BRÅKET

Information om seminarier och högre undervisning i matematiska ämnen i Stockholmsområdet

NR 29 **FREDAGEN DEN 21 SEPTEMBER 2007**

BRÅKET

Veckobladet från Institutionen för matematik vid Kungl Tekniska Högskolan och Matematiska institutionen vid Stockholms universitet

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Sista manustid för nästa nummer:
Torsdagen den 27 september kl. 13.00.

Disputation i matematisk statistik

Anders Björkström disputerar på avhandlingen *Regression methods in multidimensional prediction and estimation* fredagen den 28 september kl. 13.00 i sal 14, hus 5, Matematiska institutionen, SU, Kräftriket. Se Bråket nr 28 sidan 12.

Money, jobs: Se sidorna 10 – 11.

SEMINARIER

Fr 09–21 kl. 11.00 – 12.00. Optimization and Systems Theory Seminar. Hisaya Fujioka, Department of Applied Analysis and Complex Dynamical Systems, Kyoto University, Japan: *Stability analysis for a class of networked/embedded control systems: continuous- and discrete-time approaches.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 27 sidan 6.

Fr 09–21 kl. 13.15 – 14.15. Graduate Student Seminar. Björn Winckler, Matematik, KTH: *Introduction to renormalization.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 28 sidan 7.

Ti 09–25 kl. 10.15. Plurikomplexa seminariet — Licentiatseminarium i matematik. Shiva Samieinia SU, presenterar sin licentiatavhandling: *Digital straight line segments and curves.* Opponent: **Professor Damien Jamet,** Nancy. Examinator: **Hans Rullgård.** Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 4.

Ti 09–25 kl. 13.15. Plurikomplexa seminariet. Professor Damien Jamet, Nancy: *On the number of balanced words of given length and height over a two-letter alphabet.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 5.

Ti 09–25 kl. 14.00 – 15.00. Mittag-Leffler Seminar. Salah Mohammed, Southern Illinois University, USA: *Semilinear SPDE's as dynamical systems.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 4.

Fortsättning på nästa sida.

Group Actions and Arithmetic

En workshop med denna titel äger rum på eftermiddagen tisdagen den 25 september vid Institutionen för matematik, KTH. Se sidan 6.

Seminarier (fortsättning)

Ti 09–25 kl. 14.15. Seminarium i numerisk analys. Daniel Appelö, Lawrence Livermore National Laboratory: *A general formulation of perfectly matched layers for mixed hyperbolic-parabolic systems and its application to simulations of viscous compressible flows.* Rum 4523, KTH CSC, Lindstedtsvägen 5, plan 5. Se Bråket nr 28 sidan 11.

Ti 09–25 kl. 15.30–16.30. Mittag-Leffler Seminar. Vlad Bally, Université de Marne-la-Vallée, France: *Malliavin calculus in a weak sense and applications to diffusions with jumps.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 5.

On 09–26 kl. 10.00–11.00. Presentation av examensarbete i matematik (30 högskolepoäng, fördjupningsnivå). **Susanne Thon:** *Paradoxes in Intuitionistic Type Theory.* Handledare: **Jesper Carlström.** Sal 21, hus 5, Matematiska institutionen, SU, Kräftriket. Se sidan 7.

On 09–26 kl. 10.15–12.00. Kombinatorikseminarium. Jakob Jonsson: *Torsion in the homology of the chessboard complex.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 7.

On 09–26 kl. 10.30. Logikseminariet Stockholm-Uppsala. Richard Garner: *2-dimensional models of type theory.* (Fortsättning från seminariet den 19 september.) Sal 11167, Ångströmlaboratoriet, Uppsala universitet. Se Bråket nr 28 sidan 5.

On 09–26 kl. 13.15–14.15. Seminarium i analys och dynamiska system. Peter Jones, Yale: *On some problems in geometry and spectral theory.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 8.

Observera att Peter Jones skall tala vid seminariet i analys och dynamiska system den 26 september. I Bråket nr 28 angavs fel talare vid detta seminarium.

