



BRÅKET



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

NR 10

FREDAGEN DEN 16 MARS 2007

BRÅKET

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

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Red. för Bråket

Institutionen för matematik

KTH

100 44 Stockholm

Sista manustid för nästa nummer:
Torsdagen den 22 mars kl. 13.00.

SEMINARIER

Fr 03–16 kl. 11.00–12.00. **Joint CIAM and Optimization and Systems Theory Seminar.** Per Kreuger, Swedish Institute of Computer Science, Kista: *Mixed integer-linear formulations of cumulative scheduling constraints*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 9 sidan 6.

Fr 03–16 kl. 13.15–14.15. **Graduate Student Seminar.** Christian Lundkvist, Matematik, KTH: *The Grassmannian*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 9 sidan 10.

Må 03–19 kl. 15.15–17.00. **Seminarium i finansiell matematik.** Fredrik Armerin: *An alternative approach to the valuation of cash flows*. Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 4.

Ti 03–20 kl. 10.15. **Plurikomplexa seminariet.** Edgar Tchoundja, Göteborg: *Carleson measures on Hardy Sobolev spaces*. Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 4.

Fortsättning på nästa sida.

Disputation i matematik

Tanja Bergkvist disputerar vid SU på avhandlingen *Asymptotics of Eigenpolynomials of Exactly-Solvable Operators* fredagen den 30 mars kl. 13.00. Se sidan 7.

Disputation i matematik

Jonas Sjöstrand disputerar på avhandlingen *Enumerative combinatorics related to partition shapes* fredagen den 23 mars kl. 13.15 i sal F3, KTH, Lindstedtsvägen 26, b.v. Se Bråket nr 9 sidan 13.

Kurs

Anton Khoroshkin: Operad theory and Homological algebra. Se sidan 4.

Seminar in PDE and Potential Theory

Detta äger rum vid KTH måndagen den 26 mars. Se sidan 8.

Money, jobs: Se sidorna 8–9.

Seminarier (fortsättning)

- Ti 03–20 kl. 14.00–15.00. Mittag-Leffler Seminar. Timothy Logvinenko, KTH:** *Non-commutative crepant resolutions and the arising moduli constructions.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se Bråket nr 9 sidan 11.
- On 03–21 kl. 10.30. Logikseminariet Stockholm-Uppsala. Olov Wilander: Proofs and Partiality.** Sal 11167, Ångströmlaboratoriet, Uppsala universitet. Se sidan 5.
- On 03–21 kl. 11.00–12.00. Common SU KoF/KTH Theoretical Physics Seminar. Subhash Chaturvedi, Hyderabad: Wigner distributions for qudits: Two approaches.** Sal FA31, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se Bråket nr 9 sidan 10.
- On 03–21 kl. 13.15–14.15. Seminarium i analys och dynamiska system. Per Sjölin, Matematik, KTH: Estimates for multiparameter maximal operators of Schrödinger type.** Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.
- On 03–21 kl. 15.00–15.45. Seminarium i matematisk statistik. Niklas Norén, Uppsala Monitoring Centre och SU: Concepts of interaction in adverse drug reaction surveillance.** Rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 6.
- On 03–21 kl. 15.15–16.15. Seminarium i PDE och spektralteori. Anders Hansson, Matematik, KTH: Eigenvalue estimates for the Aharonov-Bohm operator in a domain.** Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 5.
- On 03–21 kl. 15.15. Docentföreläsning i matematisk logik. Fil. dr Vera Djordjevic: Satisfiability in finite structures of statements in first-order logic.** Sal Å11167, Ångströmlaboratoriet, Uppsala universitet.
- To 03–22 kl. 10.30. Seminarium i strömningsmekanik. Clarence Rowley, Princeton: Model reduction for control of fluids, using balanced truncation.** Seminarierummet, Institutionen för mekanik, KTH, Teknikringen 8.
- To 03–22 kl. 11.00–12.00. Mittag-Leffler Seminar. Sam Payne, University of Michigan: Moduli of toric vector bundles.** Institut Mittag-Leffler, Auravägen 17, Djursholm. Se Bråket nr 9 sidan 8.
- To 03–22 kl. 14.00–15.00. Mittag-Leffler Seminar. Elena Kreines, Moscow State University: Generalized Grothendieck dessins d'enfants and compactifications of moduli spaces.** Institut Mittag-Leffler, Auravägen 17, Djursholm. Se Bråket nr 9 sidan 11.
- To 03–22 kl. 14.00–16.00. Kollokvium i filosofi. Ralph Wedgwood, Oxford: The normativity of the intentional.** Rum F347, Filosofiska institutionen, SU.
- To 03–22 kl. 15.15–16.15. AlbaNova and Nordita Colloquium in Physics. Anna Lipniacka, Institutt for Fysikk og Teknologi, Bergen: The Large Hadron Collider, shining light on the dark side of the Universe.** Oskar Kleins auditorium, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se Bråket nr 9 sidan 7.
- To 03–22 kl. 15.30–16.30. Mittag-Leffler Seminar. Orsola Tommasi, Johannes Gutenberg-Universität Mainz: Discriminants and cohomology of moduli spaces of curves.** Institut Mittag-Leffler, Auravägen 17, Djursholm. Se Bråket nr 9 sidan 11.

