

THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 273

July 1999

FORTHCOMING SOCIETY MEETINGS

Friday-Saturday 15-16 October 1999 - London

New Applications of Twistor Theory

Friday 19 November 1999 - London

Annual General Meeting

COUNCIL DIARY

7 May 1999

Perhaps the single most significant item of business at this month's Council meeting was the approval of a contract between the Society and EPSRC, formalising the arrangements for the LMS/EPSRC Short Courses series. This will run initially for three years, and five courses will be mounted each year. This is the culmination of a long negotiation with EPSRC, which began several years ago, when the first short courses were initiated by Martin Taylor. As part of the agreement, EPSRC will have a representative (Anne Farrow in the first instance) on the LMS Research Meetings Committee, which oversees the series.

Much of Council business consists of reports from committees and other papers, of which there is normally only time to discuss a small fraction - for the May meeting there were just over 100 pages of papers, which is about average. This included a report from the Royal Society and the Royal Society of Edinburgh on the implications of devolution for the management of science in Scotland and the UK as a whole. The challenge is to maintain the UK science base without fragmentation, and at the same time take advantage of the regional opportunities that devolution affords. Council is well informed on this issue, with four members from north of

the border, and one from Wales. We noted two conclusions of the report which will be of most relevance to members of the Society: that the Research Councils should continue to operate on a UK-wide basis, and that there should be no regional fragmentation of the Research Assessment system.

We approved the establishment of a working group to review the LMS web pages. At the Retreat it was felt that the web site could be developed in various ways. The working group will welcome any suggestions from members of material which they might like to see there - these should be addressed to the Executive Secretary, Dr D.J.H. Garling (De Morgan House, 57-58 Russell Square, London WC1B 4HP).

Tony Scholl

LMS 1999 HONORARY MEMBER

John Tate is elected to Honorary Membership of the Society in recognition of his immense contributions to number theory, algebra, and algebraic geometry. His foundational work and deep insights throughout his career have indelibly changed the shape of mathematics in this century, through both his own remarkable achievements and the fertile areas of

research which his ideas have opened up. His many lasting contributions include his pioneering work with Artin on the cohomological foundations of class field theory, his deep duality theory for Galois cohomology, his work on p -divisible groups and their associated Galois representations, and his many insights in arithmetic algebraic geometry, including the introduction of the Tate-Shafarevich group of an elliptic curve, and his celebrated conjectures on algebraic cycles, formulated in the 60s but largely unproved to this day. Professor Tate holds a Sid Richardson Regents Chair at the University of Texas at Austin and is a member of the National Academy of Sciences and of the Académie des Sciences.

NOMINATING COMMITTEE

As described in the *May Newsletter*, Council has set up a Nominating Committee to make nominations for vacancies for both Officers and Members at Large of Council, as well as for its own future membership. This year the members of the Nominating Committee are J.M. Ball (Oxford, Chair), J.H. Coates (Cambridge), A.J. Macintyre (Edinburgh), A.C. McBride (Strathclyde), S.E. Rees (Newcastle) and C.M. Series (Warwick).

Following a postal ballot the Society will elect, at the November 1999 Annual General Meeting, both its Officers and a number of Members at Large of Council. As regards the Officers, both Council and the Nominating Committee take the view that those Officers eligible for re-election should be nominated for re-election unopposed. This leaves one real vacancy, namely

One Vice-President (to replace K.A. Brown).

As regards Members at Large, there are seven vacancies. Three of these vacancies arise from Members at Large whose terms come to an end in November but are eligible for re-election, namely C.A. Hobbs, M.A.H. MacCallum, and I.A. Stewart. These three persons have indicated that they are willing to stand for re-election. The remaining four vacancies are to replace

Members at Large who are either ineligible for re-election or wish to leave Council, namely E.G. Rees, P.T. Saunders, U. Martin and J.F. Toland. The Nominating Committee will bear in mind the tradition that the President-Designate is nominated for Council a year before taking office.

There will also be an election for two members of the Nominating Committee to serve for the next three years.

Members of the Society are invited to send proposals of persons to fill any of these positions to the Chair (J.M. Ball, Mathematical Institute, 24-29 St Giles, Oxford OX1 3LB, fax (01865) 273583, e-mail ball@maths.ox.ac.uk) by **15 August 1999** at the latest. Such proposals should be accompanied by a brief description of the suitability of the persons proposed.

The Nominating Committee will consider the names of those proposed, together with other names generated by the Nominating Committee itself, and recommend a list of nominations to Council, which in the case of Members at Large and members of the Nominating Committee will consist of more names than there are vacancies. If Council approves this list then the ballot paper will indicate that these names are so approved. (This does not infringe the rights of members of the Society to make independent nominations for any vacant posts to the Council and General Secretary in accordance with the Statutes and By-Laws of the Society. Such nominations must be sent to John Pym, Department of Pure Mathematics, University of Sheffield, Sheffield S10 3TE; j.pym@shef.ac.uk, to arrive before noon on **1 September 1999**.) All those standing for election for contested posts will be invited to provide a brief biography and personal statement to accompany the ballot paper.

Elections both to Council and to the Nominating Committee will be by the Single Transferable Vote.

The Chair of the Nominating Committee also welcomes any comments or suggestions about its procedures, such suggestions being particularly valuable in this first year of operation.

J.M. Ball

LONDON MATHEMATICAL SOCIETY

TWO-DAY MEETING

Friday 15th and Saturday 16th October 1999

NEW APPLICATIONS OF TWISTOR THEORY

Friday

- 3:00 K. P. Tod (Oxford) *Twistors in a Lorentzian World*
- 4:00 M. G. Eastwood (Adelaide) *Involutive structures in twistor theory*
- 5:00 Tea
- 5:30 N. J. Hitchin (Oxford) *Hyperkähler geometry and integrable systems*
- 7:00 Dinner

Saturday

- 9:30 S. Merkulov (Glasgow) *Twistor solution of the holonomy problem*
- 10:30 Coffee
- 11:00 L. J. Mason (Oxford) *Twistors and integrability*
- 12:00 Sir Roger Penrose (Oxford) *The Physics Programme of Twistor Theory, Especially General Relativity*

Lectures will be held at University College.

A number of hotel rooms have been booked near University College; the reservations will be held until Friday 1st October. Those wishing to stay overnight in one of these rooms should contact Miss Susan M. Oakes, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP (oakes@lms.ac.uk), by that date (single rooms cost about £40-45 per night). Some funds are available to contribute in part to the expenses of members of the Society or research students who wish to attend the meeting. Requests for support should be addressed to the Meetings and Membership Secretary, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP, e-mail: lms@lms.ac.uk (requests should include an estimate of expenses and a very brief curriculum vitae; research students should include brief letters of endorsement from their supervisors).

Critical Russian Research in Mathematics

Sbornik: Mathematics

Sbornik: Mathematics is the English edition of the Russian monthly journal *Matematicheskii Sbornik*. This is the oldest Russian mathematical journal, in publication since 1866. *Sbornik: Mathematics* is published bimonthly; each issue being made up of two issues of *Matematicheskii Sbornik* translated into English.

Editor in Chief: A A Gonchar, *Vice President of the Russian Academy of Sciences, Moscow*
Editor of the English Edition: G G Gould, *School of Mathematics, University of Wales, UK*

Izvestiya: Mathematics

Izvestiya: Mathematics is the English edition of the Russian bimonthly journal *Izvestiya Rossiiskoi Akademii Nauk, Seriya Matematicheskaya*, founded in 1937. The journal publishes only original research papers containing the final results of the author in his/her direction of study.