On 09–26 kl. 13.15–15.00. Algebra- och geometriseminarium. Lars Halvard Halle: *Stable reduction of curves and tame ramification.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 7.

On 09–26 kl. 14.30–15.30. KCSE Seminar. Erik Lindahl, Stockholm Bioinformatics Center: *Thermodynamical properties of biological molecules through loosely coupled or distributed simulations: protein folding and insertion in biomembranes.* PDC:s seminarierum, KTH, Teknikringen 14, plan 3. Se Bråket nr 28 sidan 10.

KCSE = KTH Computational Science and Engineering Centre.

On 09–26 kl. 15.00. Seminarium i matematisk statistik. Thore Egeland, Department of Medical Genetics, University of Oslo: *On identification problems requiring linked autosomal markers.* Rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket. Se Bråket nr 28 sidan 9.

On 09–26 kl. 16.00–17.00. KTH/SU Mathematics Colloquium. Tsachik Gelander, The Hebrew University, Jerusalem: *The uniform Tits alternative and some applications.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Kaffe/te serveras kl. 15.30 i pausrummet, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 4. Se sidan 8.

To 09–27 kl. 14.00–15.00. Mittag-Leffler Seminar. Zdzisław Brzeźniak, University of York, UK: *Strong solutions to stochastic wave equations in Riemannian manifolds.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 5.

Fortsättning på nästa sida.

Seminarier (fortsättning)

To 09–27 kl. 15.15. Seminarium i matematisk statistik. *(Observera dagen, tiden och lokalen!)* **Professor Philip J. Brown,** University of Kent: *Bayesian modelling and feature selection of proteomic functional data.* Sal 31, hus 5, Matematiska institutionen, SU, Kräftriket. Se Bråket nr 28 sidan 13.

Professor Brown är opponent vid Anders Björkströms disputation. Se Bråket nr 28 sidan 12.

To 09–27 kl. 15.30–16.30. Mittag-Leffler Seminar. Bohdan Maslowski, Academy of Sciences, Czech Republic: *Fractional Brownian motion driven stochastic equations in infinite dimensions.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 10.

Fr 09–28 kl. 11.00–12.00. Optimization and Systems Theory Seminar. Javier Cano Cancela, Universidad Rey Juan Carlos, Madrid: *Title to be announced.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Fr 09–28 kl. 13.15–14.15. Graduate Student Seminar. Tomas Sjödin, Matematik, KTH: *Title to be announced.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Fr 09–28 kl. 15.15–17.00. Seminar in Graduate Course on Research: Theory, Method, Practice. Johan Hoffman, KTH CSC: *d'Alembert's paradox: a subjective report on recent struggles with an ancient problem.* Rum 4523, KTH CSC, Lindstedtsvägen 5, plan 5. Se sidan 9.

Må 10–01 kl. 15.15–16.00. Seminarium i matematisk statistik. Johannes Thoms presenterar sitt examensarbete: *Adaptive Markov Chain Monte Carlo Algorithms for improved Sampling.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 9.

Ti 10–02 kl. 13.15. Seminarium i teoretisk datalogi. Cyrille Artho, AIST, Japan: *Model checking network applications.* Rum 4523, KTH CSC, Lindstedtsvägen 5, plan 5. Se sidan 10.

On 10–03 kl. 11.00. Common SU KoF/KTH Theoretical Physics Seminar. Hans Ringström, Matematik, KTH: *Future global non-linear stability of cosmological models with accelerated expansion.* Sal FA31, Roslagstullsbacken 21, AlbaNova universitetscentrum.

To 10–04 kl. 15.15–16.15. AlbaNova and Nordita Colloquium in Physics. Melvyn B. Davies, Lunds observatorium: *The astrophysics of stellar clusters.* Oskar Kleins auditorium, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se sidan 8.

