BRÅKET

Information om seminarier och högre undervisning i matematiska ämnen i Stockholmsområdet

NR 26 **FREDAGEN DEN 1 SEPTEMBER 2000**

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 7 september
kl. 13.00.

Kurser

Mikhail Shapiro: Topology. Se sidan 5.

Bo Stenström: Category and topos theory. Se sidan 7.

Studiecirkel i perkolationsteori

Se sidan 8.

Money, jobs: Se sidorna 8 – 9.

SEMINARIER

Fr 09–01 kl. 9.00 – 10.00. Kollokvium i fysik. Professor Austin Roorda, University of Houston College of Optometry, USA: *The eye's optics, the trichromatic cone mosaic, and human vision.* Sal F 01, Fysiska institutionen, KTH, Lindstedtsvägen 24, b.v. Se Bråket nr 24 sidan 3.

Må 09–04 kl. 10.30 – 11.30. Seminarium i PDE och spektralteori. Tatiana Suslina, St. Petersburg State University: *Absolute continuity of the spectrum of a two-dimensional Schrödinger operator with potential supported on a periodic system of curves.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 3.

Må 09–04 kl. 13.15 – 15.00. Algebra and Geometry Seminar. Dario Portelli: *On the differential-geometric determination of the degree of a hypersurface.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101. Se sidan 4.

Må 09–04 kl. 13.30. Seminar in Theoretical and Applied Mechanics. *(Observera att tiden har ändrats!)* **Yoshio Sone,** Department of Aeronautics and Astronautics, Kyoto University: *Kinetic theory and fluid dynamics.* Sal D32, KTH, Lindstedtsvägen 5, b.v. Se Bråket nr 25 sidorna 7 – 8.

Må 09–04 kl. 15.15 – 16.00. Seminarium i finansiell matematik. Andreas Mattsson presenterar sitt examensarbete: *Pricing of Bermudan swaptions using a Monte Carlo simulation approach.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 25 sid. 6.

Fortsättning på nästa sida.

Professor Paul Cohen

besöker SICS (Swedish Institute of Computer Science) i Kista under september – oktober 2000, och han kommer att ge en serie föreläsningar. Se sidan 4.

Seminarier (fortsättning)

Må 09–04 kl. 16.15 – 17.00. Seminarium i finansiell matematik. Fredrik Åkesson, Carnegie Mellon University: *Arbitrage bounds for volatility swaps (joint work with Bill Morokoff and Yi Zhou).* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Ti 09–05 kl. 13.15 – 14.15. Seminarium i PDE och spektralteori. M. Klein, Berlin: *Markov chains and spectral theory.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Ti 09–05 kl. 14.00 – 15.00. Mittag-Leffler Seminar. Paul Larson, Kobe: *Revising Gödel's argument for the true power of the continuum.* Institut Mittag-Leffler, Auravägen 17, Djursholm.

Ti 09–05 kl. 15.00 – 17.00. Artinian Gorenstein rings and Frobenius algebras. Joachim Kock: *Introduction, discussion, and more detailed plans for the seminar.* (Det första seminariet i en serie.) Sammanträdesrum 3548, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 5. Se sidan 6.

On 09–06 kl. 11.15. Seminar in Particle Physics. Professor Erik Johansson, Fysikum, SU: *Highlights from the International High Energy Physics Conference in Osaka.* Rum 4731, Fysikum, SU, Vanadisvägen 9.

On 09–06 kl. 11.30 – 12.30. Mittag-Leffler Seminar. Stevo Todorcevic, Paris: *Coherent sequences.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 5.

On 09–06 kl. 13.15 – 14.00. Vladimir Maz'ya, Linköping: *The Wiener test for higher order elliptic equations.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 3.

On 09–06 kl. 14.00 – 15.00. Mittag-Leffler Seminar. Simon Thomas, Rutgers: *The complexity of the classification problem for torsion-free abelian groups of rank two.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 5.

On 09–06 kl. 16.00 – 17.00. Stockholms matematiska kollokvium. Lawrence Zalcman, Bar-Ilan University, Israel: *Morera's theorem — 114 years later.* Sal 14, hus 5, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101. Se Bråket nr 25 sidan 6.

To 09–07 kl. 15.00 – 17.00. Professor Paul Cohen, Stanford: *Lecture series in Forcing Methods in Set Theory.* (Det första föredraget i en serie.) Sal C1, Electrum, Kista. Se sidan 4.

