

The Eighth International
Workshop on
Matrices and Statistics

Friday 6 August – Saturday 7 August 1999

Tampere, Finland



Satellite Meeting of the 52nd Session of the International
Statistical Institute, Helsinki,
10–18 August 1999

Proceedings to be published in a special issue of the
Linear Algebra and Its Applications.

Address for correspondence:

The Workshop Secretary
Dept. of Mathematics, Statistics & Philosophy
University of Tampere, P.O. Box 607
FIN-33101 Tampere, FINLAND

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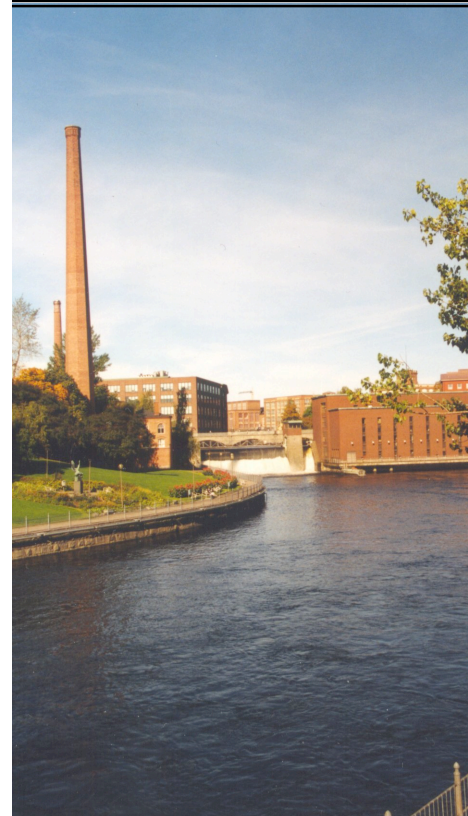
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<http://www.uta.fi/~sjp/workshop99.html>

Final Programme (as 15 July)



The Eighth International
Workshop on
Matrices and Statistics



Friday 6 August – Saturday 7 August 1999

Statistics Unit
Dept. of Mathematics, Statistics & Philosophy
University of Tampere
Tampere, Finland

The Eighth International Workshop on Matrices and Statistics

6—7 August 1999, Tampere, Finland

Proceedings to be published in a special issue of the
Linear Algebra and Its Applications.

Workshop Sponsors

Academy of Finland, City of Tampere, Finnair — The Official
Carrier of the Workshop, Foundation for the Promotion of the
Actuarial Profession, International Linear Algebra Society
(ILAS Lecturer), Nokia, Pirkanmaa Cultural Foundation,
Ponsse, Research Service Project of the Statistics Unit, Tampere
University Foundation, Tixel Software.

Workshop Organization

A local committee within the Statistics Unit of the
Dept. of Mathematics, Statistics & Philosophy, Uni-
versity of Tampere

Workshop Address

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PROGRAMME

The Eighth International Workshop on Matrices and Statistics will be held at the University of Tampere on Friday, August 6 and Saturday, August 7, 1999 (starting with a reception on the Thursday evening). This Workshop is a Satellite Conference of the *52nd Session of the International Statistical Institute* to be held in Helsinki from Tuesday, August 10 through Wednesday, August 18, 1999.

The purpose of this Eighth Workshop is to stimulate research and, in an informal setting, to foster the interaction of researchers in the interface between matrix theory and statistics. This Workshop will provide a forum through which scientists working in the areas of linear algebra/matrix theory and/or statistics may be better informed of the latest developments and newest techniques and may exchange ideas with researchers from several different countries. Selected refereed papers from this Workshop will be published in a Special Issue on Linear Algebra and Statistics of *Linear Algebra and Its Applications*. The Workshop will include invited and contributed talks, poster session, and a sessions of PhD students.

Opening Session

The Opening Session of the Workshop, chaired by Simo PUNTANEN (University of Tampere) and George P. H. STYAN (McGill University), will be held in Paavo Koli Auditorium of the University of Tampere, on Friday 6 August 1999, starting at 9:00 a.m.

Kari-Jouko RÄIHÄ, Vice Rector of the University:

Words of welcome on behalf of the University

Tapio NUMMI, Head of the Department:

Words of welcome on behalf of the Department

Furthermore, some words will be said about Professor Bernhard FLURY, who was unexpectedly taken away in a tragic accident in Bolzano, 6 July 1999.

