

MEDDELELSER

DANSK SELSKAB FOR TEORETISK STATISTIK

14. årg. nr. 3

Marts 1989

GENERALFORSAMLING I SELSKABET

Tirsdag den 28. februar kl. 19.15
i auditorium X på H.C. Ørsted Institut

Efter generalforsamlingen er der foredrag:

REGRESSION ANALYSIS OF CORRELATED BINARY DATA

Ross L. Prentice (Seattle)

Resumé: Regression methods will be considered for the analysis of correlated binary data when each binary observation may have its own covariates. It is noted that binary response models that condition on some or all binary responses in a block are useful for studying certain types of dependencies, but not for estimation of marginal response probabilities or pairwise correlations.

Hence, an estimating equation approach in which equations for correlation parameters are solved along with standard equations for mean parameters, is advocated for inference on response probabilities and correlations. A fully parametric exponential form model is shown to provide a systematic approach to the generation of estimating equations both for binary and more general correlated response data.

Efter foredraget er der som sædvanlig et beskeden trakterment på Institut for Matematisk Statistik.

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Nyt og navne Reserveret postvæsenet

Kurt Eskebjerg, Carlsberg Forskningscenter har pr. 1. januar 1989 overtaget den daglige ledelse af Statistik- og Datafunktionen efter Lisbeth Sejersén, som forlod Carlsberg A/S i begyndelsen 1989.

Helle Holst, IMSOR har fået tildelt den tekniske licentiatgrad for afhandlingen: "Statistisk behandling af nærinfrarøde refleksionsmålinger" pr. 21. januar 1989.

V. Seshadri, Laboratoire de Statistique et Probabilités, U.A.—C.N.R.S. 745, Université Paul Sabatier, Toulouse, besøgte Afdelingen for teoretisk statistik, matematisk institut, Aarhus universitet 6.—11. marts og holder foredrag i tirsdagskollokviet den 7. marts med titlen "A mixture inverse Gaussian distribution — theory and applications". Mødet holdes i H.2.28 kl. 14—16.

Deadline på næste nummer er den 15. marts og større og mindre nyheder sendes til:

Meddelelser, v/ Niels Herman Hansen, IMSOR, Bygning 321, DTH, 2800 Lyngby

SEMINAR PÅ IMSOR

TIRSDAG den 14. marts kl. 14, rum 223, bygning 321, DTH

AN INVERSE GAUSSIAN MIXTURE DISTRIBUTION

Professor V. Sesbadri,

McGill University, Montreal, Canada p.t. Université Paul Sabatier

Resumé: Consider a random variable $X_1 \sim \text{IG}(\mu, \sigma^2)$ and an independent random variable X_2 , called the complementary reciprocal of X_1 such that $X_2^{-1} \sim \text{IG}(\mu^{-1}, \sigma^2 \mu^2)$. Now define a new random variable X as follows

$$X = \begin{cases} X_1 & \text{with probability } 1-p \\ X_2 & \text{with probability } p \end{cases}$$

where $0 \leq p \leq 1$. The distribution of X will be called the mixture-inverse Gaussian distribution, denoted by $M - \text{IG}(\mu, \sigma^2, p)$.

The talk will deal with the following topics:

- a) the genesis,
- b) the various properties of the $M - \text{IG}$ family
- c) exponential dispersion aspects and infinite divisibility,
- d) a natural exponential family subclass,
- e) estimation and statistical inference.

The talk is based on research currently under progress with Bent Jørgensen and Alex Whitmore.

SEMINAR I ANVENDT STATISTIK

Seminaret afholdes mandag den 13. marts kl. 15.00 i lokale 21.1.18 på Statistisk Forskningsenhed, Panum Institut, Blegdamsvej 3 (Indgang Nørre Allé 20 ved Tandlægehøjskolen kan også benyttes).

