Returneres ved varig adresseændring

Næste nummer af "MEDDELELSER" udkommer 1. marts 2000.

Bidrag til dette nummer skal være redaktøren i hænde senest

torsdag den 24. februar kl. 12.00.

Bidrag bedes sendt til:

medlinfo@dsts.dk skal benyttes ved **indmeldelse** og **adresseændring** i DSTS .

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

Annoncering af stillinger er kr. 500 pr. side

MEDDELELSER
Dansk Selskab for Teoretisk Statistik

Generalforsamling i DSTS
Tirsdag d. 22. februar 2000, kl. 17.15
Auditorium 4, H. C. Ørsted Instituttet

Dagsorden og beretning findes på side 3 til 5.

Efter generalforsamlingen ca kl 17.30 er der

Foredrag i selskabet

Skyldes den almindelige fremskridende Parese Syfilis?
Gorm Gabrielsen
Institut for matematisk erhvervsøkonomi og statistik
Handelshøjskolen i København

Som bekendt kan syfilis i tredie stadium medføre udviklingen af sindssygdom, dementia paralytika eller parese, som syndromet tidligere kaldtes. Det tog omkring 100 år at klarlægge denne sammenhæng, nemlig fra midten af 1800-tallet til midten af 1900-tallet. Der findes imidlertid et meget tidligt og meget bemærkelsesværdigt dansk bidrag til syfilisforskningen, som nok ikke er estimeret efter fortjeneste. C. M. Jespersen indleverede i 1872 sin disputats "Skyldes den almindelige fremskridene Parese Syfilis?", der i 1873 blev antaget til forsvar, men aldrig forsvaret, da forfatteren døde før forsvaret, 29 år gammel. Datiden kendte ikke årsagen til syfilis og Jespersen benytter derfor en række statistiske ræsonnementer til at underbygge sine påstande. I foredraget vil jeg gennemgå Jespersens argumenter, som et eksempel på en meget tidlig anvendelse af statistiske ræsonnementer indenfor medicinsk forskning.

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

Selskabets bestyrelse:

Formand:		
Peter Dalgaard	Tlf:	3532 7918
Biostatistisk Afdeling	Fax:	3532 7907
Panum Instituttet	e-mail:	p.dalgaard@biostat.ku.dk
Blegdamsvej 3		
2200 København N		
Kasserer:		
Ernst Hansen	Tlf:	3532 0773
Afdeling for Teoretisk Statistik	Fax:	3532 0772
Københavns Universitet	e-mail:	erhansen@math.ku.dk
Universitetsparken 5		
2100 København Ø		
Redaktør:		
Morten Frydenberg	Tlf:	8942 6130
Institut for Biostatistik	Fax:	8942 6140
Aarhus Universitet	e-mail:	morten@biostat.au.dk
Vennelyst Boulevard 6		
8000 Århus C		
Sekretær:		
Helle Andersen	Tlf:	4565 0683
Pronosco	Fax:	
Torsana Park	e-mail:	han@pronosco.com
Kohavevej 5		
2950 Vedbæk		
Jyske anliggender:		
Bjarne Højgaard	Tlf:	9635 8080
Institut for Matematiske Fag		9635 8927 *(direkte)*
Aalborg Universitet	Fax:	9815 8129
Frederik Bajersvej 7	e-mail:	malik@math.auc.dk
9200 Aalborg Øst		
Webmaster:		
Henrik Stryhn	Tlf:	3530 0237
Statens Veterinære Serumlaboratorium	Fax:	3530 0120
Bülowsvej 27	e-mail:	hes@svs.dk
1790 København V		

Selskabets www-adresse: 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 **Webmaster:** web, webmaster, www
Meddelelser: medd, meddelelser, newsl, newsletter
Bestyrelsen: best, bestyr, bestyrelse, board

medlinfo@dsts.dk skal benyttes ved **indmeldelse** og **adresseændring** i DSTS .

Generalforsamling i DSTS
Tirsdag d. 22. februar 2000, kl. 17.15
Auditorium 4, H. C. Ørsted Instituttet

DAGSORDEN

1. Valg af dirigent

2. Bestyrelsens beretning for 1999 fremlægges til godkendelse

3. Regnskabet for 1999 fremlægges til godkendelse

4. Valg af medlemmer til bestyrelsen
   På valg er: Peter Dalgaard, Ernst Hansen og Helle Andersen. Førstnævnte har siddet i to perioder og kan ikke genvælges. Bestyrelsen foreslår at Henrik Madsen nyvælges og at Ernst Hansen og Helle Andersen genvælges.

5. Valg af revisor
   Bestyrelsen foreslår at Kirsten Frederiksen genvælges.

6. Behandling af fremsendte forslag

7. Fastsættelse af næste års kontingent
   Bestyrelsen foreslår kontingentnedsættelse til 200 kr. (100 kr. for studerende og pensionister)

8. Eventuelt

Forslag til punkterne 4, 5 og 6 fremsendes til formanden, Peter Dalgaard,Biostatistisk Afdeling, Københavns Universitet, Blegdamsvej 3, 2200 N, så han har dem senest den 8. februar 1999.