Editor in Chief: V S Vladimirov, *Russian Academy of Sciences, Moscow*
Editor of the English Edition: D L Johnson, *Department of Mathematics, University of the West Indies*

Since the beginning of 1995 *Sbornik: Mathematics* and *Izvestiya: Mathematics* have been published in London jointly by the London Mathematical Society, Turpin Ltd, and the Russian Academy of Sciences.

1999 Subscription Details

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Russian Mathematical Surveys

Russian Mathematical Surveys is the English translation of the Russian bimonthly journal *Uspekhi Matematicheskikh Nauk*, founded in 1936. Until the last issue of 1997 the journal was published jointly by the London Mathematical Society and the British Library. Starting from the first issue of 1998 the journal is published jointly by the London Mathematical Society, Turpin Ltd, and the Russian Academy of Sciences.

Editor in Chief: S P Novikov, *Russian Academy of Sciences, Moscow*
Editor of the English Edition: H H McFaden, *Leominster, Massachusetts*

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Notes:

1. Members of The American Mathematical Society and The London Mathematical Society are allowed 20% discount on their subscriptions to *Sbornik: Mathematics* and *Izvestiya: Mathematics*
2. Members of The London Mathematical Society are allowed 33% discount on their subscriptions to *Russian Mathematical Surveys*.

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ISBN: 1-56881-075-X, hardcover; \$34.00; £22.00

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—David P. Roberts, *MAA Online*

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PROFESSOR GIAN-CARLO ROTA

Professor Gian-Carlo Rota, who was elected a member of the London Mathematical Society on 21 June 1973, died on 19 April 1999, aged 66. He was the 1973 Hardy Lecturer.

PROFESSOR DUANE W. BAILEY

Professor Duane W. Bailey, who was elected a member of the London Mathematical Society on 19 December 1963, died on 27 October 1998, aged 62.

VISIT OF DR A.V. PORUBOV

Dr Alexey Porubov, a research fellow at the A.F. Ioffe Physical Technical Institute of the Russian Academy of Sciences, St. Petersburg, works on various techniques for formulating and solving nonlinear wave problems. He will visit the University of Edinburgh from 30 June to 22 July 1999 under the International Short Visits scheme of the LMS. It is anticipated that he will also visit Heriot Watt, Strathclyde and Glasgow universities. Further details can be obtained from Professor David Parker (D.F.Parker@ed.ac.uk).

VISIT OF PROFESSOR A. RODKINA

Professor Alexandra E. Rodkina from Voronezh State Academy of Construction and Architecture, Russia, will be visiting the University of Strathclyde from 15 August - 12 September 1999. She will give several seminars on boundedness and stability of stochastic difference delay equations and their applications. For further details please contact Professor Xuerong Mao, Department of Statistics & Modelling Science, University of Strathclyde, Glasgow G1 1XH (e-mail: xuerong@stams.strath.ac.uk). This visit is receiving support from the LMS under a Scheme 5 grant.

QUEEN'S BIRTHDAY HONOURS

Professor A.C. McBride received the Order of the British Empire in the Queen's Birthday Honours for services to mathematics in schools.

VISIT OF PROFESSOR GEORGE R. SELL

Professor George R Sell of the University of Minnesota, USA will be visiting the UK this July, funded by a London Mathematical Society Scheme 2 grant. He is a leading authority on the dynamics of ordinary and partial differential equations, dynamical systems and applications. He will be giving lectures at the University of Surrey on 12th and 13th July (contact P.Ashwin@surrey.ac.uk), Queen Mary and Westfield College London on 14th July (contact C.Beck@qmw.ac.uk) and the University of Warwick on 15th or 16th July (contact jcr@maths.warwick.ac.uk).

EDUCATION COMMITTEE GRANTS

The LMS Education Committee would welcome requests for support for activities such as popular lectures, exhibitions, masterclasses, and competitions, that help to encourage joint ventures between universities and schools, or the development of projects that would improve the public image of mathematics. The Committee would like LMS members to apply for grants themselves or to encourage other appropriate individuals to do so.

To make the job of the Committee as simple as possible, any application for support should contain a brief description of the proposed event or project, with an outline of the expected expenses and details of other sources of support. The Committee meets in September, January, and April, so please apply well before the event. Requests should be sent to: Dr S. Huggett, School of Mathematics and Statistics, University of Plymouth, Drake Circus, Plymouth PL4 8AA.

HOLGATE LECTURES

Each year, about five mathematicians volunteer to give talks in schools. They each give about five during the year, with an *honorarium* of £50 per talk, paid by the LMS. The schools are required to cover travel and any other expenses. They are also expected to make sure there is an audience of at least 50, which usually means two or more schools working together.

The Holgate scheme has been running for three years and, judging by the comments we receive and the number of repeat invitations, it is filling a need. We are, however, a bit disappointed at the lack of response from state schools. If you have children in secondary school, or if you are a governor, please suggest the scheme to the Head of Mathematics.

We'd also be interested in hearing from anyone who would like to volunteer or to nominate someone else. The subject does not matter very much, as long as it's mathematical in some sense, but the talk has to be interesting to fifth and sixth formers. We have, however, had an expression of interest in mathematics and finance, and if you know of someone who could talk on this, do let us know. There is of course a hidden agenda on this one - we'd like to do our bit to convince pupils (and teachers) that a bright young person who is considering a career in finance ought to read mathematics at university!

Please contact the organiser, Professor Tim Porter, at the University of Wales, Bangor (t.porter@bangor.ac.uk).

FELLOWS OF THE ROYAL SOCIETY

Amongst those elected to Fellowship of the Royal Society in May 1999 were: Gary Williams Gibbons, Professor of Theoretical Physics, University of Cambridge; William Timothy Gowers, Rouse Ball Professor of Mathematics, University of Cambridge; John Richard Ockendon, Lecturer in Applicable Mathematics, University of Oxford; William James Stirling, Professor of Mathematical Sciences and Physics,

University of Durham; John Francis Toland, Professor of Mathematical Sciences, University of Bath. Edward Witten, Professor of Physics, Institute of Advanced Study, Princeton University, USA was elected a Foreign Member.

MATHEMATICAL WHO'S WHERE - UNITED KINGDOM 1999 edition

This directory contains information about mathematicians and mathematics departments in universities in the UK. A copy is enclosed with this mailing of the *Newsletter* to each member with an address in the area covered by the directory. Copies are available for purchase at a price of £5.00 or US\$10.00 per copy inclusive of postage, from the London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP. Cheques should be made payable to the 'London Mathematical Society'.

JOINT MEETING OF THE LONDON MATHEMATICAL SOCIETY AND THE BELGIAN MATHEMATICAL SOCIETY

A meeting was held from Friday 14 to Sunday 16 May 1999 at the Université Libre de Bruxelles, Brussels, Belgium. There were present about 180 members and visitors for all or part of the meeting.

On Friday 14 May, fifteen lectures were given in Special Sessions on 'Algebraic geometry and mathematical logic', 'Combinatorics and finite geometries', 'Differential geometry and theoretical physics' and 'Stochastic mathematics'. A reception was held at the Université Libre de Bruxelles.

On Saturday 15 May, the Chair was taken by Professor M.J. Taylor, FRS, President of the London Mathematical Society. Twenty people were elected to Ordinary Membership: D.M. Appleby, H.J. Beker, V.N. Biktashev, V.I. Burenkov, A.R. Champneys, S. Demoulini, I.G. Gordon, T.G. Ho, M.J. Hunt, P.E. Hydon, R.R.

Kerswell, D. March, P.A. Martin, A. Martino, R.A. Monzo, G.H.S. Piper, E. Shargorodsky, A. Taormina, S.L. Velani, B.G. Wiest; M.D. Piggott was elected to Associate Membership and D. Konate (Soc. Math. de France) was elected to Reciprocity Membership. Two members signed the book and were admitted to the Society.

