BRÅKET

Information om seminarier och högre undervisning i matematiska ämnen i Stockholmsområdet

NR 14 **FREDAGEN DEN 15 APRIL 2005**

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 21 april kl. 13.00.

Disputation i matematik

Tommy Ekola disputerar på avhandlingen *A Numerical Study of the Lorenz and Lorenz-Stenflo Systems* fredagen den 22 april kl. 10.00 i sal M3, KTH, Brinellvägen 64. Se Bråket nr 12 sidan 5.

NORDAN 2005

Denna konferens äger rum i Sigtuna under tiden 22 – 24 april. Se sidan 8.

SEMINARIER

Må 04–18 kl. 10.30 – 11.30. Seminar in Random and Deterministic Spectra. Jens Svensson, KTH: *Sample covariance matrices and the Marcenko-Pastur law.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Må 04–18 kl. 13.15 – 14.15. DNA-seminariet Uppsala-KTH (Dynamical systems, Number theory, Analysis). Andreas Juhl, Humboldt-Universität zu Berlin: *Automorphic distributions, Selberg zeta functions and conformal geometry.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 13 sidan 10.

Må 04–18 kl. 13.15 – 14.15. Seminar in Analysis and its Applications. Harold Shapiro: *Algebraic aspects of Dirichlet's problem.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 9.

Må 04–18 kl. 15.15 – 16.00. Seminarium i finansiell matematik. Mattias Jansson presenterar sitt examensarbete: *On the pricing of Bermudan swaptions with an application to limited observed market data.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 3.

Må 04–18 kl. 16.15 – 17.00. Seminarium i finansiell matematik. Andreas Johansson presenterar sitt examensarbete: *Stochastic modelling of commodity prices with applications to the German market.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 7.

Fortsättning på nästa sida.

Money, jobs: Se sidorna 9 – 10.

Seminarier (fortsättning)

Må 04–18 kl. 18.30. Populärvetenskaplig föreläsning i fysik. Professor Gunnar von Heijne, Bioinformatik, SU: *Livets tunna hinna — cellmembranet: Om cellmembranens fascinerande mikrovärld.* Oskar Kleins auditorium, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se Bråket nr 13 sidan 7.

Ti 04–19 kl. 10.15. Plurikomplexa seminariet. Ragnar Sigurdsson, Reykjavik: *The Siciak-Zahariuta extremal function as the envelope of disc functionals.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 4.

Ti 04–19 kl. 13.15. Plurikomplexa seminariet. Slimane Benelkourchi, Toulouse: *Polya's inequalities and global uniform integrability of plurisubharmonic functions.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 5.

Ti 04–19 kl. 14.00–15.00. Mittag-Leffler Seminar. Pontus Andersson, Linköpings universitet: *Orientation insensitive directed graphs and partially ordered sets.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

Ti 04–19 kl. 15.30–16.30. Mittag-Leffler Seminar. Bridget Tenner, MIT, Cambridge: *A non-messing-up phenomenon for posets.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

On 04–20 kl. 13.00. Seminarium i statistik. Caroline Barnklev, Matematisk statistik, Lunds universitet: *Titel meddelas senare.* Sal B705, Statistiska institutionen, SU, Universitetsvägen 10B, plan 7, Frescati.

On 04–20 kl. 13.15–14.00. Docentföreläsning i matematisk statistik. *(Observera tiden!)* **Örjan Stenflo,** SU: *Iterated random functions.* Rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 5.

On 04–20 kl. 13.15–14.15. Seminarium i analys och dynamiska system. Stefan Rauch-Wojciechowski, Linköpings universitet: *Phase space, invariant manifolds and stability properties of asymptotic solutions of the Tippe Top.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 13 sidan 8.

On 04–20 kl. 13.15. Logikseminariet Stockholm-Uppsala. Göran Hamrin: *Admissible domain representations of topological spaces.* Sal MIC 3513, Matematiska institutionen, Polacksbacken, Uppsala universitet.

On 04–20 kl. 14.15–15.00. Docentföreläsning i matematik. Julius Borcea: *On rational approximation of algebraic functions.* Rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 5.

On 04–20 kl. 15.15. Seminarium i matematisk statistik. Henrik Bengtsson, Matematisk statistik, Lunds universitet: *Affine calibration and normalization for microarray data.* Rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 6.

