



# BRÅKET



## Information om seminarier och högre undervisning i matematiska ämnen i Stockholmsområdet

NR 38

FREDAGEN DEN 23 NOVEMBER 2007

### BRÅKET

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

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Institutionen för matematik  
KTH  
100 44 Stockholm

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Sista manustid för nästa nummer:  
Torsdagen den 29 november  
kl. 13.00.

### Disputation i data- och systemvetenskap

Anna-Maria Kessler disputerar vid  
SU på avhandlingen *A Systemic  
Approach Framework for Opera-  
tional Risk: –SAFOR–* fredagen  
den 23 november kl. 13.00 i sal C,  
Forum, Isafjordsgatan 39, Kista.  
Se Bråket nr 36 sidorna 7–8.

Money, jobs: Se sidorna 8–9.

### SEMINARIER

Fr 11–23 kl. 13.15–14.15. Graduate Student Seminar.  
Andreas Strömbergsson, Matematik, KTH:  
*The Boltzmann-Grad limit of the periodic Lorentz  
gas*. Seminarierum 3721, Institutionen för mate-  
matik, KTH, Lindstedtsvägen 25, plan 7. Se  
Bråket nr 36 sidan 11.

Fr 11–23 kl. 15.00. Small Talk Seminar. Timothy  
Logvinenko, Matematik, KTH: *NCCR's and  
Donaldson-Thomas theory on Calabi-Yau three-  
folds*. Seminarierum 3721, Institutionen för mate-  
matik, KTH, Lindstedtsvägen 25, plan 7. Se  
Bråket nr 37 sidan 7.

Må 11–26 kl. 13.00. Seminarium i statistik. (Observera  
dagen och lokalen!) Vice riksbankschef Svante  
Öberg: *Riksbankens prognosförmåga*. Hörsal 5,  
plan 3, mellan hus B och hus C, SU, Frescati.

Må 11–26 kl. 13.15–14.00. Seminarium i finansiell  
matematik. (Observera tiden och lokalen!) Oskar  
Schyberg presenterar sitt examensarbete: *A  
Monte Carlo Approach for Comparing and Evalu-  
ating Structured Equity Derivatives, Equity  
Linked Bonds: Principal Protected Bull Notes,  
using Visual Basic for Applications in Excel*. Semi-  
narierum 3721, Institutionen för matematik,  
KTH, Lindstedtsvägen 25, plan 7. Se sidorna 6–7.

Fortsättning på nästa sida.

### Lansering av bok

Boken *Att våga sitt tärningskast. Gösta Mittag-Leffler 1846–  
1927* av Arild Stubhaug lanseras vid Institut Mittag-Leffler  
onsdagen den 28 november kl. 15.00. Se Bråket nr 37 sidan 5.

### Structural Equation Modeling

En seminariedag med denna titel anordnas vid Uppsala uni-  
versitet onsdagen den 5 december. Se sidorna 7–8.

