



# International Federation of Classification Societies Newsletter

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President: Chikio Hayashi

Editor: Paul DeBoeck

## 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.



### 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 the program.

### IFCS Homepage:

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

Designed and maintained by David Dubin.

The website now contains:

a copy of the IFCS Constitution and By-Laws, an archive of the newsletters, and pointers to websites of the member societies.

## News from the IFCS

Dear IFCS Members,

Congratulations to us all on the successes of 1998. The first year of Chikio Hayashi's presidency has been a good one for the IFCS.

The capstone achievement was the conference in Rome, organized by Alfredo Rizzi, Maurizio Vichi, and Francesca De Antoni. And plans for the meeting in Namur in 2000 are rapidly taking final form - intending attendees should begin drafting their abstracts !

It is my duty and pleasure to describe two recent official actions.

First, the IFCS recently voted in several new officers. Professor Jean-Paul Rasson has become the new vice-president of IFCS, replacing Doug Carroll, and under the rotating system described in our By-Laws, Jean-Paul will become IFCS president on January 1, 2000.

Also, in concurrent elections, Anuska Ferligoj has been chosen as the new Secretary of the Group-at-Large, replacing Vladimir Batagelj, and Jacqueline Meulman and Phipps Arabie are the new members of the Four Additional Members, replacing David Hand and Fionn Murtagh.

I congratulate the new officers, and tender my sincere thanks to Doug, Vladimir, David, and Fionn for all their hard work.

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Second, I am pleased to report that the plans developed by Hans Bock's Fund Raising Committee (consisting of H. H. Bock (chair), J.-P. Barthelemy, John Gower, W. H. E. Day, Alfredo Rizzi, and Yoshiharu Sato) to govern the Travel Award Program (TAP) have been approved by the members of the IFCS Council.

Details are available from Hans or the IFCS Secretary (me: banks@nist.gov), but the basic arrangement is that the president of a member society may nominate up to two researchers who are less than 35 years old to receive travel support to attend an IFCS meeting (in exceptional cases, the IFCS president may allow a small waiver in the age rule). The IFCS president appoints an Awards Committee to review the nominees, and the Awards Committee works with the president to determine the number and amounts of the travel stipends.

While on the subject of travel awards, I should recognize the great success of this program at the Rome meeting, in which eight new researchers received funds.

The credit for this is due largely to the efforts of Chikio Hayashi, whose personal initiative was phenomenally successful in raising money for the project.

Finally, I urge all readers to examine the new IFCS website at <http://edfu.lis.uiuc.edu/~class/ifcs/>. This now contains a copy of the IFCS Constitution and By-Laws, an archive of the newsletters, pointers to websites of the member societies, and many other features.

I want to thank David Dubin and Paul De Boeck for their work in developing and maintaining it.

Best wishes for the new year,

David Banks  
IFCS Secretary

## News from the member societies

### News from the JCS

Activities of the Japanese Classification Society

The annual research meeting of JCS was held on December 26, 1997 at the Institute of Statistical Mathematics. The speakers and titles of talk were as follows.

And as the forthcoming schedule of the JCS activities, the staff of JCS are planning the JCS Annual Meeting at the middle of March 1999. In addition, a special seminar about "Data mining in Data Science" will be held at March 1999.

1) The Design and Understanding of Electronic Surveys. (as Invited Speaker)

Yasuyuki Kawaura (Faculty of Humanities and  
International Studies Yokohama City  
University)

An electronic survey has not been over in a sort of data collection. However, this is reevaluated as a new survey method by the world-wide spread of Internet.

In this report, we have discussed about the possibilities and the limits of this survey method.

2) Classification of the Non-Profit Organizations in Japan Today - From the Social Survey -.

