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Næste nummer af "MEDDELELSER" udkommer i begyndelsen af juni 1995.
Bidrag til dette nummer skal være redaktøren i hænde senest **onsdag den 24. maj 1995**.
Bidrag bedes sendt til:

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Samme adresse bedes benyttet ved **indmeldelse** i DSTS og ved **adresseændring**.

MEDDELELSER

Dansk Selskab for Teoretisk Statistik

20. aargang nr. 4 maj 1995

AFTENMØDE I SELSKABET

Tirsdag den 30. maj 1995 kl. 18.00

i Auditorium 6, Københavns Universitets Hovedbygning, Vor Frue Plads

Robert C. Elston (Louisiana State University Medical Center)

Models for the detection of major gene segregation and the corresponding likelihoods

Resumé

The statistical models used in modern segregation analysis, i.e. to describe the distribution of traits in families with a view to detecting Mendelian segregation, are reviewed. The transmission probability model assumes that all famial correlations are due to a discrete latent variable that may or may not be transmitted in a Mendelian fashion. The mixed model assumes that all famial correlations are due to major gene segregation and/or polygenic inheritance. The unified model combines these two models, and hence leads to more robust inferences. Regressive models allow for an even more general familial correlation structure. The finite polygenic mixed model provides a good approximation to the mixed model for which likelihood calculation is relatively fast. The problem of ascertaining families via probands is briefly discussed.

Efter foredraget vil der være mulighed for at deltage i fælles spisning (100 kr.+drikkevarer) for egen regning på en restaurant i nærheden.

Af hensyn til bordbestillingen bedes man tilmelde sig hos Mette Schiøtt, Cancerregisteret, tlf. 35 26 88 66, lokal 615, eller på e-mail til {\tt bendix@crg.dk}.

DSTS bestyrelse - Adresseliste

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Workshop on

IMAGE ANALYSIS WITH BIOLOGICAL APPLICATIONS

Dina (Danish Informatics Network in the Agricultural Sciences) organizes **30 May-2 June 1995** a workshop on image and pattern analysis with applications in agriculture and biology. The workshop takes place in Auditorium 1–01, Bulowsvej 13, at the **Royal Veterinary and Agricultural University** (KVL), Copenhagen. There will be a series of invited lectures, see the program below. In particular, Chris Glasbey and Graham Horgan from SASS, the Scottish Agricultural Statistical Service, who recently have published the book "Image Analysis for the Biological Sciences", Wiley, 1995, will give a series of 4 lectures.

All interested persons are invited to take part in this workshop. In particular, the workshop could be of interest to PhD students with projects in statistics, engineering or computer sciences and in those biological sciences, where image data are used. There is no fee. It will be possible to book lunch and to take part in the conference dinner; prices will be announced at the beginning of the workshop. Those who wish to take part in the workshop, either all or part of it, are encouraged to register before 15.00, Monday May 29, by sending a brief e-mail message to **mats@dina.kvl.dk** or — if e-mail is not available — by telephone to the secretary of the Mathematics Department, KVL, tlf. **[+45] 35 28 23 35.** A detailed program, including abstracts for the talks is available at the WWW-address: http://www.dina.kvl.dk/DinaMeetings/

Tue May 30	13.30-13.40	Opening and welcome
	13.40-14.35	Chris Glasbey & Graham Horgan: Introduction, and quantifying information in photographic images
	14.35-15.05	Coffea
	15.05-16.00	Chris Glasbey: Problems in digital microscopy
	16.00-16.10	Break
	16.10-17.05	Bjarne Ersbøll: Use of vision to estimate the length and predict the type of fish
	17.05-20.00	Break for Dinner
	20.00-22.00	Lars Fischer: Demonstration of Dina's computer network
Wed May 31	9.00-9.55	Alain Trubuil: Genetic algorithms and image analysis: short review and experience
	9.55-10.25	Coffea
	10.25-11.20	Gay Bradshaw: Applications of wavelet transform for forested landscape analysis

	11.20-11.30	Break
	11.30-12.25	Jens Damgaard Andersen: Finding straight line segments by shape space techniques
	12.25-13.45	Lunch
	13.45-14.40	Jacques Istas: Nonparametric supervised image segmentation by energy minimization using wavelets
	14.40-15.10	Coffea/Fruit
	15.10-16.30	Matin B. Hansen: Kaplan-Meier type estimators for edge corrections (including demonstration at computer)
	Possibilities to use computers in the evening	
Thu June 1	9.00-9.55	Graham Horgan & Chris Glasbey: Interpretation of synthetic aperture radar data
	9.55-10.25	Coffea
	10.25-11.20	Graham Horgan & Chris Glasbey: Digital image analysis in electrophoresis
	11.20-11.30	Break
	11.30-12.25	Kim Dralle: Estimation of stem densities and tree positions from aerial photos
	12.25-13.45	Lunch
	13.45-14.40	Henrik Stryhn: Change-points and image segmentation
	14.40-15.10	Coffea/Fruit
	15.10-16.30	Morten Larsen: A Kalman filter for tracking rain cells (including demonstration at computer)
	19.00-	Workshop dinner
Fri June 2	9.00-9.55	Jonny Olsson: Statistical methods in perimetry
	9.55-10.25	Coffea
	10.25-11.20	Peter Dalgaard: Inverse problems in vitreous fluorophometry
	11.20-11.30	Break
	11.30-12.25	Mats Rudemo: Point process analysis with image data
	12.25-12.30	Closure
	12.30-13.30	Lunch

