

MEDDELELSER, v/Morten Frydenberg  
Institut for Biostatistik  
Århus Universitet

BREV  
Ukonvoluteret

PP  
Danmark

Returneres ved varig adresseændring

Næste nummer af MEDDELELSER udkommer 3. november 1997.

Bidrag til dette nummer skal være redaktøren i hænde senest

fredag den 24. oktober 1997.

Bidrag sendes til:

MEDDELELSER, v/Morten Frydenberg  
Institut for Biostatistik  
Høegh-Guldbergs Gade 10  
8000 Århus C.  
eller med e-mail til: morten@biostat.aau.dk

Samme adresse bedes benyttet ved indmeldelse i DSTS og ved adresseændring

Bidrag i elektronisk form ønskes helst i et af nedenstående formater: Word, LATEX, HTML, Postscript eller ASCII.

# MEDDELELSER

Dansk Selskab for Teoretisk Statistik

## Foredrag i selskabet

tirsdag den 28. Oktober kl. 17.00, H.C. Ørsted Institut, Aud 10.

### Structural models for differential treatment action in randomized studies with noncompliance

Juni Palmgren<sup>1</sup> and Pasi Korhonen<sup>2</sup>

<sup>1</sup>Mathematical Statistics, Stockholm University, <sup>2</sup>Rolf Nevanlinna Institute, University of Helsinki

This presentation is a sequel to the presentation 'Adjustment for noncompliance in randomized studies'. We assume that the effect of treatment on the disease outcome for an individual depends on measured baseline covariates, and that compliance with the treatment protocol is related to these same covariates. In addition, compliance is related to the outcome through unmeasured confounders. The aim is to estimate the magnitude of the effect of treatment as function of baseline covariates. We use a structural accelerated failure time model to link potential failure time outcomes, and we use a randomization based inference procedure which draws on results for estimating regression parameters using linear rank tests for censored data (Tsiatis: *Annals of Statistics* 1991). We sketch informal ideas for increasing efficiency in the estimation procedure and for diagnostic testing of the structural model. We discuss applications to the ATBC Study and to a study on vitamin A deficiency in children.

Øl og evt. spisning med foredragsholderen bagefter på Barcelona for de der har lyst.  
Tilmelding til spisning skal ske til formanden på tlf. 3532 7918/3532 7901.

## Tilrædelsesforelæsning

Michael Sørensen

### Titel: Statistiske problemer i forbindelse med stokastiske differentialligninger

Tid: torsdag den 23. oktober, kl. 15.15  
Sted: H.C. Ørsted Institut, Aud 3.

Efter forelæsningen inviterer Afdeling for Teoretisk Statistik, KU på et let traktament i vær. 419, bygning E.

## Selskabets bestyrelse:

<b>Formand:</b> Peter Dalgaard Biostatistisk Afdeling Panum Institut Blegdamsvej 3 2200 København N	Tlf: 3532 7918 Fax: 3532 7907 e-mail: p.dalgaard@biostat.ku.dk
<b>Kasserer:</b> Bendix Carstensen Statens Veterinære Serumlaboratorium Bülowsvej 27 1790 København V	Tlf: 3530 0139 Fax: 3530 0120 e-mail: bxc@svs.dk
<b>Redaktør:</b> Morten Frydenberg Institut for Biostatistik Aarhus Universitet Høegh-Guldbergs Gade 10 8000 Århus C	Tlf: 8942 3167 Fax: 8942 3166 e-mail: morten@biostat.aau.dk
<b>Sekretær:</b> David Edwards Novo Nordisk Krogshøjvej 5 2880 Bagsværd	Tlf: 4444 8888 4442 6135 (direkte) Fax: 4444 4210 e-mail: DEd@novo.dk
<b>Jyske anliggender:</b> Susanne Christensen Institut for Elektroniske Systemer Aalborg Universitet Frederik Bajersvej 7 9200 Aalborg Øst	Tlf: 9635 8080 9635 8861 (direkte) Fax: 9815 8129 e-mail: susanne@iesd.auc.dk
<b>Indkøbschef:</b> Peter Allerup Danmarks Pædagogiske Institut Hermodsgade 28 2200 København N	Tlf: 3181 0140 Fax: 3181 4551 e-mail: nimmo@dpi.dk

Selskabets www-adresse: [Http://www.dsts.dk](http://www.dsts.dk).

