BRÅKET

Information om seminarier och högre undervisning i matematiska ämnen i Stockholmsområdet

NR 31 **FREDAGEN DEN 8 OKTOBER 1999**

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 14 oktober
kl. 13.00.

Disputation i matematik

Jockum Aniansson disputerar på avhandlingen *Some integral representations in real and complex analysis. Peano-Sard kernels and Fischer kernels* måndagen den 11 oktober kl. 13.15 i Kollegiesalen, Administrationsbyggnaden, KTH, Valhallavägen 79. Se Bråket nr 30 sidan 4.

Kurs

Tom Britton: Bioinformatik. Se sidan 4.

SEMINARIER

Fr 10–08 kl. 9.00–10.00. Kollokvium i fysik. Professor Mats Almgren, Institutionen för fysikalisk kemi, Uppsala universitet: *Self-organized fluid structures formed by amphiphilic molecules in water.* Sal F 01, Fysiska institutionen, KTH, Lindstedtsvägen 24, b.v. Se sidan 7.

Fr 10–08 kl. 11.00–12.00. Optimization and Systems Theory Seminar. Professor Clyde F. Martin, Department of Mathematics, Texas Tech. University, Lubbock, Texas, USA: *Edge delineation, response surfaces and optimal control.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 30 sid. 6.

Fr 10–08 kl. 15.15–16.15. Potentialanalysseminarium. Professor Daniele C. Struppa, College of Arts and Sciences, George Mason University, Fairfax, Virginia, USA: *Overconvergence phenomena for Dirichlet series and differential operators of infinite order (joint work with T. Kawai from Kyoto).* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Professor Struppa är fakultetsopponent vid Jockum Aniansson disputation. Se Bråket nr 30 sidan 4.

Må 10–11 kl. 13.15–15.00. Algebra- och geometriseminarium. Clas Löfwall: *Graded subalgebras of affine Kac-Moody algebras.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101. Se sidan 4.

Må 10–11 kl. 15.15. Seminarium i matematisk statistik. Alessandro Juri, Department of Mathematics, ETH Zürich: *Supermodular order and Lundberg exponent.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 30 sidan 6.

Fortsättning på nästa sida.

Money, jobs, conferences: Se sidorna 9–11.

Seminarier (fortsättning)

Ti 10–12 kl. 10.15. Plurikomplexa seminariet. Stephane Rigat, Marseille: *An explicit version of the fundamental principle with applications to Cauchy problems.* Sal MIC 2215, Matematiska institutionen, Polacksbacken, Uppsala universitet. Se sidan 5.

Ti 10–12 kl. 13.15. Plurikomplexa seminariet. Lucas Zinner, Wien: *The tangential Cauchy-Riemann equation on certain unbounded domains in* $\mathbb{C}^2$*.* Sal MIC 2215, Matematiska institutionen, Polacksbacken, Uppsala universitet. Se sidan 5.

Ti 10–12 kl. 13.15 – 15.00. Seminarium i PDE och spektralteori. Boris Fedosov, Potsdam: *Differential operators and deformation quantization.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 5.

Ti 10–12 kl. 13.15. Seminarium i fysik. Joakim Edsjö, SU: *Neutralinos as dark matter — can we see them?* Rum 4809, Fysikum, SU. Se sidan 8.

Ti 10–12 kl. 14.15 – 15.15. Seminar in Algorithmic Bioinformatics. Mike Hallett: *Reconciling gene and species trees.* Rum 4523, NADA, KTH. Se sidan 7.

Ti 10–12 kl. 14.15 – 15.15. Mittag-Leffler Seminar. Nages Shanmugalingam, Ann Arbor: *Newtonian spaces with applications.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

On 10–13 kl. 10.00 – 11.45. Logikseminariet Stockholm-Uppsala. Per Martin-Löf: *Nonstandard type theory.* (Det tredje seminariet i denna serie. Fortsättning från den 29 september.) Sal 16, hus 5, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101.

On 10–13 kl. 10.15 – 12.00. Combinatorics Seminar. Bernt Lindström: *On a problem for cyclic planar difference sets.* Rum 21, hus 5, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101. Se sidan 3.

On 10–13 kl. 10.30 – 11.30. Analysseminarium. Alexander Solynin, S:t Petersburg och Institut Mittag-Leffler: *Boundary distortion and some extremal problems on conformal mapping.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 6.

