BREV
Ukonvoluteret

Returneres ved varig adresseændring

Næste nummer af "MEDDELELSER" udkommer 2. april 2007.
Bidrag skal være redaktøren i hænde senest **den 23. marts kl. 12.00.**

Kalender 2007

Dato	No.	Aktivitet
16,23/02 2,9,16/03	1	Forskerskolen i Biostatistik, København *Analysis of Multivariate Categorical Data*
19/3	2	Biostatistisk Afdeling, Københavns Universitet. Bettina E. Hansen, Erasmus MC, University Medical Centre Rotterdam: *Non-Linear Mixed Modelling Of Pk/Pd-Data: Virus Decay During Treatment Of Chronic Hepatitis B*
22/3	1	Bioinformatics Research Center (BiRC) and Centre for Theory in Natural Science (CTN), Århus *Workshop on Association Mapping and Linkage Analysis*
28/3	2	Afd. Anv. Mat og Stat., KU: Fiodar Kilin, Frankfurt School of Finance and Management. *Evolution of stochastic volatility models and calibration techniques*
30/3	2	Faculty of Life Science, University of Copenhagen, Bülowsvej 17, Frederiksberg. Mats Rudemo. *On statistics in engineering and life sciences*
16-17/4	1	Bioinformatics Research Center (BiRC), Århus *Mathematical Genetics of Selection & Adaptation*
7-8/5	1	Forskerskolen i Biostatistik, København *Group sequential and adaptive designs for clinical trials.*
15-16/5	2	DSTS, Ålborg: *Todagesmode*
2-7/6	1	Kuusamo, Finland *Second Baltic-Nordic Conference on Survey Sampling*
6-8/6	2	First Nordic-Baltic Biometric Conference 2007, 6 - 8 June, Denmark
17-19/9, 8-10/10	1	Forskerskolen i Biostatistik, København. *Statistical Analysis of Survival Data for Biostatistical Statistical PhD students*

No.: Nummer af meddelelser hvor arrangement er annonceret.

MEDDELELSER

Dansk Selskab for Teoretisk Statistik

FRATRÆDELSESFORELÆSNING
ved PROFESSOR MATS RUDEMO

On statistics in engineering
and life sciences

fredag 30. marts kl. 14.00
i aud. 1-01 (festauditoriet)

med efterfølgende reception
I Konsistoriums mødesal

Alle er velkomne!

Bülowsvej 17
(den gamle hovedbygning)

Dept of Natural Sciences
Faculty of Life Science·
University of Copenhagen
·Tidligere KVL

32. årgang nr. 2 Marts 2007

Selskabets bestyrelse:

Formand: Per Bruun Brockhoff IMM, DTU Building 321, room 032 Richard Petersens Plads, 2800 Lyngby	Tlf: 4525 3365 Fax: 4588 2673 e-mail: pbb@imm.dtu.dk fmd@dsts.dk
Kasserer: Niels Richard Hansen Afd. for Anvendt Matematik og Statistik Universitetsparken 5 2100 København Ø	Tlf: 3532 0783 Fax: 3532 0772 e-mail: richard@math.ku.dk
Redaktør: Marc Andersen Livjægergade 41, 1 tv. 2100 København Ø	Tlf: 6177 7248 e-mail: red@dsts.dk
Sekretær: Erik Parner Institute of Public Health University of Aarhus Vennelyst Boulevard 6, 8000 Århus C	Tlf: 8942 6136 Fax: 8942 6140 e-mail: sekr@dsts.dk
Næstformand: Jørgen Holm Petersen Biostatistisk afd. Københavns Universitet Blegdamsvej 3 2200 København N	Tlf: 35 32 79 05 Fax: 35 32 79 07 e-mail: jhp@biostat.ku.dk
Webmaster: Kim Emil Andersen Vestas Asia Pacific Alsvej 21 8900 Randers	Tlf: 4117 7869 Fax: 9730 5001 e-mail: web@dsts.dk

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Biostatistisk Afdeling
Københavns Universitet