Fr 10–05 kl. 13.15–14.15. Graduate Student Seminar. Joakim Arnlind, Matematik, KTH: *Title to be announced.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Fr 10–05 kl. 13.15–15.00. Seminarium, arrangerat av Avdelningen för säkerhetsforskning, KTH. Lars Olsson, Geostatistik AB: *Risker i byggande.* V:s seminarierum 156, KTH, Teknikringen 78 A, 1 tr. Se sidan 10.

PLURIKOMPLEXA SEMINARIET — LICENTIATSEMINARIUM I MATEMATIK

Shiva Samieinia

presenterar sin licentiatavhandling:

Digital straight line segments and curves

Opponent: **Professor Damien Jamet,** Nancy.

Examinator: **Hans Rullgård.**

Abstract: This talk will consist of a presentation of my licentiate thesis, which contains the following two papers:

Paper A. Chord properties of digital straight line segments

This paper treats digital straight line segments in two different cases, in the 8-connected plane and in the Khalimsky plane. We investigate them using a new classification, dividing them into a union of horizontal and diagonal segments. Then we study necessary and sufficient conditions for straightness in both cases, using vertical distances for certain points. We also establish necessary and sufficient conditions in the 8-connected plane as well as in the Khalimsky plane by transforming their chain codes. Using this technique we can transform Khalimsky lines to the 8-connected case.

Paper B. The number of Khalimsky-continuous functions on intervals

This paper deals with Khalimsky-continuous functions. We consider these functions when they have two, three or four points in their codomain. In the case of two points in the codomain, we see a new example of the classical Fibonacci sequence. In the study of functions with three and four points in their codomain, we find some new sequences, the asymptotic behaviour of which we investigate. Finally, we consider Khalimsky-continuous functions with one fixed endpoint. In this case, we get a sequence which has the same recursion relation as the Pell numbers but different initial values. We also obtain a new example of the Delannoy numbers.

Tid och plats: Tisdagen den 25 september kl. 10.15 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

MITTAG-LEFFLER SEMINAR

Salah Mohammed:
Semilinear SPDE's as dynamical systems

Abstract: The main objective of this talk is to characterize the pathwise local structure of solutions of semilinear stochastic partial differential equations (SPDE's) near hyperbolic stationary solutions. We first describe a general existence theorem for smooth compacting semiflows of stochastic evolution equations (SEE's). We then establish a local stable manifold theorem for the semilinear SEE near a stationary solution. In particular, this result gives a random family of Fréchet smooth stable and unstable manifolds in a neighbourhood of a hyperbolic stationary solution. The unstable and stable manifolds are stationary, asymptotically invariant under the stochastic semiflow and have fixed finite dimension and codimension, respectively.

Tid och plats: Tisdagen den 25 september kl. 14.00 – 15.00 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

PLURIKOMPLEXA SEMINARIET

Damien Jamet:
On the number of balanced words of given length and height over a two-letter alphabet

Abstract: We exhibit a recurrence on the number of discrete line segments joining two integer points using an encoding as balanced words of given length and height over the two-letter alphabet $\{0, 1\}$. As a particular case, we focus on the symmetrical discrete segments which are encoded by balanced palindromes and provide generating functions in this case. We end by studying the asymptotical behaviour of the previous recurrences.

Tid och plats: Tisdagen den 25 september kl. 13.15 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

MITTAG-LEFFLER SEMINAR

Vlad Bally:
Malliavin calculus in a weak sense and applications to diffusions with jumps

Abstract: We present an abstract version of Malliavin calculus. A specific point is that we do no more approximate general functionals with simple functionals in L^2 sense but in law. This permits to treat problems which are out of reach for the standard calculus. We present the following application. We consider the equation

$$X_t = x + \int_0^t \int_R \int_0^\infty c(z, X_{s-}) 1_{\{u<\gamma(X_{s-},z)\}} dN(s, z, u)$$

where N is a Poisson point measure of intensity measure $dsdzdu1_{u>0}$. The infinitesimal operator of this Markov process is $Kf(x) = \int_R (f(x + c(z, x)) - f(x))\gamma(x, z)dz$. Under appropriate hypothesis we prove that the law of X_t is absolutely continuous with respect to the Lebesgue measure and has a smooth density. Notice that the coefficient in the equation is discontinuous and so the standard Malliavin calculus for Poisson point processes, as it is stated in Bichteler Gravereux Jacod, does not apply.