**Seminarier (fortsättning)**

- Må 11–26 kl. 15.15–17.00. Seminarium i finansiell matematik.** Professor **Esko Valkeila**, Helsinki University of Technology: *Fractional Brownian motion as a model in stochastic finance*. Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 37 sidan 6.
- Ti 11–27 kl. 10.00–11.00. Optimization and Systems Theory Seminar.** (*Observera dagen och tiden!*) **Ling Shi**, California Institute of Technology, USA: *State estimation and energy optimization over multi-hop sensor networks*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 4.
- Ti 11–27 kl. 10.15. Plurikomplexa seminariet.** **Berit Kemppe**, Umeå: *An ordering of measures induced by plurisubharmonic functions*. Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 3.
- Ti 11–27 kl. 14.00–15.00. Mittag-Leffler Seminar.** **Alexey Rudenko**, Institute of Mathematics, Kiev, Ukraine: *Existence of local times for Gaussian random fields*. Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 4.
- On 11–28 kl. 10.00–11.45. Logikseminariet Stockholm-Uppsala.** Avslutning och diskussion av: *Categories of expressions, meanings or objects?* Sal 16, hus 5, Matematiska institutionen, SU, Kräftriket.
- On 11–28 kl. 11.00–12.00. Common SU KoF/KTH Theoretical Physics Seminar.** **Sten Hellman**, SU: *Discovering the expected with Atlas*. Sal FA31, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se sidan 4.
- On 11–28 kl. 11.00–12.00. Kombinatorikseminarium.** (*Observera tiden!*) **Urban Larsson**: *2-pile Nim with a restricted number of move-size imitations*. Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 37 sidan 7.
- On 11–28 kl. 13.15–14.15. Seminarium i analys och dynamiska system.** **Paul Malliavin**, Paris: *Title to be announced*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.
- On 11–28 kl. 15.00. Seminarium i matematisk statistik.** **Tatyana Turova**, Lunds universitet: *Asymptotics for the size of the largest component scaled to  $\log n$  in inhomogeneous random graphs*. Rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 6.
- To 11–29 kl. 14.00–15.00. Mittag-Leffler Seminar.** **Peter Imkeller**, Humboldt University Berlin, Germany. The speaker gives a series of three lectures. Title of the series: *Simple SDE, SPDE, and BSDE models dealing with problems of climate dynamics and related risk*. Title of the third and last lecture: *Transition between meta-stable states of stochastic (partial) differential equations: model selection; the light tail limit of Lévy noise*. Abstract and notes of the lecture are available at the homepage of the Institute. Institut Mittag-Leffler, Auravägen 17, Djursholm. Se Bråket nr 36 sidorna 9–10.
- To 11–29 kl. 14.00. Kollokvium i filosofi.** **Crispin Wright**, St. Andrews: *Trumping assessments and the Aristotelian future*. Rum F413, Filosofiska institutionen, SU.
- To 11–29 kl. 15.15–16.15. AlbaNova and Nordita Colloquium in Physics.** **Jean-Philippe Bouchaud**, Capital Fund Management & Saclay, France: *The subtle nature of financial random walks*. Oskar Kleins auditorium, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se Bråket nr 37 sidan 8.

**Fortsättning på nästa sida.**

### Seminarier (fortsättning)

- To 11–29 kl. 15.30–16.30. Mittag-Leffler Seminar.** Michael Röckner, University of Bielefeld, Germany: *Self-organized criticality via SPDE*. Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 8.
- Fr 11–30 kl. 13.15–14.15. Graduate Student Seminar.** Brett Wick, University of South Carolina och KTH: *Title to be announced*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.
- Fr 11–30 kl. 15.15. Small Talk Seminar.** Jonas Kiessling: *Localizing subcategories of the derived category of a ring*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 7.
- On 12–05 kl. 10.15–11.30. Structural Equation Modeling.** Ulf Henning Olsson, Norwegian School of Management: *The power of the non-normality corrected chi-square statistics in Structural Equation Modeling*. Sal H429, Fakultetsklubben, Ekonomikum, Kyrkogårdsgatan 10, Uppsala universitet. Se sidan 7.
- On 12–05 kl. 11.00–12.00. Common SU KoF/KTH Theoretical Physics Seminar.** Marcus Berg, SU: *Introduction to orientifolds*. Sal FA31, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se sidan 6.
- On 12–05 kl. 13.00. Seminarium i statistik.** Mattias Villani: *Regression density estimation using smooth adaptive Gaussian mixtures*. Sal B705, Statistiska institutionen, SU, Universitetsvägen 10B, plan 7, Frescati.
- On 12–05 kl. 13.15–14.30. Structural Equation Modeling.** Albert Satorra, University of Pompeu Fabra, Barcelona: *Assessment of validity in SEM models*. Sal H429, Fakultetsklubben, Ekonomikum, Kyrkogårdsgatan 10, Uppsala universitet. Se sidan 8.
- On 12–05 kl. 16.00. KTH/SU Mathematics Colloquium.** Johan Håstad, KTH: *Verifying proofs by reading only 3 bits*. 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 5.
- To 12–06 kl. 10.00. Licentiatseminarium i matematisk statistik.** Patricia Geli, SU, presenterar sin licentiatavhandling: *Models Related to Growth and Selection of Antibiotic Resistant Bacteria under Drug Exposure*. Inbjuden diskussionsinledare: Gianpaolo Scalia Tomba, University of Rome Tor Vergata. Sal 14, hus 5, Matematiska institutionen, SU, Kräftriket. Se sidorna 5–6.
- Fr 12–07 kl. 13.15–14.15. Graduate Student Seminar.** Denis Gaydashev, KTH: *Title to be announced*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