Generiske e-mail-adresser i selskabet:

**Formand:** fmd, formand, chair, chairman   **Kasserer:** kass, kasserer, treas, treasurer  
**Redaktør:** red, redaktoer, edit, editor   **Sekretær:** sekr, sekretaer, secr, secretary  
**Jyske anliggender:** jysk, jyskeanl, jutland  
**Indkøb:** indk, indkoeber, suppl, supplier  
**Meddelelser:** medd, meddelseler, newsl, newsletter  
**Bestyrelsen:** best, bestyr, bestyrelse, board

Hvis man f.eks. skal skrive til formanden, så kan man bruge adressen: fmd@dsts.dk.

## Ph.D.-forelæsning

Henrik Wachmann

**Titel: Uses of epidemic and statistical models in the surveillance of infectious diseases**

Tid: mandag den 3. november, kl. 14.30

Sted: Dam auditoriet, Panum Institut

Blegdamsvej 3, 2200 København N.

## Doktorforsvar

Det teknisk-naturvidenskabelige fakultet ved Aalborg Universitet har til forsvar for den naturvidenskabelige doktorgrad antaget en afhandling af professor Bent Jørgensen:

**"The Theory of Dispersion Models"**

Tid: fredag den 14. november 1997 kl. 13.00 præcis

Sted: Auditorium B3-104, Fredrik Bajers Vej 7.

De officielle opponenter er professor Peter McCullagh, Department of Statistics, University of Chicago og professor Steffen Lilholt Lauritzen, Institut for Elektroniske Systemer, Aalborg Universitet.

Forsvaret er offentligt, alle er velkomne.

Afhandlingen kan erhverves uden beregning ved henvendelse til Lene Nielsen, Afd. for Biometri og Informatik, Forskningscenter Foulum, Postboks 50, 8830 Tjele.

Afhandlingen er fremlagt til gennemsyn på Det teknisk-naturvidenskabelige fakultetskontor, Fredrik Bajers Vej 7 F, 9220 Aalborg Øst fra den 1. oktober 1997.

## SEMINAR I ANVENDT STATISTIK

mandag d. 27. oktober 1997, kl 15.15, lokale 21.1.25a  
Panum Institutet, Blegdamsvej 3.  
(Indgangen Nørre Alle 20 kan også benyttes).

### Adjustment for noncompliance in randomized studies

Juni Palmgren<sup>1</sup> and Pasi Korhonen<sup>2</sup>

<sup>1</sup>Mathematical Statistics, Stockholm University, <sup>2</sup>RoIf Nevanlinna  
Institute, University of Helsinki

In a placebo controlled randomized study the primary analysis is based on the 'intention to treat, principle, i.e. treatment groups are compared 'as randomized', regardless of subsequent compliance with the treatment protocol. Even under noncompliance this comparison results in valid tests for the null hypothesis of no treatment effect, but the power of the test decreases as noncompliance increases, and estimates of the magnitude of the treatment effect are attenuated. Any attempt to capture the effect of treatment 'as received' needs to accomodate the likely dependence between the compliance pattern and the response. Through a simple example we introduce a procedure based on potential outcomes and randomization based inference. The treatment group assignment is here used as a so called 'instrument', a notion known from econometrics for handling estimation of regression parameters in normal linear models where errors are correlated with covariates (Cf Angrist, Imbens and Rubin: JASA 1996). We extend the argument to right censored failure time data (Cf Robins and Tsiatis; Comm Statist A 1991). We present simulation results and we use the procedure to adjust for noncompliance when assessing the effect of beta carotene supplementation on mortality in the ATBC Study.

Der serveres te i Biostatistisk Afdeling på gangarealet (33.4.11) kl. 14.45.

## Todagesmøde i Aalborg 18.-19. november 1997

### Foredragsholdere:

Bjarne Højgaard  
Antti Penttinen  
Heidi Andersen  
Steffen Lauritzen  
Peter McCullagh  
Bent Jørgensen

### Pris for deltagelse:

Voksne: 400 kr.  
Studerende: 200 kr.

Program og praktiske oplysninger kommer i næste nummer af MEDDELELSER.