◆ Keynote Speaker

T. W. ANDERSON, Stanford U, USA:

Canonical analysis and reduced rank regression in autoregressive models

◆ ILAS Lecturer

Gene H. GOLUB, Stanford U, USA:

Reconstruction of a polygon from its moments
(With Peyman Milanfar and James Varah.)

◆ Invited Speakers

T. ANDO, Hokusei Gakuen U, Sapporo, Japan:

Arithmetic-geometric mean inequalities for matrices

Ronald CHRISTENSEN, U of New Mexico, Albuquerque, USA: *Checking the independence assumption in linear models by control charting residuals*

Seppo MUSTONEN, U of Helsinki, Finland:

Matrix computations in Survo

Friedrich PUKELSHEIM, U of Augsburg, Germany:

Kiefer ordering of simplex designs for second-degree mixture models with four or more ingredients
(With Norman R. Draper and Berthold Heiligers.)

Alastair J. SCOTT, Auckland U, New Zealand:

An extension of Richards' Lemma, with applications to a class of profile likelihood problems
(With Chris Wild.)

Shayle R. SEARLE, Cornell U, Ithaca, USA:

The infusion of matrices into statistics

Bimal K. SINHA, U of Maryland, Baltimore, USA:

Nonnegative estimation of multivariate variance components in unbalanced mixed models

George P. H. STYAN, McGill U, Montréal, Canada:

Revisiting Hua's matrix equality and related inequalities, Schur complements, and Sylvester's law of inertia (With Christopher C. Paige, Bo-Ying Wang and Fuzhen Zhang.)

◆ Sessions of Contributed Talks and Posters

For each contributed talk it is reserved 15 minutes, including discussion. Therefore, if you wish to have comments on your presentation, please use less than 15 minutes for your presentation.

■ SESSION C1

Saturday, 13:45–15:00, Room A1

Chair: ANDO, T., Hokusei Gakuen U, Sapporo, Japan

AHMED, S. E., U of Regina, Canada:

Improved estimation of characteristic roots in principal analysis

DRYGAS, Hilmar, U of Kassel, Germany:

Simultaneous SVD: Grillenberger's approach

GROSS, Jürgen, U of Dortmund, Germany:

The Moore-Penrose inverse of a partitioned non-negative definite matrix

HAUKE, Jan, Adam Mickiewicz U, Poznan, Poland:

On some matrix inequalities and their statistical applications

MERIKOSKI, Jorma K., U of Tampere, Finland:

Simple and good bounds for the Perron root

TROSCHKE, Sven-Oliver, U of Dortmund, Germany:

Quaternions: A matrix oriented approach

■ SESSION C2

Saturday, 13:45–15:00, Room A3

Chair: NUMMI, Tapio, U of Tampere

CHAGANTY, N. Rao, Old Dominion U, Norfolk, USA:

Statistical analysis of some multivariate models using quasi-least squares

KASALA, Subramanyam, U of North Carolina, Wilmington, USA: *An exact joint confidence region and test in multivariate calibration*

KLEIN, André, U of Amsterdam, The Netherlands:

A generalization of Whittle's formula

LIU, Shuangzhe, U of Basel, Switzerland:

On maximum likelihood estimation for the VAR-VARCH model

MATHEW, Thomas, U of Maryland, Baltimore County, Catonsville, USA: *Tolerance regions and simultaneous tolerance regions in multivariate regression*

PUNTANEN, Simo, U of Tampere, Finland:
In the world of collinearity ...

■ SESSION C3

Saturday, 13:45–15:00, Room A4

Chair: FELLMAN, Johan, Helsinki, Finland

CACOULOS, Theophilos, U of Athens, Greece

On testing homoscedasticity via independence under joint normality

FELLMAN, Johan, Swedish S of Econ., Helsinki, Finland:

Robust estimators in linear models

GNOT, Stanislaw, Pedagogical U, Zielona Gora, Poland:

Estimation of variance components by maximum likelihood method in certain mixed linear models

ISHAK, Maged, U of Newcastle, NSW, Australia:

Regression methods to model under registration problems in population data

WERNER, Hans Joachim, U of Bonn, Germany:

More on the linear aggregation problem

ZMYSLONY, Roman, Technical U, Zielona Gora, Poland:

Testing hypotheses for parameters in mixed linear models

■ SESSION C4

Saturday, 15:15–16:45, Room A1

Chair: JOHN, J. A. (Nye), Hamilton, New Zealand

FAREBROTHER, R. W., U of Manchester, UK:

Optimality results for the method of averages

MARKIEWICZ, Augustyn, Agricult. U of Poznan, Poland:

Robust linear estimation in an incorrectly specified restricted linear model

JOHN, J. A. (Nye), U of Waikato, Hamilton, New Zealand: *Recursive formulae for the average efficiency factor in alpha designs*

MAROULAS, John, National Technical U, Athens, Greece:

A geometric approach to the canonical correlations in two- and three-way layouts

STEPNIAK, Czeslaw, Agricultural U of Lublin, Poland:

Information channels and comparison of linear experiments

ZAIHRAIEV, Oleksandr, N. Copernicus U, Torun, Poland:

Distance optimality design criterion and stochastic majorization

■ SESSION C5

Saturday, 15:15–16:45, Room A3

Chair: LEE, Alan, U of Auckland, New Zealand

BENESCH, Thomas, Graz U of Technology, Austria:

Internet survey by direct mailing

DODGE, Yadolah, U of Neuchâtel, Switzerland:

An asymmetric property of the correlation coefficient

KOLLO, Tõnu, U of Tartu, Estonia:

Density expansions for the sample correlation matrix

LEE, Alan, U of Auckland, New Zealand:

Generating correlated categorical variates using Kronecker products

TIIT, Ene-Margit, U of Tartu, Estonia:

Some extremal properties of correlation matrices

VICHI, Maurizio, Soci. Italiana di Statist., Roma, Italy:

Least squares approximation of nonpositive semidefinite matrices of correlation coefficients

■ POSTERS

AKDENIZ, Fikri, U of Cukurova, Adana, Turkey:

The estimation and analysis of residuals for some biased estimators in linear regression

AZEREDO LOPES, Sofia, U of Sheffield, UK:

2D projections of 3D spatial distributions

TIAN, Yongge, Concordia U, Montréal, Canada:

When do matrix equations have block triangular solutions?

ZONTEK, Stefan, Technical U, Zielona Gora, Poland:

On construction of a basis of Jordan algebra of matrices with applications to a special linear model

◆ PhD Session

Specific sessions on recent PhD- and post-PhD-work on matrices and statistics will be arranged on both days.

■ SESSION PHD1

Friday, 15:00–16:30, Room A1

Chairs: PUKELSHEIM, Friedrich, STYAN, George P. H.

ALPARGU, Gülhan, McGill U, Montréal, Canada:

Matrices in statistical procedures for valid hypothesis testing in regression models with autocorrelated errors

DUMAIS, Mylène, McGill U, Montréal, Canada:

Some comments and a bibliography on the Craig-Sakamoto Theorem

JENSEN, Shane Tyler, McGill U, Montréal, Canada:

Some comments and a bibliography on the von Szökefalvi Nagy–Popoviciu and Nair–Thomson inequalities, with extensions and applications to statistics and matrix theory

LU, Chang-Yu, Northeast Normal U, Changchun, Jilin, P. R. China: *Some matrix results related to admissibility in linear models and generalized matrix versions of Wielandt inequality*

KLEIN, Thomas, U of Augsburg, Germany: *Optimal designs for second degree K-model mixture experiments*

NURHONEN, Markku, U of Minnesota, Minneapolis, USA: *Matrices related to diagnostic methods in classification problems*

■ SESSION PHD2

Saturday, 11:00–12:00, Room A1

Chair: PUKELSHEIM, Friedrich

HELLE, Sami, U of Tampere, Finland:

Modeling of the fiber length distribution of mechanical pulp using generalized linear models

LUOMA, Arto, U of Tampere, Finland:

Distance criterion in theory of optimal design

OLLIKAINEN, Jyrki, U of Tampere, Finland:

Comparing traditional cluster methods to neural networks with large medicine data

WEI, Yimin, Fudan U, Shanghai, P. R. China:

The modification of the Drazin inverse

■ SESSION PHD2

Saturday, 11:00–12:00, Room A3

Chair: STYAN, George P. H.