Chikio Hayashi (Institute of Statistical  
Mathematics)

This is the first survey, in a scientific sense, for the non-profit organizations in Japan. Particularly, the method and result of data analysis on the social survey for public interest corporations - public interest corporations and associations established by Civil Code 34 the item - are depicted. It turned out as the result of investigation of the individual questionnaires filled up in the preliminary survey in 1990 that now to classify the corporations and associations is a crucial problem.

Based on this learning, the present state of Japanese public interest corporations was elucidated. Especially the classification into Semi-Governmental foundation and private sector initiated foundation was fundamentally important. The details of these results are published in the report "Non-Profit Organization in Japan Today - Particularly on the public interest corporations and associations -" by Hayashi, Sasagawa Foundation, July 1997 and the book "Real State of Public Interest corporations in Japan Today" by Hayashi and Iriyama, Daiyamondo Sha, Oct. 1997.

3) Classification of Meanings: -Two-Dimensional Tabular Classification of Meaning Keywords from the "Longman Language Activator" Dictionary -.Toru Nakagawa (Fujitsu Laboratories Ltd.)

We have classified in the present study the 1,052 Meaning Keywords selected in the "Longman Language Activator" Dictionary as categories of meanings which cover the whole vocabulary of verbs, adjectives, adverbs, nouns, etc., excluding concrete object nouns. First we have tried to make small groups of Meaning Keywords with criteria of affinity and relation in meaning, then gradually built up a system of classification, and finally obtained a two-dimensional tabular presentation:

The columns of the table classify the four Categories in meanings; they are:

(A) sensing, thinking, and action, (B) results of sensing and judging, (C) auxiliary elements for expression, and (D) objects, events, and concepts.

These four categories reflect word classes (or "parts of speech") in syntax but are newly formed in semantics. For example, Meaning Keywords usually expressed in adverbs are classified mostly in (B), together with those expressed in adjectives, and partly in (C). The rows of the classification table represent Domains of meanings, which are hierarchically organized according to the steps of development in human self-recognition, in the following way:

(1) Primitive existence and action: (2) Understanding the nature; (2-1) sensing, (2-2) measuring and understanding the nature; (3) Internal thinking and human relation: (3-1) feeling and mental state, (3-2) thinking and judging, (3-3) intellectual action and human relation; (4) Activities in Society: (4-1) general activities in society, (4-2) economic activities, (4-3) public and political activities, (4-4) cultural activities.

The two-dimensional Classification System of Meanings demonstrates in perspective the whole world of meanings or concepts developed by the human culture.

We believe that classification of meanings can be universal even though classification of vocabulary is language dependent.

4) Relevance Analysis of Texts with Large Fields Using Word Frequency Statistics.

Kigen Hasebe, Emi Ishida, Hidehiro Ishiduka,  
Takeo Yamamoto  
(University of Library and Information Science)

5) A Study of Achievement-related Motives Using Several Qualitative Data Analysis Methods.

Kiyoharu Doi (Miyazaki Sangyo-Keiei  
University),  
Noboru Ohsumi (The Institute of Statistical  
Mathematics)

6) Basic Elements of Game Software and its Classification.

Yoshihiro Suzuki and Keiji Yajima (Science  
University of Tokyo)

Gross sales of game software in Japan amounted to 68 billion yen in a year 1995 and it was still expected to grow up.

The fundamental characterization of commercial products in game software has been carried out picking up a number of thirty three games including Sony, Sega Enterprises and Nintendo corporations.

Taking up twelve elements, such as category of games, a number of characters and a number of major scenes etc., a correspondence analysis brought a basic grouping of the games, which will be suggestive to make new articles.

7) Adequacy of Inverse Inference in Binary Response and Continuous Covariates.

Hideaki Hida, Kazutoshi Hayashi, Takenobu  
Tasaki (Biometric Analysis  
Dept., Shionogi Co., Ltd.)

We examined relationship between two judgments based on two different points of view in case of binary response and continuous covariates, namely, one of logistic regression that watches result from cause, and the other of comparison with Student's t-test or Welch's t-test that watches cause from result.