Bemærk, at der afholdes kommunalvalg den 18.11. **Derfor husk at brevstemme!!**

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## IMM SEMINAR

Tirsdag den 7. oktober kl. 13.15-14.00  
i bygning 305, rum 053, DTU, 2800 Lyngby

### Rigorous Global Search: Industrial Applications

**Professor George F. Corliss**  
**Department of Mathematics**  
**Marquette University, Milwaukee**  
**Wisconsin, USA**

We are currently working on several industrial applications of interval techniques for global optimization, including problems from Sun Microsystems (software development), MacNeal-Schwindler (finite element), Bank One (portfolio management), Swiss National Bank (currency trading), GE Medical Systems (AC motor design), Genome Therapeutics (gene search), and NASA (design). We suggest why rigorous techniques can be effective some of their limitations.

Coffee and tea will be served.

# 7th Nordic Conference on Mathematical Statistics

June 8-12, 1998

Elsinore, Denmark

First announcement

## Special Invited Lectures

- Søren Asmussen, Department of Mathematical Statistics, Lund University, Sweden:  
*Markovian distributions and point processes: Applied probability analysis and statistical inference*
- Ib Skovgaard, Royal Veterinary and Agricultural University, Copenhagen:  
*Asymptotic expansions*

## Invited Lectures

- Elja Arjas, Section of Biometry, University of Helsinki:  
*Bayesian inference*
- Knut Conradsen, Institute of Mathematical Modelling, Technical University of Denmark:  
*Image analysis.*
- Ulla Hoist, Department of Mathematical Statistics, Lund University: *Analysis of environmental data.*
- Per Mykland, Department of Statistics, University of Chicago: *Likelihood and martingales.*
- Antti Penttinen, Department of Statistics, University of Jyväskylä: *Spatial statistics in biology.*

## Sessions

A number of special-topic sessions will be organized. Contributed papers can be submitted to the organizers of the sessions. The topics of the sessions will be announced later.

## Venue

The "LO-school", Elsinore. The school/conference centre is an independent institution with a strong affiliation to the Danish trade union movement. It is situated in the North-Western part of Elsinore in an old park with a view to Kattegat. The distance to Kronborg Castle and the old part of Elsinore is about 3 km.

## Accommodation

Primarily at the school itself, and at the neighbouring "Højstrupgård". There are also camping facilities and a youth hostel nearby.

## Conference fees

Reduced, including breakfast and lunch	DKK 2500
Ordinary, including breakfast, lunch and dinner	DKK 3000
Extended, including breakfast, lunch, dinner and room Monday-Friday	DKK 5700

Students are given a discount of DKK 1000 on these prices.

All fees are inclusive of conference material and conference dinner on Thursday evening.

## Social events

Wednesday afternoon there will be arranged tours to selected places of interest in the vicinity of the congress.

## Organizer

Danish Society for Theoretical Statistics

## Organizing Committee

- Peter Allerup
- Bendix Carstensen
- Peter Dalgaard
- Helle Holst
- Kim Knudsen
- Niels Trolle Andersen

## Programme Committee

- Peter Dalgaard
- Dorte Kronborg (chair)
- Steffen Lauritzen (representing Scandinavian Journal of Statistics)
- Mats Rudemo
- Michael Sørensen

## Web site

Current information updates are available at [www/dsts.dk/nordisk.konf](http://www/dsts.dk/nordisk.konf)

THE FINNISH  
STATISTICAL SOCIETY  
**BAYESIAN HIERARCHICAL MODELS**

Annual Meeting of the Finnish Statistical Society  
November 6-7, 1997  
Helsinki, Finland

**SECOND ANNOUNCEMENT AND CALL FOR PAPERS**

The Finnish Statistical Society  
National Public Health Institute  
Rolf Nevanlinna Institute

**Organisers**

The meeting is organised by the Finnish Statistical Society in co-operation with National Public Health Institute (KTL) and Rolf Nevanlinna Institute (University of Helsinki). The aim is to introduce new developments and applications of Bayesian statistics to analyse complex hierarchical models which can be characterized and simplified by local conditional independence relations. Computational aspects in the estimation by Markov chain Monte Carlo (MCMC) methods will also be dealt with in the meeting.

**Invited speakers**

- Prof. Peter Green, University of Bristol, UK
- Prof. David Spiegelhalter, MRC, Cambridge, UK
- Prof. Heikki Mannila, University of Helsinki, Finland

**Scientific programme**

The programme will have invited and contributed paper sessions and presentations of joint research projects between National Public Health Institute (KTL) and University of Helsinki. The topics of the contributed papers do not have to relate to the main topic of the meeting.