Fortsättning på nästa sida.

Seminarier (fortsättning)

- Fr 03–23 kl. 10.00. Licentiatseminarium i datalogi.** Daniel Aarno presenterar sin licentiatavhandling: *Intention Recognition in Human Machine Collaborative Systems*. Opponent: Associate Professor Darius Burschka, Technische Universität München. Sal D31, KTH, Lindstedtsvägen 17, b.v. Se Bråket nr 9 sidorna 9–10.
- Fr 03–23 kl. 10.15. Kombinatorikseminarium.** (*Observera tiden och lokalen!*) Professor Christian Krattenthaler, Universität Wien: *Growth diagrams, and increasing and decreasing chains in fillings of cell diagrams*. Sal D32, KTH, Lindstedtsvägen 5, b.v. Se Bråket nr 9 sidan 12.
- Professor Krattenthaler är opponent vid Jonas Sjöstrands disputation. Se Bråket nr 9 sidan 13.*
- Fr 03–23 kl. 13.15–14.15. Graduate Student Seminar.** Stephanie Yang, Institut Mittag-Leffler: *Linear systems of plane curves*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 5.
- Må 03–26 kl. 10.00–15.20. Seminar in PDE and Potential Theory.** Se sidan 8.
- Må 03–26 kl. 15.15–17.00. Seminarium i matematisk statistik.** Lars Holst: *Om rekord i slump permutationer och Pólyas urnmodell*. Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 5.
- On 03–28 kl. 10.15. Kombinatorikseminarium.** Jakob Björnberg, KTH och Cambridge: *Random Poisson flows on graphs*. Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 6.
- On 03–28 kl. 11.00–12.00. Common SU KoF/KTH Theoretical Physics Seminar.** George I. Japaridze, Andronikashvili Institute of Physics, Tbilisi, Georgien: *Competing effects of interactions and spin-orbit coupling in a quantum wire*. Sal FA31, Roslagstullsbacken 21, AlbaNova universitetscentrum. Se sidan 7.
- On 03–28 kl. 13.15–14.15. Seminarium i analys och dynamiska system.** Alexandru Aleman, Lund: *Title to be announced*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.
- Observera att Alexandru Aleman skall hålla sitt seminarium den 28 mars. I Bråket nr 9 anges fel datum för detta seminarium.*
- On 03–28 kl. 16.00–17.00. KTH/SU Mathematics Colloquium.** Wojciech Chachólski, KTH: *How to quantify complexity of fibrations of topological spaces*. 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 03–29 kl. 15.15–16.15. AlbaNova and Nordita Colloquium in Physics.** Hans Ågren, Teoretisk kemi, Institutionen för bioteknologi, KTH-AlbaNova: *Multi-scale modeling of soft materials*. Oskar Kleins auditorium, Roslagstullsbacken 21, AlbaNova universitetscentrum.
- Fr 03–30 kl. 13.15–14.15. Graduate Student Seminar.** Yacin Ameer, Matematik, KTH: *Title to be announced*. Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.
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MINI-COURSE IN MATHEMATICS

Operad theory and Homological algebra

Lecturer: Anton Khoroshkin.

Time and place: Thursdays, March 15, 22 and 29, at 10.15–12.00 in room 306, house 6, Department of Mathematics, Stockholm University, Kräftriket.

Plan:

- 1) Operads, definitions and examples.
- 2) Deformation theory and homological algebra.
- 3) Quadratic operads.
- 4) Quillen duality, Koszul duality.
- 5) Koszul property for algebras and operads.
- 6) Applications for Hilbert series and formality theorems.

SEMINARIUM I FINANSIELL MATEMATIK

Fredrik Armerin:

An alternative approach to the valuation of cash flows

Abstract: In some cases of cash flow valuation, the standard approach of using no-arbitrage arguments is not a good modelling framework. In this talk I will discuss what problems may occur, and present an alternative approach. Instead of focusing on the financial market and its traded asset, the main object of study is the cash flows. The cash flows are modelled as quite general stochastic processes, and by applying a representation theorem from the general theory of processes, we are able to study the behaviour of valuation principles, as well as properties of the stochastic discount factor they imply.

