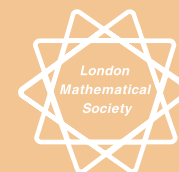


THE LONDON MATHEMATICAL SOCIETY



NEWSLETTER

No. 332 December 2004

Forthcoming Society Meetings

2005

Friday 25 February
London

S. Lauritzen
E. Thompson
(Mary Cartwright
Lecture)
[page 3]

Wednesday 18 May
Birmingham
Midlands Regional
Meeting

Friday 17 June
London
R. Jozsa
(Naylor Lecture)

Friday 8 July
York
Northern Regional
Meeting

Monday 5 September
Bristol
South West & South
Wales Regional
Meeting

Friday 18 November
London
Annual General
Meeting

COUNCIL DIARY

15 October 2004

With some of its members still tanned from the summer, the Council began by juggling the long agenda of items that had accumulated over the break. The President then reported that Professor Yu Manin had accepted our invitation to be the next Hardy Lecturer and, barring unforeseen circumstances, we look forward to hearing him in 2006. Plans were also made for the formal admission to the Society of Professor I.M. Singer, recently invited to be an Honorary Member, to take place at a special Society meeting which would incorporate the seminar he was giving to the Mathematics Department at Imperial College. Regretably this was subsequently cancelled when Professor Singer had to postpone his visit.

A very different kind of meeting was held in July between Charles Clarke, Secretary of State for Education and Skills, and a delegation from the Council for the Mathematical Sciences (CMS) led by the presidents of its constituent bodies, the IMA, LMS and RSS, to discuss the health (including funding) of mathematics and statistics in universities. The Government's positive response

to the Smith Report indicated an interest in reforming mathematics education. The purpose of the meeting was to convey concerns that the continuing erosion of the mathematics base in universities and the emergence of mathematical deserts would undermine the universities' ability to provide teachers, researchers and a mathematically-skilled workforce.

We were reassured to learn that Mr Clarke was well-briefed, recognising the fundamental importance of mathematics and appreciating the all too familiar threats the subject is facing. Mr Clarke argued that it was not self-evident that every university should have a mathematics department, and he presented the CMS delegation with some fundamental questions. What should be regarded as a 'mathematical presence' in an institution in a changing world where mathematics permeates so many different areas, and what should the distribution and composition of mathematics departments in the country be to meet national needs and political priorities? He pointed out that, in contrast to the sciences, mathematics did not have a group of industrial angels (such as the Wellcome Trust) to support initiatives; it

was good to learn that he would appreciate the support of the CMS in identifying such a group of organisations. Altogether he was judged generally sympathetic and to be seeking a constructive and informed response. This presented the CMS with an opportunity to respond with a thoroughly researched, integrated and stable framework for UK mathematics in which it can flourish. This is being prepared by the CMS, with our own Maths Promotion Unit and assistance from the Heads of Departments of Mathematical Sciences Committee. We await the outcome of a future meeting with interest.

Yet another meeting on the health of mathematics, this time between the CMS and EPSRC, was held to discuss the excellent report of the International Review of Mathematics (IRM) held in early December last year. The report highlighted the grave problems facing mathematics and statistics in the UK and provided ammunition for increased funding and for some urgently needed reforms. EPSRC's initial response to the report was an Action Plan, now on its website. This Plan catalogues EPSRC's responses: more responsibility and flexibility

have been given to individual departments' doctoral programmes through DTAs and, in the case of Masters' programmes, more had been given to individual universities (though this exposes these courses to internal competition from other EPSRC areas). Decisions to extend the period allowed for a PhD, to relax the penalties for late submission and recognise the input of Research Assistants in grant applications were welcome. And Masters' courses in statistics are 'secure', which (given the current acute shortage of statisticians) is good news. Nevertheless, we were saddened to learn that, as yet, there is no commitment to provide new resources, and no clear acknowledgement of the specific problems affecting mathematics.

This is very disappointing after the Smith Report, the Roberts Report and particularly the IRM; the CMS bodies will have to think hard with EPSRC how to go about securing the considerable amount of additional funding we need. The Short Courses programme is fully booked up to the end of the current agreement in 2006. Arrangements with EPSRC have been made to discuss a renewal. The demand and undoubted value in terms

LONDON MATHEMATICAL SOCIETY

MARY CARTWRIGHT LECTURE

Friday 25 February 2005

Chemistry Auditorium, Christopher Ingold Building,
University College London, 20 Gordon Street, London WC1

3.30 – 4.30 Professor Steffen Lauritzen (Oxford University)
A pedigree perspective of local computation

4.30 – 5.00 Tea

5.00 – 6.00 Mary Cartwright Lecture
Professor Elizabeth Thompson
(University of Washington, Seattle)
Relatedness, genome sharing, and the detection of genes

The talks by Elizabeth Thompson and Steffen Lauritzen are concerned with the genetic analysis of large pedigrees. A pedigree, defined as a full specification of family relationships between a group of individuals, is naturally represented by a directed graph. Almost every problem associated with pedigree analysis involves a difficult computation, but algorithms for so-called local computation on graphs allow feasible calculations to be done, and this is the topic of the first talk. The second talk focuses on genome sharing arising from pedigree relationships, and on using the dependence in sharing at different loci on a common chromosome to infer linkage of a trait to a set of marker loci. A new way to assess the evidence for linkage from unobserved genome sharing will be discussed.

A reception will be held at De Morgan House at 6.15 pm with a dinner afterwards at Poons Restaurant, 50 Woburn Place, London WC1 at 7.15 pm. The cost will be £25.00 per person, inclusive of wine. Those wishing to attend should inform The Administrator, Susan M. Oakes, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS, enclosing a cheque payable to the 'London Mathematical Society' to arrive no later than **Monday 21 February**.

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the Society meeting. Requests for support, including an estimate of expenses, may be addressed to the Programme Secretary at the Society (web: www.lms.ac.uk; email: grants@lms.ac.uk).

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of maths per £ of these courses should ensure their survival but the case will have to be made.

Sir Christopher Llewellyn Smith who has stepped down as chair of the Advisory Committee on Mathematics Education, set up to inform and advise DfES on improving standards and promoting mathematics at all educational levels, is to be replaced by Sir Peter Williams, Chair of the Engineering and Technology Board, and Past President of the British Association for the Advancement of Science. The LMS, IMA and RSS are collaborating in an attempt to set up a new sister body – the Advisory Committee on Mathematics Research and Industry – as recommended in Adrian Smith's Report on Post-14 Mathematics Education.

Publishing also shares an uncertain outlook, with declining subscriptions, increasing costs and the threat of electronic journals continuing to be matters for concern. Substantial reductions in income were projected but in the event new – though not entirely satisfactory – consortium arrangements offset the drop in subscriptions. In addition *Compositio* made a surplus, of which 60% goes back to the Foundation for supporting mathematics in the Netherlands. So, for the moment, the position is much better than feared, with an increased surplus. While this is good news for the Society's activities, the problems have not gone away and the concerns remain. Incidentally, members will have seen that the cover photo of the 2005 LMS Publications booklet is of the London Docklands. The choice of a part of London as the subject was by chance, but as it happens it allows members to trace the trajectory of the Society's investments from Credit Suisse in the tall building to the left of Canary Wharf to Morgan Stanley in the one on the right.

Africa has moved up the list of priorities of the Society with a delegation being sent to the Pan-African Mathematics Congress held

at Carthage (Tunisia) in early September. Several recommendations were made for further support that the Society might give to mathematics in the sub-Saharan region, including influencing government agencies and, closer to home, channelling money to African mathematicians via a modified Scheme 5

The British Women in Mathematics Day held in September was reported a great success and it was announced that Professor E. Thompson (Washington, USA) would give the next Mary Cartwright Lecture on 25 February 2005. An agreement to extend eligibility for Scheme 4 and 7 grants to non-members of the Society (though it was hoped that their contact with it would lead to them joining) ended a meeting dominated by the continuing and all too familiar problems that mathematics faces.

Maurice Dodson

LONDON MATHEMATICAL SOCIETY PRIZES 2005 Announcement and Call for Nominations

A Prizes Committee has been appointed for 2005. The membership is:

Professor David Abrahams
Professor Frank Kelly
Professor Frances Kirwan (Chair)
Professor Malcolm MacCallum
Professor Angus Macintyre
Professor David Preiss
Professor David Rand
Professor David Sloan

In 2005, Council expects to award the Polya Prize, the Senior Whitehead Prize, the Berwick Prize and up to four Whitehead Prizes.

Members wishing to nominate candidates should use the designated form, which is available to download from the LMS website (www.lms.ac.uk) or can be obtained by con-

Springer Monographs in Mathematics



D. E. Edmunds, W. D. Evans
Hardy Operators, Function Spaces and Embeddings
2004. XII, 326 p. 6 illus. Hardcover
€ 89,95; £ 49,00
ISBN 3-540-21972-2

J. Dugundji, A. Granas
Fixed Point Theory
2003. XV, 690 p. 14 illus. Hardcover
€ 84,95; £ 65,50 ISBN 0-387-00175-5

H. Hida
p-Adic Automorphic Forms on Shimura Varieties
2004. XI, 390 p. Hardcover € 89,95; £ 69,00
ISBN 0-387-26711-2

G. A. Margulis
On Some Aspects of the Theory of Anosov Systems
With a Survey by Richard Sharp: "Periodic Orbits of Hyperbolic Flows"
2004. VII, 138 p. Hardcover € 49,95; £ 38,50
ISBN 3-540-40121-0

V. Kanovei, M. Reeken
Nonstandard Analysis, Axiomatically
The book is devoted to nonstandard set theories that serve as foundational basis for nonstandard mathematics.
2004. XVI, 408 p. Hardcover € 89,95; £ 69,00
ISBN 3-540-22243-X

W. Narkiewicz
Elementary and Analytic Theory of Algebraic Numbers
This book gives an exposition of the classical part of the theory of algebraic number theory, excluding class-field theory and its consequences.
3rd ed. 2004. X, 708 p. Hardcover
€ 119,95; £ 92,50
ISBN 3-540-21902-1

K. Taira
Semigroups, Boundary Value Problems and Markov Processes
2004. XI, 337 p. Hardcover
€ 79,95; £ 61,50
ISBN 3-540-40651-4

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tacting the Secretary to the Committee, Mark Perera, at Society (tel: 020 7927 0800, email: perera@lms.ac.uk). Nominations should be received no later than **Friday 14 January 2005**.