Preliminary program:

Thursday, November 6

09.00- 9.15	Opening
9.15-10.45	Invited paper session (Spiegelhalter/Green)
11.00-11.45	Invited paper session (Spiegelhalter/Green)
11.45-12.30	Invited paper session (Mannila)
13.30-14.15	Invited paper session (Mannila)
14.15-15.00	Research projects
15.30-17.00	Contributed papers
17.00-18.00	Joint meeting of the statistical departments and research institutes
20.00-	welcome party

Friday, November 7

09.15-10.45	Invited paper session (Spiegelhalter/Green)
11.00-11.45	Invited paper session (Spiegelhalter/Green)
11.45-12.30	Comment end discussion
13.30-14.15	Comment and discussion
14.15-15.00	Research projects
15.30-16.00	Research projects
16.00-17.00	Contributed papers
17.00	Closing

The final program will be distributed to the participants at registration.

**Venue**

University of Helsinki, Main building, Small Festival Hall, Fabianinkatu 33, 4th floor.

**Submission of abstracts**

The abstracts of the contributed papers (maximum one page) must be submitted not later than October 1, 1997 to the Organising Committee (see the contact addresses below). The abstracts will be reproduced from the original material and are handed out to the participants at registration. The speakers will have a possibility to publish their paper or a revised version of it in the Yearbook of the Finnish Statistical Society after the meeting.

**Social Programme**

A welcome party will be arranged in the evening of November 6, 1997.

**Registration and payments**

Please complete and return the registration form not later than October 1, 1997 to the Finnish Statistical Society. The registration form and this announcement is available also on the home page of the Society: <http://www.stat.fuusts>. The latest news of the meeting can be found from the home page which will be updated in case of changes.

The registration fee is FIM 400 (FIM 500 after September 30). It includes the abstracts of the invited and contributed papers, scientific exhibitions and the welcome party. The fee for full-time undergraduate students is FIM 250.

The registration fee should be paid by a money transfer in Finnish marks to the account of the Finnish Statistical Society: Postipankki, Helsinki, Finland, postgiro account 800018-1763443.

**Accommodation**

The participants are kindly asked to arrange the accommodation themselves. Information of the hotels in Helsinki is available in the Internet: <http://www.hel.fi/>

**Organising Committee**

Elja Arjas, University of Helsinki UKTL  
Mervi Eerola, The Finnish Statistical Society/KTL  
Leena Hietaniemi, The Finnish Statistical Society/Statistics Finland  
Jukka Jokinen, The Finnish Statistical Society  
Mikko Virtanen, KTL

**Contact addresses**

Mervi Eerola National Public Health Institute (KTL) Mannerheimintie 166 00300  
Helsinki tel. 358-9-4744 682 e-mail: Mervi.Eerola@ktl.fi

Leena Hietaniemi Statistics Finland PL 4A 00022 Statistics Finland tel. 358-9-1734 2372  
e-mail: Leena.Hietaniemi@stat.fi

**Registration form:****BAYESIAN HIERARCHICAL MODELS****Annual Meeting of the Finnish Statistical Society**

Helsinki, November 6-7, 1997

Please complete and return this form not later than October 1, 1997 to the address:

Leena Hietaniemi  
Secretary of the Finnish Statistical Society  
PL 4A  
FIN-00022 Statistics Finland, Finland

or by fax: 358-9-1734 3251

Family name: \_\_\_\_\_

First name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

I will present a paper on the topic: \_\_\_\_\_

A payment of the amount of FIM has been transferred to the account of the Finnish Statistical Society: Postipankki, Helsinki, Finland 800018-1763443.

Please note Bayesian hierarchical models and your name on the money order and attach a copy to this form.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

**AFDELING FOR MATEMATIK  
INSTITUT FOR ELEKTRONISKE SYSTEMER  
AALBORG UNIVERSITET  
FREDRIK BAJERS VEJ 7E · DK-9220 AALBORG Ø  
Telefon: 96 35 80 80 Telefax: 9815 8129**

**SEMINAR**

**Torsdag den 9. oktober 1997 kl. 14 i lokale E3-109**

Steen Markvorsen, Institut for Matematik, DTU:

*Shadows of Curvature*

Resume: Curvature is one of the most important concepts of classical as well as of modern differential geometry.

In this talk we display some of the hallmarks of curvature via Mathematica graphics animations.