On 04–20 kl. 16.00. KTH/SU Mathematics Colloquium. Professor Franc Forstneric, University of Ljubljana: *Complex manifolds, holomorphic mappings and gauge theory.* Sal 14, hus 5, Matematiska institutionen, SU, Kräftriket. Kaffe/te serveras kl. 15.30 i lunchrummet, Matematiska institutionen, SU. Se sidan 6.

To 04–21 kl. 14.00–15.00. Mittag-Leffler Seminar. Mark Skandera, Dartmouth College, Hanover: *Applications of Kazhdan-Lusztig immanants.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

Fortsättning på nästa sida.

Seminarier (fortsättning)

To 04–21 kl. 14.30–15.30. DNA-seminariet Uppsala-KTH (Dynamical systems, Number theory, Analysis). Carles Simó, Universitat de Barcelona: *Chaos and quasi-periodicity in diffeomorphisms of the solid torus.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 13 sidan 10.

To 04–21 kl. 15.30–16.30. Mittag-Leffler Seminar. Boris Shapiro, SU: *On sequences of polynomials and rational functions satisfying finite recurrence relations.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

To 04–21 kl. 16.00–17.00. DNA-seminariet Uppsala-KTH (Dynamical systems, Number theory, Analysis). Robert MacKay, Warwick Mathematics Institute: *Coupled map lattices with non-unique phase.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Må 04–25 kl. 13.15–14.15. Seminar in Analysis and its Applications. Gunilla Kreiss, Nada, KTH: *Stability of viscous shock waves.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 7.

Må 04–25 kl. 13.15–14.15. DNA-seminariet Uppsala-KTH (Dynamical systems, Number theory, Analysis). Eric Bedford, Indiana University: *Characterization of the horseshoes in the Henon family.* Seminariet äger rum i Uppsala. Lokal meddelas senare.

On 04–27 kl. 13.00. Seminarium i statistik. Hans Nyquist: *Design av experiment, minikurs, del 1.* Sal B705, Statistiska institutionen, SU, Universitetsvägen 10B, plan 7, Frescati.

On 04–27 kl. 16.00–17.00. KTH/SU Mathematics Colloquium. Professor Henri Berestycki, École des Hautes Études en Sciences Sociales, Paris: *Reaction-diffusion equations and propagation phenomena.* 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 4.

SEMINARIUM I FINANSIELL MATEMATIK

Mattias Jansson

presenterar sitt examensarbete:

On the pricing of Bermudan swaptions with an application to limited observed market data

Abstract: The focus of this thesis is on the risk neutral valuation of Bermudan swaptions and its application to pricing situations where observed market data used for calibration are limited. By exploring the properties of the solution to the optimal stopping problem that specifies the price process of these instruments, a general valuation method suited for practical computations is suggested. The valuation method is based on restricting the evolution of the short rate process to that of a recombining binomial tree and is able to produce fast price estimates of Bermudan swaptions based on limited input data when specifying the dynamics of the short rate process to the Ho-Lee model.

Tid och plats: Måndagen den 18 april kl. 15.15–16.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

PLURIKOMPLEXA SEMINARIET

Ragnar Sigurdsson:
The Siciak-Zahariuta extremal function as the envelope of disc functionals

Abstract: In this lecture I will report on a joint work in progress with Finnur Lárusson. Let me first explain the words of the title. The Siciak-Zahariuta extremal function V_X of a subset X of the affine space $\mathbb{C}^n$ is also called the pluricomplex Green function of X with logarithmic pole at infinity. It is defined as the supremum of the class of all plurisubharmonic functions u on $\mathbb{C}^n$ of minimal growth with $u|X \leq 0$. A plurisubharmonic function u on $\mathbb{C}^n$ is said to be of minimal growth (and belong to the Lelong class $\mathcal{L}$) if $u - \log\|\cdot\|$ is bounded above. A disc functional on a manifold Y is a function H defined on the set $\mathcal{A}_Y$ of all (closed) analytic discs in Y and taking values in the extended real line. A closed analytic disc is a holomorphic map f defined in some neighbourhood of the closed unit disc in the complex plane with values in Y. The envelope of H with respect to the subclass $\mathcal{B}$ of $\mathcal{A}_Y$ is a function $E_{\mathcal{B}}H$ defined as