On 10–13 kl. 13.00 – 15.00. Seminarium i statistik. Esbjörn Ohlsson, Matematisk statistik, SU: *Pps-urval i företagsstatistik.* Rum B705, Statistiska institutionen, SU. Se Bråket nr 30 sidan 8.

On 10–13 kl. 13.15. Dynamiska systemseminariet. Rostislav Grigorchuk, Steklov Institute of Mathematics, Moscow: *Dynamical systems and groups acting on rooted trees.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 6. Internet-adressen till information om seminariet är http://www.math.kth.se/math/research/dynsyst.

To 10–14 kl. 14.15 – 15.15. Mittag-Leffler Seminar. Juan Manfredi, Pittsburgh: *Subelliptic fully nonlinear equations.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

To 10–14 kl. 15.45 – 16.45. Mittag-Leffler Seminar. Igor Verbitsky, Columbia: *The norm of the Riesz projection.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

To 10–14 kl. 16.15. Algebraic Geometry Seminar. Dan Laksov: *Introduction to modifications and alterations.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 8.

Fortsättning på nästa sida.

Seminarier (fortsättning)

Fr 10–15 kl. 9.00 – 10.00. Kollokvium i fysik. Speaker to be announced: *Nobel prize in physics 1999.* Sal F 01, Fysiska institutionen, KTH, Lindstedtsvägen 24, b.v.

Må 10–18 kl. 15.15. Seminarium i matematisk statistik. Dr Mioara Buiculescu, Centre for Mathematical Statistics, Bukarest: *Stationary structures associated with Markov processes.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 30 sidan 8.

On 10–20 kl. 10.00 – 11.45. Logikseminariet Stockholm-Uppsala. Per Martin-Löf: *Nonstandard type theory.* (Det fjärde seminariet i denna serie. Fortsättning från den 13 oktober.) Sal 16, hus 5, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101.

On 10–20 kl. 10.15 – 12.00. Combinatorics Seminar. Svante Linusson: *Title to be announced.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Fr 10–22 kl. 9.00 – 10.00. Kollokvium i fysik. Dr Apollo Go, EP Division, CERN: *Faster than the speed of light? Testing EPR vs. quantum mechanics in particle physics.* Sal F 01, Fysiska institutionen, KTH, Lindstedtsvägen 24, b.v.

Må 10–25 kl. 15.15. Seminarium i matematisk statistik. Hanspeter Schmidli, Department of Theoretical Statistics, Aarhus University: *Queueing and risk models perturbed by Lévy processes.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 8.

COMBINATORICS SEMINAR

Bernt Lindström:
On a problem for cyclic planar difference sets

Abstract: A planar difference set is a subset D of size $n+1$ of a group G of order n^2+n+1 such that $xy^{-1}=g$ has precisely one solution (x,y) in D^2 when $g \neq e$, the neutral element. The difference set is called cyclic (abelian) when G is a cyclic (resp. abelian) group. The elements of G are the points of a projective plane of order n, the lines of which are the cosets Dg, $g \in G$. When G is cyclic we may assume that $G = \mathbb{Z}/(n^2+n+1)$ and use additive notation.

Assume that $0 \in D$ and let $D^* = \{d_1, d_2, \ldots, d_n\}$ be non-zero elements of D. Using combinatorial counting arguments, I. Krasikov and J. Schönheim proved in 1990 that at least n^2-2 elements g of $\mathbb{Z}/(n^2+n+1)$ can be written as

$$g = d_i + d_j + d_k, \quad 1 \leq i \leq j \leq k \leq n.$$

They noticed in examples that 0 had such a representation and suggested the problem to prove that this is always the case. I will prove, using elementary algebra, that this is true for Singer's planar difference sets. These cyclic difference sets were published by J. Singer in 1938. Singer conjectured that these are essentially the only planar difference sets, a conjecture which is still open.

Tid och plats: Onsdagen den 13 oktober kl. 10.15 – 12.00 i rum 21, hus 5, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101.

ALGEBRA- OCH GEOMETRISEMINARIUM

Clas Löfwall:
Graded subalgebras of affine Kac-Moody algebras

Sammanfattning: En artikel med ovanstående titel, författad av Y. Barnea, A. Shalev och E. I. Zelmanov, publicerades 1998 i Israel Journal of Mathematics, vol. 104. Föredraget kommer att vara ett referat av denna välskrivna och lättlästa artikel. För att förstå föredraget är det inte nödvändigt att känna till något om affina Kac-Moody-algebror, men det är bra att veta något om Lie-algebror.

