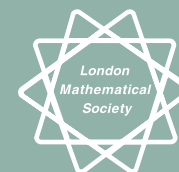


THE LONDON MATHEMATICAL SOCIETY



NEWSLETTER

No. 324 March 2004

Forthcoming Society Meetings

2004

Wednesday 12 May
Nottingham
Midlands Regional
Meeting
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Friday 18 June
London
Hardy Lecture

Friday 2 July
Newcastle
Northern Regional
Meeting

Friday 17 September
Exeter
South West & South
Wales Regional
Meeting

Friday 19 November
London
Annual General
Meeting

COUNCIL DIARY 23 January 2004

Of the 20 around the table at the first meeting of the newly elected Council, seven were women, and one of these was our new President Frances Kirwan, who is just the second woman ever to take up that position.

Another mathematics department is under threat of closure. The Society is now well prepared to act to oppose such threats, after extensive discussions and the drafting of a policy statement on mathematics in universities at its retreat last March. Council approved a powerful letter which Frances had prepared to send to the Vice Chancellor of the university in question.

The Treasurer presented a review of the Society's expenditure during the first quarter of 2003/4. We have to tread carefully. That is not surprising: our main sources of income are investments (here little comment is necessary), rental income from De Morgan House (currently we are between tenants and rents are anyway low) and the publications surplus (this always buoys us up; but we are aware that different publishing behaviour could cause a sudden shift in the market in the near future).

However, we expect new tenants in De Morgan House very soon. We are satisfied to be drawing up contracts for the occupation of the space in the upper floors with a few like-minded organisations.

The Publications Secretary presented a paper on Open Access Publishing, that is, publication where the paper is made freely available to any reader over the internet. There is a growing movement towards this in the scientific community, especially in the biological sciences. Amongst funding bodies the Wellcome Trust especially is supportive of this trend, stating that it wants accounts of the research it funds to be freely available to the whole world. The implications of such a change in publishing behaviour and its effects on the ways publishing would have to be funded certainly need to be examined by the Society.

Since the November Council meeting, the Society had been invited to respond to the Science and Technology Select Committee Inquiry into Scientific Publications, which is looking at access to journals within the scientific community, with particular reference to price and availability. Comments had already been sought from Council members

and others by email, and a useful and diverse collection had been received. Council now considered and discussed those comments; a response based on that discussion was to be prepared and submitted to the Select Committee.

Council approved terms of reference for the proposed investigation by the LMS and the IMA of the various frameworks that might support our activities in the mathematical community. The investigation will commence with a meeting in mid-February.

The steering group for the new Mathematics Promotion Unit had its first meeting in early January, and the February *Newsletter* contains an advertisement for the post of part-time staff member for the Unit. With the Society's constant need to respond rapidly to events, reports, consultation documents etc., the new unit will be invaluable. We need also to develop our links with government and the media further; we would like to be seen by the media as a first port of call for responses on mathematical issues.

In the two days before the Council meeting there had been meetings at De Morgan House with those associated with both the

BAMC and the BMC; the Thursday meeting had been devoted to future BMCs but the Wednesday meeting specifically to joint BAMC and BMC ventures. Having the two mathematical communities meet on the Wednesday and explain their different needs had been very instructive. Much has been learned from the experience of the first B(A)MC meeting in Warwick, but it is clear that Liverpool's task of running a second joint meeting in 2005 will still not be easy. The committees hope for another joint opportunity soon, possibly in 2008, which will be the 50th anniversary of the BAMC.