Brief descriptions of the criteria for each Prize are given below. Council reserves the right not to make an award of any particular Prize in the event that no candidate of sufficient merit is recommended by the Prizes Committee. The full regulations for each prize can be obtained from Mark Perera (contact details above).

The Polya Prize is awarded in those years, not numbered by a multiple of 3, in which the De Morgan Medal is not available for award. The Prize is in memory of Professor G. Polya, who was a Member (and later Honorary Member) of the Society for about 60 years. The Polya Prize is awarded in recognition of outstanding creativity in, imaginative exposition of, or distinguished contribution to, mathematics within the United Kingdom; it may not be awarded to any person who has previously received the De Morgan Medal.

The Senior Whitehead Prize is awarded in odd-numbered years, in memory of Professor J.H.C. Whitehead, a former President of the Society. The Senior Whitehead Prize for year 2005 can only be awarded to a mathematician who is normally resident in the United Kingdom on 1 January 2005. The grounds for the award may include work in, influence on or service to mathematics, or recognition of lecturing gifts in the field of mathematics; the Senior Whitehead Prize may not be awarded to any person who has previously received the De Morgan Medal, Polya Prize, Senior Berwick Prize or the Naylor Prize.

The Berwick Prize, named after Professor W.E.H. Berwick, is awarded in odd-numbered years. The Berwick Prize for year 2005 can only be awarded to a mathematician who, on 1 January 2005, is a member of the Society, is under the age of forty years (except that this

age restriction may be relaxed when it appears desirable to do so in order to take fair account of broken career patterns), and is not already a Fellow of the Royal Society. It is awarded in recognition of an outstanding piece of mathematical research actually published by the Society during the eight years ending on 31 December 2004; and it may not be awarded to any person who has previously received the De Morgan Medal, the Senior Berwick Prize, the Senior Whitehead Prize, the Naylor Prize or a Whitehead Prize.

The Whitehead Prizes are awarded to mathematicians who on 1 January 2005 are normally resident in the United Kingdom or members of the Society mainly educated in the United Kingdom, who are not already Fellows of the Royal Society, and who are under the age of forty years (except that this age restriction may be relaxed when it appears desirable to do so in order to take fair account of broken career patterns). Grounds for the award may include work in and influence on mathematics. This Prize may not be awarded to anyone who has won any of the Society's other Prizes. Members are reminded that the scope of the Whitehead Prizes (as of the other Society Prizes to be awarded in 2005) includes all aspects of mathematics, and Council has emphasised that this includes applied mathematics, mathematical physics and mathematical aspects of computer science.

NEWS FOR LMS BULLETIN SUBSCRIBERS

Those of you who subscribe to the *Bulletin* should not be disappointed when the Yellow One fails to drop through your letterbox in January. In order to simplify the paper flow through the LMS publications office, we have moved the publication dates of the *Bulletin* and issues will appear in February, April, June, August, October and December of each year from now on. It will be worth waiting

for: owing to a small backlog and a huge demand, the issues will increase in size to as much as 160pp each next year, with no extra increase in cost beyond the standard rise in line with your membership fee. There has been a large increase in the number of papers submitted this year so competition for space is high but *good survey articles* are always highly valued and authors are encouraged to submit these, only noting in their covering letter or in the abstract field on the web form that the paper is submitted as a survey for the *Bulletin*.

Susan Hezlet
Publisher

MATHEMATICS POLICY Tomlinson report into 14–19 Curriculum Reform Published

The final report of the Tomlinson enquiry into '14–19 Curriculum and Qualifications Reform' was published on 18 October.

The Working Group for 14–19 Reform, chaired by Mike Tomlinson, was set up in spring 2003 to make recommendations to the Government on the reform of 14–19 education to tackle issues such as low post-16 education participation, low levels of basic skills, an over-burdened assessment system and poor vocational options. The final report can be viewed, along with the interim report and other documents, at www.14-19reform.gov.uk.

The report recommends replacing the traditional two-tier GCSE and A-Level qualification system with a single four-level diploma by 2014. The new diploma system, which would be phased in over the next ten years, contains less external testing and more emphasis on extended coursework projects and vocational courses. It includes compulsory courses in English, mathematics and computer skills, and has as one aim stretching the highest achieving students to attain A* and A** grades in the advanced level diploma.

The report has been welcomed by the Russell Group of Universities, who hope the new curriculum will motivate more young people to progress to higher education, and captains of industry, who welcome the report's strong focus on key skills for the workplace. However, the report has been criticised by the Royal Society for failing to make a commitment to maintaining and broadening science education.

The Society has expressed firm support for the programme of reform of mathematics education set out in the Smith Report. Ensuring that these reforms are achieved, even though the framework is modified, remains the top priority. Education Committee will be considering the Tomlinson report in this light.

GERT KJAERGAARD PEDERSEN

Professor Gert Kjaergaard Pedersen, who was elected a member of the London Mathematical Society on 17 October 1986, died on 15 March 2004 aged 63. He was born in 1940 in Denmark, and graduated from the high school Skt. Annae Gymnasium (which specialises in music) in 1958. In 1964 he obtained the degree of Mag. Scient from University of Copenhagen, and he became Dr. Phil. in 1972. He was appointed associate Professor at the University of Copenhagen in 1968, and from 1975, at the age of 35 years, until his much too early death he served there as full Professor.

Professor Pedersen worked on operator algebras, and started his productive career by solving two problems from a famous list of 20 problems posed by Kadison in 1967. He had a large network of co-workers, and was a popular and frequently sought-after speaker at international conferences. His bibliography counts more than 100 items including two much cited and often-used monographs.

HAROLD STANLEY ARTHUR POTTER

Professor Stanley Potter, FRSE, who was elected a member of the London Mathematical Society on 4 February 1932, died on 5 October 2004 aged 95. He was educated at Newcastle Royal Grammar School, then at Exeter College, Oxford, where he attended G.H. Hardy's research seminars and completed a doctorate on the Epstein zeta function under Titchmarsh's supervision. From 1933 to 1935 he was a Commonwealth Fellow at the then newly formed Institute for Advanced Study at Princeton. In 1936 he went (at Edward Wright's invitation) to the mathematics department at Aberdeen, where he remained for the rest of his life. He was head of the department during two especially onerous times, the second world war and (as professor) the period of the Robbins expansion and its aftermath. He was much involved in the modernization of the mathematics syllabus both at Aberdeen University and in Scottish schools. His son, Michael Potter, is also a member of the London Mathematical Society.

WALTER FEIT

Walter Feit, who was the Society's Hardy Lecturer in 1993, died in New Haven on 29 July 2004, aged 73. He is best known for his joint work with John Thompson, in particular the proof of the solubility of finite groups of odd order; his paper with Graham Higman too, on the nonexistence of certain generalised polygons, formed an important step in the early stages of the classification of finite simple groups. However, it is the character theory in the odd order paper, extending ideas first used in his earlier work on Zassenhaus groups, that was his greatest *tour de force*.

Feit was one of the major figures in representation theory; like Brauer, his interests,

while lying primarily in group theory and the fundamental questions about their representations, encompassed the realms of algebra and its interaction with number theory. In particular, the Inverse Galois Problem attracted his attention, and formed the subject on which an international symposium was held in Oxford in honour of his 60th birthday while he held a Visiting Fellowship at All Souls' College.

Feit had been partly educated in England. He left his native Vienna on 1 September 1939; his parents, it is believed, hoped to follow him two weeks later. He first stayed with an aunt in London but was soon evacuated; at St. Aldate's School in Oxford he received a mathematical education sufficient to gain admission to the University of Chicago at the age of sixteen, when he had been able to join another aunt in Florida. In 1951 he went on to the University of Michigan to work with Brauer, though he was formally supervised by Thrall after Brauer's move to Harvard; his own career took him first to Cornell, and then in 1964 to Yale.

EUROPEAN COMMISSION AND CLAY RESEARCH AWARDS

Two academics in Bristol University's Department of Mathematics have been awarded prizes by the European Commission and the Clay Mathematics Institute in America.

Dr Jens Marklof, Reader in Mathematical Physics, is one of the winners of the 2004 Marie Curie Excellence Awards. The awards are given in recognition of the excellence achieved by researchers who have benefited from EU support schemes and to boost their careers by contributing to their international exposure. He will receive a grant of €50,000.

Dr Marklof received the award for his studies in quantum chaos and number theory. His main

achievement is the proof of a 25-year-old conjecture by Bristol-based academic, Professor Sir Michael Berry, and Professor Michael Tabor, University of Arizona, which explains statistical correlations between the energy levels of an important class of quantum systems.

Dr Ben Green, who will be joining the University in January 2005 as Professor in Pure Mathematics, has become the first UK-based mathematician to win the Clay Research Award. The award is given annually to recognise significant breakthrough results in mathematical research.

Dr Green has been recognised for his joint work with Professor Terry Tao, University of California, on arithmetic progressions of prime numbers. These are equally spaced sequences of primes such as 31, 37, 43 or 13, 43, 73, 103. Dr Green and Professor Tao showed that for any n there are infinitely many n -term progressions of primes. Their proof, which relies on results of Szemerédi (1975) and Goldston and Yıldırım (2003), uses ideas from combinatorics, ergodic theory, and the theory of pseudorandom numbers. The Green-Tao result is a major advance in our understanding of the primes.

ROYAL SOCIETY RESEARCH FELLOWSHIPS

The Royal Society's University Research Fellowship Scheme enables about 300 of the best postdoctoral researchers to devote up to ten years to research, a longer period of support than is provided by other UK funding schemes. The Dorothy Hodgkin Fellowships, meanwhile, provide up to four years of funding to outstanding scientists and engineers in the first few years after their PhD, which should lead to an independent research career. This scheme's benefits include flexibility and mentoring which are particularly attractive to women. On 1 October 2004 a number of new fellows were appointed, including six mathematicians:

University Research Fellows

Ineke De Moortel to work in the School of Mathematics & Statistics, University of St Andrews, on copronal seismology: from concept to realisation.

Mark Richard Dennis to work in the School of Mathematics, University of Southampton, on atoms in singularities of light.

Christian Korff to work in the School of Mathematics, University of Edinburgh, on quantum integrable systems and infinite-dimensional algebras.