The valuation model presented is especially useful when there is no underlying financial market, as is often the case when valuing cash flows arising from insurance contracts and in the application of real options. As an example of this approach, the valuation of the liabilities of an insurance company is considered. I will compare the results of the model with the concepts of fair value and market consistent valuation.

Tid och plats: Måndagen den 19 mars kl. 15.15–17.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

PLURIKOMPLEXA SEMINARIET

Edgar Tchoundja:

Carleson measures on Hardy Sobolev spaces

Abstract: Carleson measures on various spaces of holomorphic functions in the unit ball of \mathbb{C}^n have been studied extensively, since Carleson's original result for the disk. In this talk, we will study Carleson measures on Hardy Sobolev spaces (including Hardy space). We will present an alternative proof of some known results, of the characterization of Carleson measures for these spaces. We could discuss a new result (using singular integral techniques) dealing with some difficult cases.

Tid och plats: Tisdagen den 20 mars kl. 10.15 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

LOGIKSEMINARIET STOCKHOLM-UPPSALA

**Olov Wilander:
Proofs and Partiality**

Abstract: It is well-known that equational logic is not sound for structures with partial functions. A sound system for Horn logic with partial functions, called PHL (investigated by E. Palmgren and S. Vickers, and presented earlier in the Stockholm-Uppsala logic seminar), is one of many alternative systems. In this talk, we extend PHL to handle, not only partial, but also lazy functions. Further, some proof theoretic properties of the new system, and particularly its precise relation to PHL, are investigated.

Tid och plats: Onsdagen den 21 mars kl. 10.30 i sal 11167, Ångströmlaboratoriet, Uppsala universitet.

SEMINARIUM I PDE OCH SPEKTRALTEORI

**Anders Hansson:
Eigenvalue estimates for the Aharonov-Bohm operator in a domain**

Abstract: In a joint paper with Rupert Frank, we prove semi-classical estimates on moments of eigenvalues of the Aharonov-Bohm operator $H_\alpha^\Omega = (\mathbf{D} - \alpha \mathbf{A}_0)^2$ in $L^2(\Omega)$, where $\Omega \subset \mathbb{R}^2$ is a bounded domain and $\alpha \mathbf{A}_0(x) = \alpha |x|^{-2}(-x_2, x_1)^T$.

Moreover, we present a counterexample to the generalised diamagnetic inequality which was proposed by Erdős, Loss and Vougalter. Numerical studies complement these results.

Tid och plats: Onsdagen den 21 mars kl. 15.15–16.15 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

GRADUATE STUDENT SEMINAR

**Stephanie Yang:
Linear systems of plane curves**

Abstract: I will discuss a family of conjectures concerning the geometry and behaviour of plane curves with multiple singularities.

Tid och plats: Fredagen den 23 mars kl. 13.15–14.15 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

SEMINARIUM I MATEMATISK STATISTIK

**Lars Holst:
Om rekord i slump permutationer och Pólyas urnmodell**

Sammanfattning: Följden av resultat vid en del idrottstävlingar, som störtlopp, ger upphov till en ordningsbevarande följd av permutationer. För en viss typ av slumpmässiga placeringar analyseras bl.a. hur rekordhållarna flyttar sig i resultatlistan med hjälp av Pólyas urnmodell. Detta är en relativt fristående fortsättning av seminarierna den 29 januari (se Bråket nr 2 sidan 4) och den 19 februari (se Bråket nr 5 sidan 6).

Tid och plats: Måndagen den 26 mars kl. 15.15–17.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

SEMINARIUM I MATEMATISK STATISTIK**Niklas Norén:****Concepts of interaction in adverse drug reaction surveillance**

Abstract: Interaction between drug substances may lead to excessive risk of certain adverse drug reactions (ADR's) when two drugs are taken at the same time. If previously unknown high risk drug combinations can be identified, they can potentially be avoided in the future, and drugs that would have otherwise been withdrawn can remain on the market with warnings concerning co-medication. Thus, the identification of suspected drug-drug interaction is important both from the individual patient safety perspective and from the general public health perspective. Individual case safety reports are anecdotal descriptions of suspected ADR incidents observed in real world clinical practice. They have proven very useful in post-marketing surveillance for previously unknown ADR's, but have yet to reach their full potential for drug-drug interaction surveillance.