$$E_{\mathcal{B}}H(y) = \{H(f); f \in \mathcal{B}, f(0) = y\}, \quad y \in Y.$$

In 1996 Momm published a formula due to Lempert for the Siciak-Zahariuta function of strictly convex domains. By looking at functions of minimal growth as quasi-plurisubharmonic functions with respect to the current of integration along the hyperplane at infinity in $\mathbb{P}^n$, as explained by Guedj and Zeriahi in a recent work, it is possible to write the Lempert formula as an envelope of a disc functional. We extend this formula to hold for any open X in $\mathbb{C}^n$.

Tid och plats: Tisdagen den 19 april kl. 10.15 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

KTH/SU MATHEMATICS COLLOQUIUM

Henri Berestycki:
Reaction-diffusion equations and propagation phenomena

Abstract: Front or pulse propagation phenomena arise in a variety of contexts such as flames, chemical reactions, phase transitions, biological invasions and even social behaviours. Equations and systems of reaction-diffusion (possibly with transport or advection terms) have long been used to describe these phenomena. In this lecture, after recalling these models, I will survey some of the classical results dealing with the homogeneous reaction-diffusion equation, focusing on propagation of fronts and asymptotic speed of spreading. Then I will present some generalizations regarding propagation in heterogeneous media. I will discuss in particular biological invasions in periodic heterogeneous media as well as a model for species facing a climate change. The results emphasize some new effects due to heterogeneity.

Tid och plats: Onsdagen den 27 april 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.

PLURIKOMPLEXA SEMINARIET

Slimane Benelkourchi:
Polya's inequalities and global uniform integrability of plurisubharmonic functions

Abstract: We prove some inequalities comparing uniformly the relative volume of a Borel subset with its relative logarithmic capacity in $\mathbb{C}^n$. An analoguous comparison inequality for Borel subsets of a generic real subspace of $\mathbb{C}^n$ is also given. Then we give several applications of these inequalities. First we obtain sharp uniform estimates on the size of plurisubharmonic lemniscates associated to the Lelong class of plurisubharmonic functions as well as the Cegrell classes of plurisubharmonic functions. Then we also deduce some results on the global behaviour of both the Lelong class and the Cegrell classes of plurisubharmonic functions.

Tid och plats: Tisdagen den 19 april kl. 13.15 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

DOCENTFÖRELÄSNING I MATEMATISK STATISTIK

Örjan Stenflo:
Iterated random functions

Abstract: In this lecture I will give an introduction to fractal image generation via random iterations of functions. If the iterates are independent of each other and the choice of function to iterate in each iteration-step is made according to a fixed probability distribution, then the generated stochastic sequence will be a Markov chain. (In the simplest case we can interpret an image as a stationary distribution for such a chain.) I will describe how contraction properties can be used to show convergence properties of the generated Markov chain. These properties imply a unique stationary probability distribution for the Markov chain, which can be simulated despite the fact that we do not have a simple explicit expression for it.

Tid och plats: Onsdagen den 20 april kl. 13.15 – 14.00 i rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket.

DOCENTFÖRELÄSNING I MATEMATIK

Julius Borcea:
On rational approximation of algebraic functions

Abstract: Recently there have appeared several counterexamples to the general form of the Padé (Baker-Gammel-Wills) conjecture for meromorphic functions. In this talk we review some of the background on this topic and we construct a new scheme of approximation of any dominant algebraic function by a sequence of rational functions. Compared to the usual Padé approximation this new scheme has a number of advantages, such as simple computational procedures that allow us to prove natural analogues of the Padé conjecture and Nuttall's conjecture. By using this construction we can control the behaviour of spurious poles and describe the support and the density of the asymptotic ratio distribution of the family of rational approximants. We will also discuss some applications and related problems.

Tid och plats: Onsdagen den 20 april kl. 14.15 – 15.00 i rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket.

SEMINARIUM I MATEMATISK STATISTIK

Henrik Bengtsson:
Affine calibration and normalization for microarray data

Abstract: The microarray technology has revolutionized research in the life sciences and still does. A key aspect of microarray analysis is low-level analysis where technical variation is identified and removed from the biological signals. This is on the surface a simple problem, but after more than five years, it turns out to still be a rather open problem.