Fr 09–08 kl. 9.00 – 10.00. Kollokvium i fysik. Professor William E. Brownell, Baylor College of Medicine, Houston, USA: *Mechanical force production by a biological membrane.* Sal F01, Fysiska institutionen, KTH, Lindstedtsvägen 24, b.v. Se sidan 6.

Må 09–11 kl. 15.15 – 16.00. Seminarium i matematisk statistik. Lars Holst: *Slutgiltiga korta beviset för Stirlings formel?* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 6.

On 09–13 kl. 15.15. Licentiatseminarium i matematisk statistik. Johan Irbäck presenterar sin licentiatavhandling: *Asymptotic theory for a risk process with a high dividend barrier.* Inbjuden diskussionsinledare: **Jan Grandell,** Matematisk statistik, KTH. Plats för seminariet: Rum 306, Cramérrummet, hus 6, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101. Se sidan 7.

Fortsättning på nästa sida.

Seminarier (fortsättning)

To 09–14 kl. 15.00 – 17.00. Professor Paul Cohen, Stanford: *Lecture series in Forcing Methods in Set Theory.* (Det andra föredraget i en serie.) Sal C1, Electrum, Kista. Se sidan 4.

Fr 09–15 kl. 9.00 – 10.00. Kollokvium i fysik. Professor Klaus Pretzl, LHEP University of Bern: *Search for the missing matter in the universe.* Sal F 01, Fysiska institutionen, KTH, Lindstedtsvägen 24, b.v.

SEMINARIUM I PDE OCH SPEKTRALTEORI

Tatiana Suslina: Absolute continuity of the spectrum of a two-dimensional Schrödinger operator with potential supported on a periodic system of curves

Abstract: We study a two-dimensional periodic Schrödinger operator with electric and magnetic potentials and variable metric. It is assumed that the electric potential is the sum of a regular term and a singular term. The latter is supported on a periodic system of piecewise-smooth curves. Under rather general assumptions, we prove that the spectrum of the Schrödinger operator is absolutely continuous. This is joint result with M. Birman and R. Shterenberg.

Tid och plats: Måndagen den 4 september kl. 10.30 – 11.30 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

SEMINARIUM

Vladimir Maz'ya: The Wiener test for higher order elliptic equations

Abstract: Wiener's criterion for the regularity of a boundary point with respect to the Dirichlet problem for the Laplace equation has been extended to various classes of elliptic and parabolic partial differential equations. They include linear divergence and nondivergence equations with discontinuous coefficients, equations with degenerate quadratic form, quasilinear and fully nonlinear equations, as well as equations on Riemannian manifolds, graphs, groups, and metric spaces. A common feature of these equations is that all of them are of second order, and there have been no Wiener's type characterizations for higher order equations so far. Indeed, the increase of the order results in the loss of the maximum principle, Harnack's inequality, barrier techniques, and level truncation arguments, which are ingredients in different proofs related to the Wiener test for the second order equations.

In the present talk I deal with an elliptic differential operator of an arbitrary even order $2m$ with constant real coefficients. I introduce a notion of regularity of a boundary point with respect to the Dirichlet problem which is equivalent to that given by Wiener in the case $m = 1$. I find a necessary and sufficient condition for the regularity stated in terms of capacity, which includes Wiener's result as a particular case. Some challenging open problems will be discussed as well.

Tid och plats: Onsdagen den 6 september kl. 13.15 – 14.00 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

ALGEBRA AND GEOMETRY SEMINAR

Dario Portelli:
On the differential-geometric determination of the degree of a hypersurface

Abstract: Roughly speaking, the problem is as follows. If you have a surface X such that through a general point of X there are more than one line contained on X (but finitely many lines, in any case), then there are exactly two lines through any general point of X, and $\deg(X) = 2$. This is folklore. A similar theorem holds for 3-folds (C. Sisam, 1930): If X is a 3-fold such that through a general point of X there are exactly six lines contained on X, then $\deg(X) = 3$. The proof are computations. (If the number of lines on X through a general point is > 1 and < 6, then the classification of such X is the content of another talk). All this suggests an obvious conjecture, for the proof of which I only have a possible conceptual approach. The talk will be rather expository in nature, but I will focus on this approach, and to some related problems which it requires to solve.

Tid och plats: Måndagen den 4 september kl. 13.15 – 15.00 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101.