In this talk, I will discuss the concept of a drug-drug interaction, with reference to arguments put forth in the epidemiological literature in 1980 that, from the patient safety and public health perspectives, interaction should always be studied as departure from additivity of incidence rate differences (or additivity of risk differences). Together with empirical results from the WHO database of 4 million individual case safety reports from 1967 until today, I will argue that logistic regression is ill-matched to drug-drug interaction detection in the context of ADR surveillance. As an alternative, I will present a recently developed statistical methodology for drug-drug interaction surveillance in collections of individual case safety reports, where interaction is defined as departure from a baseline model with independent attributable risks (essentially additive, that is, as long as each attributable risk is small).

The talk is based on joint work together with Rolf Sundberg, Andrew Bate, and Ralph Edwards.

Tid och plats: Onsdagen den 21 mars kl. 15.00–15.45 i rum 306 (Cramérrummet), hus 6, Matematiska institutionen, SU, Kräftriket.

KOMBINATORIKSEMINARIUM**Jakob Björnberg:****Random Poisson flows on graphs**

Abstract: The random cluster measure is a model for random graphs that, apart from being interesting in its own right, allows one to study certain equilibrium distributions in statistical mechanics by geometric means. In particular, the question of uniqueness of equilibrium (Gibbs) states in the Ising/Potts model for ferromagnets becomes a question of connectivity in its random cluster counterpart. On a finite graph, there is a strong link between the random cluster measure and the Tutte polynomial of the underlying graph; a similar analysis in the Ising/Potts model suggests yet another model for random graphs, namely that of random Poisson flows. Aizenmann and others used Poisson flows to prove an important result about correlations in the Ising model, and we explore their methods in this talk. The question is still open if their methods can be extended to more general Potts or random cluster models.

Tid och plats: Onsdagen den 28 mars kl. 10.15 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

COMMON SU KOF/
KTH THEORETICAL PHYSICS SEMINAR

George I. Japaridze:
Competing effects of interactions
and spin-orbit coupling in a quantum wire

Abstract: We study the interplay of electron-electron interactions and Rashba spin-orbit coupling in one-dimensional ballistic wires. Using the renormalization group approach we construct the phase diagram in terms of Rashba coupling, Tomonaga-Luttinger stiffness and backward scattering strength. We identify the parameter regimes with a dynamically generated spin gap and show where the Luttinger liquid prevails. We also discuss the consequences for the operation of the spintronic devices like the Datta-Das transistor.

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

DISPUTATION I MATEMATIK

Tanja Bergkvist

disputerar på avhandlingen

Asymptotics of Eigenpolynomials of Exactly-Solvable Operators

fredagen den 30 mars 2007 kl. 13.00 i sal 14, hus 5, Matematiska institutionen, SU, Kräft-riket. Till opponent har utsetts *professor Andrei Martinez-Finkelshtein*, Universidad de Almería, Spanien.

Abstract of the thesis

The main topic of this doctoral thesis is asymptotic properties of zeros in polynomial families, arising as eigenfunctions to exactly-solvable differential operators. The study was initially inspired by a number of striking results from computer experiments performed by G. Masson and B. Shapiro for a more restrictive class of operators. Our research is also motivated by a classical question going back to S. Bochner on a general classification of differential operators possessing an infinite sequence of orthogonal eigenpolynomials. In general, however, the sequence of eigenpolynomials of an exactly-solvable operator is not an orthogonal system, and it can therefore not be studied by means of the extensive theory known for such systems. Our study can thus be considered as the first steps to a natural generalization of the asymptotic behaviour of the roots of classical orthogonal polynomials. Exactly-solvable operators split into two major classes: non-degenerate and degenerate. We prove that in the former case, as the degree tends to infinity, the zeros of the eigenpolynomial are distributed according to a certain probability measure which is compactly supported on a tree and which depends only on the leading term of the operator. Computer experiments indicate the existence of a limiting root measure in the degenerate case too, but that it is compactly supported (conjecturally on a tree) only after an appropriate scaling which is conjectured (and partially proved) in this thesis. One of the main technical tools in this thesis is the Cauchy transform of a probability measure, which in the considered situation satisfies an algebraic equation. Due to the connection between the asymptotic root measure and its Cauchy transform, it is therefore possible to obtain detailed information on the limiting zero distribution.

SEMINAR IN PDE AND POTENTIAL THEORY

This will take place at the Department of Mathematics, KTH, on Monday, March 26, 2007. The morning seminars (10.00–11.50) will take place in seminar room 3721. The afternoon seminars (13.30–15.20) will take place in seminar room 3733. The address of both seminar rooms is Lindstedtsvägen 25, floor 7.

