choice for M Estimators in Projection Pursuit and Single Index Regression"; Dodge, Y., Rasson, V. (Univ. Neuchatel, Switzerland), "Testing Linearity in Regression Model"; Lauro, C., Esposito, V. (Univ. Napoli, Italy), "Multivariate Statistical Methods for Total Quality Measurement"; Mirkin, B. (Rutgers University, USA), "Three Approaches to Aggregation of Interaction Tables"; Mizuta, M. (Univ. Tokyo, Japan), "Sliced Inverse Regression with Projections Pursuit"; Nanopoulos, Ph. (EUROSTAT Director), "Research into Data Analysis in Official Statistics"; Rasson, J-P. (President-Elect of the IFCS; Univ. Namur, Belgium), "Statistics and Classification: Tools for Each Other"; Saporta, G. (CNAM, France), "Some Simple Rules for Interpreting Outputs of Principal Components and Correspondence Analysis"; Van Ness, J. (Univ. Dallas, USA), "Recent Results in Clustering Admissibility"; Wang, Z-M. (Univ. Zhejiang, China), "Factorial Modelling of IT Strategies in Cluster Industries".*

### Specialised sessions and organisers were:

Data Mining and Management (*Janssen, J.; Ho, D.*); Analysis of Textual Data (*Lebart, L.*); Statistical Models in Medicine and Probability (*McClellan, S.*); On Systems with Uncertain Observations (*Pérez, J.*); Cluster Analysis and Probabilistic Related Models (*Nicolau, F.*); Clustering and Finance (*Janssen, J.; Ho, D.*); Data Analysis in Portuguese Official Statistics (*Gomes, P.*); Kinetic Dynamics, Granular and Traffic Control (*Moeschlin, O.*); Probabilistic Methods and Applications (*Remillard, B.*).

Institutions giving support to the ASMDA-99 Symposium on behalf of the national and/or international scientific and technical Cupertino were: IAPMEI - Instituto de Apoio às Pequenas e Médias Empresas e ao Investimento; FCT - Fundação para Ciência e Tecnologia; Embaixada de França; FLAD - Fundação Luso-Americana para o Desenvolvimento; ICCTI - Instituto de Cooperação Científica e Tecnológica Internacional; Fundação Oriente; Ministério do Equipamento, do Plano e da Administração do Território; Ministério da Ciência e Tecnologia. Other main sponsoring firms were: ANA- Aeroportos e Navegação Aérea, E.P.; Banco de Portugal; C.P.- Caminhos de Ferro Portugueses, E.P.; CGD-Caixa Geral de Depósitos; SPSS.

**2. 7th annual meeting of the CLAD.** The meeting will take place on March 2000, in Lisbon. Official languages are Portuguese, French and English, as usual. Information can be obtained at [clad.lead@mail.telepac.pt](mailto:clad.lead@mail.telepac.pt) or [cladlead@fc.ul.pt](mailto:cladlead@fc.ul.pt)

**3. Next issue of CLAD Bulletin.** This issue will be published in October 1999. This IFCS Newsletter will be distributed through mail and email to the CLAD members conjointly with our Bulletin.

Helena Bacelar-Nicolau  
 President of CLAD ([hbacelar@fc.ul.pt](mailto:hbacelar@fc.ul.pt))

## News from the JCS

1. Annual Research Meeting. 2. Reporting Result of Election for the Executive Members of JCS

### 1. Annual Research Meeting

The annual research meeting of JCS was held in March 20, 1999 at the Institute of Statistical Mathematics. In this meeting, Professor Murtagh took a special talk as an invited speaker. Speakers and their abstracts were as follows:

A) Constant-Time Clustering for High-Dimensional Data  
Fionn Murtagh (The Queen's University of Belfast)  
Jean-Luc Starck (CEA/DSM/DAPNIA)  
Michael W. Berry (University of Tennessee)

We extend recent results on constant-time clustering algorithms to a new problem area, that of clustering data in high-dimensional data spaces. We overcome the curse of dimensionality in such problems by (i) using some canonical ordering of observation and variable (document and term) dimensions in our data, (ii) applying a wavelet transform to such canonically ordered data, (iii) modeling the noise in wavelet space, (iv) defining significant component parts, and (v) reading off the resultant clusters. The overall complexity of this innovative approach is linear in the data dimensionality. We describe a number of examples and test cases, including the clustering of high-dimensional hypertext data.