Givet en enkel ändligtdimensionell Lie-algebra $\mathcal{G}$ över de komplexa talen, så studeras i artikeln maximala delalgebror av "loop-algebran" (periodiseringen av $\mathcal{G}$ över heltalen). Resultatet är vackert: Dessa bestäms (i stort sett) av maximala delalgebror av $\mathcal{G}$ (som har studerats av E. B. Dynkin) och automorfier av $\mathcal{G}$ av primtalsordning (som har studerats av V. G. Kac). Även bevismetoden är fascinerande. Man utnyttjar Y. P. Razmyslovs och E. Formaneks resultat att det finns en central polynomidentitet för matrisringar! Bevismetoden används också (med liknande resultat) på den "tvistade" varianten av loop-algebran, d.v.s. då man sprider ut $\mathcal{G}$ med hjälp av en $\mathbf{Z}_k$-gradering, och även på de fall då periodiseringen sker över de positiva heltalen.

Tid och plats: Måndagen den 11 oktober kl. 13.15 – 15.00 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101.

DOKTORANDKURS I MATEMATISK STATISTIK

Tom Britton: Bioinformatik (5 p)

Med start i slutet av oktober kommer jag att hålla en doktorandkurs på temat ovan. Kursen kommer att behandla statistiska, men även rent matematiska och algoritmiska, frågeställningar som dyker upp inom molekylärbiologi och genetik.

Kursen kommer preliminärt att gå på fredagar kl. 13.15 – 15.00 med start den 29 oktober 1999 och hålla på till slutet av februari nästa år. (Efter detta kommer för övrigt en nationell doktorandkurs att ges på samma tema, för vilket denna kurs lämpar sig som förkunskap. Den nationella doktorandkursen kommer att ha två sammankomster på cirka fyra dagar vardera, en i Uppsala i slutet av februari och en i Göteborg i slutet av mars. Mer information om detta kan fås från undertecknad senare.)

Kurslitteratur: Michael S. Waterman: *Introduction to Computational Biology.* Chapman & Hall, 1995. (Boken är inte beställd till någon bokhandel, jag kollar för närvarande att den finns tillgänglig på nätet.) Michael Waterman kommer för övrigt att medverka vid den nationella kursen i vår.

Examination: Inlämningsuppgifter samt muntlig presentation av något teoriavsnitt.

Språk: Kursen ges på engelska om någon så önskar, annars på svenska.

Kursstart: Fredagen den 29 oktober 1999 kl. 13.15 i sal 2:144, Polacksbacken, Matematiska institutionen, Uppsala universitet. Om det finns deltagare från Stockholm, startar kursen kl. 13.20, så att det räcker att ta 12.10-tåget från Stockholms Central.

Intresseanmälan: Meddela gärna till undertecknad om du planerar att delta i kursen.

Välkomna!

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PLURIKOMPLEXA SEMINARIET

Stephane Rigat: An explicit version of the fundamental principle with applications to Cauchy problems

Abstract: In this talk, we give a representation formula in terms of residue currents of the solutions f to systems of differential equations

$$P_j(i\partial/\partial t)f = g_j$$

in a smoothly bounded strictly convex domain in $\mathbb{R}^n$. We give also the corresponding formula in the complex case. Moreover, we apply these techniques to the complex Cauchy problem. We obtain so an explicit representation formula for the solution of a complex Cauchy problem with data given on a non-characteristic plane. Moreover, we find the domain of definition of the solution, which equals the domain of convergence of the integrals obtained.

Tid och plats: Tisdagen den 12 oktober kl. 10.15 i sal MIC 2215, Matematiska institutionen, Polacksbacken, Uppsala universitet.

PLURIKOMPLEXA SEMINARIET

Lucas Zinner: The tangential Cauchy-Riemann equation on certain unbounded domains in $\mathbb{C}^2$

Abstract: We found an explicit formula for the relative fundamental solution of the tangential Cauchy-Riemann operator connected to the hypersurface

$$\partial\Omega = \{(z,w) : \operatorname{Im} w = (\operatorname{Re} z)^m\} \subset \mathbb{C}^2,$$

where m is an even integer. We define a nonisotropic pseudometric which is suited to the complex geometry of $\partial\Omega$ and make estimates of the solution kernel in terms of this metric. These estimates lead to certain regularity results, i.e. that the relative fundamental solution operator is bounded from L^p to $L^p_{\psi_p}$ for $1 < p < m+2$, where ψ_p denotes a weight associated to the metric. Finally we find a sufficient condition for the solvability of the tangential Cauchy-Riemann equation.