Specifically we discuss and outline the role of curvature in the following elementary scenarios:

- (i) The pendulum-elasticum analogy
- (ii) Frenet flights along space curves
- (iii) How to keep up angular momentum on surfaces of revolution
- (iv) Some informative details about surface guillotination

Vært: Martin Raussen

**Torsdag den 16. oktober 1997 kl. 14 i lokale E3-109**

Thomas H. Scheike, Department of Biostatistics, University of Copenhagen:

*Frailty models for retrospectively ascertained waiting times*

Resume: In this talk I present joint work with J.H. Petersen and T. Martinussen from the Biostatistics Dept. in Copenhagen.

Data obtained through retrospective ascertainment are used for many important purposes. One example of such data is the occurrences of AIDS cases (Kalbfleisch & Lawless (1989) (KL)). Here individuals included in a given study must be identified as cases at the calendar time when the study is closed. The identification of a case is done at the time of the outbreak of the disease, and therefore we can only include individuals for whom the date of HIV-infection and the induction-time results in an AIDS diagnosis before the closing of the study. If the interest is focused on the induction time distribution several approaches to inference may be taken (KL). The aim of this talk is to analyse recurrent events obtained through retrospective ascertainment, to do this we consider a regular Frailty model adapted to the particular sampling scheme and a Frailty model with fixed marginals. The results based on the analysis of the recurrent events are compared to an analysis for univariate survival data as in Scheike and Jensen (1997) (Biometrics). The work is motivated by a time to pregnancy study conducted in Odense.

Vært: Jesper Møller

**Torsdag den 23. oktober 1997 kl. 14** i lokale E3-109

**Niels Væver Petersen , Afdeling for Teoretisk Statistik , Aarhus Universitet:**  
*Statistisk analyse af functional Magnetic Resonance billeder*

Resume: Functional Magnetic Resonance Imaging (fMRI) er en teknik, hvor man anvender hurtige MR-scannere til at kortlægge hjernens neurofunktionelle centre. Når et konkret center i hjernen aktiveres, ændres sammensætningen af oxyhaemoglobin og deoxyhaemoglobin i blodkarrene umiddelbart omkring neuronerne. Dette registreres i MR billeder som en intensitets stigning. Ved et typisk eksperiment påvirkes en forsøgsperson med en ekstern stimulering, f.eks. et blinkende lys i øjnene, samtidig med at en serie scanningsbilleder optages. Formålet med den statistiske analyse af billederne er at identificere områder i hjernen, hvor intensiteten stiger og falder i takt med stimuleringen, altså områder, der aktiveres af den pågældende stimulering. Statistiske problemer i denne forbindelse har blandt andet ført til nye resultater vedrørende maxima af Gaussiske random fields. Med udgangspunkt i et konkret datamateriale vil centrale problemer i forbindelse med analysen af fMRI-billeder blive diskuteret.

Vært: Martin Bøgsted Hansen

**Torsdag den 13. november 1997 kl. 13-15** i lokale E3-109. Bemærk tidspunktet.

**Peter McCullagh, Department of Statistics, University of Chicago:**  
*Invariance and linear models*

Resume: The marginality principle for factorial designs requires each interaction term in a model to be accompanied by all associated marginal terms. This principle is given two mathematical interpretations. Selection invariance is concerned with self-consistency of models under selection of factor levels. Monoid invariance is concerned with self-consistency under the formation of sub-factors. It is shown that group invariance permits models that are in violation of the marginality principle, but monoid invariance and selection invariance coincide exactly with the factorial models obeying the principle. For designs in which the observations are indexed by the same factor twice, so-called homologous factors, the two interpretations diverge, monoid-invariance being the stronger condition. Homologous factors occur frequently in genetics and in matched pairs designs. It is shown, for example, that symmetry and quasi-symmetry are monoid-invariant models. Marginal homogeneity is group-invariant but neither selection invariant nor monoid-invariant.

The beginnings of an algebra for monoid-invariant subspaces involving homologous factors is described and illustrated by a complete diallel-cross design in which  $A$  and  $B$  are homologous factors for the true-breeding maternal parent types, and  $C$ ,  $D$  are homologous factors for the paternal parents. In this algebra, the single-locus Mendelian model with  $a$  alleles is

$$L_1 = \text{sym}^4 (\text{sym}(A, C) + \text{sym}(B, D) + \text{sym}(A, D) + \text{sym}(B, C)),$$

and the multi-locus model is the vector space

$$L_2 = \text{sym} (\text{sym}(A, B), \text{sym}(C, D)) .$$

The dimensions are  $a(a+1)/2$  and  $a(a+1)(a^2+a+2)/8$  respectively. Non-Mendelian patterns of inheritance are characterized by a non-zero projection on to certain 'orthogonal' subspaces. Imprinting, for example, is associated with the subspace

$$I_1 = \text{sym}^4 (\text{alt}(A, C) + \text{alt}(B, D) + \text{alt}(A, D) + \text{alt}(B, C))$$

or more correctly with the quotient spaces  $(L_1 + I_1)/L_1$  or  $(L_2 + I_1)/L_2$  of dimension  $a(a-1)/2$ .