B) Hybrid Modeling by CART And Discriminant/Logit/Regression  
Atsushi Ootaki (Meiji University)

Data mining is one of methodology to discover treasure in a huge data set. The treasure will be thrown away if there is no strategy of mining. CART (Classification And Regression Trees, Breiman, et. al., 1984) is an useful tool to excavate a complex structure in data set, which is composed of non-linear and/or local relationship between independent variables and a dependent variable.

The purpose of this study is to propose a hybrid modeling for combining CART with ordinary statistical linear model such as multiple linear regression analysis, discriminant analysis and logistic regression analysis. The strategy is very simple: first, CART is applied into data set to estimate a part of non-linear relationship: second, the terminal nodes of CART are introduced into dummy variables in a linear statistical model. Some examples for hybrid modeling are shown in this paper to exhibit performance advantages in comparison with ordinary linear model and multi-layer perception model of neural network.

C) A Method to Measure the Effectiveness of Sorting Rows and/or Columns of Data Table  
Takenobu Tasaki (SHIONOGI & Co., LTD.)  
Chieko Matsumura (SHIONOGI & Co., LTD.)

We consider multivariate dichotomous data or, in more specific, data tables given in the form of  $n \times p$  (Bp matrix with elements of 0 or 1.

When such data are given, in order to understand overall structure of the data, sorting of rows and/or columns is sometimes utilized. The object of our study is to measure the effectiveness of such sorting. First, we define 'edge score' for each cell in the matrix as an index to show how different a cell is from its adjoining ones (i.e. the edge score takes value between 0 and 8, that shows the number of adjoining cells having different values to the cell examined). Then, we obtain 'total edge score' by adding together all the scores in the table. Thus, the effectiveness of a sorting is measured by the degrees of change in the 'total edge score' between before and after the sorting.

We propose a method to judge whether a specific sorting is effective or not, by comparing the 'total edge score' obtained by the sorting with one of shuffling distribution. Where, shuffling distribution of 'total edge score' is generated by randomly permuting the rows and/or columns of original data table and calculating 'total edge score' of the permuted tables repeatedly.

D) Neural Discriminant Analysis  
Masaaki Tsujitani (Osaka Electro-Communication University)  
Takashi Koshimizu (Osaka Electro-Communication University)

Neural computing has emerged as a practical and powerful tool for "nonlinear" multivariate statistical analysis. In this paper, nonlinear discriminant analysis using a neural network is considered and the probabilistic interpretation of the network output is discussed in a two-class discriminant problem. The principle of the likelihood in network models is employed based on a probabilistic approach regarding the connection weights of the network as unknown parameters. The information criterion, EIC, and estimates of a true error rate of a prediction rule are discussed when fitting neural network models by employing the bootstrap method.

E) Classification of Cross-tabulation by Latent Groups and Simpson's paradox  
Kazue Yamaoka (Teikyo University)

The existence of latent groups having the reverse association from a given cross table results in Simpson's paradox (Simpson, 1951). In order to examine the possibility of the existence of such independent latent groups, I previously concentrated on the problem of specifying conditions under which Simpson's paradox does not occur, adopting the idea of decomposing the original universe into two independent latent groups (Yamaoka, 1996). Consequently, I examined the conditions by providing the parameters with preassigned values as a descriptive approach. However, it is necessary to confirm whether the results depend on the prior probability distribution (PPD) of the parameters. By introducing the process of PPD, the information of the fixed unknown parameters should be eliminated and more general conditions are expected to obtain.

The robustness of the results is discussed with respect to the PPDs. I examined the conditions by a probabilistic approach. Namely, I assumed several types of PPD on the parameters and examined the robustness of the results using the Monte Carlo method (Hayashi & Yamaoka, 1998).

It was concluded that the difference in medians among PPD types was not particularly large, and the condition, under which Simpson's paradox not occur was discussed.

F) Classification of Races Based on HLA  
Fumi Hayashi (Toyo Eiwa University)

In this paper, I present some results of analysis for international database of HLA antigen. Here, races are districted to major sixteen European races and nine Asian races. Besides, HLA types were districted to types whose frequencies are grater than 3% in almost races. The quantification method III was applied to the frequency matrix of 27(HLA types) x 25(races). Two clusters are shown in two dimensional space; one cluster includes European races and the other includes Asian races. Asian races were scattered larger than European races. But the location of Asian races were not agreeable.