PhD forelæsning og mini-konference: Stochastics Geometry and Censoring

Tirsdag den 23. maj 1995 kl. 15.00 holder Martin B. Hansen, Institut for Matematik og Fysik, Landbohøjskolen, en forelæsning med efterfølgende forsvar af PhD-afhandlingen 'Spatial Statistics for Network Structures in Processed Milk" i Auditorium 3-03, Opgang 8, stuen, Thorvaldsensvej 40, Frederiksberg. Afhandlingen kan rekvireres fra Matematisk Sektions sekretariat, tlf. 35 28 23 35, eller ved anomymous /pub/Staff/Martin.B.Hansen/thesis/

I denne forbindelse arrangerer Dina (Danish Informatics Network in the Agricultural Sciences) onsdag den 24. maj 1995 en mini-konference, Stochastic Geometry and Censoring, med tre foredrag i Auditorium 3–03, Opgang 8, stuen, Landbohøjskolen, Thorvaldsensvej 40, Frederiksberg. Alle interesserede er velkomne (ingen tilmeldning) og programmet for mini-konferencen følger nedenfor: et mere udførligt program med abstracts til foredragene kan fås fra WWW-adressen: http://www.dina.kvl.dk/DinaMeetings/

9.15-10.05	Dietrich Stoyan, Freiberg: Mark correlations for patterns of trees and storms
10.05-10.35	Coffee
10.35-11.25	Richard Gill, Utrecht: Coarsening at random: characterizations, conjectures and counter-examples
11.40-12.30	Eva B. Vedel Jensen: Optical Stereology

INSTITUTE FOR ELECTRONIC SYSTEMS
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DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

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Research Seminar on Probability and Causality

Aalborg University, 12–30 June 1995

Recent developments in probability, artificial intelligence, and statistics have indicated possibilities of discussing aspects of causality in a stochastic environment in a more precise and, hopefully, fruitful fashion that has hitherto been possible. And these developments have fundamental relations to research in theoretical computer science.

The purpose of this seminar is to bring together a small group of researchers that have been actively involved in this development and to let them exchange ideas over a period of three weeks.

The planned activities involve daily lectures that will be given in the afternoons. Mornings will be reserved for preparation and spontaneous arrangements.

As the researchers have a varied background, the lectures will have a strong tutorial element in them. Hence the activities will hopefully be of interest to a wide audience, and everybody is welcome to participate in the seminar. In particular, PhD students in statistics and artificial intelligence may consider the lectures as part of their course activity.

If you are interested in receiving further information about changes in schedule, lecture rooms, literature etc., then please notify Lisbeth Grubbe Nielsen, grubbe@iesd.auc.dk.

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Research Seminar on Probability and Causality
Aalborg University, 12–30 June 1995

Speakers

A. P. Dawid[1], University College London; H. Hüttel, Aalborg University; J. Pearl[2], University of California, Los Angeles; S. L. Lauritzen, Aalborg University; J. von Plato[3], University of Helsinki; A. Ranta[4], University of Helsinki; G. Shafer, Rutgers University; V. V. Vovk, Independent University of Moscow.

Programme

Week 1 (12-16 June): Foundations of Probability and Statistics
Monday, Wednesday, Friday: GS on probability based on martingales in event trees: basic definitions, refining and grounding, etc.
Monday, Wednesday, Friday: VVV on limit theorems in the event-tree setting and applications to finance.
Tuesday, Thursday: APD on prequential inference and estimating equations.
Tuesday, Thursday: SLL on repetitive structures.

Week 2 (19-23 June): Causality
Monday, Wednesday, Friday: GS on the event-tree analysis of causality: causal relations among variables and causal models.
Monday, Tuesday, Wednesday, Thursday, Friday: JP on causality.
Tuesday, Thursday: HH on process algebra.

Week 3 (26-30 June): Computation
Monday: GS on computation in decision trees.
Tuesday, Thursday: AR on categorical grammar.
Wednesday, Friday: JvP on qualitative probability.

In addition, there is planned to be given lectures on type theory in week 3.

Steffen L. Lauritzen

[1] PD will participate in week 1 only.
[2] JP will participate in week 2 only.
[3] JvP will participate in week 3 only.
[4] AR will participate in week 3 only.