We found similar judgments on effect of covariates were obtained from the both points of view if monotone relation is seen between response probability and covariates.

However, when the probability doesn't vary with covariates monotonously, judgment based on comparison such as Student's t-test or Welch's t-test isn't appropriate.

Thus, we emphasized the importance of using diagnostic methods such as "plot of p against x" by Copas (1983) at the same time. In this study we confirmed that Student's t-test statistics and statistics of significance test of regression are the same.

Thus, we could see that the comparison with Student's t-test is equivalent to the application of ordinary simple regression analysis to binary response.

## News from the SKAD

The annual conference of Section on Classification and Data Analysis of the Polish Statistical Society (SKAD) took place in Swieradow at October 6-7, 1998. Seventy persons participated at the conference.

The following papers were presented during the conference:

- Patrick Groenen (University of Leiden - Netherlands)  
– Modern multidimensional scaling;
- Lioba Becker (Technical University of Dresden - Germany) – Hypothesis testing using minimax estimators;
- Krzysztof Jajuga (Wroclaw University of Economics)  
– Some additions to the problem of L<sub>p</sub>- norm based parameters;
- Danuta Strahl (Wroclaw University of Economics)  
– Statistical measure of the competitiveness of regions;
- Czeslaw Domanski, Malgorzata Misztal (University of Lodz)  
– Methods of the analysis of surgery risk;
- Wanda Ronka-Chmielowiec, Katarzyna Kuziak (Wroclaw University of Economics)  
– Classification of insurance firms;
- Stanislaw Heilpern (Wroclaw University of Economics)  
– Monotonic set functions and their applications to classification and discrimination;
- Sylwester Smolik (Warsaw University of Agriculture)  
– Usefulness of trend models in long-term forecasting;
- Agnieszka Sompolska-Rzechula, Malgorzata Machowska-Szewczyk (Szczecin University of Agriculture)  
– Some remarks on classification under fuzzy information;
- Feliks Wysocki (Poznan University of Agriculture)  
– Statistical identification of marketing strategies in Polish milk industry;
- Jaroslaw Gorniak (Jagiellonian University)  
– Application of correspondence analysis in social and marketing research;
- Andrzej Bak (Wroclaw University of Economics)  
– Using simulation properties of conjoint analysis in marketing research;
- Agnieszka Sompolska-Rzechula, Malgorzata Machowska-Szewczyk (Szczecin University of Agriculture)  
– Application of fuzzy classification methods in spatial analysis;
- Jacek Batog, Barbara Batog (University of Szczecin)  
– Path of the development of Polish economy in years 1991-2000;
- Adam Kurzydowski (Wroclaw University of Economics)  
– Interaction detection methods in market segmentation research;
- Miroszlawa Sztemberg (Wroclaw University of Economics)  
– Application of factor analysis in the market positioning of brands of coffee;
- Agnieszka Stanimir (Wroclaw University of Economics)  
– Segmentation research in Polish firms;
- Waldemar Tarczynski (University of Szczecin)  
– Utility function as a tool for the classification of investments;
- Iwona Konarzewska (University of Lodz)  
– Interdependence in time series of returns and risk of investment portfolios;

Eugeniusz Gatnar (Katowice University of Economics)  
 – Methods of the selection of variables in nonparametric discriminant analysis;  
 Grazyna Trzpiot (Katowice University of Economics)  
 – Time series analysis with the application of stochastic relations;  
 Pawel Lula (Cracow University of Economics)  
 – Methods of data representation in neural modeling;  
 Urszula Siedlecka, Renata Gnitecka (Wroclaw University of Economics)  
 – Statistical orthogonalization and its application in taxonomy;  
 Jan Owsinski (System Research Institute)  
 – System of economic data analysis SAKIDOG – description and examples of applications

During the conference the elections of the Board of the Section on Classification and Data Analysis of Polish Statistical Society (SKAD) for the period: January 1, 1999 – December 31, 2000 took place.