### PLURIKOMPLEXA SEMINARIET

**Berit Kemppe:**

#### **An ordering of measures induced by plurisubharmonic functions**

*Abstract:* In this talk we will discuss an ordering of measures induced by plurisubharmonic functions, which arises naturally in connection with problems related to weak\*-convergence of Monge-Ampère measures. We will present some partial results.

*Tid och plats:* Tisdagen den 27 november kl. 10.15 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

**OPTIMIZATION AND SYSTEMS THEORY SEMINAR**

**Ling Shi:**

**State estimation and energy optimization  
over multi-hop sensor networks**

*Abstract:* New control paradigms are needed for large networks of wireless sensors and actuators in order to efficiently utilize system resources. In this talk we consider when state estimation is carried over a sensor network. A fusion centre forms a local multi-hop tree of sensors and fuse the data into a state estimate. It is shown that the optimal estimator over a sensor tree is given by a Kalman filter of certain structure. The number of hops that the sensors use to communicate data with the fusion centre is optimized such that either the overall transmission energy is minimized or the network lifetime is maximized. In both cases the fusion centre provides a specified level of estimation accuracy. A heuristic algorithm is presented that leads to a suboptimal solution and has low computational complexity in the energy minimization problem, while an algorithm that leads to the global optimal solution is proposed in the lifetime maximization problem.

*Tid och plats:* Tisdagen den 27 november kl. 10.00–11.00 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

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**MITTAG-LEFFLER SEMINAR**

**Alexey Rudenko:**

**Existence of local times for Gaussian random fields**

*Abstract:* We define a local time for a Gaussian random field, taking its values in  $\mathbb{R}^d$ , as a limit of suitable approximations. The limit is understood in the sense of Sobolev spaces, which can be defined naturally on an abstract Wiener space connected to a given Gaussian random field. Our main result is a necessary and sufficient condition in terms of the field covariation for existence of a local time in some Sobolev space for a centred Gaussian random field. This result can be extended to include the existence of a renormalized local time. As an application, we find a necessary and sufficient condition for the existence of a local time and self-intersection local time (with possibility of renormalization) for the fractional Brownian motion.

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

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**COMMON SU KOF/KTH THEORETICAL PHYSICS SEMINAR**

**Sten Hellman:**

**Discovering the expected with Atlas**

*Abstract:* The ATLAS detector at CERN's next collider, the Large Hadron Collider, is being commissioned with a view to be ready to take first data during summer 2008. The talk will give a brief overview of the experiment with an emphasis on which kinds of observations are possible and which are not. These possibilities will be illustrated with a number of simulated physics studies with the detector.

*Tid och plats:* Onsdagen den 28 november kl. 11.00–12.00 i sal FA31, Roslagstullsbacken 21, AlbaNova universitetscentrum.

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## KTH/SU MATHEMATICS COLLOQUIUM

**Johan Håstad:**

### Verifying proofs by reading only 3 bits

*Abstract:* Probabilistically Checkable Proofs or more succinctly PCP's have played a significant role in complexity theory in the last decade. A PCP is a written proof that is verified by a probabilistic verifier that reads a very small portion of the proof.

Not only are PCP's interesting in their own right but they also lead to strong inapproximability results for interesting optimization problems.

As a concrete example take satisfiability of Boolean formulas. A classical NP-proof that a formula is satisfiable is given by an assignment that satisfies the formula and this is verified by reading the entire proof and checking that indeed the assignment satisfies the formula.

The PCP-theorem says that for satisfiability and hence for any NP-statement, there is a PCP that allows proofs of polynomial size and such that the verifier reads a constant number of bits, always accepts a correct proof and rejects a proof of a false NP-statement with probability at least  $1/2$ .