GUEST LECTURES BY PROFESSOR PAUL COHEN

Professor Paul Cohen from Stanford will visit SICS (Swedish Institute of Computer Science) from September 4 to October 20, 2000. He will give a series of lectures on September 7, 14, 28 and October 5, 12, 19 at 15 – 17 in lecture hall C1, Electrum, Kista. In the first three of these he will talk about the continuum hypothesis and forcing. The last three will be on analytic number theory.

Professor Cohen has given the following abstract of his lectures:

Lecture series in Forcing Methods in Set Theory

We will present a series of lectures designed primarily for auditors who have not had a detailed exposure to Logic or Set Theory. We will assume an acquaintance with Naïve Set Theory, e.g. ordinals, Continuum Hypothesis, etc. However, our approach will not attempt to give a formalistic presentation, but rather to present the intuitive ideas so that a non-specialist will be able to have a good understanding of the basic techniques. The first lecture will be devoted to a review of some basic concepts, such as models, proofs, and the first steps of the notion of the "Construction", which is the fundamental idea in building models for Set Theory. It is hoped that notes will be available, following in broad outline the approach of my book, but modified on the basis of teaching experience with the material. We will in the succeeding lectures explain the technique of forcing, which allows one to construct various models of Set Theory, and briefly explain the alternative approach of Boolean Models which is equivalent to it. Of course, the main result will be the proof of the relativity consistency of the negation of the Continuum Hypothesis and the Axiom of Choice.

A second series of lectures will also be given, explaining what we believe to be the new approach to Prime Numbers, and the Riemann Hypothesis in particular. This is the idea which has now been rediscovered by A. Connes, concerning a trace formula on the "space" of Adeles modulo principal Ideles.

MITTAG-LEFFLER SEMINAR

Stevo Todorcevic: Coherent sequences

Abstract: This will be a survey of various notions of "coherence" that appear in set-theoretic practise such as, for example, the notion of coherence of square-sequences.

Tid och plats: Onsdagen den 6 september kl. 11.30 – 12.30 i Institut Mittag-Leffler, Auravägen 17, Djursholm.

MITTAG-LEFFLER SEMINAR

Simon Thomas:
The complexity of the classification problem
for torsion-free abelian groups of rank two

Abstract: This talk will discuss a recent contribution to the project of explaining why no satisfactory system of complete invariants has yet been found for the torsion-free abelian groups of rank $n > 1$. Disproving a conjecture of Hjorth-Kechris, I will show that the classification problem for rank 3 groups is strictly more difficult than that for rank 2 groups.

Tid och plats: Onsdagen den 6 september kl. 14.00 – 15.00 i Institut Mittag-Leffler, Auravägen 17, Djursholm.

ADVANCED UNDERGRADUATE COURSE IN MATHEMATICS

Mikhail Shapiro: Topology (5 p)

Lecturer: Mikhail Shapiro, e-mail mshapiro@math.kth.se, telephone 08-790 65 88.

Time: The course will be given during the weeks 38 – 51 in autumn 2000. The first lecture will take place on Tuesday, September 19, at 13.15 – 15.00 in seminar room 3721, Department of Mathematics, KTH, Lindstedtsvägen 25. The time for other lectures will be discussed at the first lecture (preliminary Mondays at 13.15 – 15.00 in seminar room 3733).

The goal of this course is to provide an elementary introduction into topology and to discuss some physical application.

We start by considering elementary pictures, illustrating certain topological phenomena. Later on we are going to discuss general topology, dimension theory, topological invariants (fundamental group, other homotopy and homology invariants), and classification of two-dimensional surfaces.

Prerequisites: Calculus and elements of linear algebra.

Basic literature: M. A. Armstrong: *Basic Topology.*

Additional literature: D. Fuks, A. Fomenko: *Course on Homotopy Topology,* B. Dubrovin, S. Novikov, A. Fomenko: *Modern Geometry (part 2),* M. Monastyrsky: *Riemann, Topology and Physics.*

All necessary materials will be distributed on the lectures.

Examination: The course can be taken for 5 doctoral points. The grade will be based on home assignments, student activity, and final examination.

All interested are cordially welcome.

Mikhail Shapiro

ARTINIAN GORENSTEIN RINGS AND FROBENIUS ALGEBRAS

A series of seminars with this title will be given on Tuesdays from 3 p.m. to 5 p.m. in room 3548, Department of Mathematics, KTH, Lindstedtsvägen 25. Topic of the first session on September 5th: *Introduction, discussion, and more detailed plans for the seminar.* Further information and a couple of references can be found at http://www.math.kth.se/~kock/FA/workshop.html.