19. februar 2007
J.nr. 4,2

SEMINAR I ANVENDT STATISTIK

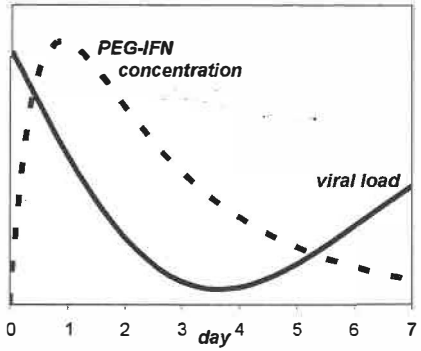
Seminaret afholdes kl. 15.15 på det gamle Kommunehospital, Øster Farimagsgade 5, opgang B. Der serveres te i Biostatistisk Afdelings bibliotek (opgang B, 2. sal) en halv time før.

Mandag d. 19. marts 2007, lokale 5.0.22.

NON-LINEAR MIXED MODELLING OF PK/PD-DATA: VIRUS DECAY DURING TREATMENT OF CHRONIC HEPATITIS B

Bettina E. Hansen
Dept. of Gastroenterology & Hepatology and Epidemiology & Biostatistics, Erasmus MC, University Medical Centre Rotterdam, Rotterdam, the Netherlands

Modelling the immediate biological effect of an antiviral-drug on the virus decay has proven to be an important tool in predicting early response to therapy of chronic hepatitis. Estimation of the parameters of the viral decay not only gives insight in the action of the drug but may also suggest a different treatment protocol: prolongation of therapy/ more frequent administration or higher dosage.



One of the current treatment options of chronic hepatitis B is pegylated interferon α-2b (PEG-IFN) injected once a week for 48 weeks. The injection of one dose of PEG-IFN results in a decrease of viral load (the amount of virus measured in the blood), followed by a slow increase as the drug concentration in the blood declines (see figure).

Until now the viral decline of hepatitis B has been described by an exponential bi-phasic model: an initial phase of fast elimination of free virus and a slow second phase of the death rate of infected cells. This model assumes a constant effectiveness of the drug between injections, but with the observed increase of viral load at the end of the week with administration of PEG-IFN, new models are necessary.

The drug concentration in the blood can be assessed with a one-compartment model and can be incorporated in the model describing viral load during the first week. As a result, the PEG-IFN concentration, the viral load and also the effectiveness during one week after one injection can be fitted.

The method was investigated using data of chronic hepatitis B patients treated with PEG-IFN in a trial setting. With a non-linear mixed model, the concentration during the first week was fitted to frequently measured data of 96 patients. The prediction of the concentration was hereafter incorporated in the fit of the viral load during the first week in a subset of 19 patients also applying non-linear mixed modelling. Assuming that the drug concentration and the viral load pattern after the first injection repeats itself after each injection, the viral and drug kinetics are fitted with a periodical continuation during the first month. The fitted concentration and viral decline allows for comparison of biologically relevant patient characteristics, such as body weight and HBV genotype, which may be important for future treatment protocols.
Throughout SAS 9.1 PROC NLMIXED was used for the analyses. Fitting in PROC NLMIXED is a trial and error experience. The procedure allows for different methods and different techniques, our experiences with the different possibilities along with the results will be compared and discussed. We conclude that the updated non-linear model describes the viral load pattern well and despite its complexity a good and adequate fit can be achieved with non-linear mixed-effects modelling techniques.

Per Kragh Andersen

Seminar i Anvendt Matematik og Statistik.

Seminaret afholdes kl. 14:15 i auditorium 8 på H.C. Ørsted Institutet.
Efter seminaret serveres der te og chokolade i lokale E325.

Onsdag den 28. Marts 2007:
Speaker: Fiodar Kilin, Frankfurt School of Finance and Management.
Title: "Evolution of stochastic volatility models and calibration techniques. "