Tid och plats: Tisdagen den 12 oktober kl. 13.15 i sal MIC 2215, Matematiska institutionen, Polacksbacken, Uppsala universitet.

SEMINARIUM I PDE OCH SPEKTRALTEORI

Boris Fedosov: Differential operators and deformation quantization

Abstract: A geometrical construction of deformation quantization on symplectic manifolds is considered. It is motivated by a coordinate-free description of differential operators by means of moving normal coordinates. In this approach the geometrical objects in question are represented as flat sections of some bundle with respect to a special connection. We give an effective way to construct this connection.

Tid och plats: Tisdagen den 12 oktober kl. 13.15 – 15.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

ANALYSSEMINARIUM

Alexander Solynin: Boundary distortion and some extremal problems on conformal mapping

Abstract: We shall discuss two problems, studied by D. Gaier, V. V. Kozhevnikov, and R. Kuehnau, that concern control of capacity for plane condensers. We solve these problems, reducing them to some questions on the boundary behaviour in standard classes of univalent functions.

Tid och plats: Onsdagen den 13 oktober kl. 10.30 – 11.30 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

DYNAMISKA SYSTEMSEMINARIET

Rostislav Grigorchuk: Dynamical systems and groups acting on rooted trees

Abstract: The talk will be devoted to groups of automorphisms of rooted trees and will include an overview of some interesting examples. Groups of automorphisms of rooted trees generalize the notion of "adding machine", which plays an important role in ergodic theory. It appears that this class of groups includes examples of groups with different intriguing properties, such as the following:

1) **Groups of intermediate growth.**
   There are well-known classes of groups in which the number of elements of given length (expressed as words in some generators) grow polynomially or exponentially. It was, however, not until 1983 that an example of a finitely generated group of intermediate growth was constructed. It is defined as a group of transformations of the unit interval from which the diadic points have been removed. The group is generated by four transformations, of which one is the permutation of two halves of the interval, and the three others are defined with the help of infinite periodic words.
2) **Amenable but not elementary amenable groups.**
   Groups of intermediate growth are amenable but not elementary amenable. However, known examples are not finitely presentable. In 1998 the first examples of finitely presented amenable but not elementary amenable groups were constructed.
3) **Infinite finitely generated torsion groups.**
   The first example of an infinite finitely generated group, every element of which has finite order, was produced by E. Golod in 1964.

On the base of 1) – 3) and other examples, a new class of groups called *branch groups* was defined and investigated.

A group acting on a rooted tree acts also on its boundary, thus determining a dynamical system. This dynamical system arises as restriction of an action of the group on a locally compact space to a Lyapunov stable attractor. Thus obtained dynamical systems have interesting spectral properties. For instance, jointly with L. Bartholdi, an example of such a system whose spectrum is a Cantor set was constructed. This spectrum happens to be a simple transformation of the Julia set of some quadratic map. The computation uses self-similarity of the involved sets and a reduction to one-dimensional dynamics.

Tid och plats: Onsdagen den 13 oktober kl. 13.15 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

KOLLOKVIUM I FYSIK

Mats Almgren: Self-organized fluid structures formed by amphiphilic molecules in water

Abstract: Amphiphilic molecules, such as polar lipids and surfactants, with one part seeking water, another avoiding it, self-assemble into a fascinating variety of structures: micelles, various liquid crystalline phases, liposomes, microemulsions and so on. Such structures are found everywhere: in the form of biological membranes and various other important structures in life, but also in man-made products of various kinds.

It should be noted that the structures are fluid (or at least the more interesting of them) and that complex fluids are able to self-assemble into such varied morphologies. There is always a restriction: at least one dimension must be smaller than (twice) the length of the amphiphilic molecule. With restriction in only one dimension, bilayer structures are formed such as the biological membranes, that are two-dimensional fluids. Cylinders or even long threadlike micelles are restricted in two dimensions and form one-dimensional fluids, and globular micelles are then zero-dimensional, with restrictions in three directions.