In the application to inapproximability it is important to optimize some of the parameters of the PCP and in particular we will be interested in proofs where the verifier only reads three bits.

In the lecture we will explain, but not prove, the PCP-theorem and discuss the connection to inapproximability.

If all present understand Swedish, the lecture will be given in Swedish and otherwise in English.

*Tid och plats:* Onsdagen den 5 december kl. 16.00 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.

## LICENTIATSEMINARIUM I MATEMATISK STATISTIK

**Patricia Geli**

presenterar sin licentiatavhandling:

### **Models Related to Growth and Selection of Antibiotic Resistant Bacteria under Drug Exposure**

*Inbjuden diskussionsinledare:* **Gianpaolo Scalia Tomba**, University of Rome Tor Vergata.

*Abstract:* The worldwide increase of antibiotic resistance and the simultaneous downward trend in development of new antimicrobial drugs have made efforts to prolong the life span of existing antibiotics of utmost importance.

It is known that different dosing-regimens of antibiotics may influence the selection of resistant bacteria. But the nature of variation with different dosing regimens is unknown.

This thesis focuses on mathematical models for the evolution of resistance within the treated host.

We will see that, in spite of simplifications, the models help in identifying key processes behind observed patterns such as selection of resistance, de novo acquired resistance and postantibiotic effects.

*Tid och plats:* Torsdagen den 6 december kl. 10.00 i sal 14, hus 5, Matematiska institutionen, SU, Kräftriket.

(Fortsättning på nästa sida.)

Patricia Gelis avhandling finns tillgänglig på  
<http://www.math.su.se/matstat/reports/seriea/2007/rep20/report.pdf>.

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## SEMINARIUM I MATEMATISK STATISTIK

**Tatyana Turova:**

### **Asymptotics for the size of the largest component scaled to $\log n$ in inhomogeneous random graphs**

*Abstract:* We study the inhomogeneous random graphs in the subcritical case. We derive an exact formula for the size of the largest connected component scaled to  $\log n$  where  $n$  is the size of the graph. In particular, we discover that the same well-known equation for the survival probability, whose positive solution determines the asymptotics of the size of the largest component in the supercritical case, plays the crucial role in the subcritical case as well. But now these are the negative solutions which come into play.

*Tid och plats:* Onsdagen den 28 november kl. 15.00 i rum 306 (Cramérummet), hus 6, Matematiska institutionen, SU, Kräftriket.

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## COMMON SU KOF/KTH THEORETICAL PHYSICS SEMINAR

**Marcus Berg:**

### **Introduction to orientifolds**

*Abstract:* I will introduce a few ideas and concepts around the theme of “orientifolds”, a generalization of manifolds to the point of view of unoriented extended objects probing them. This provides an intriguing connection between spacetime geometry, the geometry of the extended object, and the geometry of moduli space. I will speculate why the recent application of string theory techniques in condensed matter physics may evolve to involve orientifold techniques.

*Tid och plats:* Onsdagen den 5 december kl. 11.00–12.00 i sal FA31, Roslagstullsbacken 21, AlbaNova universitetscentrum.

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## SEMINARIUM I FINANSIELL MATEMATIK

**Oskar Schyberg**

presenterar sitt examensarbete:

### **A Monte Carlo Approach for Comparing and Evaluating Structured Equity Derivatives, Equity Linked Bonds: Principal Protected Bull Notes, using Visual Basic for Applications in Excel**

*Abstract:* On the Swedish market there has been a large increase of low risk structured equity derivatives.

These low risk equity linked notes are often referred to as “capital guaranteed” or “principal protected”. This is because the initial investment is repaid at maturity, regardless the performance of the underlying index.

The possibility of getting an “additional” return depends on the behaviour of the underlying, but also on several other parameters stated in the contract.

(Continued on the next page.)

In this thesis I will identify these parameters and use them in simulations of future contract returns. This is done by creating an Excel workbook with which the user can compare contracts with different properties, and with other simple derivatives.

I have used Monte Carlo simulation for estimating future values of the underlying. These values are then used when determining the payoff to the investor.