Abstract:
Three generations of the option pricing models will be presented: local volatility models, stochastic volatility models with jumps, forward variance dynamics models. The issue of the model risk will be discussed. Following building blocks of the most popular models will be described: stochastic volatility effect, time-inhomogeneity, Levy processes. The use of evolution strategy optimizers and classical optimization for the calibration of these models will be illustrated. A special attention will be paid to the regularization using relative entropy. Advantages of the application of the Fourier analysis at critical steps of the calibration algorithm will be analyzed. Today there is a bundle of models that can well be calibrated to vanilla options. However, this is not sufficient when pricing cliquet structures. A much more important requirement to the model is to reflect the dynamics of the volatility surface correctly. The model should enable us to independently control the term structure of the volatility, the short-term skew and the correlation of spot and volatility. Traditional stochastic volatility models do not fulfill this requirement since they have only one parameter (volatility of volatility) that controls the skew and the dynamic of the implied volatilities simultaneously. Using only one parameter it is impossible to achieve the following two objectives: matching market implied volatilities and driving the dynamics of implied volatilities in a way that is consistent with their historical behavior. Stochastic volatility extensions to jump/Lévy models also fail to control the dynamics of the implied volatility surface since in these models implied volatilities move with a fixed dependence of the short-term skew on the level of at-the-money volatility. The above-mentioned disadvantages of the pricing models can be overcome by modeling the set of the forward variances directly. This new approach will be presented and the possibility of its application in practice will be discussed.

Dansk Selskab for Teoretisk Statistik

Todagesmøde 15.-16. maj

Tid og sted:

Todagesmødet begynder tirsdag 15. maj kl. 14.00 og ender onsdag 16. maj kl. 12.00. Alle foredrag finder sted i Auditoriet, Novi, Niels Jernes Vej 10, 9220 Aalborg.

Program:

Tirsdag	
14-15	Bent Jørgensen: Dispersion Models for Extremes
15-15.30	Kaffe
15.30-16.15	Martin B. Hansen: Statistical challenges in future wireless communication systems
16.15-16.45	Jakob G. Rasmussen: Localization in sensor networks
16.45-17.05	Pause
17.05-17.45	Volkert Siersma: Losing weight: the analysis of a weight control programme by reinforcement learning
19.00-	Middag på Il Mulino (Ved Stranden 14-16, 9000 Aalborg)
Onsdag	
9-9.45	Per Bruun Brockhoff: Sensometrics: Introduction and research examples
9.45-10.20	Bendix Carstensen: Practical aspects of method comparison studies
10.20-10.50	Kaffe
10.50-11.25	Michaela Prokesova: Second order analysis of point processes and asymptotic variance
11.25-12.00	Torben Martinussen: Survival analysis and covariates
12.00	Sandwich

Formøde i Forskerskolen for Biostatistik:

Forskerskolen i Biostatistik arrangerer formøde for kandidat- og ph.d.-studerende samt øvrige interesserede tirsdag den 15. maj kl. 11-12.30 (Rum 1, Novi). Formødet er en nyere tradition i todagesmødets regi med det formål, at unge statistikere kan mødes og udveksle ideer og erfaringer i en uformel atmosfære.

Professor Finn Verner Jensen, Institut for Datalogi, Aalborg Universitet, vil give et foredrag med titlen 'Fra forskning til Firma - fra bayesianske net til Hugin A/S', hvorefter forskerskolen sponsorerer en frokost kl. 12.30-14.

Formøde om 'Modellering af punktprocesser':

Tirsdag den 15. maj kl. 9-12.30 (Auditoriet, Novi) præsenteres og diskuteres en række indlæg inden for 'Modellering af punktprocesser', hvor *alle interesserede er velkomne*:

9-9.30	Per Kragh Andersen: Recurrent events in psychiatric epidemiology
9.30-10.00	Anders Tolver Jensen: Presentation of data and problems related to the National Forest Inventory for Denmark
10.00-10.15	Kaffe
10.15-10.45	Martin Jacobsen: Ruin problems and the stopped Ito formula: what can be done and what it would be nice to do
10.45-11.15	Niels Richard Hansen: Point process and marked point process models of features on genomes
11.15-11.30	Pause
11.30-12.00	Rasmus Waagepetersen: Estimating functions for inhomogeneous point processes with spatial covariates
12.00-12.30	Jesper Møller: Auxiliary variable methods for MCMC algorithms for distributions with intractable normalizing constants, with a view to non-parametric Bayesian inference for inhomogeneous Markov point processes

Mødet arrangeres i forbindelse med en større rammebevilling vedr. 'Modellering af punktprocesser', som omtalt andetsteds i dette blad, og tilsvarende møder forventes arrangeret i 2008 og 2009. Bevillingen sponsorerer en frokost kl. 12.30-14.