The reason may be on distraction of HLA types. Another analysis was intended to search structure of combination of HLA types in each races, based on individual data. Some similar clusters of HLA types were found in almost races. Majore common cluster is made by B17, Cw6, DR3, DR7 and DQ2. Small common clusters are (B35, Cw4), (DR5, DQ3), and (B7, DR2). This result would suggest some meaning of HLA types or some meaning of measurement of HLA types.

G) A Consideration on the Visualization of Dialog Data in the Electronic Meeting/Forum  
Takao Ishizuka (Asia University)

We propose a visualization method of dialog data in the electronic meeting/forum. In analyzing discussion or conversation contents, the chief merits of using dialog data in the electronic meeting is that all spoken contents are digitally recorded. Those data can be regarded as large text-type database and it is difficult to extract features from them because of too much volume and non fixed form. Exploring hidden features from dialog data is a kind of data mining. We developed some programs for analyzing profiles of dialog data, comment chain map and cross tables between participants of meeting and keywords included in each utterance. In the comment chain map, nodes and arrows express each utterance and relationships connecting nodes on comment chain map, respectively. These outputs can be applied to the development of visual interfaces to access text-type database. The relationship orbits drawn on the comment chain map indicates the transition of the discussion theme as attractors. Automatically extracting common keywords concerning discussion theme on each attractor and displaying on the map is a next problem.

H) A Study of Web-based Surveys - Comparing the Results of the Experimental Surveys on Several WWW Sites  
Osamu Yoshimura (The Institute of Statistical Mathematics)  
Noboru Ohsumi (The Institute of Statistical Mathematics)  
Yasuyuki Kawaura (Yokohama City University)

We have planned our research in accordance with the policies and procedures explained below, in order to assess, analyze and compare Web-based surveys as objectively as possible.

Our aim has been:

- (i) To make a more detailed analysis of the datasets acquired from the twelve Web-based surveys conducted in the past.
- (ii) To publish the results through extensive seminars and symposia; to discover what people really expect or want from Web-based surveys in the light of, for example, freedom of information considerations.
- (iii) To examine how we should establish standards for Web surveys through practical fieldwork.
- (iv) To take a leading role with other supporting organizations, in order, for example, to have every organization conduct their surveys at the same time, and to use the same questionnaires.
- (v) To make an objective assessment of the survey environments, clarifying similarities and differences between them.

I) Qualitative Analysis of Motive-related Textual Data  
Kiyoharu Doi (Miyazaki Sangyo-Keiei University)  
Noboru Ohsumi (The Institute of Statistical Mathematics)

As our first trial, by applying the projective technique, a set of motive-related textual datasets are split into a set of datasets constructed from the segments such as words. Then, several statistical procedures such as correspondence analysis and clustering are applied for analyzing the textual datasets using a software named 'InfoMiner/J.'

As the results, we can obtain many findings; for example, the gender-related words connected with "fear of success" were identified. In addition, we can observe that the classification of the words or segments, their pragmatic implications, and gender differences of the samples became clear. In the measurement of ambiguous-unconscious psychological concepts by the projective technique, the effectiveness and possibility of these methods were clearly revealed.

**2. Reporting Result of Election for the Executive Members of JCS**

The new staff of the Japanese Classification Society were elected as the following list according to the articles of the JCS for electing the Executive Members. The tenure is for April 1, 1999 - March 31, 2001.

**The Executive Members of the JCS**

President:  
Noboru Ohsumi  
The Institute of Statistical Mathematics  
4-6-7, Minami-Azabu, Minato-ku Tokyo 106-8569, Japan  
Tel: +81-3-5421-8741  
Fax: +81-3-5421-8796  
ohsumi@ism.ac.jp

Secretariat Members:  
Secretary  
Tadashi Imaizumi  
Management & Information Sciences  
Tama University  
4-1-1, Hijirigaoka, Tama-shi Tokyo 206-0022, Japan  
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### The Executive Committee Members

Yasumasa Baba, Fumi Hayashi, Tadashi Imaizumi, Hisashi Kamisasa, Sadanori Konishi, Yukio Matsumoto, Hideo Miyahara, Akinori Okada, Atsushi Ootaki, Tatsuo Otsu, Yoshiharu Sato, Mika Sato, Shingo Shirahata, Meiko Sugiyama, Setsuko Takakura, Yoshio Takane, Yutaka Tanaka, Tomoyuki Tarumi, Takenobu Tasaki, Masaaki Tsujitani, Kazue Yamaoka, Haruo Yanai.