Schedule

- 10.00–10.50 **Tomas Sjödin**, University College Dublin: *On the exterior inverse problem of potential theory.*
- 11.00–11.50 **Alexander Vasil'ev**: *Virasoro Algebra: integrability and sub-Riemannian geometry..*
- 11.50–13.30 Lunch.
- 13.30–14.20 **Irina Markina**: *Two examples of sub-Riemannian and sub-Lorentzian geometries.*
- 14.30–15.20 **Boyan**: *Title to be announced.*

KTH/SU MATHEMATICS COLLOQUIUM

Wojciech Chachólski:

How to quantify complexity of fibrations of topological spaces

Abstract: In this talk I will illustrate how to use modern homotopy theory to quantify complexity of fibrations of topological spaces. To quantify something means to compare it with something else which is presumed to be more fundamental. In our case we take amalgamated sums as such fundamental operations. I will illustrate in these terms the nilpotence theorem of Devinatz, Hopkins and Smith.

Tid och plats: Onsdagen den 28 mars 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.

MONEY, JOBS

Columnist: Eric Emtander, Department of Mathematics, SU. E-mail: erice@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/~erice/mj.html>.

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.
7. Job announcement site: <http://www.maths.lth.se/nordic/Euro-Math-Job.html>. This is run by the European Mathematical Society.

(Continued on the next page.)

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. Letterstedtska föreningen utdelar anslag för att befordra gemenskapen mellan de fem nordiska länderna på industrins, vetenskapens och konstens områden. Ansökan om anslag skall insändas före den 15 september. Web-info: <http://www.letterstedtska.org/>.
12. Stiftelsen G. S. Magnusons fond delar ut 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 Sverige, samt stöd till den som inom sin verksamhet utnyttjar matematik och som önskar bidrag till vetenskaplig förkovran inom ämnet. Sista ansökningsdag är den 31 mars. Web-info: http://www.kva.se/KVA_Root/swe/awards/scholarships/detail_scholarships.asp?grantsId=45.
13. Kungl. Vetenskapsakademien har avtal om postdoc-stipendier omfattande 15 dagar till 11 månaders vistelse i Japan för forskning inom naturvetenskap, matematik och medicin. Resekostnader och kostnader under vistelsen täcks av The Japan Society for the Promotion of Science (JSPS). Dessa stipendier kommer att utlysas en eller två gånger per år. Sista ansökningsdag är den 2 april. Web-info: http://www.kva.se/KVA_Root/swe/awards/scholarships/detail_scholarships.asp?grantsId=41.

Jobs to apply for

14. SU söker en forskarassistent i matematisk statistik. Sista ansökningsdag är den 16 april. Se Bråket nr 9 sidan 12. Web-info: <http://www.math.su.se/matstat/jobb/07/foass.pdf>.
15. Umeå universitet söker doktorander i matematik och matematisk statistik. Sista ansökningsdag är den 15 april. Web-info: http://www.math.umu.se/Aktuellt/Vacancies/AnnonsDoktorander0702_2EngMSBer.pdf.

Old information

Money to apply for

16. Sweden-Japan Foundation utlyser stipendier för studier, forskning samt examensarbete och praktik på högskolenivå i Japan. Ansökningsdagar är den 1 mars och den 1 oktober. Web-info: <http://www.swejap.a.se/>.
17. Wenner-Gren Stiftelserna delar ut stipendier för att möjliggöra för svenska disputerade forskare att verka vid utländsk vetenskaplig institution. Sista ansökningsdag är den 1 oktober. Stipendierna beviljas för en tid av lägst 1 och högst 12 månader med möjlighet till förlängning till högst 24 månader. Web-info: <http://www.swgc.org/index.aspx?pageID=14>.
18. Ångpanneföreningens Forskningsstiftelse har till ändamål att verka för forskning och utveckling, främst inom områdena energi, miljö och säkerhet. Stiftelsen beviljar anslag för forskning inom sina ändamålsområden samt delar ut stipendier för examensarbeten utomlands eller för presentation av forskningsresultat vid internationella konferenser. Sista ansökningsdag för anslag är den 31 mars. För stipendier är den 31 mars och den 30 september sista ansökningsdagar. Web-info: <http://www.aforsk.se/>.

Jobs to apply for

19. Lunds universitet söker en doktorand i matematik med inriktning mot teori för Liealgebror, vertexoperatoralgebror och deras representationer. Sista ansökningsdag är den 21 mars. Tillträde snarast. Web-info: <http://www3.lu.se/info/lediga/admin/document/PA%202007-761.pdf>.