Tilmelding og betaling:

Tilmelding til Amra Ibrisevic(amra@math.aau.dk) *senest mandag 30. april.* Deltagergebyret er 225 kr. for studerende (eksl. ph.d.-studerende) og ellers 450 kr. som indbetales til Sparekassen Nordjylland kontonr. 9190 236-57-45695 med *tydelig* angivelse af hvilke personer betalingen vedrører.

Tilmelding til formøderne ligeledes senest mandag 30. april til amra@math.aau.dk.

Webside: yderligere information vedr. abstracts, kørselsvejledning etc. kan findes via `www.math.aau.dk/`.

Større rammebevilling vedr. 'Modellering af punktprocesser'

FNU (Forskningsrådet for Natur og Univers) har i år for første gang uddelt såkaldte større rammebevillinger, som dækker over bevillinger på op til 3 millioner kroner til større forskningsprojekter. Der er uddelt 28 bevillinger, hvoraf tre er inden for fagområdet matematik.

Blandt disse tre er et projekt om 'Modellering af punktprocesser' (eng. titel: 'Point process modelling and statistical inference', grant 272-06-0442). I den anledning samt i forbindelse med et af formøderne ved DSTS' todagsmøde i maj (se andetsteds i dette blad) er undertegnede, som er bevillingens hovedansøger, blevet bedt om at skrive nogle linier. Iøvrigt er et andet af de tre bevilligede projekter inden for matematik et projekt i statistik, hvor Eva Vedel fra Aarhus Universitet er hovedansøger. Begge projekter har en bevilling på 3 millioner kr.

Punktprocesser er et meget generelt statistisk modelleringsværktøj, som har anvendelse indenfor en stor række områder. I eksempelvis bilforsikring kan de både bruges til at beskrive hændelsesforløb, for eksempel hvordan og med hvilken størrelse skadekravene indløber til selskabet, og til at beskrive et mønster, for eksempel et landkort over hvor skader af forskellige typer indtræffer. Dansk forskning i punktprocesser står stærkt internationalt. Forskningsprojektet har til mål at styrke denne position og vil behandle såvel grundforskningsorienterede aspekter som konkrete anvendelser indenfor blandt andet risiko- og overlevelsesanalyse, biologiske systemer og telekommunikation.

Projektgruppen består fra Aalborg Universitet af Kasper K. Berthelsen, Martin B. Hansen, Jesper Møller og Rasmus P. Waagepetersen; samt fra Københavns Universitet af Per K. Andersen, Jeffrey F. Collamore, Niels Richard Hansen, Martin Jacobsen, Anders T. Jensen, Torben Martinussen, Thomas Mikosch, Niels Keiding og Thomas Scheike. Desuden er et større antal ph.d.-studerende og post docs tilknyttet. Derudover vil der være et omfattende samarbejde med internationalt førende fagfæller og med aktuarer, astronomer, biologer, ingeniører og læger.

Jesper Møller, Institut for Matematiske Fag, Aalborg Universitet

Stor bevilling til T.N. Thiele Centret

T.N. Thiele Centret for Anvendt Matematik i Naturvidenskaberne, Institut for Matematiske Fag, AU, www.thiele.au.dk, har fornylig modtaget 8 mio. kr. fra Det Strategiske Forskningsråd under NABIIT programmet til projektet *High-speed Histomorphometry*. Desuden modtog forskergruppen ved Thiele Centret i efteråret 2006 en større rammebevilling på 3 mio. kr fra Forskningsrådet for Natur og Univers.

Projektet støttet af Det Strategiske Forskningsråd har som primært formål, gennem et koncentreret tværvidenskabeligt samarbejde mellem biomedicinere, matematikere, statistikere og dataloger, at udvikle et innovativt software/hardware system, *HistoInformatics* platformen, til high-speed kvantitativ analyse af store serier af vævssnit. Det er planen at integrere de nyeste matematiske gennembrud inden for stereologi og bioimaging i platformen. En central egenskab ved *HistoInformatics* platformen er den automatiske sampling og analyse. Det forventes, at platformen vil have væsentlige anvendelser i daglig diagnostisk arbejde på hospitaler og ved testning af lægemidler i den biofarmaceutiske industri. Udviklingen af *HistoInformatics* platformen vil udover *Thiele Centret*, AU, involvere *Stereologi og EM Forskningslaboratoriet*, AU, og *VISIOPHARM*, Medicon Valley, København.