Bestyrelsens beretning findes på de følgende sider.

Bestyrelsens beretning for 1999

Bjarne Højgaard og Henrik Stryhn blev valgt på den ordinære generalforsamling den 23. februar 1999 og Morten Frydenberg blev genvalgt. Peter Allerup og Susanne Christensen blev takket for deres arbejde i bestyrelsen som henholdsvis indkøbschef og ansvarlig for jyske anliggender. Kirsten Frederiksen blev genvalgt som revisor. Bestyrelsen konstituerede sig siden med Peter Dalgaard som formand,Ernst Hansen som kasserer, Morten Frydenberg som redaktør af Meddelelser, Helle Andersen som sekretær, Henrik Stryhn som web-ansvarlig og Bjarne Højgaard som varetager af jyske anliggender.

Der blev i 1999 afholdt 4 **aftenmøder**:

Inge Henningsen og Peter Allerup: Matematikopgaver i gymnasiet, er der kønsforskel? (23/2)

David Matthews: Sunlight, green cells and black boxes: A stochastic model for the effect of incident light intensity on CO_2 uptake in leaves. (18/5)

Robert Gentleman: Statistical computing: Lessons learned and lessons to be learned. (24/8)

Henrik Madsen: Estimation af parametre i stokastiske differentialligninger. (14/12)

I samarbejde med Dansk Epidemiologisk Selskab afholdtes den 14.april et halvdags-møde om "Measurement errors in regression models" med følgende foredrag:

Sarah Darby: Models for measurement error in explanatory variables with application to a case-control study of residential radon.

Esben Budtz-Jørgensen: Errors in measurements of mercury exposure biomarkers.

Per Kragh Andersen & Knut Liestøl: Measurement errors of updated covariates in survival analysis.

Todagesmødet i Odense den 4.-5. maj var med følgende foredrag:

Gordon Smyth: Accounting for dispersion in count data: Semi-parametric extended poisson process models

Lars Korsholm: Recent developments in semiparametric models

Bertrand Clarke: Model selection and uncertainty in online prediction

Ludwig Fahrmeier: Bayesian inference for generalized additive regression based on state space models

Xiao-Li Meng: Improving perfect simulation: Multi-stage backward coupling and parallel antithetic coupling

Birgitte Rønn: Non-parametric maximum likelihood estimation for time-transformed curves

Todagesmødet i Århus den 23.-24. november var med følgende foredrag:

Jesper Møller: A rewiew on perfect simulation

Ernst Hansen: Geometric ergodicity of metropolis algorithms.

Jan Parner: Causal reasoning in longitudinal studies

Laird Breyer: On perfect simulation with gibbs samplers

Asger Hobolth: Quantifying shape variability of featureless objects by means of template matching

Eva B. Vedel Jensen: Inhomogeneous spatial point processes

Der er fortsat god tilslutning til halvdags- og todagesmøderne. Bestyrelsen fortsætter bestræbelserne på at finde emner til aftenmøder af en karakter som ikke overlapper det øvrige udbud af videnskabelige seminarer.

Kasserer og redaktør har ydet en stor indsats for at bringe orden i forholdene vedrørende kontingentindbetalinger og adresselister. En opdateret liste over selskabets medlemmer er blevet udsendt og en del af listen (de som har givet tilladelse til elektronisk publikation) er tilgængelig via DSTSs hjemmeside. Den web-ansvarlige (nyoprettet bestyrelseshverv) har opdateret selskabets websider.

Meddelelser fra DSTS er udkommet med 10 numre i 1999.

Flyttemeddelelse.

Statistikgruppen, Handelshøjskolen i København (som i øjeblikket ikke er knyttet til noget institut) er, under stor ballade og tumult, flyttet fra Julius Thomsens Plads til Handelshøjskolens nye bygning bag ved Frederiksbergcentret. Vores nye adresse er Solbjergplads 3, 2000 F. Hvis man vil finde os sidder vi på 4. sal i sydenden (ud mod metroen) af den midterste af de tre fløje. Telefonnumre (hovednummer 38 15 35 15, fax 38 15 35 00), e-mail adresser, hjemmeside (www.cbs.dk/departments/stat/)etc. er uændrede.

SEMINAR I ANVENDT STATISTIK

Seminaret afholdes kl. 15.15, Panum Instituttet, Blegdamsvej 3.
(Indgangen Nørre Alle 20 kan også benyttes).
Der serveres te i Biostatistisk Afdeling på gangarealet (33.4.11) kl. 14.45.

Mandag d. 7. februar 2000, lokale 21.1.25:

Søren Lundbye-Christensen (Department of Mathematical Sciences, Aalborg
University, Denmark)

A Few Thoughts on State Space Models

The application of the state space approach seems to be increasingly popular in a wide
range of fields. In the talk I will present applications in which Gaussian, non-
Gaussian, and non-linear state space models seem appropriate. With these
applications in mind I will review and compare various approaches to making
inference in such models. The methods range from approximative Kalman filter
techniques to more exact simulation basedapproaches.