We have carried out a methodological study on common normalization methods under affine transformations of gene expression data. We concluded that an affine model can explain many of the commonly observed discrepancies and systematic effects in gene-expression levels and observed log-ratios, especially the well-known intensity-dependent effects.

As part of this study we identified a source of bias in expression data. The microarray scanner offsets signals by approximately 20 units (on 0 – 65535). Although this is only 0.03 percent of the maximum signal, it is enough to introduce significant non-linearity on the log-scale. We give a model and simple protocol to identify and calibrate for such scanner bias.

Closely related to the above scanner calibration method is affine normalization. It is also based on an affine model, but for which the parameters are not fully identifiable. Additional constraints are added to overcome this problem.

If time allows, we will show preliminary results based on the correlation test in the recent Ploner et al. 2005 publication.

References:

H. Bengtsson, O. Hössjer, *Methodological study of affine transformations of gene expression data with proposed normalization method.* Preprints in Mathematical Sciences 2003:38, Centre for Mathematical Sciences, Lund University, 2003.

H. Bengtsson, H. Jönsson, J. Vallon-Christersson, *Calibration and assessment of channel-specific biases in microarray data with extended dynamical range.* BMC Bioinformatics, 2004, vol. 5.

A. Ploner, L. Miller, P. Hall, J. Bergh, Y. Pawitan, *Correlation test to assess low-level processing of high-density oligonucleotide microarray data.* BMC Bioinformatics, 2005, vol. 6.

Tid och plats: Onsdagen den 20 april kl. 15.15 i rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket.

KTH/SU MATHEMATICS COLLOQUIUM

Franc Forstneric:
Complex manifolds, holomorphic mappings and gauge theory

Abstract: One believes that there are many more continuous maps than holomorphic maps between any pair of complex manifolds. But is this really always so? In this talk we shall discuss conditions which ensure that every continuous map can be deformed to a holomorphic one, possibly after a change of the complex structure on the source manifold. For manifolds of real dimension four, gauge theory provides interesting additional insight and limitations. Can there be an analogue in higher dimensions?

Tid och plats: Onsdagen den 20 april kl. 16.00 i sal 14, hus 5, Matematiska institutionen, SU, Kräftriket. Kaffe/te serveras kl. 15.30 i lunchrummet, Matematiska institutionen, SU.

SEMINARIUM I FINANSIELL MATEMATIK

Andreas Johansson

presenterar sitt examensarbete:

Stochastic modelling of commodity prices with applications to the German market

Abstract: This thesis describes some aspects of the stochastic behaviour of commodity prices. We establish a connection between the price on crude oil and electricity in the German market and implement stochastic models for the price process of these two commodities. First we implement a one-factor model according to Schwartz (1997), in which the logarithm of the spot price follows an Ornstein-Uhlenbeck process. Further, a variant of the Gibson and Schwartz (1990) two-factor model suggested by Carmona and Ludkovski (2004) is implemented, where the spot price is modelled as a geometric Brownian motion and the convenience yield as an Ornstein-Uhlenbeck process. In this model the convenience yield enters the drift of the spot price and introduces mean reversion in the spot price. We also verify the hypothesis that the convenience yield is the net flow of services that accrues to the holder of a physical commodity and show that it can serve as an indicator of market transitions between contango and backwardation.

A futures volatility model inspired by Blix (2003) is a different approach that is discussed, where we try to fit the historical futures volatility term structure and from this retreive the futures price. The model accounts for the seasonality as well as the time to maturity effect in the futures price volatility, which also corresponds to mean reversion in the spot price.

Tid och plats: Måndagen den 18 april kl. 16.15 – 17.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

SEMINAR IN ANALYSIS AND ITS APPLICATIONS

Gunilla Kreiss:
Stability of viscous shock waves

Abstract: The starting point is the Cauchy problem for a viscous conservation law with a solution consisting of a thin, viscous shock layer connecting smooth regions. We expect the time-dependent behaviour of such a solution to involve two processes. One process consists of the large scale evolution of the system, and is well modelled by the inviscid equations. The other process is the adjustment in shape and position of the shock layer to the large scale solution. The time scale of the second process is much faster than the first. The second process can be divided into two parts, adjustment in shape and position. During this adjustment the end states are essentially constant.