Vært: Steffen L. Lauritzen

**Torsdag den 20. november 1997 kl. 14** i lokale E3-109

**Martin Bendsøe, Institut for Matematik, DTU:**  
*Bounds on degradation in structures*

Resume: In this talk we will discuss various types of problem formulations for the evaluation of upper and lower bounds on the effect of progressive structural degradation in mechanical and civil engineering structures. In this study, degradation effect is measured by an increase in global structural compliance (flexibility). Thus the stated bounds are given simply by the maximum and minimum values, respectively, of the increase in the so-called compliance corresponding to a specified global interval of degradation. For simplicity, the major part of the exposition will be given for trussed structures, while analogues for continuum systems are described as well. Here especially the issue of existence of solutions is of interest. Developments leading to computational solution methods will be also described.

Vært: Martin Raussen

**Torsdag den 27. november 1997 kl. 14** i lokale E3-109

Klaus Mølmer, Institute of Physics and Astronomy, University of Aarhus:  
*The Foundations of Quantum Theory - from Philosophy to Technology*

Resume: Quantum theory has some really strange consequences which caused in particular Albert Einstein to be very sceptical with the theory. In a number of famous paradoxical *gedanken experiments* he set the stage for still on-going philosophical discussions on the foundations of the theory. These discussions paralleled the practical applications of the theory going from one triumph to the other: quantitative discrepancies between theory and observations have never been observed!

Using an absolute minimum of physics formalism in the seminar I shall present some of the more philosophical paradoxes and I shall describe how they have been made subject of investigation, e.g., in experiments carried out by Alain Aspect in 1980 and 1981.



Quantum physics is really a source of magic tricks and I shall present some mindboggling examples. The microscopic world is quantum mechanical, and we have already many technological applications of quantum mechanical effects, but also the more philosophically challenging quantum effects are now seriously considered for technological applications. Results accomplished so far and some current ideas within information processing will be described: quantum cryptography, quantum computing etc.

Vært: Lisbeth Fajstrup

**Torsdag den 11. december 1997 kl. 14 i lokale E3-109**

Katja Schladitz, pt Department of Mathematics, University of Western Australia, kommende post-doc på Afdeling for Matematik, Aalborg Universitet:  
*Estimation of the Intensity of Stationary Flat Processes*

Resume: A  $k$ -flat process is a point process on the space of  $k$ -dimensional subspaces of  $\mathbb{R}^d$ . Special cases are line ( $k = 1$ ) and hyperplane processes ( $k = d - 1$ ). The intensity of a stationary  $k$ -flat process is the mean total  $k$ -content of its flats per unit volume. Thus the natural way of estimating the intensity is to measure the  $k$ -content of the intersections of the flats of the process with a compact convex observation window.

For stationary isotropic Poisson line processes another unbiased estimator can be obtained by counting the intersection points of the lines with the boundary of the observation window. Baddeley and Cruz-Uribe, and Ohser showed that this estimator has lower variance than the naive one.

This is astonishing in so far as this point count estimator only uses the (lower-dimensional) information provided by sections with the boundary of the observation window whereas the natural estimator measures the length of the line segments.

We explore the existence of similar estimators for more general classes of flat processes. On the one hand side we allow less information about the directional distribution, on the other hand we examine Cox, stationary ergodic and general stationary flat processes. This leads to the uniformly best unbiased estimator for the intensity of stationary Poisson  $k$ -flat processes with directional distribution from a given family and for some types of Cox flat processes. For stationary ergodic flat processes with directional distribution in a given family and general stationary flat processes with unknown directional distribution (all with a nondegeneracy property) our estimator turns out to be the uniformly best unbiased one from a restricted set of estimators.