### News from the KCS

The Korean Classification Society had its annual meeting on July 2 at the Dicksung Woman University and about 78 members attended.

Dr. Han Kyung Soo at the CheonBuk university gave a tutorial session of "**Statistical Database**". Dr. Kim Hyun Bin in Institute of system technology presented "**3D/Sterophonic Sound in Virtual Reality**" and Dr. Kim Chong Hyo at the Dept. of Radiology of Medical college in Seoul National university gave a special session on "**Classification technique of Medical Imagination**".

The lists of contributed paper session is as follows:

- Chanwook Park: "Mass Data Analysis on Database"
- Changseon Baek: "Kernel Pattern Recognition using Clustering"
- Kwangjin Lee: "Introduction of Non-symmetric Clustering Method and Application"
- Haejung Chang: "Analysis of Proximity Information in Psychometric research"
- Changsoo Lee: "A study on Spatial Smoothing for Area Classification".

All the members had a nice time and very active and intensive discussion during session.  
Next seminar will be held in December.

### News from the SFC

SFC - Société Francophone de Classification

1. The new Board of Directors of the SFC is as follows:  
President: Bernard FICHET (University of Marseille – Marseille – France)  
Vice-Presidents: Jean-Pierre ASSELIN de BEAUVILLE (AUPELF-UREF, Montreal, Canada) and Yves LECHEVALLIER (INRIA, Paris)  
Secretary: André HARDY (University of Namur, Namur, Belgium)  
Treasurer: Bruno LECLERC (CAMS-CNRS, Paris)  
Editor of the SFC Bulletin: Pascale KUNTZ (IRESTE, Nantes, France)

2. The issue number 11 of the «SFC Bulletin» will be published in september 1999.

André Hardy, Secretary of the SFC  
Email: Andre.Hardy@fundp.ac.be

### News from the VOC

The Vereniging voor Ordinatie en Classificatie (VOC)

In March 1999, the VOC held its traditional Spring meeting. We welcomed a group of international speakers of name, presenting interesting subjects:

- Michael Browne (Multiplicative covariate structures for longitudinal studies)
- Mohammed Bennani (Global minimization for metric multidimensional scaling)
- Rasmus Bro (Using constraints in multiway modeling in chemistry)
- André Carlier (Distance between trajectories for longitudinal data)
- Jean-Paul Rasson (Geometrical tools in classification)

Abstracts of the presentations and information about the speakers can be found at our home page ([www.voc.ac](http://www.voc.ac)). It was a lively and interesting meeting, with over 40 people present. At the same meeting the members chose a new Chair: Michel Wedel of Groningen University. He is the successor of Henk Kiers (of the same university), who was Chair from 1995. Henk will not have much time to work in his garden, as he will stay on the board of the VOC, and as together with Jean-Paul Rasson he is organizing the IFCS 2000 meeting, to be held in Namen/Namur (Belgium), organized by the Société Francophone de Classification and the VOC. Michel presented ambitious plans for attracting new members and increasing the activities of the VOC. A first step has been the organization of short (2 hour) courses about VOC subjects by VOC members.

The VOC was founded in 1989, meaning that this is a jubilee year. A special two-day Autumn meeting will take place in the Rolduc abbey, in the far South of the Netherlands, on November 18 and 19. The theme of the conference is ordination and classification with data in which time plays a central role. An interesting program has been set up, with well-known speakers and diverse subjects.



## New books

M. Vichi, O. Opitz (eds.):

**Classification and Data Analysis. Theory and Application.**  
Proc. Biannual Meeting of the Classification Group of the  
SIS, Pescara, July 3-4, 1997.  
Studies in Classification, Data Analysis, and Knowledge  
Organization Vol. 13.  
Springer Verlag, Heidelberg, 782 pp.

W. Gaul, H. Locarek-Junge (eds.):

**Classification in the Information Age.**  
Proc. 22th Annual Conference of the GfKl,  
University of Dresden, March 4-6, 1998.  
Studies in Classification, Data Analysis, and Knowledge  
Organization Vol. 14. Springer-Verlag, Heidelberg, 1999,  
608 pp.

The former one contains 45 selected and refereed articles on (partitional, hierarchical, fuzzy) clustering, classification theory, discrimination, regression trees and neural networks, multivariate and multi-way data analysis, proximity structures spatial statistics. The latter contains also chapters on information systems and data bases, finance and risk models, conceptual analysis and learning, new media and the internet, together with applications in economics, marketing, archaeology, bioinformatics, and health.