BORISOV, Mikhail Vladimirovich, Novosibirsk, Russia:

The investigation of the stability of two statistical estimators to complex disturbances in the data

GRZADZIEL, Mariusz, Agricultural U of Wrocław, Poland:

On nonnegative quadratic estimation in linear models

TIAN, Yongge, Concordia U, Montréal, Canada:

Some universal block-matrix factorizations and their applications

ZHANG, Bao-Xue, Northeast Normal U, Changchun, Jilin,

P. R. China: *Some results on estimator of the mean vector and variance in the general linear model and estimating problems for location (scale) models from grouped samples under order restrictions*

Workshop Fee

The workshop fee is (see the final Registration Form):

Before 1 June 1999: FIM 400 Students: FIM 50

After 1 June 1999: FIM 500 Students: FIM 200

Students should provide a confirmation from appropriate university official certifying a full-time student status.

The workshop fee includes the *Abstract Booklet*, entrance to all sessions, the Thursday-evening reception, and daily coffee breaks. Note that 1 US\$ = ca. 5.8 FIM.

All participants are required to register on arrival. The registration desk will be at the University Main Building of the University of Tampere on Kalevantie.

The Bank Account:

Account number 800017-37170 with LEONIA BANK,
Unioninkatu 22, FIN-00007 Helsinki,
SWIFT address: SPBFIHH.

The receiver of the Payments should be marked as

Workshop on Matrices/Reference number 43122,
Dept. of Mathematics, Statistics & Philosophy,
University of Tampere,
P.O. Box 607, FIN-33101 Tampere, Finland

Please send also a copy of the receipt of your bank
payment by airmail or fax to the Workshop Secretary —
thank you in advance!

Organizing Committees

The International Organizing Committee for this Workshop comprises R. William Farebrother (Victoria Univ. of Manchester, England), Simo Puntanen (Univ. of Tampere; chair), George P. H. Styan (McGill Univ., Montréal, Canada; vice-chair), Hans Joachim Werner (Univ. of Bonn, Germany).

The Local Organizing Committee at the University of Tampere comprises Riitta Järvinen, Erkki Liski, Jyrki Ollikainen, Tapio Nummi, and Simo Puntanen (chair), with the assistance of Petri Latva-Rasku, Riina Metsänöja, and Anne Puustelli.

Earlier & Fortcoming Matrix Workshops

This Workshop is the eighth in a series. The previous Workshops were held as follows:

- (1) Tampere, Finland: August 1990,
- (2) Auckland, New Zealand: December 1992,
- (3) Tartu, Estonia: May 1994,
- (4) Montréal, Québec, Canada: July 1995,
- (5) Shrewsbury, England: July 1996,
- (6) Istanbul, Turkey: August 1997.
- (7) The 7th Workshop was held in Fort Lauderdale,

Florida, USA: 11–14 December 1998, and was in celebration of T. W. Anderson's 80th Birthday.

(9) The 9th Workshop will be held in Hyderabad, India: 9–13 December 2000, in celebration of C. R. Rao's 80th birthday.

The program of the Hyderabad event will start with a two-day short course on recent advances in Matrix Theory, with Special Reference to Application in Statistics, on Saturday, December 9, and Sunday, December 10, 2000. This will be followed by presentation of research papers for the next three days; these papers may then be submitted for publication in a refereed professional research journal.

Organizing Committees are the following:

International: R. W. Farebrother, S. Puntanen (vice-chair), G. P. H. Styan, H. J. Werner (chair).

National: R. Bhatia, P. Bhimasankaram, V. Narayana, M. Sudhakar Rao, B. G. Sidharth, U. Suryaprakash, R. J. R. Swamy, P. Udayasree, K. Viswanath.

Information about the scientific program can be obtained from:

P. Bhimasankaram: pbhim@hotmail.com

S. Puntanen: sjp@uta.fi

K. Viswanath: kvsm@uohyd.ernet.in

H. J. Werner: werner@united.econ.uni-bonn.de

Information about registration, deadline for submission of papers and local accommodation can be obtained from:

P. Bhimasankaram: pbhim@hotmail.com

B. Sidharth: birlasc@hd1.vsnl.net.in

R. J. R. Swamy: nhasan@ouastr.ernet.in

K. Viswanath: kvsm@uohyd.ernet.in

Accommodation

Blocks of rooms are reserved at the following hotels. All prices are in Finnish marks/night/room.

	<i>Single</i>	<i>Double</i>
Sokos Hotel Ilves	670 (530 ^w)	800 (530 ^w)
Sokos Hotel Villa	395 (395 ^w)	520 (395 ^w)
Lapinkaari	260 (260 ^w)	350* (350* ^w)

^w weekends: Fri/Sat, Sat/Sun * 1 + 1 rooms

Deadline for hotel reservations: 1 July 1999. Cancellations, if needed, should be made by 3 August 1999.