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Telephone: 08-790 93 12

KOLLOKVIUM I FYSIK

William E. Brownell:
Mechanical force production by a biological membrane

Abstract: Auditory hair cells can serve both sensory and motor functions. The motor function has been called the "cochlear amplifier". The need for a cochlear amplifier arises because vertebrate hearing organs are fluid-filled. The resulting viscous damping would impair mechanical tuning if the ear were purely passive. Narrow-band, non-linear, active filtering is achieved because sensory hair cells inject mechanical energy into the vibrating structures of the inner ear and counteract the viscous damping. In mammals, the force generator for the cochlear amplifier is located in the outer hair cell (OHC) plasma membrane and is manifested in isolated OHC's as electromotility. This is a voltage (and not current dependent) change in length of up to 4 %. It does not depend on calcium nor does it require intracellular stores of ATP. It can generate forces at frequencies approaching 100 kHz indicating that biochemical second messengers are not involved. Flexoelectricity is a mechanism by which a change in transmembrane potential results in a change in membrane radius of curvature. We have proposed that flexoelectricity is the mechanism responsible for electromotility.

References: See http://www.physics.kth.se/kol.html.

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

SEMINARIUM I MATEMATISK STATISTIK

Lars Holst:
Slutgiltiga korta beviset för Stirlings formel?

Sammanfattning: Stirlings formel visas utgående från Dan Romik: *Stirling's Approximation for n!: the Ultimate Short Proof?* The American Mathematical Monthly, Vol. 107, pp. 556 – 557, June – July 2000.

Tid och plats: Måndagen den 11 september kl. 15.15 – 16.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

LICENTIATSEMINARIUM I MATEMATISK STATISTIK

Johan Irbäck

presenterar sin licentiatavhandling:

Asymptotic theory for a risk process with a high dividend barrier

Inbjuden diskussionsinledare: **Jan Grandell,** Matematisk statistik, KTH.

Abstract: The only way to avoid ruin in the classical model of the collective risk theory is that the surplus increases to infinity. We consider a modified model with a dividend barrier which prevents this behaviour. It is shown that there is a simple approximation formula for the time of ruin when the level of the dividend barrier is high. A numerical example is presented in the case when the claims are exponentially distributed. The relation to queuing theory is used to derive the proportion of time the surplus is below some given level.

Tid och plats: Onsdagen den 13 september kl. 15.15 i rum 306, Cramérrummet, hus 6, Matematiska institutionen, SU, Kräftriket, Roslagsvägen 101.

GRADUATE COURSE IN MATHEMATICS

Bo Stenström: Category and topos theory

The course begins with a quick introduction to category theory, with an emphasis on items that are needed for the subsequent topos theory, which constitutes the main part of the course.

A topos may from a geometrical point of view be considered as a category of sheaves on a topological space, or more generally on a locale, or still more generally on a site in the sense of Grothendieck. But a topos may also be viewed as a kind of universe of sets, and from that point of view it is of interest for logic and set theory. The internal logic of an elementary topos is intuitionistic, in that the subobject classifier is an (internal) Heyting algebra (whereas in the classical topos of sets it is the two-element boolean algebra). In that way, an elementary topos may be considered as a model of some higher-order intuitionistic logic. An important example for applications to set theory is the topos of sheaves of classical sets with respect to the double-negation topology on the ordered set of Cohen forcing conditions. This topos is boolean and satisfies the axiom of choice, while the continuum hypothesis fails.

We shall consider both the geometrical and the logical aspects of topos theory, but in a short course like this it is obviously not possible to go into any depth in either direction. But we should at least manage to gain some familiarity with basic ideas in topos theory.

Literature: For general category, notes will be handed out. Recommended otherwise is Mac Lane, *Category Theory for the Working Mathematician* (Springer Graduate Texts). For topos theory: Mac Lane and Moerdijk, *Sheaves in Geometry and Logic* (Springer). This book will be available for reference in our library. (It will cost about 800 SEK if ordered from Swedish Library House).

Time and place: The course will meet weekly on Fridays at 13.15 in room 306, house 6, Department of Mathematics, SU, Kräftriket, Roslagsvägen 101. The first lecture will be given on September 8.