Ph. D. Forelæsning
Fredag d. 25 februar kl 13.25
Aud. 3-03 ved trappe 8, Thorvaldsensvej 40

Statistical inference and perfect simulation for point processes observed with noise.
Jens Lund
Institut for Matematik og Fysik, KVL

Vejleder: Prof. Mats Rudemo, KVL
Bedømmelsesudvalg: Prof. Ib Skovgaard, KVL, Lektor Jesper Møller, AUC, Senior
  Researcher Dr. Marie-Colette van Lieshout, Center for Mathematics and Computer
  Science, Amsterdam.

Afhandlingen kan fås ved at emaile Diane.Thomsen@imf.kvl.dk eller down-
  loades fra http://www.dina.kvl.dk/~jlund/phdthesis/.

Der afholdes en recption efter forsvaret i biblioteket, Institut for Matematik og Fysik
  Thorvaldsensvej 40, 6. Sal.

SEMINAR I MATEMATISK STATISTIK OG SANDSYNLIGHEDSREGNING.

Seminarerne afholdes kl. 15:15 præcis i auditorium 10 på H.C.Ø. rsted Instituttet.
Der serveres te i lokale E325 kl. 15:00.

Onsdag den 9. februar: Steen Thorbjørnsen (Syddansk Universitet og MaPhySto):

Some aspects of the asymptotic behavior of large Gaussian random matrices.

In the 1950's the physicist E. Wigner showed that the spectral distribution of selfad-
joint Gaussian random $n \times n$ matrices converge, as $n \to \infty$, to the semi-circle law, i.e.,
the distribution on the real line with density $n \mapsto \frac{1}{2\pi}\sqrt{4-x^2} \cdot 1_{[-2,2]}(x)$ to Lebesgue
measure. Since Wigner's pioneering work, his result has been generalized and
strengthened in various ways. Recently, the asymptotic behaviour of large Gaussian
random matrices has proved to play an important role in Voiculescu's free probability
theory. Specifically, Voiculescu's random matrix model determines the joint asymptotic
behavior of families of independent selfadjoint Gaussian random matrices.

In the talk I shall present new proofs of results of Geman and Silverstein, determining
the asymptotic, ``almost sure'' behaviour of the largest and smallest eigenvalues of
large Gaussian random matrices. The new proofs are purely analytical, contrary to the
original proofs, which are mainly combinatorial. I shall also describe Voiculescu's
random matrix model, and discuss almost sure convergence versions of it.

Onsdag den 23. februar: Martin Bøgsted Hansen (Aalborg Universitet):

On the statistical aspects of inverse problems.

The purpose of the talk is to give an introduction to inverse problems, which arise in
many scientific areas. Informally, one can state the direct problem as calculating the
effect of some given causes, whereas the inverse problem is to derive the causes given
some effects An example is scattering of waves (e.g. ultrasound imaging). The direct
problem is to calculate the scattered waves given the scattering medium. On the
opposite, the inverse problem is to find the scattering media given the wave source
and the scattered waves. As noise and uncertainty about the specified model are
inevitable in many experiments the talk will focus on statistical aspects of inverse
problems.

INSTITUT FOR MATEMATISKE FAG

AALBORG UNIVERSITET

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URL: www.math.auc.dk

Tlf.: 96 35 80 80
Fax: 98 15 81 29

Torsdag den 10. februar 2000 kl. 14 i lokale E3-109
Øivind Skare, Department of Mathematical Sciences, Aalborg University:
Bayesian image analysis with coloured Voronoi tessellations and a view to applications in reservoir modelling

Resume: The purpose of this paper is to construct simple and useful 2D and 3D priors in Bayesian image analysis and reservoir characterisation, where realisations from the model are obtained by Markov chain Monte Carlo (MCMC) simulations. It is important to use priors that reflect in a realistic way the properties of the image or reservoir and where information about larger scale structure can be incorporated.

Various priors have been used in Bayesian image analysis and reservoir modelling. This includes pixel-based models such as Markov random fields. These models typically lead to slow MCMC algorithms due to the high dimensionality of the problem, in particular in 3D applications. An alternative is flexible tessellation models such as the triangulation models in Nicholls (1998). An advantage of this approach is that we can obtain the same resolution with a lower dimensionality of the space. However, the models by Nicholls (1998) and othersare difficult to extend to the 3D case.

We consider instead using Voronoi tessellations, the dual of Delaunay triangulation which is a unique triangulation of a given point pattern. One obvious advantage is that our Voronoi model can easily be defined in both 2 and 3 (as well as higher) dimensions.

Moreover, the MCMC algorithms become simpler, because essentially only two basic operations are needed; addition and removal of a generation point.

We illustrate the model on two potential applications in a Bayesian context. First, an image analysis experiment with synthetic data is performed. Second, the model is applied on a 3D reservoir characterisation problem, where real reservoir data are available.
The talk is based on joint work with Jesper Møller.
Nicholls, G.K. (1998) Bayesian image analysis with Markov chain Monte Carlo and coloured continuum triangulation models, *J. Roy. Statist. Soc. Ser. B*, 60:643-659.
Vært: Martin B. Hansen

Torsdag den 17. februar 2000 kl. 14 i lokale E3-109
Asger Hobolth, Department of Mathematical Sciences, University of Aarhus:
Quantifying shape variability of featureless objects

Resume: Many morphological parameters may be used in the grading of malignancy of cancer tissue. The shape of the cells in the tissue is an important feature. At present the shape is usually estimated subjectively by the pathologists or described by simple shape ratios. In order to make more precise diagnosis there is a need for more advanced statistical models.