All participants should make their own accommodation bookings **directly** to a corresponding hotel. Early booking is highly recommended. When making the reservation, please mention the Workshop99, University of Tampere. The addresses are:

Sokos Hotel Ilves	Sokos Hotel Villa
Hatanpäänvaltatie 1	Sumeliuksenkatu 14
FIN-33100 Tampere	FIN-33100 Tampere
fax: +358-(0)3-2626-263	fax: +358-3-2626-268
tel: +358-(0)3-2626-262	tel: +358-3-2626-267
tampere.myyntipalvelut@sok.fi	
Ilves: www.sokoshotels.fi/english/hotellit/ilves.htm	
Villa: www.sokoshotels.fi/english/hotellit/villa.htm	
Kurssihotelli Lapinkaari	
Lapinkaari 1	

Ilves: A high quality hotel in the city centre by the Tammerkoski rapids, 1 km from the University, 0.5 km railway station.

Villa: Cosy hotel, offering a friendly and special environment. The hotel, built in an old grain storehouse, is located by the Tullintori commercial centre, 0.3 km from the University, 0.4 km railway station.

Lapinkaari: This residential hotel offers mainly single rooms with en suite facilities. University, 2.5 km, train station, 2 km.

A bus will operate from the Hotel Ilves and Lapin-

kaari to the University on the Friday and Saturday mornings, leaving at 8:30 in front of the hotels' main entrances. For other hotels in Tampere, please see the web site www.tampere.fi.

SOCIAL PROGRAMME

Welcome Reception

All participants are invited to an informal reception to be held in the Main Building of the University of Tampere on Thursday evening at 19:00. The pre-reception speech will be given by Dr X of the Tampere City Health Care and Social Welfare Office, and its preliminary title is "*Why do statisticians kiss my toes, or in other words, how close can a statistician get to a Nobel Prize?*"

Lunches

The lunch on Friday, the 6th of August, is served at the restaurant of the University's Main Building. The lunch is of buffet type and the price is FIM 35.

The buffet lunch on Saturday is in the Restaurant Fuuga of Tampere-talo. The price is FIM 65 and the menu is

Marinated vegetable and mushroom salad
Whole grain baguette

...

Rosemary-marinated lamb with jalapeno sauce
and sweet pepper potatoes

...

Coffee, tea

The lunch tickets should be bought at the Workshop Desk on a previous day before the lunch. Please note that only limited number of places to lunch to the Restaurant Fuuga are available after 31 July.

Sauna Party

A Sauna Party in Finnish style (Finns take partying very seriously) will be arranged on Friday evening, the 6th of August, in Viikinsaari Island. The boat leaves from Laukontori Harbour at 18:00. This evening will include a chance to sit three hours in the heat of 80°C — in which case one loses a lot of sweat, misses the flamed salmon dinner, an international soccer match, and a pleasant stroll around the island.

The After-Sauna part of the evening is hosted by **Ninni MARTIKAINEN & FINNSTARS**. **Tarmo PUKKILA**, Ex-Rector of the Tampere University, will give an After-Sauna Speech entitled “*Is there life outside the universities?*”

Preliminary programme is as follows:

- | | |
|-------------|---|
| 18:00 | The boat leaves from Laukontori Harbour. |
| 18:15 | Arrival at Viikinsaari. |
| 18:20 | Welcome Toast. |
| 18:30–18:45 | Finland vs Rest of The World — All Star Teams in Soccer, Viikinsaari Olympic Stadium. |
| 19:00–21:00 | Dinner: Flamed salmon.
Walk around the island is recommended (30-40 min). |
| 21:45–22:45 | After-Sauna Party in the Restaurant of Viikinsaari ... along the notes of Ninni Martikainen & Finnstars and the After-Dinner Speech by Tarmo Pukkila. |
| 23:00–23:15 | Boat trip back to midtown. |
| 23:30–24:00 | Midnight-beer and 'Pumpulitehtaan tytöt', a dancing performance for hundred seamstress and sewing machine, in downtown. |

You can go to sauna at any time you find convenient from 18:45 to 21:30. There are separate dressing rooms and showers for women and men. The hot part of the sauna (löylyhuone & vihta) is available as follows:

- 18:45-19:30 Women
- 19:30-20:00 Men
- 20:00-20:30 Women
- 20:30-21:00 Men
- 21:00-21:30 Women & Men

Please take your own swimming suit with you. Towels and beer will be provided.