Tiina Roose to work in the Mathematical Institute, University of Oxford, on multi-scale modelling of biological branching structures.

Dorothy Hodgkin Fellowships

Sophie Huczynska to work in the School of Mathematics and Statistics, St Andrews University, on token passing networks and pattern classes of permutations.

Laura Wisewell to work in the Department of Mathematics, University College London, on some new angles on the Kakeya conjecture.

DAVID CRIGHTON FELLOWSHIPS



The David Crighton Fund was set up in memory of the late Professor David Crighton, FRS, to provide support for young scholars in his research field, i.e. the subfield of

Applied Mathematics concerned with Fluid Mechanics, Acoustics, Waves and Vibration. The managers of the fund are accordingly offering up to four David Crighton Fellowships for research students and post-doctoral fellows in these areas to undertake up to three months' study and research either

in Cambridge, if they are currently based outside Cambridge, or elsewhere, if they are currently based in Cambridge. The award is to be used to cover actual travel and subsistence expenses; the maximum amount of any one award is £2,500. The period of study should begin in the calendar year 2005.

Applications are invited from suitable candidates, who should normally be in the second half of their PhD research or have no more than three years' post-doctoral experience. The application should include: a brief CV; a one-page description of the candidate's research topic; a statement of the benefit that can be expected from the proposed period of study; a letter from the proposed senior host stating that s/he agrees to accept the candidate to study with them between specified dates, countersigned by the host's head of department; a detailed statement of expected travel and subsistence expenses; and the names and addresses (including email) of two academic referees. It is expected that candidates will normally come from a department of (applied) mathematics, engineering or physics. Applications should be sent by **17 January 2005** to Professor T.J. Pedley, FRS, Head of Department of Applied Mathematics and Theoretical Physics, Centre for Mathematical Sciences, Wilberforce Road, Cambridge CB3 0WA (fax: 01223 760 497; email: T.J.Pedley@damtp.cam.ac.uk).

ISAAC NEWTON INSTITUTE

Call for proposals

The Isaac Newton Institute invites new proposals for programmes for 2007 onwards. A choice of six-month or four-month programme is available and short programmes of four weeks' duration are invited for July/August each year. These short programmes are intended for more narrowly focused topics or for subjects that may be at an embryonic stage of development, and for which a longer pro-

gramme might not be as yet justified.

Proposals should state whether a four-month, six-month or four-week programme is preferred, and should be addressed to the Director, Sir John Kingman, at the Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH. The Institute is pleased to receive proposals at any time; however, proposals for consideration at the next meeting of the Scientific Steering Committee (April 2005) should be received by **31 January 2005**. For further information please visit www.newton.cam.ac.uk, or contact the Institute (tel: 01223 335999; email: infor@newton.cam.ac.uk).

The following programmes have so far been confirmed to 2007:

- Quantum Information Science (16 Aug–17 Dec 2004) www.newton.cam.ac.uk/programmes/QIS/index.html
- Magnetohydrodynamics of Stellar Interiors (6 Sep–17 Dec 2004) www.newton.cam.ac.uk/programmes/MSI/index.html
- Model Theory and Applications to Algebra and Analysis (17 Jan–15 Jul 2005) www.newton.cam.ac.uk/programmes/MAA/index.html
- Developments in Quantitative Finance (24 Jan–22 Jul 2005) www.newton.cam.ac.uk/programmes/DQF/index.html
- Pattern Formation in Large Domains (1 Aug–23 Dec 2005) www.newton.cam.ac.uk/programmes/PFD/index.html
- Global Problems in Mathematical Relativity (8 Aug–23 Dec 2005) www.newton.cam.ac.uk/programmes/GMR/index.html
- Principles of the Dynamics of Non-Equilibrium Systems (9 Jan–30 Jun 2006) www.newton.cam.ac.uk/programmes/PDS/index.html
- Logic and Algorithms (16 Jan–7 Jul 2006) www.newton.cam.ac.uk/programmes/LAA/index.html
- Spectral Theory and Partial Differential Equations (17 Jul–11 Aug 2006) www.newton.cam.ac.uk/programmes/STP/index.html

- Noncommutative Geometry (24 Jul–22 Dec 2006) www.newton.cam.ac.uk/programmes/NCG/index.html
- Bayesian Nonparametric Regression: Theory, Methods and Applications (30 Jul–24 Aug 2007) www.newton.cam.ac.uk/programmes/BNR/index.html

EMS SUMMER SCHOOLS

Call for Proposals

Following the success of its first EU application (which allows the funding of eight Summer Schools or Conferences in 2004–2005), the European Mathematical Society is launching a new call for proposals for such Schools and Conferences for 2006, 2007 and 2008. The deadline for this call is **12 January 2005**, and will allow the EMS to present a coherent proposal of activities for EU funding, thereby allowing organisers of single meetings to be part of a series of events. EMS direct support being limited, the result of this application will make a major difference to the funding for the meetings selected by EMS. There will be similar calls every two or three years in the future.

This call for proposals concerns all Summer Schools or Conferences that any group of mathematicians – pure or applied – would like to run in 2006, 2007 or 2008 in the EU or associated states. All proposals should be sent via email to: llemaire@ulb.ac.be. For further information please visit www.emis.de/etc/ems-summer-schools.html#call.

VISIT OF DR YURIY SEMENOV

Dr Yuriy Semenov (National Academy of Science and National Space Agency of Ukraine) will be visiting the School of Mathematical Sciences, University of Nottingham from 12 January–16 February 2005, supported by a Scheme 2 LMS grant as

well as by the University of Nottingham. Dr Semenov's research interests include the application of complex variable and numerical methods to solve free boundary problems of unsteady hydrodynamics, particularly water-entry problems. Whilst in the UK he will also be giving lectures at the universities of Oxford and East Anglia. For further information contact Dr L.J. Cummings (email: Linda.Cummings@nottingham.ac.uk, tel: 0115 846 6165).

JOHN H. COATES 60TH BIRTHDAY CONFERENCE

A conference in honour of John H. Coates on the occasion of his 60th birthday will take place at the Isaac Newton Institute, Cambridge, on 13–14 January 2005. The lectures will take place on the morning and afternoon of Thursday 13 and Friday 14 January, with the conference dinner being held at Emmanuel College on the Thursday evening. The conference fee is £50. Speakers will be: R. Coleman (Berkeley), P. Colmez (Paris), M. Flach (Pasadena), R. Greenberg (Seattle), K. Kato (Kyoto), S. Lichtenbaum (Providence RI), P. Schneider (Münster), J. Tilouine (Paris), A. Wiles (Princeton).

This conference is supported by a grant from the LMS, with additional support from the Pure Mathematics division of the University of Nottingham and DPMMS, Cambridge. The conference is an associated activity of the EU Network Arithmetic Algebraic Geometry. Limited funds are available to UK research students. For further information visit www.dpmms.cam.ac.uk/~ajs1005/jhc.html. To participate, contact one of the scientific organisers: Andrew Wiles (wiles@math.princeton.edu); Jacques Tilouine (tilouine@math.univ-paris13.fr); Richard Taylor (rtaylor@math.harvard.edu); Ivan Fesenko (Ivan.Fesenko@nottingham.ac.uk); Tony Scholl (A.J.Scholl@dpmms.cam.ac.uk).



CALL FOR PROPOSALS

Proposals are invited for workshops to be held at ICMS in Edinburgh in 2005/6.

The International Centre for Mathematical Sciences (ICMS) is based in central Edinburgh, in the birthplace of James Clerk Maxwell. Following new funding arrangements with EPSRC for the period 2005 to 2008, ICMS is able to offer support to run workshops and symposia on all aspects of the mathematical sciences in new or traditional subjects and interdisciplinary areas with significant mathematical content.

The core of ICMS activity will be the rapid-reaction research workshop programme (R³WP). ICMS therefore particularly welcomes proposals for workshops in rapidly-developing and newly-emerging areas where there is a need to evaluate new developments quickly. ICMS will respond quickly to such proposals. Organisers can expect preliminary comments from reviewers in 8 weeks. Decisions will be made by the Programme Committee four times a year (December, March, May and September). Small meetings can be organised in 6-8 months from acceptance. Potential organisers should contact ICMS as early as possible to discuss ideas, before submitting a firm proposal. The proposal document should not normally exceed five pages and should be submitted electronically (PDF, PS, Word or DVI). Proposals may be submitted at any time.

Full instructions on how to submit a proposal, together with details of the refereeing process and criteria for selection, can be found on the webpage: www.icms.org.uk/call/index.html.

Anyone unable to read these pages or download documents can order print versions from ICMS.

If your application is successful, you will be offered a funding package to contribute to the travel and subsistence of a proportion of the participants. ICMS staff will undertake all non-scientific administration connected with the workshop (such as issuing invitations, processing registrations, organising accommodation, preparing material, financial administration). One of the Scientific Organisers (often an author of the initial proposal) will be appointed Principal Organiser and be the main point of contact.

For all enquiries about ICMS or the procedures for submitting a proposal, please contact Tracey Dart, Centre Manager, ICMS, 14 India Street, Edinburgh EH3 6EZ (tel: 0131 220 1777; fax: 0131 220 1053, email Tracey.Dart@icms.org.uk).

WINTER COMBINATORICS MEETING

The 2005 Open University Winter Combinatorics Meeting will be held on Wednesday 26 January 2005 in the Christodoulou Meeting Room 11 (CMR 11) on the Open University campus in Milton Keynes. All are welcome and coffee will be available from 10.15 am. The speakers will be: Aleš Drápal (Charles University, Prague); Peter Rowlinson (Stirling); Jan Saxl (Cambridge); Jana Šiagiová (Slovak Technical University); and Ralph Stanton (Manitoba). For further information visit <http://mcs.open.ac.uk/pure-maths/combin>, or contact Mike Grannell (M.J.Grannell@open.ac.uk) or Terry Griggs (T.S.Griggs@open.ac.uk). The organisers gratefully acknowledge the support of the British Combinatorial Committee and the Leverhulme Trust.

SECANTS

SECANTS (South of England Computational and Algorithmic Number Theory Seminars) will hold its 25th meeting on Saturday 4 December in Oxford. The speakers will be Richard Pinch (Cheltenham), Jonathan Pila (McGill) and Martijn Stam (Bristol). SECANTS is funded by an LMS Scheme 3 grant. For more details of the programme, and for general information about SECANTS, including joining the mailing list, please visit www.isg.rhul.ac.uk/~sdg/secants/index.html.