Bo Stenström

STUDIECIRKEL I PERKOLATIONSTEORI

I mitten av september tänker vi starta en studiecirkel i perkolationsteori. Kursmaterialet kommer att bestå av delar av Geoffrey Grimmetts bok *Percolation* (Springer 1999) och Olle Häggströms artikel *Random-Cluster Representations in the Study of Phase Transitions* (Markov Processes and Related Fields, **4,** 275 – 321). Vi planerar att träffas en gång i veckan och turas om att presentera delar av materialet för varandra. Ledare för cirkeln blir Åke Svensson och Anders Martin-Löf. Aktivt deltagande ger 5 poäng i forskarutbildningen.

Är du intresserad av att vara med? Hör i sådant fall av dig så snart som möjligt till Maria Deijfen, mia@matematik.su.se, och ange gärna om du har några önskemål om dag/tid för träffarna.

MONEY, JOBS

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 2000. 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://apple.datakom.su.se/stipendier/.
7. Umeå site for information on funds: http://www.umu.se/umu/aktuellt/stipendier_fond_anslag.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

Money, to apply for

10. Fulbright Commission utlyser stipendier för akademiska studier på amerikanska universitet för ett helt studieår 2001/02, 15 september. Web-info: http://www.usemb.se/Fulbright/.
11. Sverige-Amerika Stiftelsen utlyser stipendier för masters- och forskarstudier under en tid av minst sex månader i USA och Canada under läsåret 2001/02, 15 september. Web-info: http://www.sweamfo.se/.

Old information

Money, to apply for

12. Magnus Bergvalls stiftelse utdelar anslag i storleksordningen 5 000 – 75 000 kr till svenska vetenskapsmän och kulturella institutioner. Anslag beviljas företrädesvis till forskare som avlagt doktorsexamen eller innehar motsvarande kompetens, 15 september. Info: Magnus Bergvalls stiftelse, SEB, 08-763 68 97.

(Continued on the next page.)

13. Wenner-Gren Stiftelserna utlyser följande stipendier och anslag för år 2001:

    Resestipendier för kortare tids besök utomlands, t.ex. för deltagande i kongresser eller symposier, under tiden 1 januari – 30 juni. Sökande skall vara disputerad forskare under 40 år.

    Postdoktorstipendier för forskning i utlandet under en tid om lägst 1 och högst 12 månader (möjlighet till förlängning finns). Sökande skall vara svensk medborgare och ha avlagt doktorsexamen inom fem år före ansökningstillfället.

    Gästforskarstipendier för att möjliggöra för utländska forskare att verka vid svensk vetenskaplig institution under en tid om lägst 1 och högst 12 månader (möjlighet till förlängning finns). Ansökan skall inges av svensk forskare för sökandes räkning.

    Gästprofessorsstipendier för att underlätta för framstående utländska forskare att förlägga sabbatsperioder om lägst 1 och högst 12 månader i Sverige. Ansökan skall inges av svensk forskare för sökandes räkning.

    Anslag till anordnande av internationella vetenskapliga symposier i Sverige. Anslag beviljas med högst 50 000 kr per symposium.

    Sista ansökningsdag för dessa stipendier och anslag är 1 oktober. Web-info: http://www.swgc.org/.

14. Stiftelsen för internationalisering av högre utbildning och forskning (STINT) utlyser bidrag för kortare utlandsvistelser för lärare eller forskare vid svenskt universitet, högskola eller forskningsinstitut, dock ej doktorander. Ansökan kan inlämnas fortlöpande under året, dock senast 8 veckor före den dag då utlandsvistelsen avses påbörjas. Web-info: http://www.stint.se/KPutlys.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.

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, avsedda att möjliggöra för svenska forskare eller institutioner att inbjuda utländska gästföreläsare. Anslag sökes av den inbjudande forskaren eller institutionen. Ansökan kan inlämnas när som helst under året. Web-info: http://www.swgc.org/.

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 at any time.

Jobs, to apply for

21. Institutionen för tillämpad naturvetenskap vid Mitthögskolan i Härnösand söker en universitetsadjunkt i matematik för ett vikariat under tiden 1 november 2000 – 31 januari 2001, med möjlighet till förlängning. Sista ansökningsdag är 12 september. Info: Rolf Rönngren, 0611-861 28, Rolf.Ronngren@tnv.mh.se, Staffan Nyström, 0611-861 32, Staffan.Nystrom@tnv.mh.se, eller Olof Björkqvist, 0611-861 11, Olof.Bjorkqvist@tnv.mh.se. Web-info: http://www.mh.se/jobb/TNV0008182.html.