To guarantee your participation in the Sauna Party, the payment FIM 150 should have reached the Workshop Secretary before 1 June 1999. Only a limited number of tickets will be available later on.

Excursions

Excursions, including a city centre walk with Soile Puntanen & Evelyn Matheson Styan, for associate participants will be arranged on Friday. Further details available at the workshop desk.

DEADLINES

- Submission of a preliminary registration form and a tentative title of a contributed paper or a poster:
 - in ordinary Session: 10 January 1999
 - in the Session of the PhD students: 1 March 1999
- Request for the financial support for the PhD Student Session: 1 March 1999
- Abstract: 10 April 1999
- Early registration: 1 June 1999
- Hotel booking: 1 June 1999

HOW TO REACH TAMPERE ?

Tampere, the largest Nordic city without access to the sea — a city of most reserved and introverted people of Finland — is located 170 km north of Helsinki, between Lake Pyhäjärvi and Lake Näsijärvi.

Trains from Helsinki to Tampere depart hourly. In the IC trains the seat reservation is required. Travel time 2 hours. The train stations of Tampere and Helsinki are right in the city centres.

If you arrive at Helsinki Airport, then you may take an Express Bus from the Airport directly to Tampere. Travel time 2.5 hours, departing every 1 - 2 hours. Finnair buses to Helsinki city centre leave from the airport every 20 minutes between 5:45–1:10.

Finnair also offers connections between Helsinki and Tampere. The flight time is 30 minutes.

For all timetables, see the links in the Workshop's web site.

RE-INVENTING REGRESSION THRU GRAPHICS

Thursday, 19 August 1999

As a related activity, a full-day short course on Regression Graphics, by **R. Dennis Cook** and **Sanford WEISBERG** (University of Minnesota, St. Paul, USA) will be arranged in Tampere on Thursday, 19 August 1999.

This is a one-day course consisting of six sessions of about one hour each. Textbooks of the course are

Cook, R. Dennis and Weisberg, Sanford (1994). *An Introduction to Regression Graphics*. Wiley.

Cook, R. Dennis (1998). *Regression Graphics: Ideas for Studying Regressions Through Graphics*. Wiley.

Furthermore, there is a new Wiley-book entitled *Applied Regression Including Computing and Graphics* that will correspond exactly to the short course. It is scheduled to be published sometime between August 1st and September 10th

Timetable

10:15-13:00 Morning Sessions

13:00-14:15 Lunch

14:15-17:00 Afternoon Sessions

17:15-18:30 Coffee & Tea in the Department

All lectures will be held in Paavo Koli Auditorium of the Pinni Building.

ABSTRACT

Regression is the study of the change in a response variable as one or more predictors are varied. It is used in most areas in science, to judge the effectiveness of a treatment, to form prediction equations, and for many other purposes. In this course, we present a new context for regression that requires few scope-limiting assumptions, and a corresponding collection of new methodological tools. Many of these tools use

simple graphs, along with a well-developed theory, to discover information about the dependence of a response on the predictors. All the methods flow from a few key ideas concerning dimension reduction, understanding the role of the distribution of the predictors on the problem, and ways to think about and use graphs in regression analysis.

All the methodology discussed will be illustrated with a computer package called *R*-code that can be used for all the new methods described, and many standard methods for linear regression, nonlinear regression and generalized linear models.

A copy of the most recent version of *R*-code, which runs on the Mac, PC or Unix, will be made available to all workshop participants for use in their own work.

LEARNING OUTCOMES

Regression analysis is one of the fundamental tools for the practicing statistician. The traditional role of graphics in regression, at least with many predictors, has really been peripheral, dealing mostly with questions of model adequacy. Regression graphics moves graphs to the center of analysis. This requires some new theory, but this theory will be presented at a very general and intuitive level. Our hope is to encourage the participants to use this approach in their own work, and in their own teaching.

REGISTRATION

Registration fees:

Before 1 June 1999: FIM 300	Students: FIM 30
After 1 June 1999: FIM 400	Students: FIM 200

For further details, see the link in the web site of the Workshop. To guarantee the receipt of the Final Programme and the Final Registration Form, please take a look at the Workshop's homepage, or contact the Workshop Secretary.