Sarah Rees

SIX MONTHS LATER

The *Newsletter* has now been published for six issues in its New Look, and we are pleased to note that almost all feedback has been highly favourable: our thanks to all those readers who took the trouble to let us know their views. There have been one or two minor problems with layout and paper weight, but in general the Editorial Board has been happy with the new arrangements

LONDON MATHEMATICAL SOCIETY MIDLANDS REGIONAL MEETING

University of Nottingham, Wednesday 12 May 2004

Professor Eva Bayer (Lausanne Polytechnic, Lausanne, Switzerland)
Professor Jean-Louis Colliot-Thélène (Université Paris-Sud, France)

This will be followed by a workshop on *Quadratic forms, algebras with involution and algebraic K-theory*. For further details, contact the scientific organiser Professor J.E. Cremona, School of Mathematical Sciences, University of Nottingham (tel: +44-115-9514920, fax: +44-115-9514951, email: John.Cremona@nottingham.ac.uk).

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the 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).

LMS Newsletter

General Editor: Dr D.R.J. Chillingworth (D.R.J.Chillingworth@maths.soton.ac.uk)

Reports Editor: Dr S.A. Huggett (s.huggett@plymouth.ac.uk)

Reviews Editor: Professor M.P.F. du Sautoy (dusautoy@maths.ox.ac.uk)

Administrative Editor: Miss S.M. Oakes (oakes@lms.ac.uk)

Editorial office address: London Mathematical Society, De Morgan House,
57-58 Russell Square, London WC1B 4HS (tel: 020 7637 3686; fax: 020 7323 3655;
email: oakes@lms.ac.uk, web: www.lms.ac.uk)

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for design and printing. We were sorry to break our long-standing link with Armstrong Press, but felt that the extra control that the new system has given us was in the long run worth having.

The Board reviewed its pricing and policy on advertising, and reaffirmed its commitment to equal opportunities in respect of job advertisements.

Observant readers will have noticed that our new colour format has remained the same for six months. The Board debated whether to change colour every month, two months, six months or not at all, and eventually decided that an annual transformation would be the pattern. This may help libraries and individuals in filing their lifelong collections. Readers can thus look forward to a measured colour change in the autumn ...

The web version of the *Newsletter* is now up and running smoothly, and we encourage members to use it (but not so enthusiastically that they cancel their membership). Not only is the material arranged by topic for easier access, but of course the web links can be used directly. Occasionally we will include longer items on the web *Newsletter* that do not fit fully into the printed version.

We have also considered regular features on, for example, Mathematics Education or Women in Mathematics; this is still under discussion.

As always we welcome members' views, and are glad when readers tell us about items from the press or other sources that they feel deserve publicity in the *Newsletter*. Cross-cultural links to art, theatre, film and music are especially welcome.

David Chillingworth

HARDY FELLOW 2004

Professor Terance Tao

Professor Terance Tao, of the University of California Los Angeles, will visit the UK as the Hardy Fellow from April to June this year. He will hold his Fellowship at Edinburgh University, where his host will be Professor Tony Carberry. During his stay, he will be visiting various institutions, as in the table below. There has been

more demand for visits than can be accommodated: it is hoped that Members of the Society and mathematicians throughout the country will find the opportunity to hear Professor Tao when he is speaking at a neighbouring University. Further details about each talk can be obtained from the local host.

Further information (dates, titles) will be on the LMS website (www.lms.ac.uk) as it becomes available and in the April *Newsletter*.

Venue	Host
Bath	J.F. Toland (jft@maths.bath.ac.uk)
Oxford	T.J. Lyons (tlyons@maths.ox.ac.uk)
Warwick	P.M. Topping (topping@maths.warwick.ac.uk)
Edinburgh	T.H. Lenagan (tom@maths.ed.ac.uk)
York	S. Pott (sp23@york.ac.uk)
Cambridge	T. Körner (t.w.korner@dpmmms.cam.ac.uk)
London	London Mathematical Society (oakes@lms.ac.uk)