Lectures were given by W.T. Gowers, 'Random selections with dependences' and A. J. Macintyre, FRS, 'Between model theory and intersection theory'. After lunch, sixteen further lectures were given in the Special Sessions.

On Sunday 16 May, the Chair was taken by Professor J. Schmets, President of the Belgian Mathematical Society. Lectures were given by H. Föllmer, 'Stochastics in finance' and M. Kontsevich, 'Noncommutative projective space'. Professor Schmets then thanked the organisers of the Special Sessions and the local organisers, L. Lemaire, J. Leroy and M. Parker, on behalf of both of the Societies, and declared the meeting closed.

LOGIC COLLOQUIUM '99

The 1999 European Summer Meeting (Logic Colloquium '99) of the Association for Symbolic Logic will take place August 1-6, 1999, in Utrecht, The Netherlands. The program will represent logic from a wide perspective. A featured topic will be computational logic, broadly conceived. Tutorials will be given on Group Actions and Countable Models (G. Hjorth), Ten Topics in Term Rewriting (J. Klop), Categories and Types (I. Moerdijk), and Geometric Model Theory (A. Pillay). Invited speakers include S. Abramsky, A. Andretta, S. Artemov, L. Beklemishev, P. Cholak, D. Haskell, D. Miller, A. Morozov, J. Rutten, P. Speissegger, S. Todorcevic, and A. Weiermann. Special evening sessions will be held on Computing with the Guarded Fragment of First Order Logic, and Logic Education and Dissemination. The Program Committee includes E. Barendsen, J. van Eijck, S. Goncharov, W. Hodges (Chair), D. de Jongh, A. Kechris, P.

Koepke, M. Lerman, D. Marker, J. van Oosten, A. Pitts and A. Visser. The Local Organizing Committee includes J. van Eijck (Chair), M. de Rijke, Y. Venema, P. Dekker, P. Blok, V. van Oostrom, S. Panka and F. Snijders. This meeting will take place at the campus of Utrecht University, 'de Uithof', on the outskirts of Utrecht. There is a regular bus connection from Utrecht Central Station to de Uithof; the bus ride takes about 20 minutes. De Uithof can also easily be reached by car. The closest airport to Utrecht is Schiphol (Amsterdam airport). Contact: Logic Colloquium '99, Attention Ms Simone Panka, CWI, P.O. Box 94079, 1090 GB Amsterdam, The Netherlands; telephone: +31-20-5924009; e-mail: simone@cwi.nl; www: <http://www.cwi.nl/lc99/>.

MATHEMATICAL MODELLING OF NONLINEAR SYSTEMS

There will be a meeting on Mathematical Modelling of Nonlinear Systems at the University of Leeds. It will start at about 11 am on Monday 20 September and finish about 4 pm on Tuesday 21 September with a banquet on the Monday evening. The meeting is open to all who are interested. The invited speakers who have confirmed their attendance at the meeting are as follows:

- Professor Albert Barcelon (Florida State University, USA)
- Professor John Clarke, FRS (Cranfield)
- Professor Peter Gray, FRS (Cambridge)
- Professor David Crighton, FRS (Cambridge)
- Professor Raymond Hide, FRS (Oxford)
- Professor Phil Holmes (Princeton, USA)
- Professor Tomasz Kapitaniak (Lodz, Poland)
- Professor Jacqui McGlade (Warwick and NERC)
- Professor Horst Malchow (Osnabruck, Germany)
- Professor Tim Pedley, FRS (Cambridge)
- Professor Mike Pilling (Leeds)

- Professor Hans True (Technical University of Denmark)
- Professor Dick von Campen (Eindhoven, Holland)
- Professor Eric Varley (Lehigh University, USA)
- Professor Graeme Wake (Canterbury, New Zealand)
- Professor Alan Wilson, FBA (Leeds)

The London Mathematical Society have offered to give 50% funding to about 12 graduate students and therefore early registration for these is recommended. They will be allocated on a first-come-first-served basis. Further details may be obtained from Professor Derek Ingham, Department of Applied Mathematics, University of Leeds, Leeds LS2 9JT (tel: 0113 233 5113, fax 0113 242 9925, e-mail amt6dbi@amsta.leeds.ac.uk).

THE MILLENNIUM MATHEMATICS PROJECT

What is the Millennium Mathematics Project?

The Millennium Mathematics Project (MMP) is a new national initiative, based in Cambridge. Its broad goal is to help people of all ages and abilities share in the excitement of mathematics and understand the ubiquity of its applications to science and commerce. It aims to change people's attitudes to mathematics, to act as a national focus for renewing and improving appreciation of the dynamic importance of mathematics and its applications, and to demonstrate the vital contribution of mathematics to shaping the everyday world. It will seek to work closely with other bodies with similar aims, especially those representing other mathematicians and scientists, and to foster productive partnerships.

A problem of perception

For more than three centuries, British mathematicians have had a profound influence on the world's cultural, scientific and

technological development. Today, however, mathematics in the UK, as in much of the developed world, is in trouble. It is often poorly taught, basic skills and understanding are in decline, and there is a general conception that mathematics is a very difficult and boring subject. People are proud of being bad at it. Yet if we neglect mathematics now then the consequences will be far-reaching for business and industry - and therefore employment and society as a whole - in the very near future.

No major technological nation can afford to let its mathematical base erode away. Mathematics underpins all of the sciences and is critical to the development of new areas of technological expertise and their commercial exploitation - computing, biotechnology, telecommunications, aircraft design, medical imaging and genetic research are just a handful of the applications which translate complex mathematical theories into tangible practical benefits. All of this mathematics goes on, all the time, and it is playing a major role in creating our world - but it all happens behind the scenes. And so people whose lives have been revolutionised by mathematics still imagine that its high points are long division, the solution of quadratic equations, or elementary trigonometry. Mathematics has become the ugly duckling of science - surviving on low budgets, given low priority, mistrusted and marginalised by those who cannot understand it, viewed as a dead subject when the level of activity and the importance of new discoveries have never been higher. The time has come for mathematics to make its unique role understood and valued. To help combat this problem a national - indeed international - resource is being built: the Millennium Mathematics Project.

How will the MMP operate?

The Project is multi-faceted. It will use many different types of activity - talks, articles, interviews, computer links, video presentations, roadshows, conferences, and multimedia - and make optimal use of new technologies to achieve its aims. The Project will:

- run short courses, conferences, master-classes, debates and seminars. Topics will range from new developments in information technology to non-technical expositions of the frontiers of pure and applied mathematical research, and will include new areas such as biomathematics, cosmology, medical mathematics, or financial analysis; “fun” areas of recreational mathematics will be included alongside more serious topics. Some of these activities will be linked to current programmes at the Isaac Newton Institute for Mathematical Sciences, a national mathematics research institute, serving to interpret ideas from the cutting edge of mathematical discovery to non-specialists and enhance public understanding of state-of-the-art research;
- support mathematics in schools, through Internet and CD-ROM-based teaching resources, interactive video-conferencing sessions in schools and conferences for teachers exploring innovative strategies for teaching maths;
- broaden access to mathematics education through creating Internet sites for a variety of mathematical activities, such as interactive problem solving, “surgeries” for mathematical difficulties, news, and databases of resources. The Project team includes people with extensive experience in communicating mathematics via the Internet;
- organise exhibitions for the public on new areas of research, applications to science or business, new teaching methods, and links to the arts, covering pure mathematics and the broadest possible range of applications - information technology, science, finance, business, medicine, manufacturing - and promoting cultural links to music, art, sculpture, and drama;
- optimise the accuracy of public information on mathematical subjects through providing information and material for professional organisations and the media - newspapers, magazines, radio, TV, helping to educate journalists, and developing links with European initiatives in mathematics education;
- establish a national resource centre to collect, develop, and distribute written material, audiotapes, videotapes, software, and electronic media for mathematics enrichment. It will maintain a database of lecturers willing to speak on mathematical topics, and of appropriate events and resources nationwide;
- above all, the Project will be flexible and responsive, developing alongside the new mathematics of the new millennium, reflecting its growth and changing concerns, interpreting its central issues to the public, and exploiting new media to communicate the excitement and importance of mathematics in the broadest sense.