Tid och plats: Tisdagen den 25 september kl. 15.30 – 16.30 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

MITTAG-LEFFLER SEMINAR

Zdzisław Brzeźniak:
Strong solutions to stochastic wave equations in Riemannian manifolds

Abstract: Let M be a d-dimensional compact Riemannian manifold. We prove existence of a unique global strong solution of the stochastic wave equation $\mathbf{D}_t\partial_t u = \mathbf{D}_x\partial_x u + Y_u(\partial_t u, \partial_x u) \cdot W$ where Y is a C^1-smooth transformation and W is a spatially homogeneous Wiener process on $\mathbb{R}$ whose spectral measure has finite moments up to order 2.

This talk is based on a joint work with M Ondreját.

Tid och plats: Torsdagen den 27 september kl. 14.00 – 15.00 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

GROUP ACTIONS AND ARITHMETIC

A workshop with this title will take place at the Department of Mathematics, KTH, on Tuesday, September 25, 2007. The first two lectures (13.15 – 15.10) will take place in seminar room 3721, Department of Mathematics, KTH, Lindstedtsvägen 25, floor 7. The last two lectures (15.45 – 17.10) will take place in room D33, KTH, Lindstedtsvägen 5, ground floor.

Schedule

13.15 – 14.10 **Tsachik Gelander,** The Hebrew University: *Property (T) and rigidity for actions on Banach spaces.*

Abstract: I will discuss a joint work with Bader, Furman and Monod. We studied Kazhdan property (T) and the fixed point property for actions on Banach spaces instead of Hilbert spaces.

We showed that property (T) holds when L^2 is replaced by L^p (and even a subspace/quotient of L^p), and that in fact it is independent of $1 \leq p < \infty$. We showed that the fixed point property for L^p follows from property (T) when $1 < p < 2 + \epsilon$. For simple Lie groups and their lattices, we proved that the fixed point property for L^p holds for any $1 < p < \infty$ if and only if the rank is at least two. Finally, we obtained a superrigidity result for actions of irreducible lattices in products of general groups on superreflexive Banach spaces. Some of our results have applications to the study of group actions on manifolds.

14.15 – 15.10 **Richard Miles,** KTH: *Dirichlet series for finite combinatorial rank dynamics.*

Abstract: This talk will concern the orbit counting problem for algebraic dynamical systems. I will review some facts concerning periodic point counting and discuss a class of group endomorphisms exhibiting slow orbit growth. An associated dynamical Dirichlet series is found to have a convenient closed rational form and analytic properties of the Dirichlet series are related to orbit growth asymptotics; depending on the location of the abscissa of convergence and the degree of the pole there, various orbit-growth asymptotics are found, all of which are polynomially bounded.

15.15 – 15.45 Coffee.

15.45 – 16.25 **Rikard Olofsson,** KTH: *Large Hecke eigenfunctions of quantized cat maps.*

Abstract: The talk will give a short introduction to quantized cat maps. In such a quantization the dimension N of the state space plays a number theoretically important role and I will discuss the large differences between the case when N is square free and when it is not.

16.30 – 17.10 **Michael Björklund,** KTH: *Entropy of algebraic actions of the discrete Heisenberg group.*

Abstract: In 1989, B. Kitchens and K. Schmidt introduced an algebraic approach to the study of abelian actions of automorphisms of compact groups. One year later, D. Lind, T. Ward and K. Schmidt were able to compute entropy in this new language. In the case of principal actions the entropy is given by a logarithmic Mahler measure. Recently, C. Deninger and K. Schmidt could compute the entropy of certain non-abelian actions in terms of the Fuglede-Kadison determinant of the associated von Neumann algebras. These are however notoriously hard to estimate. I will discuss a new approach to get lower estimates of the entropy of actions of the discrete Heisenberg group using potential theory. This is joint work with D. Lind.