GROUPS ST ANDREWS 2005

The Groups St Andrews 2005 conference will take place from 30 July to 6 August 2005, at the University of St Andrews, St Andrews, Scotland. This is the seventh in the series of Groups St Andrews Conferences and will be organised along similar lines to previous events in this series. The principal speakers

are: Peter J. Cameron (Queen Mary, London), Rostislav I. Grigorchuk (Texas A&M), John C. Meakin (Nebraska-Lincoln), Akos Seress (Ohio State).

The speakers have kindly agreed to give short courses of lectures. In addition there will be a programme of one hour invited lectures and short research presentations. The conference aims to cover all aspects of group theory. The short lecture courses are intended to be accessible to postgraduate students, postdoctoral fellows, and researchers in all areas of group theory.

Scientific Organising Committee: Colin Campbell (St Andrews), Nick Gilbert (Heriot-Watt), Steve Linton (St Andrews), John O'Connor (St Andrews), Edmund Robertson (St Andrews), Nik Ruskuc (St Andrews), Geoff Smith (Bath).

Accommodation has been booked at David Russell Hall and Fife Park, St Andrews. Lectures will be held in the Mathematical Institute, St Andrews. For further information contact Groups St Andrews 2005, Mathematical Institute, North Haugh, St Andrews, Fife KY16 9SS (email: gps2005@mcs.st-and.ac.uk; web: <http://groupstandrews.org>).

ALBERT EINSTEIN CENTURY INTERNATIONAL CONFERENCE

At the beginning of the twentieth-century, two conceptual revolutions occurred in science: Quantum mechanics and General relativity. In the single year of 1905, Einstein laid the foundation stones for both of these twentieth century revolutions. In the same year, Einstein also provided fundamental new insights into two other areas, with his doctoral dissertation on the determination of molecular dimensions and his analysis of the nature of Brownian motion.

While having played a determining role in the development of our current vision of the Universe from both a scientific and philosophical point of view, Einstein's influence clearly exceeds the medium of research. As such, and as part of the World Year of Physics 2005 (www.wyp2005.org/, www.physique2005.org/), an international conference of research (18–22 July) is being organised alongside an exhibition and a set of lectures for the general public (11–15 July), all of which will take place at the Palais de l'Unesco in Paris.

One of the main purposes of the conference is to put in perspective the work of Einstein and the recent developments of the following (potential) scientific and philosophical topics:

- Cosmology
- Theory of unification
- Theory of gravitation and nature of space-time
- Compact objects and high energy phenomena in the universe
- Nature of the quantum world
- Brownian motion
- Philosophy, politics, biography and other aspects related to Einstein's legacy

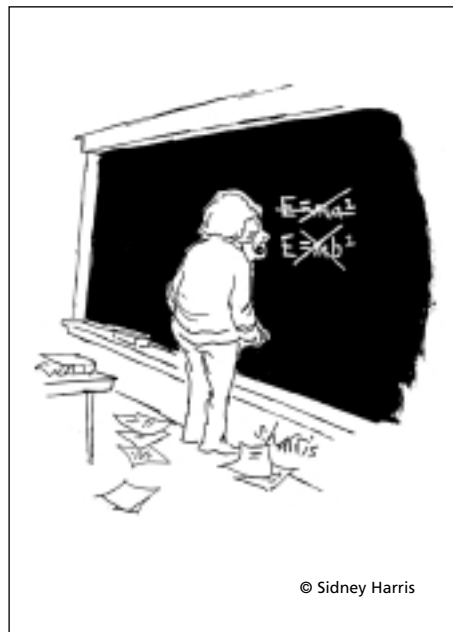
The scientific programme will consist of Plenary Lectures to be held from 18–20 July and workshops which will involve parallel sessions of contributed talks and poster sessions from 20–22 July.

Speakers are: A. Ashtekar (Penn State, USA), J. Barrow (DAMTP, Cambridge, UK), D. Bennequin (Institut de Mathématique, Chevalery, Paris, France), E. Bertschinger (MIT, Boston, USA), P. Binétruy (APC, Paris, France), B. Carter (LUTH, Meudon, France), A. Connes (Collège de France, IHES, Bures-sur-Yvette, France), T. Damour (IHES, Bures-sur-Yvette, France), B. Greene (Columbia, New York, USA), M. Henneaux (ULB, Bruxelles, Belgium), C. Isham (Imperial College, London, UK), V. Melnikov (Moscow, Russia), N. Nekrasov (IHES, Bures-sur-Yvette,

France), Y. Ne'eman (Jerusalem, Israel), J. Ostriker (Princeton University, New Jersey, USA), T. Padmanabhan (IUCAA, Pune, India), R. Penrose* (Oxford University, Oxford, UK), S. Perlmutter (Berkeley University, Berkeley, USA), C. Rovelli (Marseille University, France), J. Schwarz (Caltech, Pasadena, USA), J. Stachel (Einstein Studies, Boston, USA), A. Starobinsky (Landau Institut, Moscow, Russia), G. t'Hooft (Spinoza Institute, Utrecht, Netherlands), G. Veneziano (Collège de France, Paris, France), S. Weinberg* (Texas University, USA).

* to be confirmed

For further information contact Albert Einstein Century International Conference, Secretarial Office, Laboratoire de l'Univers et de ses Théories, Observatoire de Paris-Meudon, 92195 Meudon Cedex, France (tel: +33 1 45 07 75 24; fax: +33 1 45 07 71 23; email: meeting.einstein2005@obspm.fr; web: <http://einstein2005.obspm.fr>).



Mathematics 2005

Liverpool, 4-7 April 2005



THE UNIVERSITY of LIVERPOOL

incorporating the 57th British Mathematical Colloquium and the 47th British Applied Mathematics Colloquium

The meeting will take place in Liverpool from lunchtime on Monday 4 April to lunchtime on Thursday 7 April 2005. Accommodation will be provided in the University Halls of Residence and the daytime activities will be in the main University precinct.

There will be one plenary talk each day aimed at the entire gathering, supplemented by 'plenary BMC' and 'plenary BAMC' talks. The remainder of the time will be devoted to concurrent activities following the traditional pattern of each colloquium. These will include morning speakers and splinter groups in the BMC style, alongside minisymposia in parallel sessions following the BAMC model.

The plenary speakers are:

- John Ball (Oxford)
- Michael Berry (Bristol)
- Noam Elkies (Harvard)
- Barbara Fantechi (Trieste)
- Avner Friedman (Ohio State)
- Askold Khovanskii (Toronto/Independent University of Moscow)
- Vladimir Maz'ya (Liverpool/Ohio/Linköping)
- Dusa McDuff (Stony Brook)
- Graeme Milton (Utah)
- John Toland (Bath)
- Wendelin Werner (Orsay)

Special sessions and mini-symposia will include Dynamical Systems, Algebraic and Arithmetic Geometry, Solid Mechanics, Numerical Analysis, Mathematical Biology, Mechanics of Fluids and Asymptotic Analysis.

For further details see the webpage www.maths.liv.ac.uk/math2005. On-line registration (maths2005@liv.ac.uk) and abstract submission will be available from early December.

Chair: Peter Giblin; Secretary: Hugh Morton; Treasurer: Ke Chen. The support of LMS, EPSRC, IMA, SIAM, the University of Liverpool, and University College London (for the Stewartson Memorial Lecture) is gratefully acknowledged.

RECORDS OF PROCEEDINGS AT MEETINGS

REGIONAL ORDINARY MEETING

held on *Friday 17 September 2004* at the University of Exeter. At least 30 members and visitors were present for all or part of the meeting.

The meeting began at 3:15 pm, with Professor A.J. SCHOLL, Vice-President, in the Chair. Twelve people were elected to Ordinary Membership: K.J. Costello, C. Elsholtz, A. Golchin, D.W. Hoffman, M.L.P. Kilian, A. Lukyanov, R.C. Miles, P.J. O'Donnell, A.Q.Sami, A.J. Sasane, R.S. Simon and J.P. Wang; two were elected to Associate Membership: A.M. Mills and R.S. Oliver-Jones; and two were elected to Reciprocity Membership: P.B. Barquero-Salavert and N.A. Teicher.

The Records of the Proceedings of the Society Meetings held on 12 May, 18 June and 30 June 2004 were signed as a correct record.

One member signed the book and was admitted to the Society.

Professor A.H.J. DEITMAR introduced a lecture given by Professor R.P. Langlands on 'The trace formula's potential as a tool in number theory'.

After tea, Professor Deitmar introduced a lecture given by Professor G. Henniart on 'Extending the Langlands conjectures: p-adic representations of p-adic groups'.

Professor Scholl expressed the thanks of the Society to the University of Exeter and the speakers for putting on such an excellent meeting.

After the meeting a dinner was held in Reed Hall.

SOUTH WEST AND SOUTH WALES REGIONAL MEETING

The LMS South West and South Wales Regional Meeting took place in Exeter on 17 September, followed by The Harmonic Analysis and Number Theory Meeting from 18 to 20 September. The Vice President of the LMS welcomed the participants and invited the new members to sign the membership book.

Professor Robert Langlands was the first

speaker and gave the first of two talks. He began with an overview of some aspects of the so called Langlands program. This program was introduced in the late 1960s, bringing new ideas to the theory of automorphic forms. Professor Langlands formulated a number of conjectures, some of which have been proved recently while others remain open. This is a very active area of research which motivates a number of renowned mathematicians, some of them present in the meeting. He then gave some motivation for the application of the Trace Formula to number theory,

focusing on the main purpose of the theory which is to understand the L-functions.

The next talk was a captivating presentation by Professor Guy Henniart of some very new ideas about extending the Langlands conjectures to p-adic representations of p-adic groups. Professor Henniart is a well known mathematician with important contributions to the Langlands program. In the talk he explained how this new setting of p-adic representations needs a new treatment, due to topological considerations. This can lead to the introduction of p-adic Banach spaces in the theory. Most of this work has been done by Breuil and Colmez in recent years.

After the talks, participants enjoyed an excellent dinner in a pleasant hall.

The Harmonic Analysis and Number Theory Meeting started on Saturday morning with three talks. The first speaker was Daniel Bump, who spoke about automorphic theta representations on odd orthogonal groups and applications. Stephen de Backer spoke about Murnaghan-Kirilov theory for depth zero supercuspidal representations and Werner Muller showed some of his results about the existence of cusp forms.