The MMP will be located in the new Centre for Mathematical Sciences in Cambridge, due to open in January 2000.

The MMP has appointed Professor John D. Barrow as the Project Director. He will join the Project in July 1999 when he takes up the post of Research Professor of Mathematical Sciences in the Department of Applied Mathematics and Theoretical Physics at Cambridge. The Project Administrator, Ms Julia Hawkins, took up her post in February 1999.

The MMP aims to work closely with other UK mathematics associations and bodies sharing its aims of promoting mathematics amongst all segments of society. We hope that we will be able to participate in collaborative projects with these organisations and benefit from the experience and expertise of their members.

Our start-up activities include:

- a video-conferencing programme to support the teaching of mathematics in schools particularly in disadvantaged

areas, providing a direct link between world-class research mathematicians and schools. Support has recently been obtained from NESTA for this programme and the project will be highlighted as one of the first NESTA-supported projects later this summer.

- the appointment of a Schools Liaison Officer to work with and support maths teachers throughout the UK; this post has been funded by grants from Unilever plc and the Rothschild Trust.
- publicity posters and exhibitions on maths and its applications to commerce, science and art for the general public;
- web material on important events related to the applications of maths - for example, the MMP has provided funding to support the SunBlock 99 project, a multimedia site exploring recent solar research. Funding has been sought to begin developing a series of web sites explaining topics in mathematics, pure and applied, for non-specialists and school students. These sites will be

linked to a series of expository talks. For more information contact Julia Hawkins, Administrator, Millennium Mathematics Project, Department of Applied Mathematics & Theoretical Physics, University of Cambridge, Silver Street, Cambridge CB3 9EW (tel: 01223 337900; fax: 01223 337918; e-mail: jemh4@damtp.cam.ac.uk; web: <http://www.mmp.maths.org.uk>).

VISIT OF PROFESSOR A. POLLINGTON

Professor Andrew Pollington of Brigham Young University (USA) is visiting Dr Sanju Velani at Queen Mary & Westfield College under a Scheme 2 LMS grant to work on problems in simultaneous Diophantine approximation. He will be based at QMW for the period 29 June to 10 August and will be giving seminars on the Barnes-Swinnerton-Dyer conjecture and Schmidt's matrix normality conjecture at UEA, York and QMWC. Dates and further details are available from S. Velani (s.velani@qmw.ac.uk).



PRIFYSGOL CYMRU ABERTAWE
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Department of Mathematics

Lecturer

Applications are invited for a Lecturer in the Department of Mathematics. Candidates should have a strong research record compatible with the research interests of the Department (rated 4 in the last RAE), namely Probability Theory and Applications, Mathematical Physics, Functional Analysis, Complex Analysis, Algebraic Topology and Number Theory.

The appointment will be on either of the following scales:

Lecturer Grade A: £16,655 - £21,815 per annum

Lecturer Grade B: £22,726 - £29,048 per annum

Informal enquiries may be made in confidence to the Head of the Department, Professor A Truman (01792 295458 or e-mail A.Truman@Swansea.ac.uk) but application forms (2 copies) and further particulars must be obtained from the Personnel Department, University of Wales Swansea, Singleton Park, Swansea SA2 8PP, to which department they should be returned by Friday, 16 July 1999.

Email: personnel.mailbox@swan.ac.uk

www: <http://www.swan.ac.uk/personnel>

STOCKHOLM UNIVERSITY

PROFESSOR IN MATHEMATICS

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Stockholm, the capital of Sweden, with a population of about one million inhabitants, is a major cultural and scientific centre.

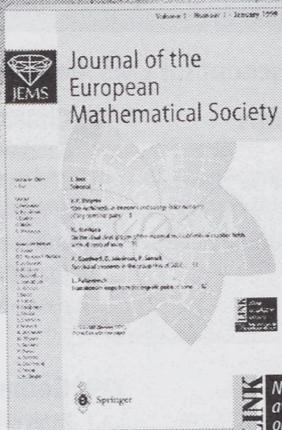
When appointing a professor of the state university system of Sweden, special emphasis is given to both research competence and teaching competence. Consideration is also given to administrative skills, in particular leadership ability. Proficiency in Swedish (Scandinavian) or English is necessary. Wherever appropriate, a willingness to learn Swedish is assumed.

Salary is negotiable. The University is an Equal Opportunities employer, and since most professors at the Faculty of Natural Sciences are men, applications from female candidates are particularly welcome. Since the position is a full-time job, residence in the Stockholm area is necessary.

Informal inquiries may be made to the Head of the Department, Dr Torbjörn Tambour (phone no +46-8-164516, e-mail: torbjorn@matematik.su.se), or to the Dean of the Sub-Faculty of Mathematics and Physics, Professor Torsten Ekedahl (phone no +46-8-164526, e-mail: teke@matematik.su.se).

Applications, quoting reference no. 611-1484/99, should be sent to the Registrar, Administration Office, Stockholm University, S-106 91 Stockholm, Sweden. They must reach the Registrar's Office no later than **September 15, 1999**. The following items, all in four copies, should be included:

1. Curriculum vitae.
2. Bibliography (numbered).
3. Description of the candidate's research achievements and teaching experience and leadership ability (5-10 pages).
4. "Letter of intent".
5. Photocopies of relevant graduation diplomas.
6. Research publications of the candidate's own choice, numbered according to the bibliography. (Please observe, however, that only one copy of each research publication referred to should be sent to the University administration. Three additional copies of item 6 are to be sent later, upon notification from the University, to the Expert Members of the Appointments Board.)



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£19.95 PB 0 521 63532 2 300pp 1998

MSRI Publications, 5

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1995 297pp 1998
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by Sam D. Brody and Ralph Stöhr
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See the first edition in Bulletin of the *London Mathematical Society*

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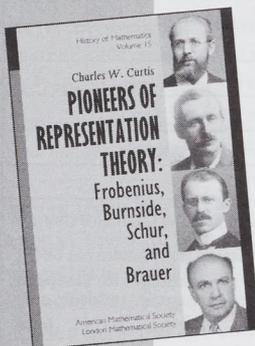
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History of Mathematics

Recommended Text



Pioneers of Representation Theory: Frobenius, Burnside, Schur, and Brauer

Charles W. Curtis, *University of Oregon, Eugene*

The year 1897 was marked by two important mathematical events: the publication of the first paper on representations of finite groups by Ferdinand Georg Frobenius (1849–1917) and the appearance of the first treatise in English on the theory of finite groups by William Burnside (1852–1927). Burnside soon developed his own approach to representations of finite groups. In the next few years, working independently,

Frobenius and Burnside explored the new subject and its applications to finite group theory.

They were soon joined in this enterprise by Issai Schur (1875–1941) and some years later, by Richard Brauer (1901–1977). These mathematicians' pioneering research is the subject of this book. It presents an account of the early history of representation theory through an analysis of the published work of the principals and others with whom the principals' work was interwoven. Also included are biographical sketches and enough mathematics to enable readers to follow the development of the subject. An introductory chapter contains some of the results involving characters of finite abelian groups by Lagrange, Gauss, and Dirichlet, which were part of the mathematical tradition from which Frobenius drew his inspiration.