In an effort of creating a user-friendly computer environment, the simulation and comparison is done with Visual Basic for Applications (VBA), and Microsoft Excel 2007.

*Tid och plats:* Måndagen den 26 november kl. 13.15–14.00 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

## SMALL TALK SEMINAR

**Jonas Kiessling:**

### **Localizing subcategories of the derived category of a ring**

*Abstract:* I will discuss the classification of all localizing subcategories of the derived category of a Noetherian ring obtained by Neeman. I will also mention various results obtained by myself and Stanley concerning nullity and cellular classes, unstable analogues of localization classes.

*Tid och plats:* Fredagen den 30 november kl. 15.15 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

## STRUCTURAL EQUATION MODELING

En seminariedag med denna titel anordnas vid Institutionen för informationsvetenskap, Uppsala universitet, onsdagen den 5 december. Nedanstående två seminarier ges. Båda dessa äger rum i sal H429, Fakultetsklubben, Ekonomikum, Kyrkogårdsgatan 10, Uppsala. Den som vill ha ytterligare upplysningar kan ta kontakt med Rolf Larsson, e-post Rolf.Larsson@dis.uu.se.

**Ulf Henning Olsson:**

### **The power of the non-normality corrected chi-square statistics in Structural Equation Modeling**

*Abstract:* There are several different chi-square statistics offered in typically SEM softwares to deal with non-normal data. In this seminar we examine the power of two such chi-square statistics, namely the SB statistic (Satorra & Bentler, 1988) and the ADF statistic (Browne, 1984). The SB statistic corrects the normal theory chi-square with a scale factor which is estimated from the sample and involves the estimated asymptotic covariance matrix (ACM). The scale factor is estimated so that the SB statistic has an asymptotically correct mean. The ADF statistic under the assumption of correct model has an asymptotic chi-square distribution. Following the notation of Jöreskog, Sörbom, Du Toit, & Du Toit (2003), these chi-square statistics are denoted  $c_3$  and  $c_4$ , while the normal theory chi-square statistic is denoted  $c_2$ . In this study we will demonstrate how the power of  $c_3$  and  $c_4$  varies with increasing kurtosis in a homogeneous — and non-homogenous way. Since  $c_3$  and  $c_4$  depend on the ACM and the ACM depends on kurtosis,  $c_3$  and  $c_4$  are affected by kurtosis. We will use two different cases: The model of parametric drift, where the models hold in the population (when sample size goes to infinity) and a case where the models do not hold in the population.

*Tid:* Onsdagen den 5 december kl. 10.15–11.30.

(Fortsättning på nästa sida.)

**Albert Satorra:**  
**Assessment of validity in SEM models**

*Abstract:* Structural equation models (LISREL) are widely used in social, economic and behavioural sciences, market research, and other disciplines. A key aspect of the analysis is the assessment of validity of a model. A classical procedure to test the adequacy of the model is based on the chi-square goodness-of-fit test statistic. In this talk, we re-visit testing and a procedure to compute the power of the test in structural equation models. We investigate the robustness of this procedure with respect to deviations from normality. The role of the scaled chi-square goodness-of-fit test is discussed. We assess the sensitivity of the power to the distribution of the data. Monte Carlo results are to be presented.

*Tid:* Onsdagen den 5 december kl. 13.15–14.30.

**MITTAG-LEFFLER SEMINAR**

**Michael Röckner:**  
**Self-organized criticality via SPDE**

*Abstract:* The phenomenon of self-organized criticality is widely studied in Physics from different perspectives. The purpose of this talk is to present an approach to analyse this phenomenon in the framework of SPDE, more precisely via a class of stochastic evolution equations of a type analogous to the classical porous media equation with multiplicative noise, but with discontinuous diffusivity function. We shall present results on existence and uniqueness of strong solutions and prove that positivity of initial data is preserved. We also confirm extinction results from the Physics literature, obtained for one-dimensional underlying domains by numerical simulations, and prove finite time convergence to the critical state with high probability.

The talk is based on joint work with Viorel Barbu, Philippe Blanchard, and Giuseppe Da Prato.