Vært: Jesper Møller

## Biostatistiker

### Consumer Healthcare - Helsingborg

Medicinska avdelningen, som ingår i FoU-enheten, svarar för genomförandet av kliniska prövningar samt ger kvalificerad medicinsk information till andra enheter inom Consumer Healthcare. Avdelningen består av tre sektioner; klinisk forskning, biostatistik och datahantering.

Till Helsingborg söker vi en statistiker för datorbearbetning och analys av forskningsresultat.

Vår databehandling sker på VAX/VMS och PC-Windows. Huvudprogramvara för statistiska bearbetningar är SAS. ORACLE används för inmatning och lagring av kliniska data. Dessutom används Word för ordbehandling.

Din uppgift blir att:

- medverka vid försöksplanering och se till att försöken uppfyller de krav man ställer ur statistisk synpunkt.
- bearbeta och analysera data från studier, skriva bearbningsprogram samt presentera resultat och dokumentera använda metoder.
- anpassa statistiska metoder för användning inom avdelningens verksamhetsområde

Du kommer att ingå i sektionen Biostatistik och Databehandling. Vi förutsätter att Du har högskole- eller universitetsutbildning med minst 60 poäng i matematisk statistik/statistik samt användarerfarenhet av något statistiskt standardprogram, gärna SAS. Arbetet bedrivs i en internationell miljö, varför Du måste kunna förmedla resultat och framföra statistiska resonemang såväl muntligt som skriftligt på god engelska.

Erfarenhet som statistiker ved vetenskapliga, biologiska eller medicinska tillämpningar är meriterande.

*Ake Westin* stir gärna till tjänst med mer information om tjänsten.  
Du når honom på tel 042-28 85 09.

Din ansökan vill vi ha senast den 9 oktober under adress Pharmacia & Upjohn AB, Consumer Healthcare, Marita Tydén, Box 941, 251 09 Helsingborg.

Pharmacia & Upjohn är ett av världens största läkemedelsföretag med över 30.000 anställda runt om i världen. Vår verksamhet är baserad på forskning och är inriktad på läkemedel. Våra huvudområden är Onkologi, Infektions- och ämnesomsättnings-sjukdomar, sjukdomar relaterade till Centrala Nervsystemet samt Inflammatoriska sjukdomar. På vart och ett av de här områdena är målet detsamma: att hjälpa människor till ett längre och friskare liv. Vi erbjuder stora möjligheter till en karriär för dig som genom ditt arbete vill skapa en förändring för de miljoner människor som litar till våra produkter världen över. Vill du anta den utmaningen skall du kontakta oss!

Pharmacia & Upjohn Consumer Healthcare utvecklar, producerar och marknadsför koncernens receptfria läkemedel.



Pharmacia & Upjohn



## Statistikere

Idet en af vore statistikere er blevet forfremmet, søger vi snarest en ny statistiker til besættelse af den ledige stilling. Statistical Dept., HC Quality Support, med 6 ansatte, herunder 1 erhvervsforsker, er et kompetencecenter i Health Care indenfor matematisk-statistik relateret til kvalitet og produktion. Afdelingen varetager især opgaver i forbindelse med design og implementering af statistisk processtyring, forsøgsplanlægning, stikprøveplaner og generelle optimeringsproblemer. Afdelingen fungerer som et team, hvor der lægges vægt på 'sharing of best practices'.

### Arbejdsopgaver

- Varetagelse af matematisk-statistiske opgaver i Health Care i relation til kvalitet og produktion, herunder: Optimering, statistisk processtyring, kontrolkortmetoder, forsøgsplanlægning og stikprøveudtagning.
- Deltagelse i tværorganisatoriske projektgrupper fx i forbindelse med procesvalidering.
- Vejledning af Ph.D.- og eksamensprojektstuderende indenfor afdelingens fagområde.
- Deltagelse i planlægning, udvikling og afholdelse af afdelingens kurser i statistik for ansatte i Novo Nordisk.

### Kvalifikationer

- Har en baggrund som civilingeniør eller cand. scient. gerne suppleret med en Ph.D. grad indenfor statistik.
- Har et godt kendskab til IT, herunder programpakker for statistik.
- Har gode samarbejdsevner og høj grad af fleksibilitet, men er samtidig istand til at arbejde selvstændigt og udvise initiativ.
- Behersker engelsk i skrift og tale.
- Har mindst 5 års relevant erhvervs erfaring.

Du kan få nærmere oplysninger om stillingen ved henvendelse til Henrik Melgaard på telefon 4444 8888, lokal 39866.