This book presents the early history of an active branch of mathematics. It includes enough detail to enable readers to learn the mathematics along with the history. The volume would be a suitable text for a course on representations of finite groups, particularly one emphasizing an historical point of view.

Volume 15; 1999; approximately 319 pages; Hardcover; ISBN 0-8218-9002-6; List \$49; All AMS members \$39; Order code HMATH/15LMS



Beginning with Volume 4, *History of Mathematics* is co-published with the London Mathematical Society. Members of the LMS may order directly from the AMS at the AMS member price. The LMS is registered with the Charity Commissioners. All prices subject to change. Charges for delivery are \$3.00 per order. For optional air delivery outside of the continental U. S., please include \$6.50 per item. Prepayment required. Order from: **American Mathematical Society**, P. O. Box 5904, Boston, MA 02206-5904, USA. For credit card orders, fax 1-401-455-4046 or call toll free 1-800-321-4AMS (4267) in the U. S. and Canada, 1-401-455-4000 worldwide. Or place your order through the AMS bookstore at www.ams.org/bookstore/. Residents of Canada, please include 7% GST.

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ALGEBRAIC AND GEOMETRIC TOPOLOGY

EPSRC/LMS short course

This Course will be held at Warwick University from 30 August to 3 September 1999, with funding from EPSRC and the London Mathematical Society.

The course will be aimed at graduate students who wish to work in algebraic or geometric topology, algebraic geometry, global analysis or a related area. It will cover some of the more important topics and methods of algebraic and geometric topology, and give an idea of some of the main themes of current research in this area. There will be 3 courses of 5 lectures each, accessible to beginning research students (including those beginning research in October 1999), but of benefit to all research students:

- **Algebraic Topology** (E.G. Rees, Edinburgh)
- **Characteristic Classes** (J.D.S. Jones, Warwick)
- **Smooth Four-dimensional Manifolds** (R. Kirby, Berkeley)

There will also be 'trouble shooting' sessions and a few individual lectures introducing current research topics.

The registration fee is £60. Participants will pay their own travel. EPSRC supported students should expect that this will be paid from RTSG funds. Funds are expected to be made available to cover the accommodation and subsistence costs, but not the travel costs, of a number of research students at UK universities (including those beginning in October 1999). Numbers will be limited and preference will be given to early applicants.

Further details and registration forms may be obtained from Peta McAllister, Mathematics Research Centre, University of Warwick, Coventry CV4 7AL (e-mail: peta@maths.warwick.ac.uk).

THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS



FORTHCOMING CONFERENCES

THE FOURTH INTERNATIONAL CONGRESS ON INDUSTRIAL AND APPLIED MATHEMATICS (ICIAM 99)

Edinburgh 5-9 July 1999

The main research frontiers of industrial and applied mathematics will feature strongly in the exciting programme. Particular themes will include mathematical modelling in industry, mathematics of medicine, financial mathematics, geophysical and oil sciences, large scale computation, environmental and climate science, cryptography and computer security.

SEVENTH CRYPTOGRAPHY AND CODING

The Royal Agricultural College, Cirencester 20 - 22 December 1999

The mathematical theory and practice of cryptography and coding underpins the provision of effective security and reliability for data communication, processing and storage. Theoretical and implementational advances in the fields of cryptography and coding are therefore a key factor in facilitating the growth of data communications and data networks of various types.

THIRD MATHEMATICAL EDUCATION OF ENGINEERS

Loughborough University 26 - 28 April 2000

This conference aims to reflect the progress and experiences of initiatives within the teaching of mathematics to engineers in recent years, to debate areas of known concern and to learn together from current best practice.

COMPUTATIONAL CHALLENGES FOR THE MILLENNIUM

Cambridge 13-14 July 2000

THIRD QUANTITATIVE MODELLING IN THE MANAGEMENT OF HEALTH CARE

University of Salford, 5 - 7 September 2000

SECOND INTERNATIONAL BOUNDARY INTEGRAL METHODS: THEORY AND APPLICATIONS

University of Bath 11 - 15 September 2000

This conference will provide a forum for the exchange of ideas between academic and industrial researchers in different disciplines whose common interest is boundary integral methods.

FIFTH MATHEMATICS IN SIGNAL PROCESSING

University of Warwick 18 - 21 December 2000

SHORT COURSE AND THIRD IMAGING AND DIGITAL IMAGE PROCESSING: MATHEMATICAL METHODS, ALGORITHMS AND APPLICATIONS

De Montfort University, Leicester 12-15 September 2000

SHORT COURSE AND FIRST FRACTAL GEOMETRY: MATHEMATICAL TECHNIQUES, ALGORITHMS AND APPLICATIONS

De Montfort University, Leicester 19-22 September 2000

FOURTH MATHEMATICAL MODELS OF MAINTENANCE

University of Salford 9-11 April 2001

✂

To: Mrs Pamela Bye, Conference Officer, The Institute of Mathematics and its Applications, Catherine Richards House,
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Isaac Newton Institute for Mathematical Sciences

STRUCTURE FORMATION IN THE UNIVERSE

19 July to 17 December 1999

Organisers: V.A. Rubakov (Institute for Nuclear Research, Moscow),
P.J. Steinhardt (Princeton), N.G. Turok (Cambridge)

Participation:

Applications to participate in the programme are welcome, particularly from post-docs and mathematicians working in the UK. To apply, please contact Ann Cartwright, Administrator, at the Newton Institute (e-mail: a.cartwright@newton.cam.ac.uk). Further information and the current lists of long-stay and short-stay participants are available at the URL below.

Programme theme:

Understanding how structure emerged in the universe provides one of today's great scientific challenges. Huge new datasets including maps of the cosmic microwave sky and of the galaxy distribution are being acquired. Simultaneously, particle physics experiments are constraining candidates for the dark matter. These and other observations are enabling us to test theories of the origin of structure as never before. The simplest versions of the inflationary and cosmic defect theories already appear to be ruled out, but viable versions remain.

The programme will begin with reviews of the current observational and theoretical situation, including the statistical techniques needed to handle the very large new data sets. Extensions of current theories will be considered as well as entirely novel approaches. Fundamental questions regarding the big bang and inflationary theory will be discussed, as well as connections to string theory and quantum gravity.

Workshops:

26 Jul - 6 Aug	NATO ASI: Structure Formation in the Universe - <i>fully booked</i>
10 - 14 Aug	The Statistical Analysis of Cosmological Data Sets
16 - 27 Aug	EC School and Workshop: Connecting Fundamental Physics and Cosmology
13 October	Spitalfields Day: Theories of the Early Universe
13 - 17 Dec	Key Tests for Cosmogenic Theories

Further information:

Information about the programme and the Newton Institute is available via WWW at: <http://www.newton.cam.ac.uk/programs/sfu.html>

To subscribe to the e-mail list for the programme, e-mail major.domo@newton.cam.ac.uk with the message 'subscribe sfu-list' (leaving the subject field blank). For scientific enquiries about the programme please contact: Professor N.G. Turok, DAMTP, Silver Street, Cambridge CB3 9EW, (e-mail N.G.Turok@damtp.cam.ac.uk).

LMS PROGRAMME AND CONFERENCE FUND

Society Grants for the Support of Mathematical Research

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. Grants are made under five main headings, which are described below.

In general any mathematician working in the UK is eligible for a grant, but if an applicant is not a member then the application must be countersigned by an LMS member. For Scheme 4, only LMS members working in the UK are eligible.