SEMINAR I ANVENDT STATISTIK

Seminaret afholdes på Panum Instituttet, Blegdamsvej 3. Tidspunkt og lokale er angivet for enkelte foredrag nedenfor. Der er som sædvanlig te en halv time før på gangarealet (33.4.11) i Biostatistik Afdeling.

Mandag den 15. maj 1995, kl. 15.15, Lokale 21.1.25

Clelia Di Serio (University of Pavia)

The problem of protectivity of a risk factor in the presence of competing risks events: An example from Bone Marrow Transplantation study

In a competing risk framework a crucial point is how to account for possible dependence between failure times. A clear example of this point can be recognized in the Bone Marrow Transplantation study carried out jointly with Niels Jacobsen and briefly summarized in the talk. Suppose we have two events which compete in causing the failure for a patient, say relapse (R) and death in remission (D); if a covariate z_i (either fixed or time-dependent) seems to be protective with respect R or D (in the sense that it reduces the probability of failing for one failure cause) how can we distinguish if this is due to a real protectivity of the risk factor or just to a dependent censoring effect? In other words is the covariate z_i really reducing the risk of failing from cause 1 or has the risk just moved to cause 2?

In the literature three different solutions have been suggested: (i) Imposing a parametric structure of dependency between the competing risks events. (ii) Estimating the marginal distribution functions of the so called latent failure times assuming that they are independent. (iii) Estimating transition probabilities based only on observable quantities (T, J) without assuming anything about independence of latent failure times.

The purpose here is to show how misleading the conclusions about protectivity of a factor based on the second approach may be when the independence assumption is violated. We also illustrate if and how the third approach may be helpful in solving some well known puzzles in the BMT literature. Within the framework of the third approach, we suggest two new risk indicators which could help the physicians in getting a correct conclusion about the impact of the covariates on the total risk of failing. Our point will be illustrated mainly with a Monte Carlo simulation. Some tentative applications of our indicator to our BMT study will also be shown.

Mandag den 29. maj 1995, kl. 15.15, Dam Auditoriet

Duncan Thomas (University of Southern California)

Towards a genetically based model for frailty in the family survival data

The concept of frailty as a means of modeling unobserved variability in individual hazard rates and their dependencies within families has been explored extensively in the last decade. Most of this literature has been based on an assumption of a parametric distribution for frailties, the gamma distribution being the simplest choice, although there has been some work aimed at estimating frailty distributions nonparametrically. Most of this literature has also assumed that all members within a family group share a common frailty, although again there has been some efforts aimed at modelling correlations between individual frailties. While suitable for modeling relationships among twins, sibships, or nuclear families, these methods have limited value for larger pedigrees. In this talk, a frailty model based loosely on genetic principles will be introduced. It is assumed that each individual has two frailties, which act multiplicatively in a proportional hazards model. Each of these frailties is assumed to be identical with one of the two hazards carried by each parent. The prior distribution of hazards is specified nonparametrically and Gibbs sampling is used to fit the model. This model can be thought of as an extension of the standard segregation analysis model for major genes in which the restriction to only two alleles at the disease locus is relaxed. A simulation study demonstrates that the method is capable of identifying multiple alleles in family data. Covariates, gene-environment interactions, polygenic components, and ascertainment correction can easily be added to the model. Applications to data on breast cancer in twins and in families with two or more cases will be discussed.

Duncan Thomas' foredrag indgår som en del af det Nordiske Forsker Kursus i Statistiske Metoder i Genetisk Epidemiologi, der afholdes på Cancerregisteret i dagene f.o.m. den 27. maj t.o.m. den 3. juni 1995. Ud over Duncan Thomas underviser Robert Elston fra New Orleans (også foredragsholder ved aftenmødet) og Elizabeth Thompson fra Seattle på kurset, der har ca. 35 deltagere fra de Nordiske lande samt Estland og Lithauen.

Kalender

DSTS: *Aftenmøde*. Afholdes denne gang i Auditorium 6, Københavns Universitets Hovedbygning, Vor Frue Plads. Arrangeres af Dansk Selskab for Teoretisk Statistik.

BA: *Seminar i anvendt statistik*. Afholdes paa Panum Instituttet, Blegdamsvej 3, 2200 København N. Arrangeres af Biostatistik Afdeling, Københavns Universitet.

15. maj Clelia Di Serio (University of Pavia): The problem of protectivity of a risk factor in the presence of competing risks events: An example from Bone Marrow Transplantation study. **BA**, Lokale 21.1.25, kl. 15.15.

23. maj Martin B. Hansen (Institut for Matematik og Fysik, Landbohøjskolen): Spatial statistics for network structures in processed milk. **Ph.D.-forelæsning**, kl. 15.00, Landbohøjskolen.

29. maj Duncan Thomas (University of Southern California): Towards a genetically based model for frailty in the family survival data. **BA**, Dam Auditoriet, kl. 15.15.

30. maj Robert C. Elston (Louisiana State University Medical Center): Models for the detection of major gene segregation and the corresponding likelihoods. **DSTS**, kl. 18.15.