PRESENTATION AV EXAMENSARBETE I MATEMATIK

Susanne Thon:
Paradoxes in Intuitionistic Type Theory

Handledare: **Jesper Carlström.**

Abstract: One of the most famous paradoxes in mathematics is Russell's paradox. It considers the set of all sets that do not contain themselves. Does this set contain itself or not? Whatever answer we give, we get a contradiction. Paradoxes in mathematical systems indicate inconsistency. An early version of Intuitionistic type theory developed by Martin-Löf turned out to be inconsistent and had to be revised. In this thesis we will present formalizations of Girard's paradox and Coquand's paradox of trees, which can be seen as versions of Russell's paradox in the inconsistent version of Intuitionistic type theory.

Tid och plats: Onsdagen den 26 september kl. 10.00 – 11.00 i sal 21, hus 5, Matematiska institutionen, SU, Kräftriket.

KOMBINATORIKSEMINARIUM

Jakob Jonsson:
Torsion in the homology of the chessboard complex

Abstract: For $1 \leq m \leq n$, let $M_{m,n}$ be the family of sets of non-attacking rooks on an $m \times n$ chessboard. Equivalently, a set of rooks belongs to $M_{m,n}$ if and only if there is at most one rook in each row and at most one rook in each column. We may view $M_{m,n}$ as an abstract simplicial complex and thus examine its homology. Assume that $m \leq n \leq 2m-5$. Shareshian and Wachs proved that the bottom nonvanishing reduced integral homology group of $M_{m,n}$ appears in degree $\lceil \frac{m+n-4}{3} \rceil$, thereby settling a conjecture due to Björner, Lovász, Vrećica, and Živaljević. The goal of the talk is to give an outline of the proof. In particular, we explain how Shareshian and Wachs used exact sequences to detect torsion in the relevant homology group, which is finite for almost all m and n. We also show how to extend their result to homology groups of higher degree.

Tid och plats: Onsdagen den 26 september kl. 10.15 – 12.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

ALGEBRA- OCH GEOMETRISEMINARIUM

Lars Halvard Halle:
Stable reduction of curves and tame ramification

Abstract: We study stable reduction of curves in the case where a tamely ramified base extension is sufficient. If X is a smooth curve defined over the fraction field of a strictly henselian discrete valuation ring, there is a criterion, due to T. Saito, that describes precisely, in terms of the geometry of the minimal model with strict normal crossings of X, when a tamely ramified extension suffices in order for X to obtain stable reduction. For such curves we construct an explicit extension that realizes the stable reduction, and we furthermore show that this extension is minimal. We also obtain a new proof of Saito's criterion, avoiding the use of ℓ-adic cohomology and vanishing cycles.

Tid och plats: Onsdagen den 26 september kl. 13.15 – 15.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

SEMINARIUM I ANALYS OCH DYNAMISKA SYSTEM

Peter Jones:
On some problems in geometry and spectral theory

Abstract: We discuss some problems related to Diffusion Geometry and the related geometry of domains, manifolds, and data sets.

Tid och plats: Onsdagen den 26 september kl. 13.15 – 14.15 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

KTH/SU MATHEMATICS COLLOQUIUM

Tsachik Gelander:
The uniform Tits alternative and some applications

Abstract: In his celebrated 1972 paper, J. Tits proved a fundamental dichotomy for linear groups, known today as the Tits alternative. Jointly with E. Breuillard we established several results improving those of Tits. In the talk I will concentrate mainly on the uniform version, which states that given a finitely generated non-virtually solvable linear group G, there is a constant $m = m(G)$ such that for any generating set S of G, one can find generators of a free group F_2 in the ball of radius m with respect to S. I will also explain some of the most important applications:

1. Growth: Eskin-Mozes-Oh theorem about uniform exponential growth, as well as some improvements, e.g. uniformity of Cheeger constants.
2. Dynamic: (A) Non-amenable linear groups are uniformly non-amenable. (B) Connes-Sullivan conjecture on amenable actions (originally proved by Zimmer).
3. Riemannian foliations: Carrier conjecture on growth of leaves. I will also explain the topological version of Tits alternative whose connected (Archimedean) case follows from the uniform version (but proved earlier), and some applications to finite group theory.