Applications should be sent to the Executive Secretary at the Society's office (De Morgan House, 57-58 Russell Square, London WC1B 4HP). Applications cannot usually be considered between mid-June and mid-September. Queries regarding applications can be addressed to the Meetings and Membership Secretary Dr N.M.J. Woodhouse (tel: 01865 277943, e-mail: nwoodh@maths.ox.ac.uk) or to the Executive Secretary, Dr D.J.H. Garling (tel: 0171 637 3686; e-mail: garling@lms.ac.uk) who will be pleased to discuss proposals informally with potential applicants and give advice on the submission of an application.

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. 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. Brief academic and financial reports of the conference are expected. An application form, obtainable from the Society's Office (address above), or (as a LaTeX file) from the electronic archive, sets out conditions under which grants are normally made and requests the information Programme Committee usually requires when considering an application. The

Society wishes to support research students, and applications should include details of the extent to which research students will be involved in the conference. Potential applicants should note that the Society is reluctant to award grants to conferences which clash with the British Mathematical Colloquium. Applications are considered three times a year and the deadlines for submission are 31st January, 31st May and 31st August. The current upper limit for grants is £4000, 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. The total grant, less the support for research students, shall not normally exceed £3000. (In this context 'research student' means 'research student of any nationality studying at a UK university'.)

Scheme 2 - Visitors

Some financial support is provided for visitors to the UK who give lectures in at least three separate institutions. Exceptionally, support under this scheme might be provided for a speaker addressing just one meeting which is regional in scope. The LMS contribution under this scheme is principally for the visitor's travelling expenses to and from the UK up to a current upper limit of £1000. Host institutions are expected to share travel and subsistence expenses within the UK, and to meet any residual cost. The application should be made in a letter, usually of no more than two A4 sides, giving a brief summary of the following information:

- the academic standing of the visitor;
- the justification for the visit;
- the proposed itinerary;
- an estimate of travel and subsistence costs.

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*. All arrangements for a visit under this scheme are the responsibility of the applicant.

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.

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 research visits, seminars or study groups. 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. Applications should be made 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.) The grant will cover a twelve month period and the Society will expect to receive a report, both academic and financial. Applications for the renewal of a grant will be considered along with fresh applications. The maximum grant awarded is currently £1000; for this, at least four meetings a year should be held.

An application should take the form of a letter giving details of:

- the proposed activities;
- a list of participants in the group;
- a provisional budget indicating how any grant awarded is likely to be used.

While a reasonable level of detail is desirable, it should not be excessive and altogether the documentation expected might run to at most three A4 pages. Applications are considered three times a year, in February, June and September and the respective deadlines for submission are 31 January, 31 May and 31 August. Grants are expected to run from 1 March or 1 October.

Scheme 4 - Collaborative small grants

The aim of the scheme is to provide small grants to individual LMS members 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 several working days. The maximum sum available is £500 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.

Applications should be in the form of a letter setting out the proposed academic case for the visit, including a detailed description of a specific project, the standing of the collaborator and an estimate of costs. Whilst a reasonable level of detail is desirable, an application should not be excessively long, and the documentation should run to at most three A4 pages. A brief report on the use of the grant is expected: this should describe the academic outcome of the visit, together with very brief financial details.

Grants will be awarded three times annually, in September, February and June, with respective deadlines for applications of 31 January, 31 May and 31 August. Awards will be restricted to one in any

given academic year (September to August) and in the event of over subscription in any particular round, applicants who receive an award in the previous academic year will not be considered.

Scheme 5 - International Short Visits

This scheme, originally to support mathematics in the countries of the former Soviet Union, has been extended to other countries. It now includes the countries of the former Soviet Union and Eastern Europe including the former Yugoslavia, China, India, Pakistan, Bangladesh, and the countries of Africa. It excludes the countries of Western Europe and North America and Australia. The status of other countries will be determined by Programme Committee case by case. For visits to Britain, the maximum grant shall be £50 a day for accommodation and subsistence, up to a maximum of £1400, and up to £500 for travel. For visits from Britain, the maximum grant is £1200. Success of an application will depend mainly on the likelihood of potential benefit to mathematics in the country concerned. Grants will not be made solely for attendance at conferences. Where a visit from the UK includes a conference, it should also include other academic activities of value to the host country, and should be for a total period of not less than

14 days.

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. The application should be made in a letter, usually of no more than two A4 sides, giving a brief summary of the following information:

- the academic justification for the visit;
- the standing of the visitor (if from the FSU to the UK) together with a brief CV;
- the proposed itinerary;
- a statement of travel and accommodation costs.

Any grant for travel and subsistence will normally be determined according to the formula; actual accommodation costs up to £35 per day plus £15 per day for other subsistence costs.

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, in the case of visits to the UK, an announcement of the visit in the Society's *Newsletter*.

All arrangements for a visit under this scheme are the responsibility of the applicant.

Grants awarded since January 1999:

CONFERENCE

Topic	Applicant	Grant
Algebraic Geometry and Integrable Systems	E.G. Rees	£559
3rd annual informal UK meeting on Conformal and Integrable Models	N.J. MacKay	£500
34th European Study Group with Industry	A.A. Lacey	£3,050
Interfaces in Mathematics	N.J. Hitchin	£4,000
Meeting for Sir Michael Atiyah's 70th Birthday	D.B. Ingham	£3,250
Mathematical Modelling of Nonlinear Systems	A. Grigor'yan	£2,600
Mathematical Physics Perspectives	& B. Zegarlinski	
Symposium in honour of Philip Drazin	R.R. Kerswell	£3,000
STATMECH-15	D.A. Lavis	£600
Scottish Algebra Day, 1999	K.A. Brown	£1,365
Computation in Group Theory & Geometry Workshop	D.F. Holt	£2,000

Titchmarsh Centenary Meeting	D.A. Edwards	£655
Foundations of Computational Mathematics	A. Iserles & E. Süli	£2,000
British Women Mathematicians Day 1999	H.D. Robinson	£1,628
1999 University of Wales Pure Mathematics Colloquium	E.J. Beggs	£300
52nd British Mathematical Colloquium	H.G. Dales	£7,000
British Logic Colloquium	A. Dawar	£2,000
Harmonic Maps and Curvature Properties of Submanifolds, 2	J.C. Wood & S. Carter	£4,000
Reading one-day Combinatorics Colloquium	A.J.W. Hilton	£400
Workshop on Singularity Theory	C.T.C. Wall	£2,000
Integrable Systems: Linear & Nonlinear Dynamics	C. Athorne	£4,000
One day meeting on Fluid Dynamics	J.A. Johnson	£524
ICIAM 99/Mini-symposium 031: Fractals and Scaling in Industrial and Environmental Applications	J. Gomatam & F.M. Borodich	£170
Combinatorics and Set Theory	M. Dzamonja & C. Morgan	£250

SCHEME 2

Applicant	Visitor	Places to Visit	Grant
A. Truman	M. Friedlin	Swansea, Warwick & Hull	£1,000
A.S. Fokas	V. Dougalis	Imperial, Bath & Oxford	£500
C. Morgan,	M. Otto	UEA, De Morgan House,	£300
A. Dawar & M. Dzamonja		Cambridge & UCL	
J.M. Ball	T. Iwaniec	Bath, Heriot-Watt, Imperial & Sussex	£1,000
R.J. Archbold	G.J. Murphy	Aberdeen, Edinburgh & Leeds	£200
J.D.M. Wright	D. Candeloro	Goldsmiths, Reading & Oxford	£300
D.E. Edmunds	R.A. Kerman	Sussex, King's & Cardiff	£300
C.M. Goldie	M. Maejima	Sussex, Imperial & Manchester	£800
P. Ashwin	G. Sell	Surrey, Warwick & UMIST	£300
S.L. Velani	A.D. Pollington	QMW, UEA, York & Northern Arithmetic Day	£880
Z. Brezniak	S. Albeverio	Hull, Warwick & Imperial	£550
W.A. Hodges	Yi Zhang	QMW, UEA & Edinburgh	£500