Denne projektgruppe vil danne en udviklingskæde, som dækker det teoretiske grundlag, innovation, effektiv implementering og testning ved hjælp af typiske biologiske anvendelser. Projektgruppen omfatter verdens førende forskere inden for kvantitativ mikroskopi. I projektgruppen deltager desuden to unge meget stærke udenlandske forskere (Markus Kiderlen og Jürgen Schmiegel) med spydspidskompetence inden for digital stereologi og rum-tid modellering.

Yderligere oplysninger kan fås ved henvendelse til professor Eva B. Vedel Jensen, eva@imf.au.dk.

Genmab A/S is a biotech company that develops and manufactures human antibodies for treatment of life-threatening and disabling diseases. Genmab has approximately 230 employees in Denmark, the Netherlands, the United Kingdom and the United States. At our head office in Copenhagen and in our preclinical research department in the Netherlands we have a world-class research and development team.

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Genmab is entering an exciting final development phase that includes further recruitment of key employees within the Biometrics Department, which currently comprises approximately 20 employees, all located in Copenhagen. You will be part of a pioneering biotech company with an extensive product portfolio including more than 10 products in pre-clinical development and 6 antibodies in clinical development. You will work across international sites and specialized functions, sharing knowledge to fast track and perfect our product development. You will have excellent possibilities for direct influence, personal and professional development as well as a great work-life balance.

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You will be a key member of our clinical development team where you have the statistical responsibility from project design to presentation. Using your professional expertise you will be working closely in Genmab's R&D team to develop antibody therapy. You will be responsible for the analysis phase, and involved in the preparation of clinical development plans and protocols, and contact to health authorities ultimately leading to licensing applications, thus travelling in Europe and USA may occur.

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In an innovative and highly professional environment, you will have broad responsibility and contribute to a number of the 25 ongoing projects in all clinical development phases. You have a degree in statistics and solid experience with statistical methods used in clinical R&D. This has provided you with in-depth knowledge of applied statistics and implementation of new statistical methods. Last but not least, you find it easy to cooperate with team members and external partners. We offer ongoing education to develop your technical, inter-personal and project management skills.

Contact and Application

Mark your application "Statistician/AEN" and send it to job@genmab.com or to Genmab A/S, Toldbodgade 33, P.O. Box 9068, 1253 Copenhagen K, Denmark. For additional information, please contact Director of Biometrics Kim Mark Knudsen or HR Assistant Ann Sophie Enegaard at +45 70 20 27 28.

First Nordic-Baltic Biometric Conference 2007, 6 - 8 June, Denmark

Call for Abstracts

The Nordic-Baltic Biometric Conference 2007 is the first conference arranged by the Nordic Regional and Baltic National Biometric Societies. The conference takes place in Denmark at the Faculty of Agricultural Sciences, Research Centre Foulum (the former Danish Institute of Agricultural Sciences now merged with University of Aarhus).

The conference starts at 6 of June and ends at 8 of June 2007.

The programme will cover the following themes:

- Statistics in Agriculture and Veterinary Science
- Bioinformatics and Genetics
- Clinical Trials and Drug Development
- Epidemiology and Statistics in Health Care
- Statistics in Forestry, Wildlife and the Environment
- Advances in Theory and Computational Methods
- Other topics

Keynote speakers include **Anthony O'Hagan** (UK), **Geert Molenberghs** (B), and **Søren Lundbye-Christensen** (DK) together with several invited speakers.

The deadline for abstract submission is 1 April, 2007.

For more information about the programme, and how to submit abstract please consult the conference homepage at

http://www.nbbc07.agrsci.org/.

Please note that there are some funding opportunities for Baltic participants.

A short course in state space modeling (linear dynamic modeling) will be given by **Søren Lundbye-Christensen** and **Claus Dethlefsen** (both DK) prior to the conference. The course takes place at the Research Centre Foulum at 5 – 6 June, 2007. For more information see the conference homepage.

Contact: FredeA.Togersen@agrsci.dk