After lunch, Robert Langlands gave his second talk (a continuation of the previous one) addressing the problem of finding the order of the pole of an L-function. It was shown how the trace formula can give some insight on the proof. This poses interesting problems in analytic number theory.

After a short break Wenzhi Luo spoke about equidistribution theorems for Hecke eigenforms on arithmetic surfaces. C. Moeglin ended the day with a talk entitled *Some stable packets of representations*.

On Sunday morning, Kevin Buzzard gave an overview of Langlands correspondence, mentioning some recent work about automorphic forms on a totally definite quaternion algebra. William Duke spoke about the asymptotic behaviour of traces of singular moduli. In the last talk, Guy Henniart spoke

about his work on the Langlands correspondence and higher degree L-functions, after Shahidi investigations on functoriality for symmetric square and exterior square representations.

In the afternoon we were invited for a magnificent trip to the beautiful landscape of Dartmoor.

On the last day of the conference we attended two talks. Erez Lapid spoke about lower bounds of L-functions at the edge of the critical strip and Werner Hoffmann ended the meeting with a talk about Fourier transforms of some weighted orbital integrals.

It was a very interesting meeting where well-known mathematicians could present recent work and there was an opportunity for students to learn with them.

Sergio Mendes
University of Manchester

TRANSPORT EQUATIONS AND MULTI-D HYPERBOLIC CONSERVATION LAWS

These lectures will take place at the Department of Mathematics, University of Bologna, Italy, from 17–20 January 2005. The aim of these lectures is to provide an up-to-date overview of the status and perspectives of two areas of research in PDEs, related to the study of hyperbolic conservation laws, in which the use of geometric and measure theoretic tools has played a key role to obtain recent important advances. These courses are addressed to PhD students as well as to post-doctoral and active researchers who have experience or are interested in these areas of PDEs.

Two courses (of about 8 hours each) will be delivered by Luigi Ambrosio (Scuola Normale Superiore, Pisa) and Felix Otto (Institute for Applied Mathematics, Bonn). There will be also two lectures (of one hour each) by C. De Lellis (University of Zurich) on a topic related to the courses.

There is a registration fee of €25. Participants are recommended to register via the web (www.math.unipd.it/~marson/GNAMPA/MultiSchool). For further information contact Andrea Marson, Dipartimento di Matematica Pura ed Applicata, Via G. Belzoni 7, I-35131 Padova, Italy (tel: 39 049 8275945, fax: 39 049 8275892, email: marson@math.unipd.it).

IMO 2004

The 45th International Mathematical Olympiad was held in Greece in July 2004. This is the world championships of secondary school mathematics. Each nation may send six students who compete as individuals. The students sit two papers on consecutive days. There are three questions on each paper. When the marks are tallied and agreed, the students ranked in the top half receive medals, and these are awarded in the colours gold, silver and bronze in the ratio 1:2:3.

I am happy to report that for the second year running, all six UK students were medalists. Paul Jefferys (Berkhamsted Collegiate School) secured a gold medal again, his fourth consecutive award (B, S, G, G). This is the first time a British student has won four IMO medals. On returning home he picked up his A-level results (10 Grade As) and in September he represented the UK at the Informatics (computing) Olympiad at which he not only secured a gold medal, he came first in the competition. He has now entered Cambridge University.

David Fidler (Haberdashers' Aske's) was awarded a silver medal, improving on his bronze of 2003. The remaining students obtained bronze medals; Giles Coope (Fallibroome High School, Macclesfield), Martin Orr (Methodist College, Belfast), Anne Marie Shepherd (Ilkley Grammar) and Alexander Shannon (The King's School, Canterbury). I would like to mention one of our three reserves: Alex Davies (Winchester

College) was a reserve for two years running, a rather frustrating role which he carried off with aplomb.

Just as in the sporting Olympics, unofficial league tables are constructed. Despite our excellent performance, the UK position slipped from 10th to 20th out of 85 this year. The teams which passed us were mainly from Asia. For the second year running we managed to finish ahead of Germany and France, but this time we did not finish at the top of the EU 25; new members Hungary and Poland finished ahead of us. As usual, China came first.

The UK training effort is now quite extensive. Over 300 students are in various mentoring schemes, and at any one time there are 15 to 25 students in the squad working on IMO standard problems. It is remarkable how many students enthusiastically embrace a monthly sheet of difficult problems in the various schemes. The mathematics demanded for modern public examinations is a rather light diet for the able and curious.

We have a dedicated nursery camp for new faces, an overseas camp jointly with the Hungarians, an Easter camp at Trinity College, Cambridge, and a final selection camp at Oundle School. Students with talent for mathematics competitions are usually first noticed through their performance in the two rounds of the British Mathematical Olympiad, our annual national competition for secondary school students.

The next few IMOs will be held in Mexico (2005), Slovenia (2006), Vietnam (2007), Spain (2008) and Germany (2009).

I must acknowledge with warm thanks the hordes of helpers, trainers and students who make this experience such an enjoyable one, especially the deputy leader Adrian Sanders of Trinity College, Cambridge. For sample questions and a much more detailed report, please visit www.bath.ac.uk/masgcs/ukimo2005.

Geoff Smith
University of Bath
UK IMO Team Leader

Louisiana State University

Department of Mathematics

As part of the Louisiana State University National Flagship Agenda, the Department of Mathematics is engaged in a major expansion of its professorial faculty. To help guide this expansion, applications are invited for a distinguished mathematician who will take a leadership role in advancing the national reputation of the Mathematics Department. This anticipated Full Professor position will have a substantial salary and teaching duties of one class each semester. Some additional junior positions may be available for the appointee to fill. The Department will consider applicants in algebra, analysis, topology, applied mathematics and combinatorics.

Applicants are expected to have a PhD or equivalent degree in Mathematics (or a related area), a record of leadership in research and a record of excellence in teaching. Applicants should submit a *curriculum vitae* and the names and addresses of four references. Letters of support are welcome but not required for the initial application.

Applications will be reviewed beginning 3 January 2005. We request that applicants use the secure AMS online application system at www.mathjobs.org/jobs.

Applicants may also write to:

Hiring Committee, Ref: Log #0172
Department of Mathematics
Louisiana State University
Baton Rouge, LA 70803, USA.

Questions may be emailed to profjobs@math.lsu.edu.

Minorities and women are encouraged to apply.
LSU is an equal opportunity/equal access employer.

LMS PROGRAMME AND CONFERENCE FUND

The Programme and Conference Fund is used to give financial support for mathematical research in the UK. The fund is administered by the LMS Programme Committee, which distributes as grants some of the funds that the Society receives from its investments and publishing activities. This is one of the mechanisms through which the Society achieves its central purpose, namely to 'promote and extend mathematical knowledge'. The Society operates as a charity and does not receive any public funding. Thus Programme Committee has different opportunities and works within a different regulatory framework from other funding bodies, such as the EPSRC. Grants are made under six schemes which are described below.

Please note that Programme Committee's budget is under pressure, and we are not always able to make awards as fully as we would like.

How to Apply

For Schemes 1-5 application forms may be obtained from the Society's Office or may be downloaded as rich text files from the LMS website (www.lms.ac.uk/activities/prog_com/index.html). For Scheme 6 applications should be made by letter. All applications should be sent in hard copy to the Programme Secretary at De Morgan House.

Grants must be claimed in a specified financial year from 1 September to 31 August. Please ensure that you state in your application in which year you intend to claim the grant, bearing in mind that grants should normally be claimed not earlier than 3 months before, and not later than 3 months after, the event for which the grant is made.

Who may Apply

Any mathematician working in the UK is eligible to apply for a grant, but if the applicant is not a member then the application must be countersigned by an LMS member.

When to Apply

Please note that applications will not be considered between mid-June and mid-September. The main meetings of the Committee are held in February and September. Additional meetings are held in between, but time at these is very limited and it cannot be guaranteed that your application will be considered. For the date of the next meeting please contact Sylvia Daly (grants@lms.ac.uk), but above all please note that some of the individual schemes have their own deadlines: these are detailed under the headings for each scheme.

Assistance

Queries regarding applications can be addressed to the Programme Secretary, Stephen Huggett (tel: 01752 232710, email: s.huggett@plymouth.ac.uk) or Sylvia Daly (tel: 020 7291 9971 email: grants@lms.ac.uk), who will be pleased to discuss proposals informally with potential applicants and give advice on the submission of an application. For general information on completing your application please refer to the Notes for Guidance.

Multiple Applications

The Society does not like to receive sequential applications for grants to support the same or closely related events, and will not allow its limits for individual schemes to be exceeded by artificially sub-dividing an application into a number of separate requests under different headings.

Notes for Guidance

Applicants should keep in mind the following points:

1. The committee does not normally meet the full cost of an activity. Rather it aims to give added value to an event largely funded by other means, or to bridge the gap between cost and the resources that might reasonably be made available by a university department.
2. The grants do not cover departmental overheads. The committee will generally

not allow items such as secretarial costs, which could be seen as part of normal departmental provision, or entertainment.

3. Applicants should note that our mileage rate is 23p.
4. Each of the schemes has a particular aim as well as its own financial limits. It is helpful if applicants consider carefully how their proposal fits the particular scheme in question, and its detailed rules (which change from time to time). Thus the academic justification for a Scheme 2 grant should focus on the benefit to UK mathematics that the proposed visit would bring, while that for a Scheme 5 grant should focus on the benefits in the Scheme 5 country. In neither case should it be assumed that the distinction of the visitor renders further justification unnecessary.
5. The committee is made up of mathematicians with a wide spread of research interests, but it should not be assumed that they are familiar with the technical details of any particular area of mathematics. Proposals are judged by the committee itself: although it may seek advice, it does not normally send proposals to referees. It is therefore important that the case for a grant should be written for the general mathematician and not for the specialist.
6. The committee judges each application on its merits. Since its membership changes from year to year, it should not be assumed that it is familiar with the details of previous applications and correspondence from earlier rounds; nor should it be assumed that a grant, for example under Scheme 3 or for a regular collaboration under Scheme 4, will be renewed repeatedly.
7. The limits mentioned in the various schemes are upper bounds, not standard awards. Grants are made to meet actual expenditure on items in the application, and any surplus must be returned to the Society,

rather than retained for related purposes or carried forward to another year.