ROBERT G. BARTLE

Professor Robert Bartle, who was elected a member of the London Mathematical Society on 21 November 1968, died on 18 September 2003, aged 75. He had a distinguished career at the University of Illinois and Eastern Michigan University, USA, and a long association with *Mathematical Reviews* (*MR*). He was well known to mathematics students around the world for his influential textbooks, in particular *The Elements of Real Analysis* and *Introduction to Real Analysis* (the second coauthored with Donald R. Sherbert). His research centred on linear operators and spectral theory and on integration theory. He remained mathematically active throughout his career and on into retire-

ment, publishing his last book, *A Modern Theory of Integration*, at age 73. During his 50-year association with *MR* he served as a reviewer, as a member of the *MR* Editorial Committee (for two separate terms) and as Executive Editor from 1976-78 and again 1986-1990, when he oversaw *MR* with wisdom and good humour.

PETER J. OWENS

Dr Peter Owens, who was elected a member of the London Mathematical Society on 12 October 1979, died on 30 December 2003 (as a result of a lung infection immediately following heart surgery) aged 77. He graduated from Cambridge with BA (1947), converted to MA (1951). Subsequently, he took London University MScs in Electromagnetic Theory

and Elasticity with Plasticity (1959) and Computer Science (1973), both by part-time study. However, he will be best remembered for his work in Combinatorics which he started in the mid 1970s and which continued until his death. His first academic appointment was to the University College of Leicester (now University of Leicester) in 1952 as Assistant Lecturer. In 1956, he was appointed to the then Battersea Polytechnic, which became the University of Surrey in 1966, and he spent the remainder of his career there. After his official retirement in 1993, he was appointed Honorary Visiting Research Fellow and remained very active. He was awarded a PhD of the University of Surrey in 1994 by submission of published papers.

INTERNATIONAL REVIEW OF OPERATIONAL RESEARCH

EPSRC, in conjunction with ESRC and the Operational Research Society (ORS), is organising a review of the standing and quality of research in Operational Research in the UK. It will be carried out by an international expert panel chaired by Professor Frank van der Duyn Schoutten of Tilburg University, Netherlands.

The panel will be provided with a comprehensive overview of operational research activity, however funded, based on information provided by appropriate university groups.

A theme day, to explore and discuss some of the ongoing research in greater depth, will take place on 5 March 2004. This will provide a showcase for OR research in the UK, present an opportunity for networking within the OR community - including funders and clients - and will identify opportunities for the future.

This review is taking place alongside,

but independently of, the International Review of Mathematics and Statistics, as both EPSRC and the OR academic community feel that this will allow a better opportunity to explore the breadth of OR research activity in the UK.

INTERNATIONAL REVIEW OF MATHEMATICS

It is expected that a Community Meeting will be held in May at which the Report of the International Panel will be launched and the mathematical community able to discuss the conclusions and recommendations. Please keep your eye on the website www.cms.ac.uk/irm/ where information on the meeting will be posted.

YOUR CHANCE TO PROMOTE RESEARCH

Many scientists and engineers are concerned about general public ignorance of research and the lack of interest shown in research careers by young people. If you share this concern, here's a chance to do something about it - with funding from EPSRC.

The latest round of the Partnerships for Public Awareness (PPA) awards provides an opportunity for researchers, with a little help from communications professionals, to engage in activities designed to stimulate the public imagination and help explain exactly what researchers actually do.

Past projects have included displays in shopping centres, buses and railway stations, interactive exhibits for science centres, competitions for school pupils, and lectures, debates and events for the general public.

These and any other innovative proposals are welcomed - closing date is **2 April 2004** and further information is available from Glenys France (email: glenys.france@epsrc.ac.uk; tel: 01793 444169).

CALLS FROM EPSRC

Research Networks in Mathematics

Call by the mathematical sciences programme to establish a number of high quality interdisciplinary research networks. Open Call. Contact: Rachel Woolley (rachel.woolley@epsrc.ac.uk).

Mathematics Research Underpinning the Life Sciences

Open Call. Contact: Rachel Woolley (rachel.woolley@epsrc.ac.uk).