SCHEME 3

Applicant	Institution	Topic	Grant
D. Chillingworth	Southampton	Southeastern Bifurcation Meetings	£1,000
J.P.C. Greenlees	Sheffield	Transpennine Topology Triangle	£1,000
C.T.H. Baker	Manchester	Volterra functional equations	£1,000
C. Morgan	UCL	Set theory and its neighbours	£750
R.M. Green	Lancaster	Quantum Groups	£250

SCHEME 4

Applicant	Institution	Collaborator	Institution	Grant
T.B.M. McMaster	Queens	A.E. McCluskey	NUI	£500
M. du Sautoy	Cambridge	F Loeser	Paris 6	£500
M.S. Joshi	Cambridge	T. Christiansen	Missouri	£500

M.S.P. Eastham		B.M. Brown	Cardiff	£350
M.C. White	Newcastle	J.E. Galé	Zaragoza	£400
R.A. Wilson	Birmingham	I. Suleiman	Mu'tah	£500
C-H. Chu	Goldsmiths	P. Mellon	Dublin	£500
S.T. Tsou	Oxford	I.P. Zois	Athens	£495
S. Power	Lancaster	A. Katavolos	Athens	£350
F.C. Kirwan	Oxford	L. Jeffrey	Toronto	£500

SCHEME 5

Applicant	Visitor	Institution	Places to Visit	Grant
V. Liskevich	Y.M. Berezansky	Ukranian Academy of Sciences	Bristol & Loughborough	£1,900
J.S. Wilson		Steklov	Birmingham & 2 other UK universities	£1,800
T. Ward	M. Shereshevsky	Nizhny Novgorod Software Tech Lab	UEA, NTU & QMW	£1,900
F. Wagner			Novosibirsk & Erlogol	£600
A.E. Zalesskii	A. Baranov & I. Suprunenko	Minsk	Minsk	£600
D.F. Parker	A.V. Porubov	Russian Academy of Sciences	Edinburgh	£1,480
C. Smyth	A. Dubickas	Lithuania	Edinburgh, Oxford & Cambridge	£1,685
G.R. Allan	A.Y. Helemskii	Athens	Cambridge	£1,700
A. Grigor'yan	V.A. Kondratiev	Moscow	Imperial	£1,300
M. Dzamonja			Sarajevo	£700
S.B. Kuksin	B. Maslowski	Prague	Heriot-Watt	£700
W.M. Oxbury	S. Ramanan	Bombay	Durham & Oxford	£1,500
V.B. Kuznetsov	V.I. Inozemtsev	Dubna, Russia	Leeds	£1,700
A. Dawar	A. Seth	Chennai, India	Cambridge, Leicester, Oxford & Nottingham	£1,250
C.J. Budd	V. Dorodnitsyn	KIAM, Moscow	Oxford, Bath, Cambridge & Kent	£1,250
J. Hirschfeld	V.I. Levenshtein	KIAM, Moscow	Sussex	£800
X. Mao	A.E. Rodkina	Voronezh, Russia	Strathclyde	£1,900
A.B. Movchan	A.G. Aslanyan	Moscow	Liverpool, Cardiff, Bath & King's	£1,800
A.P. Fordy			Landau Institute, Moscow & workshop in Chernogolovka	£830

COLLINGWOOD MEMORIAL PRIZE

This prize was established by the London Mathematical Society in memory of Sir Edward Collingwood, and is awarded annually to a student of the University of Durham obtaining First Class Honours in mathematics and entering a course of postgraduate study. The 1999 prize is awarded to Mr Stephen R. Hodges, St. Aidan's College who is intending to do research in Statistics.

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

Call for Proposals

The Isaac Newton Institute for Mathematical Sciences is a national research institute in Cambridge. It aims to bring mathematical scientists from UK universities and leading experts from overseas together for concentrated research on specialised topics in all branches of the mathematical sciences from pure mathematics, applied mathematics, and statistics, to engineering, computer science, theoretical physics and mathematical biology. At any time there are two visitor programmes in progress, each with about twenty scientists in residence. Included within these programmes are periods of more expanded activity including instructional courses and workshops.

The Institute now invites new proposals for programmes for 2001 onwards. A choice of six-month or four-month programmes is available. In addition, from 2000, short programmes of three weeks duration will be available during July and 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 programme might not be as yet justified.

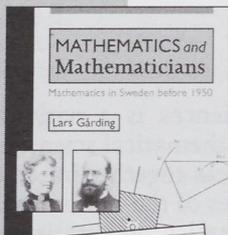
Proposals should be addressed to the Director, Professor H.K. Moffatt, Isaac Newton Institute for Mathematical Sciences, 20 Clarkson Road, Cambridge CB3 0EH, UK; proposers should state whether they would prefer a four-month, six-month or three-week programme. The Institute is pleased to receive proposals at any time. Proposals for consideration at the next meeting of the Scientific Steering Committee should be received by 31st July 1999.

Submission guidelines, and information about forthcoming programmes already selected, are available at <http://www.newton.cam.ac.uk/call-prop.html>

Further information is also available from the Director (tel 01223 335999; e-mail info@newton.cam.ac.uk) who will answer any enquiries.

History of Mathematics

Mathematics and Mathematicians Mathematics in Sweden before 1950

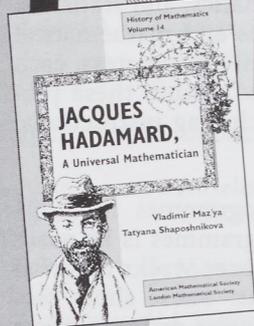


Lars Gårding, *Lund University, Sweden*

Gives an in-depth look at the mathematical scene in Sweden ... This is a book written by a mathematician for mathematicians—besides biographical and historical material, the author devotes much space to the mathematical content involved. He does not hesitate to express his opinions, often with a dry wit.

—*Zentralblatt für Mathematik*

Volume 13; 1998; 288 pages; Hardcover; ISBN 0-8218-0612-2; List \$75; Individual member \$45; Order code HMATH/13LMS



Jacques Hadamard, A Universal Mathematician

Vladimir Maz'ya and Tatyana Shaposhnikova, *Linköping University, Sweden*

The authors describe Hadamard's life with numerous interesting details contained in the references of those close to him and give many illustrations of the wide-ranging mathematical impact of this "living legend".

—*MAA Online*

The reviewer recommends the book highly for both enjoyment and information. The authors have a masterful grasp of both the mathematics and the biography, and they tell the story in a very interesting way.

—*Mathematical Reviews*

Thoroughly researched biography plus summary of contributions to analytic function theory, number theory, geometry, calculus of variations, mathematical physics, PDEs, and other other subjects.

—*American Mathematical Monthly*

The authors cover a remarkable amount of Hadamard's output and also his concerns outside mathematics: family life (he lost two sons in the First World War and the other one in the Second), a deep interest in botany, concern with the victimisation of his distant relative Alfred Dreyfus, and pacifism.