Ansøgning mrk. "Statistikere.2178" sendes til Personaleafdelingen, Health Care, Kroghøjvej 41, 2880 Bagsværd.

## Kalender 1997

(arrangementer annonceret i MEDDELELSER)

Dato	Med. nr.	Aktivitet
7/10	7	IMM-seminar: George F Corliss. Rigorous Global search: Industrial applications.
9/10	7	Seminar. Steen Markvorsen: Shadows of Curvature. (Aalborg).
10/10	6	IMM-seminar. Marianne Jessen: Statistisk analyse af fedtpletter.
16/10	7	Seminar. Thomas H. Scheike: Frailty models for retrospectively ascertained waiting times. (Aalborg).
23/10	7	Tilrædelsesforelæsning. Michael Sørensen: Statistiske problemer i forbindelse med stokastiske differentiaalligninger.
23/10	7	Seminar. Niels Væver Petersen: Statistisk analyse af functional Magnetic Resonance billeder. (Aalborg).
24/10	6	IMM-seminar. Judith Jacobsen: Myg og malaria i tal.
27/10	7	Seminar i anvendt statistik. Juni Palmgren: Adjustment for noncompliance in randomized studies.
28/10	7	<b>Foredrag i selskabet. Juni Palmgren: Structural models for differential treatment action in randomized studies with noncompliance.</b>
3/11	7	Ph.D.-forelæsning. Henrik Wachmann: Uses of epidemic and statistical models in the surveillance of infectious diseases.
6-7/11	7	Annual Meeting of the Finnish Statistical Society. Bayesian Hierarchical Models.
7/11	6	IMM-seminar. Helle Holst: Brystkræft.
13/11	7	Seminar. Peter McCullagh: Invariance and linear models. (Aalborg).
14/11	7	Doktorforsvar. Bent Jørgensen: The theory of dispersion models.
18-19/11	6	<b>Todagesmøde, Aalborg</b>
20/11	7	Seminar. Martin Bendsøe: Bounds on degradation in structures. (Aalborg).
21/11	6	IMM-seminar. Helle Sommer: Konsulentopgaver for levnedsmiddelstyrelsen.
27/11	7	Seminar. Klaus Mølmer: The foundations of quantum theory - from philosophy to technology. (Aalborg).
5/12	6	IMM-seminar. Trine Kvist: Estimation af fiskebestande.
11/12	7	Seminar. Katja Schladitz: Estimation of the intensity of stationary flat processes. (Aalborg).

## Kalender 1998

(arrangementer annonceret i MEDDELELSER)

Dato	Med.nr.	Aktivitet
26-28/1 98	6	Symposium i Anvendt Statistik. Call for papers: 1. oktober.
8-12/6 98	6	17. Nordiske konference i matematisk statistik. Helsingør. <a href="http://www.dsts.dk/nordisk.konf/">Http://www.dsts.dk/nordisk.konf/</a>
24-28/8 98	6	COMPSTAT 98. Bristol UK. Fax: +44 1582 760981. E-mail: compstat-98@bristol.ac.uk. WWW: <a href="http://www.stats.bris.ac.uk/compstat/">http://www.stats.bris.ac.uk/compstat/</a>

### Uddrag fra Aarhus Stiftsstedende. Søndag den 21. September 1997.

Docent, dr. scient. **Eva B. Vedel Jensen**, Institut for Matematiske Fag på Aarhus Universitet, får om få dage Lektor Marie Lønggaards Rejselegat på 110.000 kr. Eva B. Vedel Jensen er en internationalt førende forsker indenfor stereologi. Stereologien beskæftiger sig med metoder til at opnå indsigt i tredimensionale strukturer navnlig indenfor lægevidenskab og biologi. Hun er ansat på Afdeling for Teoretisk Statistik og Operationsanalyse på Institut for Matematiske Fag på Aarhus Universitet. Vedel Jensen udnytter højt avancerede matematiske resultater til bl.a. et samarbejde med den lægevidenskabelige forsker professor, dr. med Hans Jørgen Gundersen. Forskningen her førte til meget vigtige fremskridt blandt andet indenfor cancerdiagnostik og hjerneforskning.

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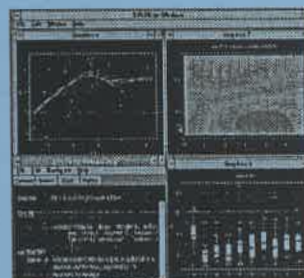
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