Senior Media Fellowships

Open Call. Senior Media Fellowships enable leading researchers to act as champions for engineering and physical sciences in the media, with the aim of improving public awareness. Contact: Glenys France (glenys.france@epsrc.ac.uk).

walk on a random tree to the Brownian snake 12 May, University College London (contact: Alex Scott scott@math.ucl.ac.uk)

• *Random graphs with non-uniform probabilities* 25 May, Cambridge (contact: Geoffrey Grimmett grg@statslab.cam.ac.uk)

This visit is made possible with the help of financial support from the London Mathematical Society, the Royal Swedish Academy of Sciences, and Churchill College, Cambridge.

VISIT OF PROFESSOR O. HERNANDEZ-LERMA

Professor O. Hernandez-Lerma (Cinvestav-IPN, Mexico) will visit the University of Liverpool from the end of March to early April. He will give the following seminars:

• *Topics in Optimal Control and Game Theory* 30 March at 5.30 pm, Room 17B, King's College London (contact: Dr M. Zervos, tel: 0207 848 2633, email: mihail.zervos@kcl.ac.uk)

• *Topics in Stochastic Optimal Control and Game Theory* 31 March at 2.15 pm, Room SM3, University of Bristol (contact Dr E. Collins, tel: 0117 928 7977, email: E.J.Collins@Bristol.ac.uk)

• *Topics in Stochastic Optimal Control and Game Theory* 2 April at 11 am, Room M412, University of Newcastle upon Tyne (contact: Dr J. Stoyanov, tel: 0191 222 7311, email: Jordan.Stoyanov@ncl.ac.uk)

• *An Introduction to Optimal Control and Dynamic Games* 7 April at 2 pm, Room 211 (Whittaker Room) The University of Liverpool (contact Dr A. Piunovskiy, tel: 0151 794 4737, email: piunov@liverpool.ac.uk).

His visit is supported by an LMS Scheme 2 grant. For further information contact Dr A. Piunovskiy (tel: 0151 794 4737, fax: 0151 794 4754, email: piunov@liverpool.ac.uk).

QUADRATIC EQUATIONS

Tony McWalter MP, a guest at the LMS Annual Dinner last year, gave a speech in which he mentioned his parliamentary debate on 26 June 2003 on Quadratic Equations. Readers may like to share the excitement of this unaccustomed promotion of mathematics at the Palace of Westminster by reading the report in Hansard at www.publications.parliament.uk/pa/cm200203/cmhansrd/cm030626/debtext/3062620.htm#30626-20_time1.

VISIT OF PROFESSOR S. JANSON

Professor Svante Janson (Uppsala) will visit the Department of Pure Mathematics and Mathematical Statistics, Cambridge University from 15 April - 1 June. Talks are planned as follows:

- *The first eigenvalue of random graphs* 4 May, Oxford, (contact: Dominic Welsh dwelsh@maths.ox.ac.uk)
- *Convergence of a weighted depth-first*

Mathematische Zeitschrift
Managing editor: D. Müller

Mathematische Zeitschrift was founded in 1918 and edited by L. Lichtenstein in cooperation with K. Knopp, E. Schmidt and I. Schur; after Lichtenstein's death, 1933, it was edited by K. Knopp. The Editorial Committee was increased to include E. Kamke and F.K. Schmidt in 1933. R. Nevanlinna in 1936 and H. Wielandt in 1950. The latter became Managing Editor in 1952. He was succeeded in 1973 by H. Salzmann, 1977 by H. Heyer, 1984 by W. P. Barth and W. Wahl and 1990 by E. Becker. As of 2001 D. Müller has been the Managing Editor.