This talk presents a method of describing the shape of objects in the lane with no obvious landmarks. We describe an object as a stochastic deformation of a (non-stochastic) template.

This means that there is a random residual process which, together with the template, determines the object. The residual process is modelled as a stationary, periodic, zero-mean Gaussian process defined in continuous time. Important examples of such processes are defined by the so-called p-order models. Parameter estimation in the p-order models is discussed. In particular it is demonstrated how to avoid the effects of a digitization. The estimation procedure is based on a Fourier representation of the residual process.

The method is applied on normal mantle cells and cells from a mantle lymphoma.
Vært: Jesper Møller

Torsdag den 24. februar 2000 kl. 14 i lokale E3-109
Flemming Larsen, Department of Mathematical Sciences, Aalborg University:
An introduction to free probability theory

Resume: Free probability Theory was invented in the 80's by D. Voiculescu, as an approach to the study of free group factors. It is a non-commutative analogue to classical probability theory in the sense that many concepts from classical probability theory carries over to free probability theory, i.e., one has notions of random variables, mean values, (log of) Fourier transforms etc. Some of the major concepts are 'Freeness' (the non-commutative analogue to independence), free product constructions (the analogues to tensor products) and additive and multiplicative free convolutions of distributions.

In the talk we present the basics of free probability theory and give an overview of the applications of the theory. The talk is meant as an introductory talk to talks given by Steen Thorbjørnsen and Flemming Larsen.

Torsdag den 2. marts 2000 kl. 14 i lokale E3-109
Steen Thorbjørnsen, Department of Mathematics and Computer Science, Odense University:
Asymptotic bounds on the spectrum of operator valued Gaussian random matrices

Resume: Consider a sequence $(m(n))_{n\in\mathbb{N}}$ of positive integers, such that $\frac{m(n)}{n} \to c > 0$, as $n \to \infty$. For each n, let Y_n be a random $m(n) \times n$ matrix, such that the entries are independent, complex, Gaussian random variables with mean 0 and variance $\frac{1}{n}$. It follows then by results of Geman and Silverstein that

$$\lim_{n\to\infty} \lambda_{\max}\left(Y_n^\star Y_n\right) = \left(\sqrt{c} + 1\right)^2 \text{, almost surely,}$$

and, if $c > 1$

$$\lim_{n\to\infty} \lambda_{\min}\left(Y_n^\star Y_n\right) = \left(\sqrt{c} - 1\right)^2 \text{, almost surely,}$$

where $\lambda_{\max}$ and $\lambda_{\min}$ denote largest and smallest eigenvalue.

In the talk I shall discuss a new proof of the Geman-Silverstein result, and then focus on a result which generalizes the Geman-Silverstein result to operator valued Gaussian random matrices of the form:

$$S_n = \sum_{i=1}^{r} a_i \otimes Y_i^{(n)},$$

where $a_a, \ldots, a_r$ are bounded operators on a Hilbert space, and $Y_1^{(n)}, \ldots, Y_r^{(n)}$ are independent, complex, Gaussian $n \times n$ matrices of the kind described above. The talk is on joint work with Uffe Haagerup.
Vært: Flemming Larsen

Torsdag den 16. marts 2000 kl. 14 i lokale E3-109
Adam Gottschau, Overspredning, Statistisk Konsulentfirma, Dommervænget 20D II. th, 4000 Roskilde:
Raschmodeller og arveligheden for skizofreni patienter

Resume: Til beskrivelse af psykiatriske skalaer i et skizofreni projekt bruges 16 skalaer. Det er kontrolleret at den dichotome Rasch model holder således at summen er karakteristisk for personen. For de fleste skalaer har det været nødvendigt at smide nogle spørgsmål ud for at få modellen til at passe. Som en ortodoks Raschianer vil jeg have Raschmodellen til at passe. Andre modeller duer ikke. Jeg vil beskrive hvad jeg har gjort for skalaen som vedr{ører ustabil personlighed også kaldet Cluster B.

Hvordan måles ustabil personlighed? Man spørger personerne om følgende:
1) Kan du udholde ensomhed? 2) Har du det svært med venner? 3) Involverer du dig i sex? 4) Har du haft et monogamt forhold i mere end 1 år? 5) Dagdrømmer du ofte? 6) Har du truet med at begå selvmord? 7) Har du forsøgt at begå selvmord? eller 8) Fysisk vold? 9) Har du tilbøjelighed til at tage hurtige beslutninger? 10) Har du tilbøjelighed til alkoholmisbrug? 11) Dr du ustabil m.h.t. arbejde? 12) Har du været sigtet eller straffet ? 13) Har du været oppe at slås med dine kone/mand? 14) Viser du dine følelser mere end andre gør?