*Tid och plats:* Torsdagen den 29 november kl. 15.30–16.30 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

**MONEY, JOBS**

*Columnist:* Johannes Lundqvist, Department of Mathematics, Stockholm University.  
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.

**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](http://www.umu.se/umu/aktuellt/stipendier_fond_anslag.html).

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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

#### *Money to apply for*

11. Stiftelsen G. S. Magnusons fond utlyser stipendier och anslag inom ämnesområdet matematik för följande ändamål: Stöd till doktorander. Stöd till den som önskar ytterligare meritera sig efter doktorsexamen. Stöd till svenska forskare för forskning hemma eller i utlandet samt för inbjudan av utländska gästforskare. Bidrag för att kvarhålla forskare inom landet. Stöd till den som inom sin verksamhet utnyttjar matematik och som önskar bidrag till vetenskaplig förkovran inom ämnet. Till doktorander utdelas stipendier med ett maximibelopp på 100 000 kronor, och till forskare som avlagt doktorsexamen år 2002 eller senare utdelas forskningsanslag med ett maximibelopp på 300 000 kronor. Anslag utgår under högst 1 år. Sista ansökningsdag är den 31 januari 2008. Web-info: [http://www.kva.se/KVA\\_Root/swe/awards/scholarships/detail\\_scholarships.asp?grantsId=45](http://www.kva.se/KVA_Root/swe/awards/scholarships/detail_scholarships.asp?grantsId=45).
12. Lennanders stiftelse utlyser stipendier för främjande av naturvetenskaplig och medicinsk forskning: 5 st à 103 000 kr och 10 st à 70 000 kr. I första hand delas stipendier ut till nydisputerade forskare som saknar försörjning eller doktorander som befinner sig i slutfasen av sin utbildning. Sista ansökningsdag är den 31 januari 2008. Web-info: <http://info.uu.se/fakta.nsf/sidor/separata.kungorelser.idA5.html>.

### Old information

#### *Money to apply for*

13. Institut Mittag-Leffler utlyser postdoktorala stipendier för verksamhetsåret 2008/09. Ämnesområdet för hösten 2008 är: "Geometry, analysis and general relativity". Ämnesområdet för våren 2009 är: "Discrete probability". Sista ansökningsdag är den 31 januari 2008. Web-info: <http://www.mittag-leffler.se/programs/0809/grants.php>.
14. Stiftelsen Längmanska kulturfonden utlyser bidrag för att främja bl.a. naturvetenskaper. Bidrag ges främst till särskilda ändamål, däremot inte till löpande verksamhet, periodiska skrifter och dylikt. Beviljade belopp är i regel i storleksordningen 15 000 – 40 000 kr. Sista ansökningsdag är den 15 januari 2008. Web-info: <http://www.langmanska.se/>.
15. Stiftelsen P. E. Lindahls fond utlyser två stipendier om vardera 150 000 kronor för vetenskapliga studier eller fortsatt praktisk utbildning i naturvetenskapliga ämnen inom eller utom Sverige. Sökande skall ha avlagt doktorsexamen år 2002 eller senare eller vara behörig att antagas till forskarutbildning och får inte inneha tjänst hos stat eller kommun. Tidigare har prioritering givits till nydisputerade forskare samt seniora forskare som är i behov av bidrag till fortsatt utbildning, exempelvis i form av resa/vistelse vid annat universitet. Sista ansökningsdag är den 17 december. Web-info: [http://www.kva.se/KVA\\_Root/swe/awards/scholarships/detail\\_scholarships.asp?grantsId=15](http://www.kva.se/KVA_Root/swe/awards/scholarships/detail_scholarships.asp?grantsId=15).

#### *Jobs to apply for*

16. Lunds universitet söker en biträdande universitetslektor i matematisk statistik med inriktning mot statistiska metoder inom livsvetenskaper. Sista ansökningsdag är den 14 december. Web-info: [http://www.naturvetenskap.lu.se/upload/LUPDF/natvet/Utlysningar/071123\\_3463.pdf](http://www.naturvetenskap.lu.se/upload/LUPDF/natvet/Utlysningar/071123_3463.pdf).