Short Course & Workshop Sponsors

The support of the following sponsors of the Workshop is gratefully acknowledged.

Academy of Finland
 City of Tampere
 Finnair — The Official Carrier of the
 Workshop
 Foundation for the Promotion of the Actuarial
 Profession
 International Linear Algebra Society
 Nokia
 Pirkanmaa Cultural Foundation
 Ponsse
 Research Service Project of the Statistics Unit
 Tampere University Foundation
 Tixel Software

List of Participants (15 July 1999)

AHMED, S. E., U of Regina,	Canada
AHONEN, Ilkka, U of Tampere,	Finland
AKDENIZ, Fikri, U of Cukurova, Adana,	Turkey
ALPARGU, Gülhan, McGill U, Montréal,	Canada
ANDERSON, T. W., Stanford U,	USA
ANDO, T., Hokusei Gakuen U, Sapporo,	Japan
AZEREDO LOPES, Sofia, U of Sheffield,	UK
BENESCH, Thomas, Graz U of Technology,	Austria
BORISOV, Mikhail Vladimirovich, Novosibirsk,	Russia
BRODSKY, Sergei, Eventus Logistics, Ramat-Gan,	Israel
CACOULOS, Theophilos, U of Athens,	Greece
CHAGANTY, N. Rao, Old Dominion U, Norfolk,	USA
CHRISTENSEN, Ronald, U of N Mexico, Albuquerque,	USA
DODGE, Yadolah, U of Neuchâtel,	Switzerland
DRYGAS, Hilmar, U of Kassel,	Germany
DUMAIS, Mylène, McGill U, Montréal,	Canada
FAREBROTHER, R. W., U of Manchester,	UK
FELLMAN, Johan, Swedish S of Econ., Hki,	Finland
FIELLER, Nick, U of Sheffield,	UK
GNOT, Stanislaw, Pedagogical U, Zielona Gora,	Poland
GOLUB, Gene H., Stanford U,	USA
GROSS, Jürgen, U of Dortmund,	Germany
GRZADZIEL, Mariusz, Agricultural U of Wroclaw,	Poland
HAUKE, Jan, Adam Mickiewicz U, Poznan,	Poland
HAUKKANEN, Pentti, U of Tampere,	Finland
HELLE, Sami, U of Tampere,	Finland
HIETIKKO, Harri, U of Tampere,	Finland
HUHTALA, Heini, U of Tampere,	Finland
HUHTANEN, Marko, Helsinki U of Technology,	Finland
HUUHTANEN, Pentti, U of Tampere,	Finland
HÄMÄLÄINEN, Petri, U of Tampere,	Finland
IHALAINEN, Heimo, Tampere U of Technology,	Finland
ISHAK, Maged, U of Newcastle, NSW,	Australia
JENSEN, Shane Tyler, McGill U, Montréal,	Canada
JOHN, J. A. (Nye), U of Waikato,	New Zealand
JÄRVINEN, Riitta, U of Tampere,	Finland
KASALA, Subramanyam, U of NC, Wilmington,	USA
KLEIN, André, U of Amsterdam,	The Netherlands

KLEIN, Thomas, U of Augsburg,	Germany
KOLLO, Tõnu, U of Tartu,	Estonia
KOREISHA, Sergio, U of Oregon, Eugene,	USA
KORTE, Heli, U of Tampere,	Finland
KOSKINEN, Lasse, Centr Pension Sec I, Helsinki,	Finland
KUOSMANEN, Pauli, Tampere U of Technology,	Finland
LATVA-RASKU, Petri, U of Tampere,	Finland
LEE, Alan, U of Auckland,	New Zealand
LEPPÄLÄ, Raija, U of Tampere,	Finland
LISKI, Erkki, U of Tampere,	Finland
LIU, Shuangzhe, U of Basel,	Switzerland
LU, Chang-Yu, Changchun,	P. R. China
LUOMA, Arto, U of Tampere,	Finland
LUUKKAALA, Tiina, U of Tampere,	Finland
MANNINEN, Pentti, U of Tampere,	Finland
MARKIEWICZ, Augustyn, Agricult. U of Poznan,	Poland
MAROULAS, John, National Technical U, Athens,	Greece
MATHEW, Thomas, U of Maryland, Baltimore,	USA
MERIKOSKI, Jorma K., U of Tampere,	Finland
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