In order to analyse the stability we have developed a technique where the two processes can be seperated. To isolate the fast process we consider the region in the vicinity of the shock layer. The equations are augmented with special boundary conditions, which reflect the slow change of the endstates. We show that for this problem perturbations decay exponentially fast.

Tid och plats: Måndagen den 25 april kl. 13.15 – 14.15 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

NORDAN 2005
Complex analysis, complex geometry and complex dynamics
April 22 – 24, 2005

The conference NORDAN 2005 on Complex analysis, complex geometry and complex dynamics will be held at Sigtuna humanistiska läroverk from Friday, April 22, to Sunday, April 24. See the webpage http://www.math.uu.se/nordan for more information.

Friday, April 22

13.00 Lunch at Sigtunastiftelsen.
15.00 A word of welcome.
15.05 – 15.50 **John Wermer,** Providence: *The Cauchy-Green formula on the unit sphere in $\mathbb{C}^2$, and approximation.*
15.50 – 16.20 Coffee break.
16.20 – 17.05 **Eric Bedford,** Bloomington: *Birational mappings, with connections to complex analysis.*
17.15 – 18.00 **Franc Forstneric,** Ljubljana: *Deformations of Stein structures and holomorphic mappings.*
18.30 Dinner.

Saturday, April 23

9.00 – 9.45 **Bodil Branner,** Copenhagen: *Topological properties of dynamically defined sets in holomorphic dynamics of one variable.*
9.55 – 10.40 **Pekka Tukia,** Helsinki: *Limits of Teichmüller mappings on trajectories.*
10.40 – 11.05 Coffee break.
11.05 – 11.50 **Tien-Cuong Dinh,** Paris: *Dynamics in several complex variables.*
12.00 Lunch.
15.30 – 16.00 Coffee break.
16.00 – 16.45 **Kari Astala,** Helsinki: *Complex analysis, inverse problems and quasiconformal mappings.*
16.55 – 17.40 **Robert Berman,** Göteborg: *Holomorphic Morse inequalities on manifolds with boundary.*
17.50 – 18.35 **Markku Ekonen,** Helsinki: *Mean-value inequalities and subharmonicity properties.*
19.00 Dinner.

Sunday, April 24

9.00 – 9.45 **Bruno Fabre,** Paris: *Locally residual currents and cohomology on algebraic varieties.*
9.50 – 10.35 **Dmitry Akhiezer,** Moscow: *Spherical Stein spaces.*
10.35 – 11.00 Coffee break.
11.00 – 11.45 **Mattias Jonsson,** Stockholm: *Behaviour at infinity of polynomial maps of $\mathbb{C}^2$.*
12.00 Lunch.

The hours between lunch and coffee break in the afternoon on Saturday, April 23, are reserved for discussions.

SEMINAR IN ANALYSIS AND ITS APPLICATIONS

Harold Shapiro: Algebraic aspects of Dirichlet's problem

Résumé: This is a report of ongoing joint work by a group which has now snowballed to include Steve Bell, Peter Ebenfelt, and Dmitry Khavinson in addition to the speaker. It is a sequel to a seminar I gave in the Fall term (see Bråket 2004, no. 26, page 4) but today's presentation will be self-contained and should be easily understandable to listeners having no familiarity with the earlier talk.

By the Dirichlet problem (DP) I mean here, to find a harmonic function in some domain in R^d which coincides on the boundary with some given ("data") function. In today's talk all domains will be simply connected with smooth boundaries and all data very regular, so that existence and uniqueness of the solution is assured by classical theorems.

Our point of departure is two results whose provenance is hard to trace. They are constantly being rediscovered and may be considered as "folklore":

Theorem A. If the domain is an ellipsoid in R^d, and the data are a polynomial, the solution to the DP is also a polynomial, of degree at most equal to that of the data.

Theorem B. If the domain is a disk in R^2, and the data are a rational function, the solution to the DP is also a rational function.