—*Bulletin of the American Mathematical Society*

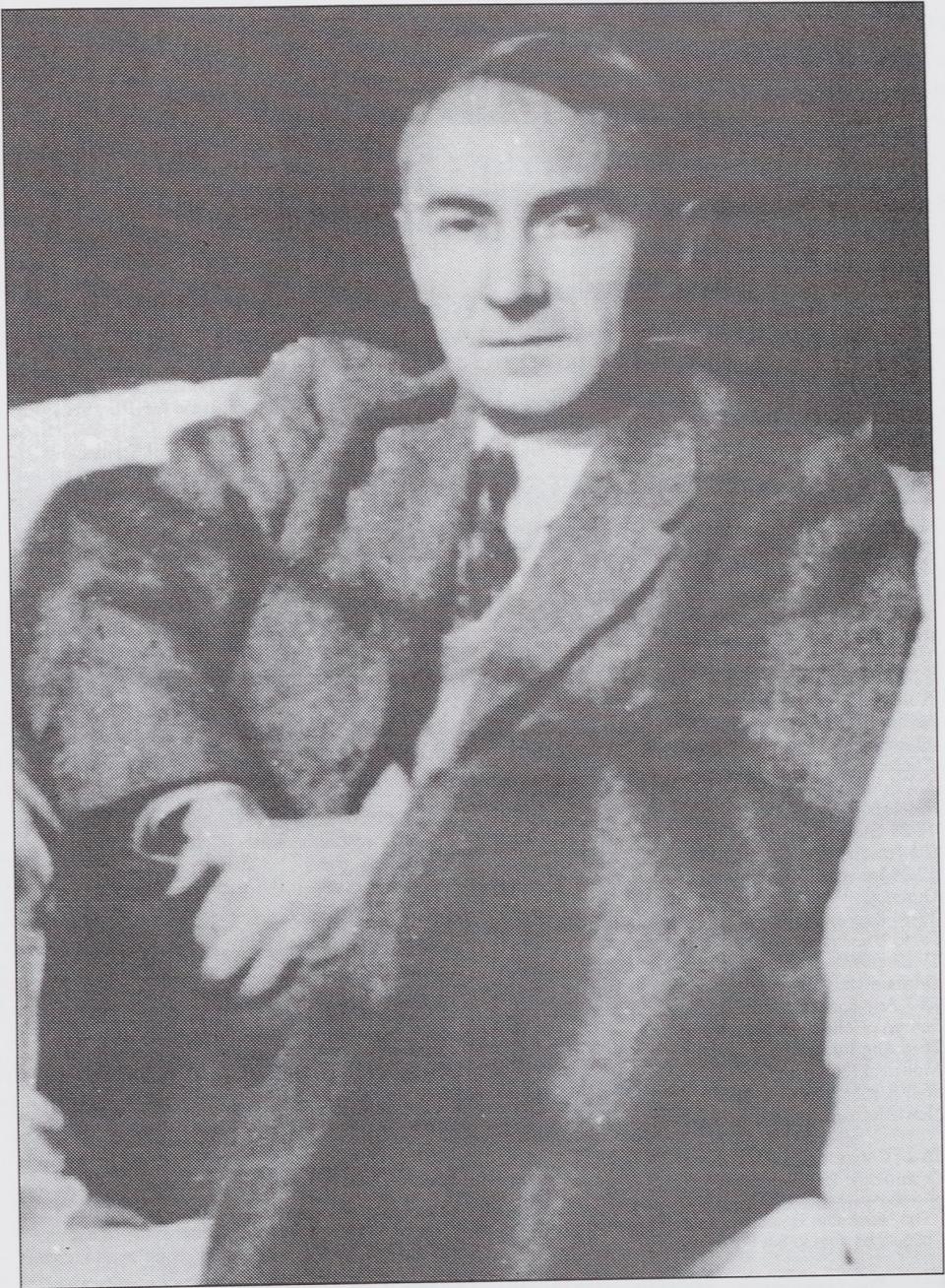
Volume 14; 1998; 574 pages; Hardcover; ISBN 0-8218-0841-9; List \$79; Individual member \$47; Order code HMATH/14LMS



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C. CHEVALLEY
Honorary Member 1967

DIARY

The diary lists Society meetings and other events publicized in the Newsletter. For further information, refer to the figure in brackets, which is a cross reference to the LMS Newsletter number.

JULY 1999

- 3-4** Ergodic Theory and Dynamical Systems Workshop, Warwick University (270)
5-9 International Congress of Industrial and Applied Mathematics (ICIAM 99), Edinburgh University (252)
5-9 Quadratic Forms and Their Applications Conference, University College, Dublin (268)
6 Intuitionistic Modal Logic and Applications Workshop, Trento, Italy (270)
9-17 Computation in Group Theory and Geometry Workshop, Warwick University (270)
10-12 Complexity and Exact Computation over the Real Numbers, EPSRC/LMS MathFit Workshop, Royal Holloway, University of London (271)
11-14 Dynamics of Thin Fluid Films Workshop, ICMS, Edinburgh (271)
11-17 Near-ring and Near-field Conference, Edinburgh University (272)
12-13 Hydrodynamic Instabilities, Waves & GFD Meeting, Bristol University (271)
12-13 Skew-Products and Synchronization of Coupled Systems Workshop, Surrey University (269)
12-16 British Combinatorial Conference, Kent University (254)(268)
12-16 American Mathematical Society and Australian Mathematical Society Joint Meeting, Melbourne University (260)
12-16 System Modelling and Optimization Conference, IFIP TC7, Cambridge (267)
17 Computation in Group Theory and Geometry Workshop, Warwick University (269)
18-28 Foundations of Computational Mathematics Conference, Oxford University (270)
19-24 Integrable Systems: Linear and Nonlinear Dynamics Workshop, Islay (270)
19-24 Representation of Algebras Conference, Sao Paulo University (269)
19-29 Quantum Groups LMS Durham Symposia, Durham University (268)
25-7 Aug Banach Algebras International Conference, Pomona College, California (268)
26-6 Aug Integrable Systems Seminar, University of Montreal (267)
26-6 Aug Structure Formation in the Universe, Isaac Newton Institute, Cambridge (268)

AUGUST 1999

- 16-27** Connecting Fundamental Physics and Cosmology, E.C. Summer School, Isaac Newton

- Institute, Cambridge (269)
22-29 Hall Algebras Summer School, Hesselberg, Germany (263)
23 - 4 Sept Geometry and Physics of Monopoles Workshop, ICMS, Edinburgh (271)
30 - 3 Sept Algebraic and Geometric Topology EPSRC/LMS short course, Warwick University (271)
30 - 4 Sept Alan Baker's 60th Birthday, Zurich, Switzerland (272)

SEPTEMBER 1999

- 6-24** Mathematical Developments in Modelling Microstructure and Phase Transformations in Solids, EC Summer School, Isaac Newton Institute, Cambridge (271)
11-17 British Association Festival of Science, Sheffield (270)
16-17 British Women in Mathematics Workshop, ICMS, Edinburgh (271)
20-25 Modular Invariants, Operator Algebras and Quotient Singularities Workshop, Warwick University (270)
22 - 29 Functional Analysis Instructional Conference, Sicily (272)

OCTOBER 1999

- 15-16** Two-day LMS Meeting, New Applications of Twistor Theory, London

NOVEMBER 1999

- 2 - 5** Hilbert's 10th Problem, Relations with Arithmetic and Algebraic Geometry Workshop, Gent University, Belgium (271)
19 LMS Meeting - Annual General Meeting

APRIL 2000

- 17-20** British Mathematical Colloquium, Leeds University

JULY 2000

- 3-7** Functional Analysis Meeting, Technical University, Valencia, Spain (265)
10-14 3rd European Congress of Mathematics, Barcelona, Spain (272)
10-14 Free Surface Flows IUTAM Symposium, Birmingham University (272)
17-22 International Congress of Mathematical Physics, Imperial College, London (257)

APRIL 2001

- 9-12** British Mathematical Colloquium, Glasgow University

AUGUST 2002

- 20-28** ICM2002, Beijing, China (272)

The Newsletter is published monthly except in August. Items and advertisements for inclusion in the Newsletter should be sent to the Editor, Susan Oakes, by e-mail, fax or post to the LMS office (addresses below), to arrive before the first day of the month prior to publication.

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