Tid och plats: Onsdagen den 26 september kl. 16.00 – 17.00 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Kaffe/te serveras kl. 15.30 i pausrummet, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 4.

ALBANOVA AND NORDITA COLLOQUIUM IN PHYSICS

Melvyn B. Davies:
The astrophysics of stellar clusters

Abstract: Stellar clusters are common. Globular clusters contain some of the oldest stars, whilst the youngest stars are found in OB associations or in other clusters associated with recent star formation. Such crowded places are hostile environments: a large fraction of stars will collide or undergo close encounters. I will explain how stellar clusters are factories for producing exotic objects, including black holes and neutron-star binaries. I will also discuss how planetary systems similar to our own solar system are vulnerable to breakup due to close encounters by passing stars. Thus by studying stellar clusters we will learn more about the rarity of planetary systems similar to our own solar system.

Tid och plats: Torsdagen den 4 oktober kl. 15.15 – 16.15 i Oskar Kleins auditorium, Roslagstullsbacken 21, AlbaNova universitetscentrum.

SEMINAR IN GRADUATE COURSE ON RESEARCH: THEORY, METHOD, PRACTICE

Johan Hoffman:
d'Alembert's paradox:
a subjective report on recent struggles with an ancient problem

Abstract: d'Alembert's paradox from 1752 states that the mathematical model for an inviscid fluid predicts zero resistance of an object travelling through the fluid, which is contrary to all available experiments. Prandtl's introduction of boundary layer theory in 1904 is generally considered to resolve the paradox, pointing to the necessity of including the viscous effects of boundary layers in the mathematical model. Recently, we have proposed an alternative resolution to the paradox, different from the resolution by Prandtl. In this lecture we describe how we were led to the new resolution through a combination of analytical and computational methods, and our ongoing interaction with the scientific community regarding our findings.

Tid och plats: Fredagen den 28 september kl. 15.15 – 17.00 i seminarierum 4523, KTH CSC, Lindstedtsvägen 5, plan 5.

Anmärkning: Seminariet ingår i en doktorandkurs med professor Stefan Arnborg som lärare.

SEMINARIUM I MATEMATISK STATISTIK

Johannes Thoms

presenterar sitt examensarbete:

Adaptive Markov Chain Monte Carlo
Algorithms for improved Sampling

Abstract: The purpose of this project is the development of an adaptive Markov chain Monte Carlo (MCMC) algorithm that improves the online tuning of the proposal distribution's parameters. The latter takes the form of a mixture of Gaussian distributions. This aim is achieved by enhancing an existing scheme with three main building blocks: variance scaling, to ensure a targeted acceptance probability for accept-reject methods. Secondly, adaptive mixture weights to improve the coverage of the target distribution's support and finally probabilistic principal component analysis to include the target's orientation by proposing random walk increments in directions associated with large variance. Chapter 1 introduces the project's different aspects briefly. Chapter 2 describes adaptive MCMC through a comparison with the standard method. The adaptation process renders the chain non-Markovian, entailing the need for constraints that have to be adhered to when constructing the proposal kernel in order to ensure the chain's ergodicity and convergence to the correct target. This is outlined in greater detail in Chapter 3. The algorithm itself is described in Chapter 4 and benchmarked in the following section, where also a data application of a change point process is given. The final chapter holds conclusions as well as suggestions for further developments and applications. The benchmark tests indicate a good performance of the building blocks, particularly the possibility of estimating the target's normalizing constant. The data application, while showing promising signs, also points to several areas of possible improvements.