The forms (or the interactions) of the constituting molecules, together with the volumes of the aqueous and non-aqueous domains, determine the type of structure that is preferred. Some simple rules that help to explain the aggregation behaviour have been established. I shall use such rules and mappings of the phase behaviour to follow the structural varieties observed in cryo transmission electron microscopy investigations of some mixtures of polar lipids and surfactants in water. Portraits of thread-like micelles, liposomes, perforated bilayers, cubosomes, and hexasomes will be presented.

Tid och plats: Fredagen den 8 oktober kl. 9.00 – 10.00 i sal F 01, Fysiska institutionen, KTH, Lindstedtsvägen 24, b.v.

SEMINAR IN ALGORITHMIC BIOINFORMATICS

Mike Hallett: Reconciling gene and species trees

Abstract: Often, in phylogenetic studies, a set of gene trees is used when determining the evolutionary relationships between a set of taxa (i.e. inferring species trees). However, for many gene families, the gene tree differs from the species tree. The frameworks introduced by Goodman et al. [1979] and Page [1994] attempt to reconcile gene trees with a species tree through the postulation of duplication (or, duplication and loss) events. The associated optimization problems can be essentially stated as "find a species tree requiring the fewest number of postulated duplication (or duplication/loss) events in order for reconciliation".

In this talk, I will briefly explain the biological relevance of the Duplication-Loss (and Multiple Gene Duplication-Loss) problems and survey what we currently know concerning the complexity of these optimization problems (they are mostly hard). (This is joint work with Fellows and Stege.)

I will also present a polynomial time algorithm that solves the Duplication-Loss problem when the species tree has bounded width with respect to at least one of the gene trees. (This is joint work with Lagergren.) This bounded width is a naturally arising parameter that tends to be very small in practice. Some experimental results obtained via this algorithm will also be presented.

Tid och plats: Tisdagen den 12 oktober kl. 14.15 – 15.15 i rum 4523, NADA, KTH.

SEMINARIUM I FYSIK

Joakim Edsjö:
Neutralinos as dark matter — can we see them?

Abstract: In the Minimal Supersymmetric extension of the Standard Model (MSSM), the lightest neutralino naturally arises as an excellent dark matter candidate. Neutralinos as dark matter can be searched for either directly when they scatter off nuclei in a detector at Earth or indirectly by looking for annihilation products from the Earth/Sun (neutrinos) or the galactic halo (antiprotons, positrons, gamma rays). These different ways of searching for neutralino dark matter will be discussed and compared.

Tid och plats: Tisdagen den 12 oktober kl. 13.15 i rum 4809, Fysikum, SU.

ALGEBRAIC GEOMETRY SEMINAR

Dan Laksov:
Introduction to modifications and alterations

Abstract: I will lecture on what little I understand of modifications and alterations from the report of F. Oort in Bull. AMS. With some luck I will try to indicate the first easy reductions of De Jongs work on alterations in Publ. Math. IHES.

Tid och plats: Torsdagen den 14 oktober kl. 16.15 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

SEMINARIUM I MATEMATISK STATISTIK

Hanspeter Schmidli:
Queueing and risk models perturbed by Lévy processes

Abstract: We consider a risk or a queueing model described by an ergodic stationary marked point process. The model is perturbed by a Lévy process with no downward jumps. We assume that the stationary marked point process and the perturbation process are independent. For finding the ruin probability or the steady state distribution of the workload, one has to find the distribution of the maximum of the process, where in the queueing case the time has to be reverted. The (modified) ladder time is defined as the first time where an event of the marked point process leads to a new maximum. Processes of this type were first considered by Gerber (1970) and Dufresne and Gerber (1991). The marked point process was a compound Poisson process and the perturbation process was Brownian motion. They obtained a Pollaczek-Khintchine type formula for the maximum of the process, where the distributions involved have interpretations as (modified) ladder heights. Furrer (1998) proved the same formula in the case where the perturbation is a stable Lévy motion. He did, however, not obtain the interpretation as ladder heights. In this seminar, properties of the process until the first ladder height are studied. Results of Dufresne and Gerber (1991), Furrer (1998), Asmussen and Schmidt (1995), and Asmussen, Frey, Rolski and Schmidt (1995) are generalized.

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

MONEY, JOBS, CONFERENCES

Columnist: Pär Holm, Department of Mathematics, SU. E-mail: pho@matematik.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.
Unless stated otherwise, a given date is the last date (e.g. for applications), and the year is 1999. A number without an explanation is a telephone number.