Det viser sig at for spørgsmål 10 og 12 er der en klar kønsbias. Blandt personer med samme grad af ustabilitet er det mændene som har alkoholmisbrug og som har været sigtet. Smider vi disse items ud viser der sig ikke yderligere bias i skalaen.

I de øvrige 15 skalaer er der fra 5 (0) til 20 (9) items. Tallene i parentes er antallet af items, som man bliver nødt til at smide væk for at Raschmodellen holder.

Materialet består af 6 familier, hvor hele den skizofrenes familie indgår. Vi har brugt et genetikprogram (VCE4) til at estimere heritabiliten. For nogle skalaer er der meget høj arvelighed. For ustabil personlighed er heritabiliten f.eks. 0.838. For andre er heritabiliteten meget lav. F.eks. er den 0.004 for dimensionen Sky-genert.
Vært: Søren Lundbye-Christensen

Torsdag den 23. marts 2000 kl. 14 i lokale E3-109
Bjarne Toft, Department of Mathematics and Computer Science, Odense Univeristy:
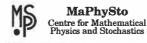*Dansk matematiks moderne gennembrud i 1870'erne*

Resume: Året 1871, hvor Georg Brandes starter sit moderne gennembrud, er også et gennembrud for faget matematik i Danmark. Ansættelserne af Zeuthen og Petersen på henholdsvis Universitetet og Den Polytekniske Læreanstalt markerer et generationsskifte. I de lærde skoler indføres en matematisk-naturvidenskabelig gren. 1871 er også året hvor Socialdemokratiet, Den Danske Bank og Dansk Kvindesamfund stiftes. På Carlsberg startes et laboratorium og et nyt anneks bryggeri indvies. Den første børnehave i Danmark oprettes. I Ryslinge på Fyn opføres det første landsby forsamlingshus. Jyllands-Posten og forløberen for Det Fri Aktuelt starter. De mange nye tiltag fortsætter i årene derefter. I 1872 indvier Industriforeningen sin nye bygning udenfor voldene ved Tivoli. Den Nordiske Kunst- og Industri-Udstilling afholdes. Dansk Nationaløkonomisk Forening dannes. De Danske Sukkerfabrikker grundlægges. I 1873 er turen kommet til Tuborg og Dansk Matematisk Forening.

Foredraget fortæller bredt om 1870'erne, specielt set fra faget matematiks synsvinkel. Der illustreres med billeder og tekster fra dengang.
Vært: Lars D. Andersen

Alle er velkomne.

COLLOQUIA

S. Z. Levendorskiĭ

Rostov State Academy of Economics

In the period 1–3 February, 2000, S. Z. Levendorskiĭ will give the following two double-lectures. The lectures will all take place at the Department of Mathematical Sciences, University of Aarhus, in Room H2.28.

Tuesday 1. February, 14.15-15.00 *Pseudo-differential Operators*

  a) General definition of pseudo-differential operators

  b) Elliptic Operators and Principal Symbol

  c) Composition theorem

  d) Boundedness of PDO in scales of Sobolev and Hölder spaces

Tuesday 1. February, 15.15-16.00 *Pseudo-differential Operators in a Half-Space and the Wiener-Hopf factorization Method*

  a) Sobolev spaces of function defined on a half-space

  b) Wiener-Hopf factorization

  c) Boundary-value problems for elliptic operators in a half-space

Thursday 3. February, 14.15-15.00 *Pricing of Perpetual American Put*

  a) Non-local nature of the problem in the case of Truncated Levy Processes

  b) Solution of the problem for a given exercise price

  c) An analysis of the solution near the exercise price

  d) Derivation of formulas for the optimal exercise price and the price of the perpetual American put

Thursday 3. February, 15.15-16.00 *Pricing of Barrier Options of European Type*

  a) Non-local character of the problem: specification of a rebate not only at the barrier

  b) A description of the generator of a semi-group associated with the problem

  c) Factorization with the parameter

  d) Construction of the resolvent of the generator of the semi-group

  e) Construction of the solution of the boundary value problem for a parabolic pseudo-differential operator (generalized Black-Scholes operator) associated with the problem of pricing of barrier options of European type

Concentrated Advanced Course on

Percolation Theory
and
Applications in Statistical Mechanics

Lectures by

Olle Häggström (Chalmers, Gothenburg)
and
Johan Jonasson (Chalmers, Gothenburg)

Monday August 14 – Friday August 18, 2000
University of Copenhagen

In the above-mentioned week, MaPhySto will organize a Concentrated Advanced Course on Percolation Theory and Applications in Statistical Mechanics. The course will take place at the Department of Mathematical Sciences, University of Copenhagen. Each day there will be about 4 hours of lectures. The course is organized by Martin Jacobsen (Copenhagen).

Content
The goal of this course is to present the basics of percolation theory, plus some applications in statistical mechanics and other recent developments. No particular prerequisites are needed, other than familiarity with probability founded on measure theory. (See backside of this announcement for a more detailed description of the course.)

Financial Support
The participants are in general expected to have their expenses covered by their home institutions. There is, however, a few subsistence stipends available for younger European researchers. See the course web-page for information on how to apply.