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Managing editors: J.-M. Bismut; G. Faltings

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Managing editor: Wolfgang Lück

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LOUGHBOROUGH UNIVERSITY POSTGRADUATE OPEN DAY

The Department of Mathematical Sciences of Loughborough University is holding an Open Day for all prospective MSc, MPhil and PhD students on Wednesday 17 March. Areas of possible supervision at Loughborough include various aspects of Nonlinear Waves (existence of solutions, interaction of waves with structures, trapped modes, environmental fluid mechanics, asymptotic analysis, stability), Integrable Systems, Inverse Problems, Spectral Theory, Mathematical Biology, Hamiltonian Dynamical Systems, Materials Modelling, General Relativity, Algebraic Systems Theory, Differential Geometry, Stochastic Analysis and Mathematical Education. Taught MSc courses are also available in Industrial Mathematical Modelling, Mathematical Processes in Biology, Mathematical Processes in Finance and Mathematical Processes in the Environment.

Details can be found on the web (www.lboro.ac.uk/departments/ma/pginfo/openday.html). All enquiries should be addressed to Dr E.V. Ferapontov, Department of Mathematical Sciences, Loughborough University (tel: 01509 223309, email: E.V.Ferapontov@lboro.ac.uk).

SECANTS

SECANTS (South of England Computational and Algorithmic Number Theory Seminars) will hold its 23rd meeting on Saturday 13 March in Oxford. The speakers will include Manuel Breuning (KCL) and John Cremona (Nottingham). For more details of the programme and venue, as well as general information about SECANTS, and how to be put on the email mailing list, see www.maths.nott.ac.uk/personal/jec/secants/secants23.html. SECANTS is funded by an LMS Scheme 3 grant.

THREE-DIMENSIONAL GEOMETRY AND TOPOLOGY WORKSHOP

A workshop on Three-Dimensional Geometry and Topology will be held from 9-11 August at the Mathematical Institute, Oxford. The main speakers are:

- D. Gabai (Princeton) *The Smale conjecture for hyperbolic 3-manifolds*
- Z. Szabo (Princeton) *Heegaard Floer homology*

They will each give three lectures. In addition, a few other speakers will give individual talks on their recent work. The workshop is open to all mathematicians. It is supported in part by the London Mathematical Society. Some funding is available for UK graduate students to attend. For further information contact the organiser M. Lackenby (lackenby@maths.ox.ac.uk) or visit the website: www.maths.ox.ac.uk/~lackenby.

David Salinger
EMS Publicity Officer

OPERATOR ALGEBRAS AND RANDOM MATRICES WORKSHOP

A workshop on operator algebras and random matrices will be held at Ambleside, Cumbria, from 23-30 July. The main themes of the meeting will be: free semigroup algebras; free probability, information and entropy; the mean field approach to random matrix theory. Participants will include Ken Dykema (TAMU), Ken Davidson (Waterloo), and Leonid Pastur (Paris VII). All those interested in attending may contact Gordon Blower (g.blower@lancaster.ac.uk) for further details; PhD students and postgraduate researchers are particularly welcome. The meeting is supported by the London Mathematical Society.

4ECM SATELLITES

Preparations go on apace for 4ecm being held from 27 June to 2 July at KTH, Stockholm. The speakers are booked, online registration is working (hint: if you are employed at a University you pay the VAT-free charges), and a host of satellite conferences has been organised. The details are available in full at www.math.kth.se/4ecm.

Before 4ecm you can attend:

- *Stochastic-geometric and combinatorial ideas in statistical mechanics* 21-25 June, Chalmers, Göteborg, Sweden
- *Representation theory and its applications* 22-27 June, Uppsala, Sweden
- *Functional analysis workshop* 20-24 June, Joensuu, Finland
- *Pseudo-differential operators and related topics* 22-25 June, Växjö, Sweden
- *Multiscale problems and asymptotic analysis* 22-26 June, Narvik University College, Norway