8. Applications should be brief and self-contained. Please do not append substantial documents that contain irrelevant detail or refer to websites for key information.
9. The task of collating applications, forwarding them to the committee, recording decisions, and preparing and checking notification letters is nontrivial and time-consuming. Please apply well in advance and bear in mind that you may not hear the outcome of an application immediately.

Scheme 1 - Conference Grants

Grants are made to the organisers of conferences to be held in the United Kingdom. Programme Committee tends to give priority to the support of meetings where an LMS grant can be expected to make a significant contribution to the viability and success of the meeting. The Society expects that the meetings which it supports will be open to all members of the Society, and will only support a closed meeting if an exceptional case is made. Support of larger meetings of high quality is not ruled out but for such meetings an LMS grant will normally cover only a modest part of the total cost. Potential applicants should note that the Society is reluctant to award grants to conferences which clash with other significant mathematical meetings in Britain such as the British Mathematical Colloquium or the British Applied Mathematical Colloquium.

The current upper limit for grants is £5,000, the size of the grant to take into account the length of the conference, the number of UK participants and the number of research students taking part. However, the normal maximum award will be £4000, with awards of £5000 only being made in exceptional cases. Therefore, the basic grant shall not normally exceed £2,000, with additional support available for research students (up to £1,000) and participants from 'Scheme 5' or former Soviet Union countries (up to £1,000). The basic grant is primarily intended to cover the expenses of

principal speakers.

Please note:

1. The Committee will often find it difficult to fund the full amount asked for.
2. Reasonable registration fees of between £10 and £20 per day should be charged.
3. The Committee will support only mathematical meetings or the mathematical component of wider meetings.

Applicants should note that conference attendance will not be funded, except for principal speakers, research students, and participants from 'Scheme 5' or former Soviet Union countries. Support here is intended to contribute to travel, accommodation and subsistence costs, but not registration fees.

The Society will not make grants to cover the cost of secretarial help, excessive room charges, publicity, or conference dinners and entertainment: it expects such items to be covered by contributions in kind from the host department, or by registration charges, or by income from other sources.

The Society wishes to support UK based research students, and applications should include details of the extent to which such research students will be involved in the conference. Up to £1,000 may be awarded to support participants who are research students at UK universities. (In this context 'research student' means 'research student of any nationality studying at a UK university'.)

The Society also wishes to encourage overseas participants from 'Scheme 5' (see below) or former Soviet Union countries; a further £1,000 may be awarded to support such participants.

These additional grants are intended to help widen participation in a meeting. The committee does not expect that all of these sums will necessarily be spent; any surplus must be returned to the Society and may not be used for other purposes. Academic and financial reports of the conference are required.

Applications are considered at the September, February and June meetings of Programme Committee. Deadlines for receipt

of applications for these meetings are 31 August, 31 January and 31 May.

Scheme 2 - Visitors

Some financial support is provided for visitors to the UK who give lectures in at least three separate institutions.

The LMS contribution under this scheme is towards actual expenses for travel (international and within the UK), accommodation and subsistence, up to a maximum of £1,200. The grant is only intended as a partial contribution and applicants are expected to approach the host institutions for funding to cover the remainder of these costs. Applicants are responsible for making all the arrangements for a visit under this scheme and are expected to make economical travel arrangements where possible, e.g. Apex air fare and 2nd class rail fare. A maximum of £50 per day, for a maximum of 14 days, is allowable for accommodation and subsistence according to the formula: actual accommodation costs up to £35 per day, £15 per day for other subsistence costs. Academic and financial reports of the visit are required.

There are no specific deadlines but normally an application should be submitted at least three months before the date of the proposed visit to allow for consideration by the LMS Programme Committee and an announcement of the visit in the Society's Newsletter. Applications will not be considered between mid-June and mid-September.

Scheme 3 - Support of joint research groups

The scheme is to provide support for groups of mathematicians, working in at least three different locations in the United Kingdom, who have a common research interest, who wish to engage in collaborative activities and whose geographical locations are such that reasonably frequent regular meetings—several per year—are a realistic possibility.

The maximum grant awarded is currently £1,200; this is awarded where four meetings per year are held, or there is an equivalent level of activity. Meetings should be open, and have at least two formal talks on the

programme. The grant is made for the academic year and the Society requires academic and financial reports.

A grant may be used for a variety of purposes associated with the group's activities, such as expenses for speakers at common seminars, travel for group members between institutions either for seminars or study groups, or support for TMR networks (on items ineligible for EU grants). The Society wishes to support research students and young postdoctoral mathematicians, and applications should indicate details of the extent to which they will be involved in the programme. No strict criteria will be laid down as to the use of the money but the Society reserves the right to judge whether the activities proposed in an application are appropriate for a grant.

Renewals

Applications for renewal should be made using an application form and be accompanied by full financial and academic reports. Programme Committee will normally either:

- a) renew at some appropriate level, or
- b) give notice of termination at the end of the calendar year, in which case a sum equal to not more than one third of the previous year's grant can be claimed to cover actual expenditure in the residual period.

In both cases, the application form should be completed by a nominated 'grant-holder', who will be responsible for the use of the grant, and countersigned by a 'supporter' from each of at least two further institutions. (If none of the applicants is a member of the Society, the application must be countersigned by a member of the Society.)

New and renewal applications are considered at the September meeting of Programme Committee. The deadline for receipt of applications for this meeting is 31 August. Renewal applications will also be considered at meetings between September and December, and should be submitted as soon as final reports can be completed.

Scheme 4 - Collaborative small grants

The aim of the scheme is to provide small grants to mathematicians within the United Kingdom to help support a visit for collaborative research, either by the grantee to another institution within the UK or abroad, or by a named mathematician from within the UK or abroad to the home base of the grantee. The time available for joint research arising from the grant is expected to be at least several working days. The maximum sum available is £500 or £250 if the visits are between UK institutions and, where necessary, grantees will have to cover further costs from other sources such as departmental or personal funds. The intention is to provide sufficient funds so that the call on other sources is held within manageable bounds.

Applicants should bear in mind that the purpose of the scheme is to support specific projects with named collaborators and not, for example, simply to contribute to the costs of a sabbatical visit. A brief report on the use of the grant is required: this should describe the academic outcome of the visit and give financial details.

Applications for a grant under this scheme should be made by mathematicians working in the UK. Applications are considered at the September, February and June meetings of Programme Committee. Deadlines for receipt of applications for these meetings are 31 August, 31 January and 31 May. Normally only one grant will be made per collaboration in any financial year (September to August) and in the event of over-subscription in any particular round, applicants who received an award in the previous financial year will not be considered.

Scheme 5 - International Short Visits

Support under this scheme will now be focused on mathematics in Africa, or countries in which mathematics is in a similar position. The status of countries outside Africa will be determined by Programme Committee case by case. For visits to Britain, the maximum grant

shall be £1400, and up to £500 for actual travel costs. A maximum of £50 a day is allowable for accommodation and subsistence according to the formula: actual accommodation costs up to £35 per day, £15 per day for other subsistence costs. For visits from Britain, the maximum grant is £1200.

Success of an application will depend mainly and crucially on the likelihood of potential benefit to mathematics in the country concerned. Where a visit to the UK includes a conference, it should also include other academic activities which in themselves would justify the grant, and should be for a total period of not less than 14 days. For such visits, any expenses during the period of a conference should be met by the conference organisers (see 'Conference Grants' above). Academic and financial reports of the visit are required.

Applications for a grant under this scheme should be made by mathematicians at UK institutions, both for visits to the UK and for visits to the countries concerned. Applications are considered at the September and February meetings of Programme Committee. Deadlines for receipt of applications for these meetings are 31 August and 31 January.

Scheme 6 - Connectivity Grants

Up to £500 may be awarded towards the cost of exploring potential new collaborations

between mathematicians and non-mathematicians on new applications of mathematics. The use of the grants is not restricted but might include the costs of a small-scale meeting to identify problems or travel costs to bring in external experts. The intention is to help the applicants do the preparatory work prior to a larger scale application to EPSRC. The application should be by short letter giving:

1. the names of at least two co-applicants, one a member of a mathematical science department and one a member of a non-mathematical department;
2. outline CVs of the two applicants;
3. a description of how the grant would be used;
4. the financial year (starting 1 September) in which you would wish to claim the grant.

Preference will be given to novel areas of application. Support for existing collaborations is not eligible. A brief report on the use of the grant is required: this should describe the academic outcome of the work and give financial details.

If none of the applicants is a member of the Society then the application must be countersigned by a member. Applications are considered at the September, February and June meetings of Programme Committee. Deadlines for receipt of applications for these meetings are 31 August, 31 January and 31 May.

Grants awarded between June and October 2004

Scheme 1

Applicant	Title	Grant
S. Theriault	Pure and Applied Algebraic Topology	£3,000
D.W. Hughes	Stellar Dynamos	£2,000
G. Lord	Mathematical Neuroscience	£3,000
B. Carr	Malcolm MacCallum's 60th Birthday Conference	£1,100

Scheme 1 (cont'd)

Applicant	Title	Grant
M.A.J. Chaplain	Applied Analysis and Mathematical Biology: A meeting on the occasion of the 65th birthday of Professor Brian Sleeman	£2,500
R. Doney	4th Symposium on Levy Processes: Theory and applications	£3,000
A.D. Scott	One-Day Meeting in Combinatorics	£1,360
A.A. Ranicki	The Algebraic K - and L -theory of Infinite Groups	£4,000
D. Amato	16th Postgraduate Conference In Combinatorics	£1,848
M. Reid	David Fowler – a memorial symposium	£1,500
I. Fesenko	Conference in Honour of John Coates on the Occasion of his 60th Birthday	£4,000
A. Rucklidge	Theoretical Aspects of Pattern Formation	£4,000

Scheme 2

Applicant	Visitor	To Visit	Grant
A.S. Fokas	V. Novokshenov	Cambridge, Leeds, Aston	£1,100
N. Diamantis	Y.J. Choie	Nottingham, Cambridge, Sheffield	£1,100
S. Foss	A. Borokov	Heriot-Watt, Edinburgh, Strathclyde	£1,000
J. Ball	P. Lax	Oxford, Bath, Imperial College	£1,200
L. Cummings	Y. Semenov	Nottingham, Oxford, East Anglia	£1,200
X. Wu	A. Petrosyan	Imperial College, Sheffield, St Andrews, Birmingham	£1,200
S. Coombes	C. Laing	Nottingham, Bristol, Manchester	£1,200
V. Liskevich	M. Ben-Artzi	Bristol, Cardiff, Cambridge	£1,200
R.G. Halburd	S.P. Tsarev	Loughborough, Nottingham, Leeds	£1,200