More Information and Registration
From the web page www.maphysto.dk/events/PTandSM2000/ you may find more information on this event. From there it is also possible to register for the course (there is no registration fee). You are most welcome to contact the organizer Martin Jacobsen at martin@math.ku.dk, or the MaPhySto secretariat (see addresses below) for further information.

The deadline for registration is **July 15, 2000**.

The material can roughly be divided into three parts:

I. The standard percolation model
Site and bond percolation on the integer lattice Z^d. The threshold phenomenon. Characteristic features of subcritical, critical, and supercritical percolation, including uniqueness of the infinite cluster in the supercritical case. The exact critical value for bond percolation in two dimensions.

II. Applications in statistical mechanics
Gibbs systems, such as Ising, Potts and Widom-Rowlinson models. Phase transitions in these models. Percolation techniques, including random-cluster representations and disagreement percolation, for the analysis of phase transitions.

III. Percolation on other graph structures
An overview of the recent substantial developments in the theory of percolation on graph structures other than Z^d, such as trees and Cayley graphs. The importance of amenability and unimodularity. Newly discovered phenomena in the nonamenable setting, such as the double threshold phenomenon, and properties of infinite clusters in the intermediate regime.

For part I, any of Grimmett's standard references

G.R. Grimmett: *Percolation.* Springer, 1989.

G.R. Grimmett: *Percolation (2nd edition).* Springer, 1999.

G.R. Grimmett: *Percolation and disordered systems.* In Lectures on probability theory and statistics (Saint-Flour, 1996), pp 153–300, Springer 1997.

will be fine. Part II will use

H.-O. Georgii, O. Häggström and C. Maes: *The random geometry of equilibrium phases.* In Phase Transitions and Critical Phenomena (C. Domb and J.L. Lebowitz, eds), Academic Press, to appear.
Available electronically at www.math.chalmers.se/ olleh/papers.html

The material for part III is more scattered, but some papers that are likely to be used are

O. Häggström, Y. Peres and R. Schonmann: *Percolation on transitive graphs as a coalescent process: relentless merging followed by simultaneous uniqueness.* In Perplexing Probability Problems: Festschrift in Honor of Harry Kesten (M. Bramson and R. Durrett, eds), pp 69-90, Birkhäuser, 1999.
Available electronically at www.math.chalmers.se/~olleh/papers.html

J. Jonasson: *The random cluster model on a general graph and a phase transition characterization of nonamenability.* Stoch. Proc. Appl. 79 (1999), 335-354.
Available electronically at www.math.chalmers.se/~jonasson/recent.html

I. Benjamini, R. Lyons, Y. Peres and O. Schramm: *Critical percolation on any nonamenable group has no infinite clusters.* Ann. Probab., to appear.
Available electronically at www.ma.huji.ac.il/~peres/recent.html

(From the course web-page links to the abovementioned references are estabilshed.)

Scientific Director Ole E. Barndorff-Nielsen

Concentrated Advanced Course on

Lévy Processes
and
Branching Processes

Lectures by
Jean Bertoin (Université Pierre et Marie Curie)
and
Jean-François Le Gall (ENS, Paris)

Monday August 28 – Friday September 1, 2000
University of Aarhus

In the above-mentioned week, MaPhySto will organize a Concentrated Advanced Course on Lévy Processes and Branching processes. The course will take place at the Department of Mathematical Sciences, University of Aarhus. Each day there will be 2-4 hours of lectures plus exercise sessions.

Content
The main goal of this series of lectures will be to present some connections between Lévy processes with no negative jumps and branching processes or random trees. The lectures by J. Bertoin will describe some of the basic theory of Lévy processes, including subordinators, connections with Markov processes and fluctuation theory in the case of processes with no negative jumps. The lectures by J.-F. Le Gall will deal more specifically with the coding of the genealogy of continuous branching processes, including applications to limit theorems for discrete Galton-Watson trees and to the construction of superprocesses. (See back side for more detailed information.)

Additional lectures
In addition to the main lectures there there will be a mini-course (4 hours) with lectures by Ole E. Barndorff-Nielsen (MaPhySto) on *Lévy Processes from a modelling perspective*. This mini-course will, in particular, treat applications to financial economics. Furthermore there will be a couple of one-hour guest lectures.

Financial Support
The participants are in general expected to have their expenses covered by their home institutions. There is, however, a few subsistence stipends available for younger European researchers. See the course web-page for information on how to apply.

More Information and Registration
From the web page www.maphysto.dk/events/LevyBranch2000/ you may find more information on this event. From there it is also possible to register for the course (there is no registration fee). You are most welcome to contact us for further information, at any of the below-mentioned addresses.

The deadline for registration is **August 1, 2000.**

STATISTIKER

Til Afdeling for Epidemiologisk Forskning søges en statistiker til ansættelse pr. 1. februar 2000 eller snarest derefter.

Afdelingen
Afdeling for Epidemiologisk Forskning udfører internationalt orienteret forskning inden for infektions-, cancer-, og perinatal epidemiologi. Medarbejderstaben er p.t. på 41 medarbejdere, heraf 7 statistikere, derudover overvejende yngre læger.