The following persons were elected:  
 chairman: Andrzej Sokolowski (Cracow University of Economics)  
 vice-chairman: Krzysztof Jajuga (Wroclaw University of Economics)  
 secretary: Eugeniusz Gatnar (Katowice University of Economics)  
 members: Marek Walesiak (Wroclaw University of Economics), Waldemar Tarczynski (University of Szczecin), Zdzislaw Hellwig (Wroclaw University of Economics), Kazimierz Zajac (Cracow University of Economics)

Krzysztof Jajuga  
 E-mail: jajuga@manager.ae.wroc.pl

## News from the GfKI

On 20. and 21. November 1998 the traditional Fall Meeting of the Working Group 'Data Analysis and Numerical Classification' (AG-DANK) took place at the Department of Marketing of the University of Regensburg, organized by Prof. Dr. Harald Hruschka. 27 Participants discussed the various topics from domains such as 'Hidden Markov Chain Models', 'Neural Networks', 'Pattern recognition' and 'Data Mining'.

The titles of the contributions were:

Prof. Dr. G. Ritter (Passau):  
 Hidden-Markov-Models and their Applications  
 Prof. Dr. A. Ultsch (Marburg):  
 Comparing Neural Classifications  
 Dr. U. Bankhofer, A. Hilbert (Augsburg):  
 Aunt Systems for Resolving the Traveling Saleman Problem  
 Dipl.-Ing. J. Pösl (Erlangen):  
 Vision-based Statistical 3D Object Recognition  
 Prof. Dr. W. Gaul (Karlsruhe):  
 Data Mining - A New Denotation for an Old Problem?  
 Dr. Th. Reinartz, Prof. Dr. G. Nakhaeizadeh (Ulm):  
 Towards the Standardization of the Data Mining Process

Beartiz Sanchez, Dr. J.R. Iglesias-Rozas (Stuttgart):  
 Decision-Making in Inner-Pathological Diagnosis with the Help of MEDES (Version 2.1)

Dipl.-Stat. Rita Spatz (Regensburg):  
 Application of Time-Discrete Hazard Rate Models to the Analysis of Income Processes

Dr. W. Fettes, M. Probst (Regensburg):  
 Combination of MNL Models with Multi-Layer Processors.

The generous time allocation led to intensive and controversial discussions, e.g., in the domain of Data Mining. The next meeting will be in March 1999 (Annual Conference of the GfKI) and in Fall 1999 in Hamburg.

H.H. Bock

## News from the CLAD

The 6th annual meeting of the CLAD, JOCLAD-98, was held on December 10-12, 1998 in Lisbon. The National Institute of Research and Technology, the National Institute of Statistics (INE) and the French Embassy were among the institutions who have sponsored the meeting. The meeting was organised at the "Instituto Superior de Ciências Sociais e Políticas da Universidade Técnica de Lisboa". Principal responsible by the local organization were Jorge de Sá and Paula Espírito-Santo (ISCSP-UTL).

Official languages were Portuguese, French and English, as usual.

Invited speakers / conferences were:

Ludovic Lebart (ENST/Telecom - Paris, France,) / "Methodes pour la classification des textes";  
 Michel Lejeune (Conservatoire National des Arts et Metiers, Paris, France) / "Investigation of multivariate linear hypohotesis";  
 Paulo Gomes (INE) / "Da elaboração do questionário ao trabalho de tratamento estatístico dos dados" and  
 Robert Sabatier (Univ. Montpellier, França) / "Nouveaux développements d'analyse des données".

A round table on "As sondagens e a sua informação" was organized by Jorge de Sá and a seminar on "Textual Data Analysis and TDA software" was presented by Ludovic Lebart.

Two short introductory courses on "Sondagens de opinião: amostragem e controlo", by Paulo Gomes and Jorge de Sá and on "Análise factorial e análise classificatória", by Helena Bacelar - Nicolau (Univ. Lisboa) and Fernando Nicolau (Univ. Nova Lisboa, Univ. Aberta) took place on December 9.