The proofs are very simple and elementary. Note that Theorem B is only stated in dimension 2. Indeed it is false in higher dimensions (this was the theme of my earlier seminar).

One naturally wonders about the converse statements, which can be formulated as

Conjecture A. If we have a domain in R^d such that the solution to every DP with polynomial data is a polynomial, then the domain is an ellipsoid (which may be degenerated to a ball).

This is unsolved. It is very easy to prove if we make the additional assumption that the degree of the solution to the DP does not exceed the degree of the data.

The converse to Theorem B can be formulated as

Theorem B′. If, for some plane domain, the solution of each DP with rational data is a rational function, the domain is a disk.

The main point of the talk will be to outline a proof of Theorem B′. It involves some interesting and unexpected ideas of geometric-combinatorial nature concerning the possibility of isometrically embedding certain finite subsets of C^2 into a given algebraic variety. These ideas also enable one to prove some special cases of Conjecture A, but only in the two-dimensional case.

Tid och plats: Måndagen den 18 april kl. 13.15 – 14.15 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

MONEY, JOBS

Columnist: Hans Rullgård, Department of Mathematics, SU. E-mail: hansr@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/~hansr/mj.html.
Unless stated otherwise, a given date is the last date (e.g. for applications), and the year is 2005. 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.

(Continued on the next page.)

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://www.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. Institutionen för kemi och biomedicinsk vetenskap vid Högskolan i Kalmar söker en vikarierande universitetslektor/-adjunkt i matematik samt en vikarierande universitetslektor/-adjunkt i matematik med inriktning mot matematikens didaktik/utbildningsvetenskap, 26 april. Info: Håkan Hallmer, 0480-44 62 01, e-post hakan.hallmer@hik.se, Anders Tengstrand, 0480-44 64 70, e-post anders.tengstrand@hik.se. Web-info: http://www.hik.se/nyheter/. Se Bråket nr 13 sidorna 9 – 10.

Old information

Money, to apply for

12. Stockholms universitets donationsstipendier är utlysta. Sista ansökningsdag är den 15 april. Web-info: http://www.su.se/forskning/stipendier/donationsstipendier.php3.
13. Vetenskapsrådets årliga utlysning av bidrag till projekt, postdok, anställning som forskarassistent med mera finns nu på http://www.vr.se/forskning/bidrag/. Sista ansökningsdag för natur- och teknikvetenskap är den 19 april.
14. Från Knut och Alice Wallenbergs Stiftelse ställs anslag till rektors för KTH förfogande för att "i första hand användas till bidrag för sådana resor, som bäst befordrar ett personligt vetenskapligt utbyte till gagn för svensk forskning. Bidrag skall främst beviljas till yngre forskare. Medel kan även — efter rektors bedömning — undantagsvis disponeras för utländska gästforskare." Bidrag kan sökas under hela året. Info: Anette Nyström, 08-790 70 59. Web-info: se punkt 4 ovan.

Jobs, to apply for

15. Institutionen för matematik och matematisk statistik vid Umeå universitet söker doktorander i matematik och matematisk statistik, 25 april. Info: Anders Fällström, 090-786 53 76, e-post Anders.Fallstrom@math.umu.se. Web-info: http://www.math.umu.se/Vacancies/index.html.
16. Matematiska institutionen vid Uppsala universitet utlyser tre utbildningsbidrag i matematik eller matematisk logik och ett utbildningsbidrag i matematisk statistik, 2 maj. Info: Anders Öberg, 018-471 31 96, e-post Anders.Oberg@math.uu.se. Web-info: http://www.math.uu.se/inform/utbbidrag.php.
17. Statistiska institutionen vid Lunds universitet utlyser utbildningsbidrag/anställning som doktorand i statistik, 15 april. Info: Björn Holmquist, 046-222 89 26, e-post Bjorn.Holmquist@stat.lu.se, Krzysztof Nowicki, 046-222 89 18, e-post Krzysztof.Nowicki@stat.lu.se. Web-info: http://www2.stat.lu.se/education/grad/UtbBidragVT05.htm.
18. Ansökan om antagning till forskarutbildning i matematik vid Matematiska institutionen, SU, skall vara institutionen tillhanda senast den 15 april. Web-info: http://www.math.su.se/matematik/forskning/ansokan.html.