Standard information channels

1. A channel to information from TFR: http://www.tfr.se.
2. A channel to information from NFR: http://www.nfr.se.
3. A channel to information from the European Mathematical Society: http://www.emis.de.
4. A channel to information from the American Mathematical Society: http://www.ams.org.
5. KTH site for information on funds, etc., weekly: http://www.admin.kth.se/info/kth-kalendern/stipendier.html.
6. Stockholm University site for information on funds: http://www.sb.su.se/stipendier/.
7. Umeå site for information on funds: http://www.umu.se/umu/veckoprogram/aktstip99.html.
8. Job announcement site: http://www.maths.lth.se/nordic/Euro-Math-Job.html. This is run by the European Mathematical Society.
9. KTH site for information on research: http://www.admin.kth.se/CA/extrel/index/forsk.html.

New information

Jobs, to apply for

10. Ingenjörshögskolan i Jönköping söker en universitetslektor/adjunkt i matematik, 18 oktober. Info: Fredrik Abrahamsson, 036-15 64 14, fredrik.abrahamsson@ing.hj.se. Web-info: http://www.hj.se/ing/nying/nyheter/ltj981.htm.
11. Institutionen för teknik och naturvetenskap, Campus Norrköping, vid Linköpings universitet söker en universitetsadjunkt i matematisk statistik, 21 oktober. Info: Stan Miklavcic, 011-36 31 77, stami@itn.liu.se. Web-info: http://www.info.liu.se/jobb/mera/1384-99-32.html.
12. Statistiska institutionen vid Göteborgs universitet söker en universitetslektor i statistik, 22 oktober. Info: Marianne Frisén, 031-773 12 55. Web-info: http://cent.hgus.gu.se/stat/Lektorat.pdf.

Old information

Money, to apply for

13. Grundutbildningsrådet inom Högskoleverket utlyser medel för projekt som syftar till att förbättra undervisningen på grundutbildningsnivå, 15 oktober. Web-info: http://www.hgur.se.
14. Kungl. Vetenskapsakademien (KVA) utlyser medel för forskarutbyte för två till sex månaders vistelse i Bulgarien, Estland, Japan, Kina, Lettland, Litauen, Rumänien, Ryssland, Slovakien, Tjeckien, Ukraina och Vitryssland för studier/forskning inom bl.a. matematik, 1 november. Info: Sascha Lamm Edblad, Forskarutbytes- och stipendieenheten, Kungl. Vetenskapsakademien, Box 50005, 104 05 Stockholm, 08-673 95 00. Telefontid: måndagar – fredagar kl. 11.00 – 12.00, sascha@kva.se. Web-info: http://www.kva.se/sve/pg/stipendier/index.html.
15. Anslag ställs, från Knut och Alice Wallenbergs Stiftelse, 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." Ansökan om resebidrag skall ställas till rektors kansli. Bidrag kan sökas när som helst under året. Info: se punkt 5 ovan.
16. Nordisk Forskerutdanningsakademi (NorFA) finansierar nordiskt samarbete inom forskning och forskarutbildning genom dels personliga stipendier (mobilitetsstipendier och för deltagande i nationella forskarutbildningskurser), dels anslag till institutioner (forskarutbildningskurser, nordiska nätverk, gästprofessurer och workshops). Info: http://www.norfa.no.

(Continued on the next page.)

17. Svenska Institutet (SI) utlyser kontinuerligt stipendier och bidrag för studier och forskning utomlands: stipendier för Europastudier, internationella forskarstipendier, Östersjöstipendier, Visbyprogrammet, m.m. Aktuell information om SI:s samtliga stipendiemöjligheter och ansökningshandlingar finns på SI:s hemsida: http://www.si.se.
18. Stiftelsen för internationalisering av högre utbildning och forskning (STINT) utlyser medel för att främja samarbete med universitet och högskolor i Republiken Korea (Sydkorea), Taiwan, Hongkong, Indonesien och Egypten. Ansökningar skall inlämnas minst 6 – 8 veckor före verksamhetsstarten, och medlen kan sökas löpande under året. Info: STINT, Skeppargatan 8, 114 52 Stockholm, 08-662 76 90. Web-info: www.stint.se.
19. Wenner-Gren Stiftelserna utlyser gästföreläsaranslag för gästföreläsningar. Anslag sökes av svensk forskare som önskar inbjuda utländsk forskare. Ansökan kan inlämnas när som helst under året. Web-info: http://www.wenner-grenstift.a.se.
20. NUTEK stipends for stay in research institutions (not universities) in Japan. Short or long periods. For persons with or almost with doctoral degree. Info: Kurt Borgne, 08-681 92 65, kurt.borgne@nutek.se. You can apply any time.