Jobbet
Du vil indgå som statistiker i et stort strategiprogam vedrørende årsager til stigningen i astma og allergi. Forskergruppen er p.t. på 5 personer og ledes af seniorforsker, ph.d. Tine Westergaard. Der er tale om et spændende, alsidigt arbejde, hvor du vil komme til at beskæftige dig med mange forskelligartede statistiske problemstillinger, primært udsprunget i analyse af store kohortestudier. Professor Per Kragh Andersen vil være til stede 1 dag om ugen og indgår som rådgiver på projektet. På lige fod med afdelingens øvrige statistikere må du påberegne i mindre omfang at indgå i løsningen af statistiske ad hoc opgaver.

Kvalifikationer
- Statistisk kandidatgrad eller tilsvarende.
- Interesse for biostatistik og epidemiologisk metode.
- Gerne kendskab til databasebehandling og/eller registerforskning
- Edb-kundskaber, gerne med kendskab til SAS.
- Tidligere erfaring som beregner på forskningsprojekter en fordel, men ikke et krav.

Løn- og ansættelsesvilkår
Overenskomst mellem pågældende forhandlingsberettigede organisation og Finansministeriet.

Ansøgning
Ansøgning mærket "Statistiker" skal være Statens Serum Institut, Personaleafdelingen, Artillerivej 5, 2300 København S i hænde senest mandag den 14. februar kl 9.00

Information
Kan fås ved henvendelse til: Seniorforsker, ph.d. Tine Westergaard, tlf. 3268 3156, eller afdelingschef, professor Mads Melbye, tlf. 3268 3163.

Senior statistiker

På Københavns Amts Center for Sygdomsforebyggelse ønskes ansat en biostatistiker - eventuelt som seniorforsker (37 timer/uge) pr. 1. februar 2000 eller snarest derefter.

Opgaverne vil bestå af statistiske analyser i forbindelse med en række forskgsopgaver inden for populationsepidemiologi, kinisk epidemiologi og forebyggelse samt i vejledning og undervisning af yngre forskere (overvejende læger, men også andre sundhedsfaglige grupper).

Forskningsopgaverne består af:
- analyse af longitudinelle data indsamlet ved centeret siden 1964
- analyse af data fra regionale og landsdækkende kliniske databaser (patientkohorter)
- analyse af interventionsstudier i randomiseret design - både i populationer og i patientgrupper.

Centret har i forvejen ansat 4 statistikere og 2 IT-medarbejdere. Der søges p.t. endnu en statistiker og en datamatiker. Med denne udvidelse af centerets dataenhed vil der ske en yderligere udvikling af et bredt biostatistisk fagmiljø.

Stillingen ønskes besat med en person med relevant biostatistisk eller lignende uddannelse og som har
- bred biostatistisk erfaring
- erfaring med analyse af epidemiologiske data
- gode samarbejds- og formidlingsevner
- lyst til at medvirke til udvikling af et stimulerende miljø med gode kontakter til tilsvarende nationale og internationale miljøer.

Der er foreløbig tale om en ansættelse af 3 års varighed, men med gode muligheder for forlængelse. Løn- og ansættelsesvilkår fastsættes i henhold til gældende overenskomst.

Information om stillingen kan fås ved henvendelse til overlæge, dr.med. Torben Jørgensen, tlf. 4323-3255.

Ansøgning vedlagt relevant dokumentation bedes fremsendt til centerchef, overlæge, dr.med. Torben Jørgensen, Københavns Amts Center for Sygdomsforebyggelse, Amtssygehuset i Glostrup, Opgang 8, 7. sal, 2600 Glostrup.

Ansøgningsfrist 14 dage.

Statistiker

Ved Københavns Amts Center for Sygdomsforebyggelse søges en statistiker (37 timer/uge). Centret driver forskning inden for populationsepidemiologi, klinisk epidemiologi og forebyggelse, baseret på longitudinelle data indsamlet blandt stikprøver af befolkningen siden begyndelsen af 1960-eme, centrale registre og kliniske databaser.

Centret har i forvejen ansat 4 statistikere, 2 IT-medarbejdere der samarbejder med den voksende forskerstab samt forestår oprettelse af en række kliniske databaser. Et øget antal opgaver gør imidlertid at centrets statistiske funktion skal styrkes. Ansøgerne skal have matematisk statistisk uddannelse som cand.scient., cand.stat., ingeniør eller lignende, ligesom ansøgeren skal have interesse for at sætte sig ind i nye forskningsprojekter og evne til at formulere opgaverne i statistiske modeller.

Arbejdsopgaverne er varierede og knyttet til de biomedicinske forskningsprojekter der er ved centret. P.t. er 14 forskere tilknyttet, heraf er 2 seniorforskere. De modeller det drejer sig om er bl.a. log-lineære Poisson-modeller, Cox-modeller, faktor- og clusteranalyser, varianskomponent modeller for normalfordelt og binominalfordelte variable. Centret kan således tilbyde et dynamisk miljø med gode muligheder for faglig udvikling.

Løn i henhold til gældende overenskomst mellem din faglige organisation og amtet. Tiltrædelse kan ske snarest.