First passage time models for prediction of developmental stages

Mats Rudemo, Matematisk Institut, Den Kgl. Veterinær- og Landbohøjskole

Resumé: The problem of predicting the date of a developmental stage for plants or animals is formulated as a first passage time problem for an observable random process,

e.g. accumulated degree-days. By a suitable embedding in a continuous time model the likelihood becomes a smooth function of the parameters, which may be estimated by use of the maximum likelihood method. A set of data on waiting times from sowing to heading for spring barley is analysed. For data of this type models with variance components corresponding to stations and years are suggested. Modifications of the developmental indicator process to take into account variables in addition to temperature, e.g. day length, soil properties and variety effects are briefly discussed. The transform both sides technique of Carroll and Ruppert (1984) is used to stabilize the variance and to achieve approximate normality of the residuals. The talk is based on joint work with Jens Erik Jensen.

COSMEX-89

INTERNATIONAL CONFERENCE

ON STOCHASTIC METHODS IN EXPERIMENTAL SCIENCES

8-14 september 19889

Szklarska Poreba, Poland

Sponsoreret af Bernoulli Society for Mathematical Statistics and Probability
Organiseret af Technical University of Wrocław.

"The aim of the conference is to provide a forum for presentation and discussion of recent results on stochastic methods oriented to application in various branches of experimental sciences, with emphasis on their interaction and application in engineering problems."

The conference themes include:

- stochastic analysis in physical sciences,
- chaos and order, synergetics,
- stochastic dynamical systems,
- identification and time series
- function fitting and regression analysis,
- design of experiments, algorithms of experimental design,
- computer oriented and robust methods in data analysis,
- quality control,
- dimensional analysis,
- theory of measurement.

Invited lectures

The following invited lectures are scheduled:

- H. Bandemer – Experimental results and fuzzy data analysis
- S. Cambanis – Nonparametric density estimator for time series
- Z. Ciesielski – Nonparametric estimation of probability density
- M. Denker – Estimation of Hausdorff dimension
- V. Fedorov – Design of partly controlled experiments
- N. Gaffke – Computational aspects of experimental design
- C. Gardiner – Stochastic methods in quantum optics
- H. Haken – Synergetics: an approach to complex systems
- G. Kallianpur – Stochastic differential equations in some problems of neurophysiology
- N. van Kampen – How do stochastic methods enter into physics
- A. Lasota Asymptotic behaviour of randomly perturbed discrete time dynamical systems
- M. Mareschal – Stochastic simulations of non equilibrium physico-chemical systems
- H. Rootzen – Shot-noise processes
- M. Rybaczuk – The experimental design for the generalized dimensional symmetry
- K. Sobczyk – Stochastic wave propagation: existing results and new problems
- K. Urbanik – Functionals on stochastic processes
- C.F.J. Wu – Experimental design, quality improvements and industrial applications
- H.P. Wynn – The Design and Analysis of Computation Experiments: DACE
- J. Zabczyk – On stochastic evolution equation.

Contributed papers

Papers are invited on the topics outlined above and other topics which will fit within the general scope of the conference. Abstracts of no more than 2 double spaced pages should be submitted as soon as possible but no later than by March 1, 1989. Authors will be notified of the acceptance before May 1, 1989. A camera-ready abstract should clearly state the purpose, results and conclusions of the work to be presented. The Abstracts of the Conference will be published in book form and will be available at the time of the meeting. Conference proceedings will be published after the conference.

Stochastic Methods in Industry

Workshop on Stochastic Methods in Industry (in a spirit propagated by European Consortium for Mathematics in Industry (ECMI)) will be organized in order to stimulate interactions between mathematicians and industry.

Conference organization

The invited lectures will be presented at plenary sessions in order to provide a forum for common discussions. Contributed papers will be collected into specialized sections.

Facilities for informal evening seminars will also be available. Personal IBM PC/AT computers will be available for these, who wish to present computer software in fields related to the conference topics. Exhibition of books and journals is also in preparation.

Location

The conference will be held at Hotels "Granit" and "Radosc" in Szklarska Poreba, a resort situated in the Sudety Mountains about 120 km SW of Wrocław. It is a place which provides a pleasant environment for the meeting.