Tid och plats: Måndagen den 1 oktober kl. 15.15 – 16.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

MITTAG-LEFFLER SEMINAR

Bohdan Maslowski:
Fractional Brownian motion driven stochastic equations in infinite dimensions

Abstract: Some recently obtained results on (fBm)-driven linear and semilinear stochastic equations in infinite-dimensional state spaces will be reviewed. In particular, regularity of the fractional Ornstein-Uhlenbeck process will be studied, and the equivalence (mutual absolute continuity) of measures induced by solutions will be discussed in both linear and semilinear cases.

Tid och plats: Torsdagen den 27 september kl. 15.30 – 16.30 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

SEMINARIUM I TEORETISK DATALOGI

Cyrille Artho:
Model checking network applications

Abstract: This tutorial addresses a new model checking technique for networked applications. Such applications could not be model checked by traditional techniques, as multiple processes cannot be checked in normal (single-process) software model checkers. Our approach is to convert processes into threads and to model network communication using a special library and model checker extensions. Other approaches include the usage of stubs or a special cache that can serialize the state space exploration tree.

Tid och plats: Tisdagen den 2 oktober kl. 13.15 i rum 4523, KTH CSC, Lindstedtsvägen 5, plan 5.

SEMINARIUM, ARRANGERAT AV AVDELNINGEN FÖR SÄKERHETSFORSKNING, KTH

Lars Olsson: Risker i byggande

Sammanfattning: Seminariet kommer att behandla byggandets hot och risker, samhällskrav samt metodik för riskhantering. Vi måste försöka hitta farorna, beskriva riskerna, hantera riskerna och fatta beslut. Allt i ett system där det finns stora osäkerheter.

Tid och plats: Fredagen den 5 oktober kl. 13.15 – 15.00 i V:s seminarierum 156, KTH, Teknikringen 78 A, 1 tr.

MONEY, JOBS

Columnist: Johannes Lundqvist, Department of Mathematics, SU. E-mail: johannes@math.su.se.

Info = information. This will be given and repeated until obsolete. Rely on other sources as well.

BBKTH = Bulletin Board at the Department of Mathematics, KTH.

BBSU = Bulletin Board at the Department of Mathematics, SU.

The following information, with links, is also available at http://www.math.su.se/~johannes/mj.html.en.

Unless stated otherwise, a given date is the last date (e.g. for applications), and the year is 2007. A number without an explanation is a telephone number.

(Continued on the next page.)

Standard information channels

1. A channel to information from Vetenskapsrådet: http://www.vr.se/naturteknik/index.asp.
2. A channel to information from the European Mathematical Society: http://www.emis.de.
3. A channel to information from the American Mathematical Society: http://www.ams.org.
4. KTH site for information on funds: http://www.kth.se/aktuellt/stipendier.
5. Stockholm University site for information on funds: http://www2.su.se/forskning/stipendier/databas.php3.
6. Umeå site for information on funds: http://www.umu.se/umu/aktuellt/stipendier_fond_anslag.html.
7. Job announcement site: http://www.maths.lth.se/nordic/Euro-Math-Job.html. This is run by the European Mathematical Society.
8. Stiftelsen för internationalisering av högre utbildning och forskning (STINT) site for information on funds: http://www.stint.se.
9. Nordisk Forskerutdanningsakademi (NorFA) site for information on funds: http://www.norfa.no.
10. Svenska institutet (SI) site for information on funds: http://www.si.se.

New information

Jobs to apply for

11. Örebro universitet söker en universitetslektor i matematik med inriktning mot matematikens didaktik. Sista ansökningsdag är den 8 oktober. Web-info: http://www.oru.se/templates/oruextAdViewer.aspx?id=2303&adPageID=43383.

Old information

Jobs to apply for

12. Uppsala universitet söker två doktorander i matematisk biologi. Sista ansökningsdag är den 28 september. Web-info: http://www.personalavd.uu.se/ledigaplatser/2030dorand.html.
13. Högskolan i Kalmar söker en universitetslektor/-adjunkt i matematik med inriktning mot matematikens didaktik. Sista ansökningsdag är den 8 oktober. Web-info: http://www.hik.se/jobs/cgi-bin/Free_Jobs.exe.