Scheme 2 (cont'd)

Applicant	Visitor	To Visit	Grant
D.H. Armitage	A.G. Ramm	Bath, QUB, Edinburgh	£1,200
M.R. Bridson	D.P. Groves	Imperial College, Oxford, Glasgow and/or Heriot-Watt	£1,200
M. Levitin	L. Friedlander	Heriot-Watt, University College London, Sussex	£1,000
I. Goldsheid	B. Tsirelson	Cambridge, Warwick, QMUL	£700
M. Bartuccelli	A. Ilyin	Surrey, Imperial College, Cardiff	£1,200
V.B. Kuznetsov	D. Zhang	Leeds and two other institutions	£1,200
L. Bogachev	Y. Makhnovskii	Leeds and two other institutions	£1,200
S.B. Kuksin	V. Mastropietro	Heriot-Watt, Edinburgh, Durham	£880
M. Ruzhansky	T. Gramchev	Imperial College, Edinburgh, Bristol	£1,100

Scheme 3

Applicant	Institution	Title	Grant
I. McIntosh	York	Yorkshire Durham Geometry Days	£1,200
J. Figueroa-O'Farrill	Edinburgh	North British Mathematical Physics Seminar	£900
A.F. Jarvis	Sheffield	North of England Algebraic Number Theory Group	£1,000
C. Eaton	UMIST	Group Theory and its Applications	£1,200
N. Snashall	Leicester	Bristol Leicester Oxford Colloquium (BLOC)	£1,200
R. Hoyle	Surrey	Patterns, Nonlinear Dynamics and Applications (PANDA)	£600
R. Sharp	Manchester	Ergodic Theory	£1,200
M. Dzamonja	UEA	Cameleon	£900

Scheme 3 (cont'd)

Applicant	Institution	Title	Grant
J. Brodzki	Southampton	K-theory and Analysis	£1,200
G.K. Sankaran	Bath	Algebraic Geometry Seminar (COW)	£1,200
J.S.W. Lamb	Imperial College	London Dynamical Systems Group	£1,200
D. Mond	Warwick	Singularity Theory and Applications	£1,200
S.E. Rees	Newcastle	North Eastern Geometric Group Theory Seminar	£900
R. Thomas	Imperial College	London-Cambridge-Oxford Topology and Geometry Group	£1,200
J.P.C. Greenlees	Sheffield	Transpennine Topology Triangle	£1,200
A.P. Fordy	Leeds	Classical and Quantum Integrability	£1,200
Y.V. Kurylev	Loughborough	British Inverse Problems Workshops	£1,200
X-M. Li	Nottingham Trent	East Midlands Stochastic Analysis Seminar	£1,200
H.R. Dullin	Loughborough	East Midlands Mathematical Physics Seminar	£1,200
A. D. Gilbert	Exeter	Scalar Mixing in Fluid Flows and Mappings	£900

Scheme 4

Applicant	Institution	Collaborator	Institution	Grant
K. Liu	Liverpool	Y. Jiang	UMIST	£250
A. Sackfield	Nottingham Trent	D.A. Hills	Oxford	£240
T. Holm	Leeds	K. Erdmann	Oxford	£210
D. Holt	Warwick	J. Cannon	Sydney	£500

Scheme 4 (cont'd)

Applicant	Institution	Collaborator	Institution	Grant
M. McCrudden	Manchester	S.G. Dani	Tata Institute, Mumbai	£500
B. Webb	Open	B. Maenhaut, D. Bryant, P. Adams, I. Wanless	Queensland and ANU	£500
A. Hone	Kent	G. Everest, T. Ward	UEA	£250
S. Whitehouse	Sheffield	F. Clarke, M. Crossley	Swansea	£250
V.A.R. Gould	York	G.M.S. Gomes	Lisbon	£500
S.E. Rees	Newcastle	S. Hermiller, G. Baumslag, R. Charney	Nebraska, CCNY, Brandeis	£500
O.H. King	Newcastle	A.C. Cossidente	Basilicata, Italy	£500
S.G. Scott	King's College London	D. Zagier	College de France, Paris	£425
M. van den Berg	Bristol	P.B. Gilkey	Oregon	£500
R.L. Hudson	Nottingham Trent	S. Pulmannová	Slovak Academy of Sciences	£500
M.D. Groves	Loughborough	G. Schneider	Karlsruhe, Germany	£400
J.R. Partington	Leeds	B. Jacob	Dortmund, Germany	£500
C-H. Chu	QMUL	A.T.M. Lau	Alberta, Canada	£500
A. Stuart	Warwick	P.R. Kramer	RPI, New York	£442

Scheme 5

Applicant	Visitor/Institution	To Visit	Grant
R.T. Curtis	J. Moori (Natal, South Africa)	South Africa	£1,200



Department of Mathematics

Applications are invited for the following permanent positions at King's College London, to be taken up in September 2005 or as soon as possible thereafter:

- Professor of Number Theory (reference A5/CCM/136/04)
- Professor of Financial Mathematics (reference A5/CCM/137/04)
- Lecturer in Financial Mathematics (reference A2/CCM/138/04)

The Department of Mathematics has a long and distinguished history, and is very advantageously located in the heart of London, between the West End and the financial district of the City of London. The Department has prominent research groups in number theory, geometry, analysis, financial mathematics, theoretical physics, and disordered systems. The number theory group is one of several very strong research groups in this subject in London, which taken together constitute the most active centre of research in number theory in the United Kingdom. The financial mathematics group is already one of the largest and most active of its kind in Europe.

Candidates for the Number Theory post should have an outstanding track record of research in either algebraic number theory or arithmetic algebraic geometry. Candidates for the Financial Mathematics posts should have an outstanding track record of pure or applied research in some area of financial mathematics.

Further details about these positions can be obtained from either of the following websites:

- www.kcl.ac.uk/depsta/pertra/vacancy/external/pers_list.php
- www.mth.kcl.ac.uk/vacancies/

The closing date for receipt of completed applications is **31 January 2005**.

Prospective applicants are welcome to contact either Professor David Burns (David.Burns@kcl.ac.uk) or Professor Lane Hughston (Lane.Hughston@kcl.ac.uk) with any informal enquiries about these posts.

Equality of Opportunity is College policy.

BIRKBECK COLLEGE



University of London

The School of Economics, Mathematics and Statistics seeks to hire a Professor of Mathematical Finance beginning in Autumn 2005. Candidates must have outstanding research records and have demonstrated effectiveness at teaching. Experience in the financial sector and an interest in and ability to develop and market our financial engineering and finance programmes is highly desirable. Salary is commensurate with qualifications and experience.

Screening of applicants will begin in December, and continue until the position is filled. Candidates should send a cover letter explaining the reason for their interest in Birkbeck, a CV, samples of research and provide names of three references.

Applications should be sent to: Recruiting Secretary for Mathematical Finance, School of Economics, Mathematics and Statistics, Birkbeck College, Malet Street, Bloomsbury, London WC1E 7HX United Kingdom.

Details of the School can be found on our website (www.econ.bbk.ac.uk).

For additional inquiries, please contact the Head of School, Professor Anne Sibert (a.sibert@econ.bbk.ac.uk) or Professor Raymond Brummelhuis (r.brummelhuis@statistics.bbk.ac.uk).

AUSTRALIAN MATHEMATICAL SOCIETY 49th Annual Meeting

The 49th Annual Meeting of the Australian Mathematical Society will be held at the School of Mathematics and Statistics, University of Western Australia, Perth, from 26–30 September 2005.

There will be Special Sessions on:

- Algebra/quantum computing
- Continuum mechanics applications
- Finite geometry
- Logic (in conjunction with Australasian Logic Conference)
- Harmonic analysis
- Signal processing.

For further information visit the conference webpage www.maths.uwa.edu.au/~austms05/index.html.

BOOK REVIEW

Knots: Mathematics With A Twist, Alexei Sossinsky, translated by Giselle Weiss, Harvard University Press, pp 168, 2002 ISBN 0-674-00944-4, \$24.95/£16.95 (hard cover); 2004 ISBN 0-674-01381-6, \$14.95/£9.95 (paperback).

From time to time non-mathematicians are fortunate enough to be given an insight into the rare beauty of mathematics, and find in it ideas – perhaps based on partial or mis-understanding – that they can apply in their own, very different, spheres of work. This book by Alexei Sossinsky, Professor of Mathematics at Moscow University, offers the most inept readers (among whose innumerate ranks I am numbered) at least a glimpse of a world that seems at once strange and familiar.

The *innumerati* will take heart from the fact that the book begins with a mistake: Lord Kelvin's attempt in 1867 to explain the nature of matter by describing atoms not as points but as little knots. He was

wrong; but his error prompted Peter Guthrie Tait's attempt to reduce all possible knots to a small number of elementary types. The tables of knots drawn up by Tait introduced a clarity and order into the classification of knots that enabled J.W.H. Alexander, at the end of the nineteenth century, to see that every knot can be represented as a braid whose two ends are joined to one another.

Further work focused on the manipulation of knots: not the trivial acts of making loops bigger or smaller or changing the shape of the knot, but two much more significant moves. First, there are the Reidemeister moves which apply to a two-dimensional picture of a knot to untangle it and reduce it to its most elementary form of knottiness; and second, there are John Conway's surgical operations on knots – the cutting and rejoining of knots in his 'flipping' (cutting the upper strand A underneath the lower strand B) and 'smoothing' (cutting moves). Sossinsky bases chapters around each of these mathematicians and their contributions to the theory of knots. Other chapters focus not on the manipulation of knots but on attempts to map knots onto other ordered systems that can be used to describe knots, as Alexander had done with braids in the 1920s. The obvious field in which to explore this mapping is arithmetic, and the story begins with Horst Schubert's attempts, half a century ago, to create a system for decomposing large tangled knots into a string of elementary knots, like putting each basic knot into a box and ending



up with a string of knots like a string of pearls. Schubert succeeded in demonstrating that knots can be decomposed into unique sets of prime knots. During the past twenty five years or so, Conway, Vaughan Jones, Louis Kauffman and Victor Vassiliev have invented and developed rules for expressing knots as polynomials, in the continuing quest upon which Tait had embarked a century earlier for precise ways of distinguishing between different knots.