Jobs, to apply for

21. Matematiska institutionen vid Uppsala universitet utlyser två universitetslektorat i matematisk statistik, 1 november. Info: Lars-Åke Lindahl, 018-471 32 06, Lars-Ake.Lindahl@math.uu.se. Web-info: http://www.personalavd.uu.se/annonser/univlmatstateng.html.

Conferences, etc.

22. D-Modules and Applications, October 14 – 16, CMAF, Universidade de Lisboa, Portugal. URL: http://cmaf.lmc.fc.ul.pt/~dmod/dmod.html.
23. Workshop on Stochastics and Quantum Physics, October 21 – 26, University of Aarhus, Denmark. URL: http://www.maphysto.dk/events/QuantumStoc99/.
24. Workshop on Hilbert's 10th problem, Relations to Arithmetic and Algebraic Geometry, November 2 – 5, University of Gent, Belgium. URL: http://cage.rug.ac.be/~hilbrt10/hilbert10.html.
25. 13th AAECC Symposium on Applied Algebra, Algebraic Algorithms, and Error-Correcting Codes, November 14 – 19, Hawaii, USA. URL: http://www.irit.fr/ACTIVITES/AAECC/aaecc13.htm.
26. XX:ème Rencontre Franco-Belge de Statisticiens, November 25 – 26, Université Libre de Bruxelles, Brussels, Belgium. URL: http://isro.ulb.ac.be.
27. Mathematical and Computational Methods in Music, December 2 – 4, University of Vienna, Austria. URL: http://tyche.mat.univie.ac.at/~diderot/.
28. PanAmerican Workshop on Applied and Computational Mathematics, December 12 – 17, Valparaiso y Vinc del Mar, Chile. URL: http://www.sci.sdsu.edu/math_cs/PanAm98.html.
29. Workshop on Computational Algebraic Analysis, January 5 – 7, 2000, MSRI, Berkeley, USA.
30. Workshop on Computational Stochastics, January 17 – 22, 2000, University of Aarhus, Denmark. URL: http://www.maphysto.dk/events/CompStoc2000/.
31. Optimization, Statistics, Mathematical Economics and Algorithms IV, March 8 – 11, 2000, Habana, Cuba.
32. International Conference on Fundamental Sciences: Mathematics and Theoretical Physics, March 13 – 17, 2000, Singapore. URL: http://www.math.nus.edu.sg/icfs.
33. Seventh Rhine Workshop on Computer Algebra, March 22 – 24, 2000, Bregenz, Austria. URL: http://www.inf.ethz.ch/rwca00/.
34. Fractal 2000, "Complexity and Fractals in the Sciences", April 16 – 19, 2000, Singapore. URL: http://www.kingston.ac.uk/fractal/.
35. Summer School on Stereology and Geometric Tomography, May 20 – 25, 2000, Sandbjerg Manor, Denmark. URL: http://www.maphysto.dk/events/S-and-GT2000/.
36. SIAM Conference on Discrete Mathematics, June 12 – 15, 2000, Radisson Hotel Metrodome, Minneapolis, Minnesota, USA. URL: siam.org/meetings/dm00/.
37. First AMS-Scandinavian International Mathematics Meeting. XXIII Scandinavian Congress of Mathematicians, June 13 – 16, 2000, Odense, Denmark. URL: http://www.imada.ou.dk/~hjm/AMS.Scand.2000.html.

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38. Functional Analysis Valencia 2000, July 3 – 7, 2000, Technical University of Valencia, Spain. URL: http://math-www.uni-paderborn.de/VLC2000.

39. Catop 2000, July 4 – 6, 2000, University of Fribourg, Switzerland. URL: http://www.unifr.ch/math/catop2000.

40. Third European Congress of Mathematics, July 10 – 14, 2000, Barcelona, Spain. URL: http://www.iec.es/3ecm/.

41. I Colloquium on Lie Theory and Applications, July 17 – 22, 2000, Vigo, Spain. URL: http://www.dma.uvigo.es/~clieta/index.

42. IMACS 2000, August 21 – 25, 2000, EPFL, Lausanne, Switzerland. URL: http://imacs2000.epfl.ch.