The issue Number 6 of CLAD Bulletin was published on December 1998.

Helena Bacelar-Nicolau  
 President of CLAD  
 hbacelar@fc.ul.pt

## News from the SFC

1. The 1998 annual meeting of the SFC was held in Montpellier, France, from Monday, September 21st until Wednesday, September 23rd, 1998, at the LIRM (Laboratoire d'Informatique de Robotique et de Microelectronique de Montpellier). Approximately 130 persons attended.

Invited addresses were given by:

- C. Lauro (Clustering Issues in Conjoint Analysis);
- P. Hansen (Un algorithme de point interieur pour la classification automatique selon le critere des moindres carres);
- G. Govaert (Classification automatique et modele de melange);
- F. Crichley (Influence analysis and an interactive graphical approach to cluster analysis);
- A. Rzhetsky (Describing inhomogeneity of replacement rates along genes and proteins: Fourier and wavelet model);
- G. Ritter (Bayesian methods for automatic chromosome classification);
- V. Makenrenkov (Une methode d'analyse canonique non-lineaire et son application a des donnees biologiques).

The "Simon Regnier" prize was given to N. Galtier (Modelisation en phylogenie moleculaire: Historique et developpements recents).

More than 30 contributed papers were also presented.

The general assembly of the SFC was held during the meeting.

2. The SFC and the SFdS (Société Française de Statistique) have signed an associate convention. It aims at favoring exchanges of information, facilitating scientific collaboration and joint activities.
3. The issue number 11 of the "SFC Bulletin" was published in December 1998.

## Conference announcements

### **23<sup>rd</sup> Annual GfKI-Conference in Bielefeld, March 10-12, 1999**

The coming Annual Conference of the German Classification Society (GfKI) in 1999 in Bielefeld promises to become an interesting and eventful meeting for both participants and guests as well.

This can be seen for example from the fact, that the chairman of the program committee, Prof. Dr. W. Gaul, could inform the members of the actual program committee about more than 100 lectures registered up to now.

Besides a remarkably high number of contributions with respect to mathematical and statistical methods for data analysis and classification further emphasis is put, e.g., on genome analysis and finance.

In addition, the program will be enriched by numerous well-known domestic and foreign speakers (e.g., from Canada, Japan, Great Britain and the Netherlands), who could be won for plenary or semi-plenary lectures on current topics. Besides the regular lectures there will also be a vocational course for librarians as well as several tutorials on varying topics and some additional software demonstrations.

The conference fee was calculated in a way, that on the one hand a special discount is granted for early registration. So, members of the GfKI or one of the associated societies, who will be registered before February 7<sup>th</sup>, 1999, will pay a fee of 130 German marks (including the proceedings volume published by Springer).

These comparably low fees are, among others, due to a considerable willingness on part of the local industry to support the conference.

The already traditional reception of the host city is scheduled for Wednesday, March 10<sup>th</sup>, in the new town hall of Bielefeld. For early arriving participants there will be an informal 'get-together' meeting on Tuesday, March 9<sup>th</sup>, in an attractive location to be announced in time.

Furthermore, the annual general meeting of the members of the GfKI will be organised on early Thursday evening at the University of Bielefeld.

Afterwards, there will be the traditional conference dinner in the castle hall of the 'Sparrenburg', the impressive famous landmark of Bielefeld. Thereby, the participants will have the chance to enjoy one of the most beautiful lookout points of Bielefeld.

For those participants, who want to learn more about Bielefeld and its cultural attractions, an appropriate social program will be offered.

Prospectively, this will comprise, e.g., a visit of the famous Bielefeld Art Gallery, a visit of the Historical Museum, and the possibility of attending a performance at the Bielefeld Theatre.

Registered participants will receive detailed information on the conference, the preliminary program, a special card for hotel reservation, as well as information concerning the city of Bielefeld in the beginning of 1999.