Alexei Sossinsky traces these developments in a highly readable little book which devotes a chapter to the work of each of the key figures. He writes with clarity and a wit that lies in the refreshing territory between the dry and the stringent. The book also has one of my favourite footnotes. Writing of attempts to explain what it means to say that one object has the 'same structure' as another, Sossinsky says 'A famous attempt was made by Nicolas Bourbaki. I have nothing to say about it.' Ironically, that remark appears in the final chapter which, at least for the non-mathematician, holds some of the greatest fascination in the book. It is here that Sossinsky, who has in earlier chapters described the reflections of certain aspects of knots in Celtic art, the structure of the DNA double helix, and the self-defence techniques of the slime eel, speculates upon the application of the insights that work on knots may have for other fields of study, and in particular for physics. He also has a thing or two to say in his discussion of Vassiliev about sociological approaches to mathematics, treating knots in the way that sociologists treat 'the people', not as individuals but an abstract space or group within which individual points have lost their individual properties and are simply points within the continuum. It is that kind of observation that is likely to strike

a heuristic spark with readers outside the discipline.

In my own field – more part of the undergrowth, to be accurate – of the Law, for example, the Reidemeister moves and Conway's flipping and smoothing operations are strikingly echoed in the way in which legal reasoning proceeds. 'Plain' reasoning proceeds by the kind of non-destructive displacement of patterns that are represented by the Reidemeister moves. There are cases where the Law appears to provide a compelling answer, in the sense that the tangle of facts in the particular case, once unravelled, produces a pattern that corresponds plainly with one or more the elementary 'knots' of legal principle. There are other cases that, when untangled, do not match any of the paradigms. The tendency then is to do something remarkably like a flipping or smoothing operation, splitting one strand of analysis and pushing some element into the background or linking it up with a quite different strand in order to move towards a solution. I am no more a logician than I am a mathematician; but regardless of how right or wrong my understanding of the mathematics might be, Sossinsky's book deserves to be read as much for serendipity as for pleasure.

I must confess to a moment self-doubt when I realised that the book was originally published in French under what seemed to be the alarmingly apposite title *Noeuds*; but even those who would not be seen dead in an anorak can read this book confident that it is a text not for the geek but for those whose minds are sufficiently open to believe that even in the twenty-first century it is not too late for insights to cross the lamentable divide between arts and sciences.

Vaughan Lowe
Chichele Professor of Public International Law
Fellow of All Souls College, Oxford.

LONDON MATHEMATICAL SOCIETY

CECIL KING TRAVEL SCHOLARSHIP

The London Mathematical Society annually awards a Cecil King Travel Scholarship in Mathematics to the value of £5000 to a young mathematician of outstanding promise, to support a period of study or research abroad for a typical period of three months. Many mathematicians have found that such a visit has benefited both their mathematics and their career; the Society urges young mathematicians and their supervisors to consider seriously this opportunity.

The award is competitive and based on a written proposal describing the intended programme of study or research abroad and the benefits to be gained from such a visit.

Applicants should normally be nationals of the UK or Republic of Ireland, under the age of 25 years, either registered for or having recently completed a doctoral degree at a UK University.

The initial application should include:

1. a completed application form;
2. a short proposal (4 pages maximum) indicating the proposed programme of study abroad, the benefit of such an opportunity in advancing the candidate's studies, and the Institution that the candidate wishes to visit;
3. a letter of support from the applicant's Head of Department, or from his or her Research Supervisor.

Candidates selected for interview will be asked to approach the intended research institution or research leader to be visited, to confirm that a visit would indeed be welcomed if an award were made.

At the end of the Scholarship, the student will be expected to write a short report indicating the activities and benefits gained from the visit.

The Cecil King Travel Scholarship was established in 2001 by the Cecil King Memorial Fund. The award is made by the Council of the London Mathematical Society on the recommendation of the Cecil King Prize Committee, nominated by the Society's Education Committee.

Application forms for the 2005 Scholarship are available on the Society's website (www.lms.ac.uk/activities/cecil_king/index.html) or from Isabelle Robinson at the Society. Closing date for applications: **Friday 4 February 2005**.

The London Mathematical Society (ref: Cecil King/IR), De Morgan House, 57-58 Russell Square, London WC1B 4HS (tel: 020 7637 3686; email: robinson@lms.ac.uk).

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

MODEL THEORY, ALGEBRAIC
AND ANALYTIC GEOMETRY

(11 – 15 July 2005)

Supported by the European Commission, Sixth Framework Programme
– Marie Curie Conferences and Training Courses - MSCF-CT-2003-503674

in association with the Newton Institute programme entitled *Model Theory
and Applications to Algebra and Analysis* (17 January – 15 July 2005)

Organisers: Alex Wilkie (Chair), Angus Macintyre, David Marker and Carol Wood.

Theme of Euro Conference: The Euro Conference will consist of lectures by leading experts presenting the latest results in model theory and its applications. The main themes are o-minimality (from model theoretic, real analytic and computational viewpoints), Diophantine geometry (including Hilbert's 10th problem), rigid analytic geometry and motivic integration. As background material, the lecture notes from the introductory tutorials given at the March/April workshop will be made available. The currently invited speakers are as listed below but as this workshop coincides with the last two weeks of the Model Theory Semester, we have left several slots available for the presentation of results obtained at the Institute during the course of the previous six months.

Invited speakers: M. Aschenbrenner, A. Buium*, F. Cano, Z. Chatzidakis*, J. Denef, L. van den Dries, A. Gabrielov, J. Gordon, T. Hales*, E. Hrushovski, E. Jaligot, P. Koiran, J-M. Lion, L. Lipshitz, C. Miller*, R. Moosa, R. Moussu, M. Otero, R. Pink, B. Poonen, F. Pop, Z. Robinson, D. Roessler*, J-P. Rolin, T. Scanlon, S. Starchenko, K. Tent, N. Vorobjov, F. Wagner.

* to be confirmed

Location and cost: The Euro Conference will take place at the Newton Institute and accommodation for participants will be provided in single study bedrooms with en suite bathroom at Fitzwilliam College. Lunch and Dinner will be served at Wolfson Court. The conference package, costing £15, includes accommodation, breakfast and dinner from dinner on Sunday 10 July to breakfast on Saturday 16 July 2005, and lunch and refreshments during the days that lectures take place.

Further information and applications forms are available from the web at: www.newton.cam.ac.uk/programmes/MAA/maaw03.html. Completed application forms should be sent to Tracey Andrew, Programme & Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email: t.andrew@newton.cam.ac.uk.

Closing date for the receipt of applications is **31 January 2005**.

CALENDAR OF EVENTS

This calendar lists Society meetings and other events publicised in the *Newsletter*. Further information can be obtained from the appropriate LMS *Newsletter* whose number is given in brackets. A fuller list of meetings and events is given on the Society's website (www.lms.ac.uk/meetings/calendar.html).

DECEMBER 2004

- 4 SECANTS, Oxford (332)
- 6 Magnetic Fields in Plasmas, Stars & Galaxies, LMS Spitalfields Day, INI, Cambridge (331)
- 10 Edinburgh Mathematical Society Meeting, Napier University (330)
- 13-17 Stellar Dynamos Meeting, Leeds University (331)
- 14-16 Mathematics in Signal Processing VI, IMA Conference, Cirencester (319)
- 15 The History of Statistics, 1900 ± 30 Conference, Open University, Milton Keynes (330)

JANUARY 2005

- 9-12 Geometric, Spectral & Stochastic Analysis UK-Japan Winter School, Evesham (331)
- 10-14 Twistor String Theory Workshop, Oxford University (329)
- 10-14 Lévy Processes Symposium, Manchester University (329)
- 13-14 J.H. Coates 60th Birthday Conference, INI, Cambridge (332)
- 17-20 Transport Equations & Multi-D Hyperbolic Conservation Laws Lectures, Bologna, Italy (332)
- 21 Edinburgh Mathematical Society Meeting, Edinburgh University (330)

FEBRUARY 2005

- 18 Edinburgh Mathematical Society Meeting, Edinburgh University (330)
- 25 LMS Mary Cartwright Lecture, London (332)
- 26 Winter Combinatorics Meeting, Open University (332)

MARCH 2004

- 7-9 Research Trends in Science and Technology Conference, American University, Lebanon (330)
- 18 Edinburgh Mathematical Society Meeting, Aberdeen University (330)
- 29-8 Apr Introduction to Recent Applications of Model Theory Conference, INI, Cambridge (330)

APRIL 2005

- 4-7 Mathematics 2005, Liverpool University (332)
- 29 Edinburgh Mathematical Society Meeting, Stirling University (330)

MAY 2005

- 18 LMS Midlands Regional Meeting, Birmingham
- 20 Edinburgh Mathematical Society Meeting, St Andrews University (330)

JUNE 2005

- 17 LMS Meeting, London

JULY 2005

- 8 LMS Northern Regional Meeting, York
- 10-14 Mathematical Modelling and Applications International Conference (ICTMA12), City University, London (321)
- 10-15 British Combinatorial Conference, Durham University (329)
- 11-15 Inverse Problems in Engineering Conference: Theory & Practice, Cambridge University (320)
- 11-15 Model Theory, Algebraic & Analytic Geometry Euro Conference, INI, Cambridge (332)
- 18-20 Albert Einstein Century International Conference, Paris, France (332)
- 25-29 Gregynog Workshop on Computational Techniques in Spectral Theory & Related Topics, Gregynog Hall, Powys (320)
- 30-6 Aug Groups St Andrews 2005 Conference, St Andrews University (332)

GEORGE NEVILLE WATSON
DE MORGAN MEDALLIST
1947



Professor Watson received the De Morgan Medal on 27 November 1947. Extract from the President's address: 'In presenting the De Morgan Medal to Professor Watson, I should like to recall his great services to this Society. There can have been few members who have done more for the Society. The Medal, however, is awarded for his distinguished contributions to mathematical sci-

ence. Ranging over some forty years, these include fundamental researches on the theory of asymptotic expansions, the theory of Bessel functions, the theory of general or Watson transforms, the theory of singular moduli, and the solution of problems arising out of the work of Ramanujan. All his original work shows a remarkable power of solving special problems.'