Fees

Each participant of the conference is required to pay \$90 registration fee and for full board and accommodation either \$210 (one bed in a double room) or \$310 (single room). Reservations can be made only for the whole period of the conference duration.

Address for correspondence:

Prof. A. Weron, Institute of Mathematics, Politechnika, 50-370 Wrocław, Poland

Organizing Committee: W. Kasprzak (Chairman), W. Karwowski, W. Klonecki, E. Rafajłowicz, A. Weron, R. Błotny (Secretary).



ICOTS 3

19 - 24 August 1990

University of Otago, Dunedin

NEW ZEALAND

Sponsored by the International Statistical Institute and the University of Otago

Objectives

Key objectives include improving the quality of statistics instruction on a world-wide basis, fostering international co-operation among teachers of statistics and promoting the interchange of ideas about teaching materials, methods and content.

Programme

The programme will include plenary, invited and contributed paper sessions, workshops, panel and poster sessions. Teaching from beginning school to college, polytechnic and university level will be included, as well as sessions on teaching statistics in government, business and industry. Opportunities will be provided to see and experiment with the latest in computer hardware and software.

Plenary Speakers

Plenary speakers confirmed to date are:

- o *Denis Lindley* *Inference in Statistics*
- o *Jim Landwehr* *Statistical Graphics*
- o *Niels Becker* *Disease and Statistics*
- o *Peter Holmes* *Success and Failure in Teaching Statistics*
- o *Geoff Jowett* *Expanding Statistical Education*
- o *M.A. Devaki-Jain* *Women and Statistics*

Tours

Pre and Post Conference tours to the lakes, mountains and farmlands of the South Island will be advised in the second circular.

Information about ICOTS 3 and Second Announcement

For further information, and to ensure that you are put on the list for the second announcement about ICOTS 3, please complete this form and return it to your ISI National Correspondent, or the Secretary of the ICOTS 3 Local Organising Committee.

Name:

Organisation:

Address:

I would be interested in presenting a:

paper ☐

workshop ☐

poster or exhibit ☐

NATIONAL CORRESPONDENT:

Studieleder
Axel Schultz-Nielsen
Handelshøjskole Syd
Grundtvigs Allé 150
6400 Sønderborg
Telefon 04-43 42 25

The Secretary
ICOTS 3 Local Organising Committee
University of Otago
P.O. Box 56
Dunedin
NEW ZEALAND

Nordisk Forskerkursus om

Statistisk analyse af data om infektionssygdomme.

Matematiske modeller for infektionssygdomme har til formål at skaffe overblik over sygdommenes spredningsmønster i befolkningerne, herunder beskrive betydningen af risikofaktorer, og herved medvirke til en sikrere vurdering af kontrolforanstaltninger, navnlig vaccinationsstrategier.

På kurset vil Dr. Niels Becker, Melbourne, gennemgå klassiske statistiske teknikker på dette felt på basis af sin kommende bog "Analysis of Infectious Disease Data", og et andet hovedtema (ved danske lærere) er modificering af teknikker fra moderne survival analysis til epidemier med detaljerede oplysninger om hvert individ (eksempler: AIDS, mæslinger i udviklingslande). Metoderne illustreres med eksempler, herunder malaria (v/ Ingemar Nåsell, Stockholm) og AIDS i Sverige (v/ G.P. Scalia-Tomba, Stockholm).

Kurset er beregnet for biostatistikere og epidemiologer med god statistisk baggrund.

Kursussted: Säröhus, ca. 20 km S for Göteborg

Kurstid: 6-13 august 1989

Kursusleder: Professor Niels Keiding
Statistisk Forskningsenhed, Københavns Universitet
Blegdamsvej 3, DK-2200 København N,
Telefon 01-357900

Ansøgningsfrist: 1. april 1989

Ansøgning og oplysning: kursuslederen

Nordisk Forskerkursus dækker deltagernes rejse- og opholdsudgifter.