Registration documents are available via Internet:

*<http://www.wiwi.uni-bielefeld.de/~decker/gfklde.htm>*

via E-mail ([gfk199@wiwi.uni-bielefeld.de](mailto:gfk199@wiwi.uni-bielefeld.de)), or via traditional mail from Prof. Dr. R. Decker, Lehrstuhl für BWL und Marketing, Universität Bielefeld, Box 10 01 31, D-33501 Bielefeld in the beginning of 1999.

R. Decker

**Seventh Conference of the "Société  
Francophone de Classification" - SFC'99  
Nancy, September, 15 - 17 1999**

The seventh conference of the "Société Francophone de Classification" SFC'99 will be held at the LORIA laboratory, in Nancy - a town located in the east of France - on the 15th, 16th and 17th of September 1999.

As usual, the objectives of the conference SFC'99 are multiple:

- (1) presentation of recent advances in the field of classification and related fields,
- (2) meeting of researchers of different domains interested in classification.

The topics addressed by the conference are among the followings:

- data analysis, statistics
- combinatorics, mathematics of classification
- graphs, trees, lattices,
- distance, similarity,
- validation, simulation, algorithms, optimization,
- neural networks,
- symbolic and numerical learning,
- pattern recognition,
- knowledge representation, reasoning and classification,
- knowledge discovery, data mining,
- text analysis and classification,
- applications of classification.

The LORIA laboratory is a computer science laboratory where a number of researchers are interested in artificial intelligence, and especially in learning techniques, knowledge representation, neural networks, knowledge discovery in databases and data mining. Thus, the conference SFC'99 will be an occasion for people from computer science to meet people from mathematics, data analysis, statistics, and biology to exchange ideas and knowledge.

Submissions between four and six pages must be sent to the chairman of the conference (see address below) before May, 1st, 1999 (for information about the format of the submission, please visit the Web page of the meeting).

The accepted submissions will included in the proceedings of the conference. Authors will also be encouraged to propose long papers. A selection of the best long papers will be made by the program committee after the conference and will be published as a book.

During the conference, the prize "Simon Regnier" will be given to a young researcher for the quality of his work in the field of classification.

Candidates must send a proposal to the Chairman of the conference relating precisely their research works in the field of classification. A laureate will be selected by the program committee. The laureate will be rewarded and will present an invited talk during the conference.

Address of the Chairman of the conference SFC'99:

Amedeo Napoli  
Chairman of SFC'99  
LORIA  
B.P. 101  
615, rue du Jardin Botanique  
54602 Villers les Nancy

Important dates.

- May, 1st 1999: short papers due.
- June, 15th 1999: notification to authors.
- July, 15th 1999: accepted papers due.
- September, 15th-17th: Conference.
- October, 1st: long papers due (the book of selected long papers will be published in 2000).

For more information about the conference SFC'99, you can use either email or visit the Web page of the conference.

Email address: [sfc99@loria.fr](mailto:sfc99@loria.fr)

Web page: <http://www.loria.fr/conferences/SFC99>

**ASMDA-99**

CLAD is sponsoring the next IX International Conference on "Applied Stochastic Models and Data Analysis", ASMDA-99, to be held in Lisbon, June 14-17, 1999. The organisers are Helena Bacelar-Nicolau ([hbacelar@fc.ul.pt](mailto:hbacelar@fc.ul.pt)), Fernando Costa Nicolau ([fnicolau@univ-ab.pt](mailto:fnicolau@univ-ab.pt)) and Jacques Janssen ([janssen@ulb.ac.be](mailto:janssen@ulb.ac.be)).

The ASMDA-99 e-mail address is:

[asmda99@fc.ul.pt](mailto:asmda99@fc.ul.pt)

Information can be found on the webpage:

[www.di.fct.unl.pt/asmda99](http://www.di.fct.unl.pt/asmda99)

**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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