H.-H. Bock, E. Diday (eds):

**Analysis of Symbolic Data.**  
Studies in Classification, Data Analysis, and Knowledge  
Organization Vol. 15. Springer-Verlag, Heidelberg, 1999,  
425 pp. (to appear Dec. 1999)

It contains an introduction into 'Symbolic Data Analysis', i.e., the generalization of classical data analysis (descriptive methods, factorial analysis, discrimination and classification, visualization) to 'symbolic data' where the entries of a data table are not single numbers or categories, but may be intervals, sets of categories, frequency or probability distributions etc., possibly related by rules and taxonomies. The described methods are implemented in a software system (which is available free of charge).

H.H. Bock

## Conference Report

### ASMDA-99

I was fortunate enough to attend the ninth international conference on Applied Stochastic Models and Data Analysis, held in Lisbon, Portugal on June 14-17, 1999.

Inasmuch as the substance of the meeting relates to our own interests in classification and cluster analysis, and also since the conference was organized by Helena Bacelar-Nicolau, the chair of our member society CLAD (Associação Portuguesa de Classificação e Análise de Dados), I have been asked by to report to our members on the events that took place at ASMDA-99.

The scientific program was impressive and carefully chosen to appeal to a range of perspectives in applied statistics. As a government statistician, I was pleased that the opening plenary was given by Photis Nonopoulis, from Eurostat, who directly addressed the special problems in classification that arise from data analysis of official statistics. Subsequent plenary talks addressed multivariate analysis and partial least squares in quality control (Carlo Lauro, from the University of Naples), an admissibility perspective on cluster analysis (John Van Ness, from the University of Texas at Dallas), the use of factorial design in planning information technology growth in China (Zhong-Ming Wang, from the University of Hangzhou), some very powerful techniques in sliced inverse regression (Masahiro Mizuta, from Hokkaido University), a new idea in data mining based upon a dipolar criterion (Leon Bobrowski, from the Technical University of Białystok, Poland), a rather deep treatment of aggregation of interaction tables (Boris Mirkin, from Rutgers University), and a very surprising idea on how to infer causation from correlation using higher-order moments (Yadolah Dodge, from the University of Neuchâtel).

There were many other excellent talks too, including a review of classification by Jean-Paul Rasson (from the Universitaires Notre-Dame de la Paix), who is the incoming president of the International Federation of Classification Societies.

Although the ASMDA-99 was more heavily weighted towards invited talks than most IFCS conferences, its contributed paper sessions also were of high quality and enjoyable diversity. I particularly liked Sally McClean's session on Statistical Models in Medicine and Probability, Leon Bobrowski's session on data mining, and (as a new student of transportation statistics) a session devoted to traffic flow models and traffic control.

As with any conference, the location and the organization made all the difference.

Lisbon is a wonderful site and a great city - it is beautiful, historical, and friendly. The facilities at the Universidade de Lisboa were outstanding (I am especially grateful for the air-conditioning, since Lisbon was experiencing an uncharacteristic heat wave). The organization of the conference was brilliant; Helena Bacelar-Nicolau would have been a highly successful general.

Besides the program, she arranged a symphony, a bus tour of Sintra and Cascais, a formal banquet in the old Castelo San Jorge, and strong Portuguese coffee to drink during the breaks.

During the conference, the chairpersons (Helena, Jacques Janssen, and Fernando Costa Nicolau) joined with previous conference chairs and other attendees to explore the possibility that ASMDA would establish a new journal devoted to the practice of statistics.

There was strong interest in such an endeavor, which might further solidify the community of common interest that has been represented over the last decade of ASMDA symposia. Should the exploration committee resolve upon this, I hope the IFCS will volunteer to provide whatever help our joint experience can offer.

David banks

## Fall Meeting 1999 of the Section on 'Data Analysis and Numerical Classification' of the Gesellschaft für Klassifikation in Hamburg, Germany

The Section 'Data Analysis and Numerical Classification' (AG-DANK) of the GfKI organizes traditionally a 24-hour meeting each year in Fall. In 1999 this Fall Meeting (Herbsttagung) takes place in Hamburg and is organized by the 'Center for Modelling and Simulation', affiliated to the Institute of Stochastics of the University of Hamburg. The meeting place will be the 'Warburg House', a renowned building with, e.g., a large library and a research institution on 'Political Iconography'. It dates back to 1926 when it was built by a member of the Warburg banker family and belongs now to the city of Hamburg.