Ansøgning bedes sendt til Centerchef, overlæge, dr.med. Torben Jørgensen, Center for Sygdomsforebyggelse, Amtssygehuset i Glostrup, Opgang 8, 7. sal, 2600 Glostrup.

Yderligere information kan fås sammesteds (tlf. 4323-3255)

Ansøgningsfrist: (14 dage)

The US National Academy of Sciences and the Radiation Effects Research Foundation (RERF) are recruiting statisticians to work in the RERF Department of Statistics in Hiroshima Japan. RERF is a cooperative US-Japan research institute with about 45 scientists engaged in the continuing mortality and morbidity follow-up together with clinical and laboratory studies of several large cohorts of atomic-bomb survivors and their children. RERF findings are the primary basis for worldwide radiation protection standards. RERF statisticians collaborate with researchers in other departments on the design and analysis of various studies, play a central role in analysis and interpretation of the major RERF studies, and conduct research on statistical issues that arise in dealing with the survivor data. Areas in which the department is actively involved include: development and application of innovative methods for the assessment of age-time patterns in excess risks and the identification of radiation effects; application of mechanistic models for radiation carcinogenesis; assessment of uncertainties in generalizing from these data; development of methods to assess and adjust for the impact of dose measurement error on risk estimates; analyses of large and complex longitudinal data sets using generalized models; assessment of somatic effects of radiation at the cellular level; and the application of pattern recognition methods to the analysis of data from electrophoretic and DNA-sequencing methods in the search for evidence of mutation in the children of the survivors.

We are looking for experienced Ph.D. statisticians with a proven record of accomplishment to work with our group of six Japanese and non-Japanese statisticians on the interesting and challenging statistical problems that arise in the course of the RERF studies. Typical appointments are for two years with extensions possible; however, shorter terms can be arranged in exceptional cases. Salaries are commensurate with experience and are supplemented by relocation, cost-of-living, housing, home leave, international school tuition, and other benefits. Equal Opportunity Employer (EOE).

To apply for a position at RERF, send a resume together with the name, address, e-mail address, and fax number of three references to Dr. Evan Douple by:

E-mail:	edouple@nas.edu
Fax:	(202) 334-1639
Postal mail:	NRC/RERF, NAS 342-ED, 2101 Constitution Avenue, NW, Washington, DC 20418, USA

Additional information about RERF and the Department of Statistics can be obtained from the RERF home page (**www.rerf.or.jp**) or by contacting Dale Preston by e-mail (**preston@rerf.or.jp**) or fax (81-82-262-9768), or from Michael Væth University of Aarhus (vaeth@biostat.au.dk).

Kalender 2000

(arrangementer annonceret i MEDDELELSER)

Dato	Med.nr.	Aktivitet
1-3/2	1/00	MaPhySto: Colloquia S.Z. Levendorskii.
7/2	1/00	Seminar. Søren Lundbye-Christensen. A few thoughts on state Space Models.(BIOSTAT-KU)
9/2	1/00	Seminar. Steen Thorbjørnsen. Some aspects of the asymptotic behavior of large Gaussian random matrices.(ATS-KU)
10/2	1/00	Seminar. Øivind Skare. Bayesian image analysis with coloured Voronoi tessellations and a view to applications in reservoir modelling.(Aalborg)
17/2	1/00	Seminar. Asger Hobolth. Quantifying shape variability of featureless objects.(Aalborg)
22/2	*1/00*	*Generalforsamling i DSTS. på HCØ.*
22/2	*1/00*	*Foredrag i selskabet :Gorm Gabrielsen. Skyldes den almindelige fremskridende Parese Syfilis ? .*
23/2	1/00	Seminar. Martin Bøgsted Hansen. On the statistical aspects of inverse problems.(ATS-KU)
24/2	1/00	Seminar. Flemming Larsen. An introduction to free probability theory. (Aalborg)
25/2	1/00	Ph.D. forsvar. Jens Lund: Statistical inference and perfect simulation for point processes observed with noise. (KVL)
2/3	1/00	Seminar. Steen Thorbjørnsen Asymptotic bounds on the spectrum of operator valued Gaussian random matrices. (Aalborg)
16/3	1/00	Seminar. Adam Gottschau. Raschmodeller og arveligheden for skizofreni patienter. (Aalborg)
23/3	1/00	Seminar. Bjarne Toft. Dansk matematiks moderne gennembrud i 1870'erne. (Aalborg)
20-25/5	7/99	Summer School on Stereology and Geometric Tomography. (Reg senest 1.3.00.
5-8/6	8/99	18th Nordic Conference in Mathematical Statistics, 2000. Http://www.math.uio.no/~nordstat/ Deadline contribution 1-2-2000
28/8-1/9	1/00	MaPhySto: Concentrated Advanced Course on Percolation Theory and Applications in Statistical Mechanics.
14-18/8	1/00	MaPhySto: Concentrated Advanced Course on Lévy Processes and Branching Processes.

Deadlines i 2000

Frist for indlevering af bidrag:		MEDDELELSER udkommer
24. februar	kl. 12.00	1. marts
24. marts	kl. 12.00	3. april
25. april	kl. 12.00	3. maj
24. maj	kl. 12.00	2. juni