The scientific program of the meeting presents the following lectures:

### Friday, 5/11/99, 14:00 - 18:50

- D. Pfeifer, Universität Hamburg:  
The problem of the "Minimum Area" in statistical ecology.
- M. Böhmer, Universität der Bundeswehr Hamburg:  
Median relation and Constraint-Logic programming: approaches and experiences.
- U. Tüshaus, Universität der Bundeswehr Hamburg:  
The determination of median relations by optimization systems.
- J.R. Iglesias-Rozas, Katharinenhospital Stuttgart:  
Visualization of predictive factors of Glioblastomas with help of SOM-MAPS.
- A. Ultsch, Universität Marburg:  
Neuronal Data Mine.
- C. Weihs, Universität Dortmund:  
Classification of Business Phases with Support Vector Methods.

Discussion of the "cycles"-data set by participants

### Saturday, 6/11/99, 9:00 - 13:45

- P.L.Davies, Universität GH Essen:  
Approximating data with stochastic models.
- V. Didelez, Universität München:  
Graphic modeling of local dependency structures in the multivariate event analysis.
- H.-J. Mucha, WIAS Berlin:  
Help with decisions in cluster analysis.
- G. Herden, Universität GH Essen:  
On a dictator theorem of Arrow-type in ordinal data analysis.
- B. Kopp, Hamburg:  
On a certain simultaneous representation of rows and columns of a crosstable.
- N. Christlieb, Sternwarte Hamburg:  
Detecting quasars with the Hamburg-ESO-Survey data.
- C. Hennig, Universität Hamburg:  
Fixed point clusters in the Hamburg ESO-Survey data.

The meeting includes, in particular, the discussion of a real data set which was analyzed by several participants, and a dinner in a fine restaurant in the city. Any further information can be obtained from the websites: <http://www.gfki.de> and <http://www.math.uni-hamburg.de/home/hennig/agdank99.html> or from the organizer:

Dr. Christian Hennig,  
Institut fuer Mathematische Stochastik, Universität Hamburg,  
Bundesstrasse 55,  
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Tel: ((+49)(+40) 42 838 - 4907, Fax: - 4924, e-mail:  
[hennig@math.uni-hamburg.de](mailto:hennig@math.uni-hamburg.de).

H.H. Bock, Chairman of AG-DANK

## SFC Conference Announcement

The seventh annual SFC meeting will take place in Nancy (France) on September 15-17, 1999. It is organized by the LORIA (CNRS – INRIA – Universities of Nancy). The programme chair is Prof. Amedeo NAPOLI. The chairman of the organizing committee is Prof. Jean-François MARI. The Simon Regnier prize will be awarded during the meeting. The general assembly of the SFC will be held during the meeting. For more informations:  
<http://www.loria.fr/conferences/SFC99/>

## SKAD 99

### 13<sup>th</sup> Annual Conference of the Section of Classification and Data Analysis (SKAD)

of the Polish Statistical Association will be held in Rytro, Poland (hotel „Southern Pearl”) on **October 11-12**.

Over 70 statisticians will attend 2 invited lectures by Professor Jean-Paul Rassin and Professor E. Godehardt and hear 28 plenary talks.

## CLAD Conference announcement

**7th annual meeting of the CLAD.** The meeting will take place on March 2000, in Lisbon. Official languages are Portuguese, French and English, as usual. Information can be obtained at [clad.lead@mail.telepac.pt](mailto:clad.lead@mail.telepac.pt) or [cladlead@fc.ul.pt](mailto:cladlead@fc.ul.pt)

## News for the coming issue of the IFCS can be sent to:

[Paul.Deboeck@psy.kuleuven.ac.be](mailto:Paul.Deboeck@psy.kuleuven.ac.be)

Text files are by preference in ascii, wordperfect, or word, with pc format (mac is difficult, although not impossible). For graphical materials, by preference BMP, GIF, or PCX are used.

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## IFCS Newsletters on Internet:

<http://edfu.lis.uiuc.edu/~class/ifcs/newsletter.html>

The newsletters are available as PDF files, to be read with AcrobatReader. Click on AcrobatReader to download.

## IFCS Homepage:

<http://edfu.lis.uiuc.edu/~class/ifcs/>

Designed and maintained by David Dubin.

The website now contains:

information on the Namr conference, and on travel awards for young researchers, the IFCS Constitution and By-Laws, the IFCS newsletters, and pointers to the websites of the member societies.