- *Fourth Poznan workshop on transformation groups* 21-24 June, Poznan, Poland
 - *New developments in electronic publishing of mathematics* 25-27 June, KTH Stockholm
- Afterwards there are:
- *Operator theory and applications in mathematical physics OTAMP2004* 6-11 July, Będlewo Conference Center, Poland
 - *Conference on symplectic topology* 3-10 July, Stare Jablonki near Olsztyn, Poland
 - *Non-commutative geometry and representation theory in mathematical physics* 5-10 July, Karlstad, Sweden
 - *Phylogenetic combinatorics and applications* 5-9 July, Uppsala, Sweden
 - *HYKE workshop on hyperbolic and kinetic equations* 3 July, KTH, Stockholm, Sweden
 - *Geometry, topology, and combinatorics* 3-6 July, KTH, Stockholm, Sweden

David Salinger
EMS Publicity Officer

LONDON MATHEMATICAL SOCIETY INVITED LECTURE SERIES

5-9 July 2004

Professor M.W. Davis (Ohio State University) The Geometry and Topology of Coxeter Groups

The 2004 LMS Invited Lectures will be given at the School of Mathematics, University of Southampton. The series is held annually: a single speaker gives a course of 10 expository lectures, examining an important topic in depth over a five day period. In the 2004 programme in Southampton there will be two lectures by Professor Davis each morning. In the afternoons a small number of invited lectures on complementary topics will be held (further details will be announced later).

All mathematicians interested in the topic are welcome to attend the lectures. There is a registration fee of £30. Some funding has been made available by the LMS. First priority will be given to supporting the accommodation and travel costs of research students.

For further details, see the webpage for the meeting: www.maths.soton.ac.uk/lms, or contact the organiser Ian Leary (i.j.leary@maths.soton.ac.uk).

HOWARD HOARE SYMPOSIUM

A Symposium in honour of Dr A.H. (Howard) M. Hoare, Reader in Algebra in the University of Birmingham, will be held on 16-17 April at University of Birmingham. The symposium is to be held to honour Dr A.H.M. Hoare on the occasion of his retirement from the School of Mathematics and Statistics, University of Birmingham, and to recognise his mathematical achievements in combinatorial group theory. Howard Hoare has served for more than 40 years on the academic staff of the University of Birmingham; he was made a Reader in Algebra in 1980. He has been a member of the London Mathematical Society since 1960; he was a member of the American Mathematical Society for many years.

The following colleagues of Howard Hoare have agreed to lecture at the Symposium

- I.M. Chiswell (Queen Mary, University of London)
- D.J. Collins (Queen Mary, University of London)
- W.N. Everitt FRSE (University of Birmingham)
- A.M. MacBeath (University of Warwick)
- W. Parry FRS (University of Warwick)
- D. Singerman (University of Southampton)

The Symposium is supported financially by the London Mathematical Society, under Scheme 1, and by the School of Mathematics and Statistics of the University of Birmingham.

There will be grants available to support up to six research students to attend the symposium; these grants will cover subsistence costs and part of the travel costs in visiting the University of Birmingham. Application for this financial support should be addressed to Professor W.N. Everitt (w.n.everitt@bham.ac.uk). Full details of

Symposium programme and arrangements for accommodation at the University, and an application form to attend this meeting, are now available on the website (<http://web.mat.bham.ac.uk/symposium>).

BRITISH WOMEN IN MATHEMATICS DAY

The 2004 British Woman in Mathematics Day will be held on 28 September at De Morgan House. Talks will begin at 11 am, after half an hour of coffee, and end at 4.30 pm, followed by an excursion to a nearby restaurant for an early supper. While this is an occasion particularly for women active in mathematics to get together, men are certainly not excluded. Sessions will include talks by practising women mathematicians in a variety of appointments and at different career stages.

One aim of the day is to encourage women approaching the various interfaces - undergraduate/postgraduate, PhD/Postdoctorals and so on - at which the proportion of women who stay in mathematics drops significantly. We hope that an opportunity to see women who are active and successful in mathematics, and to meet with them informally over lunch, tea, etc., will have a positive effect on this problem. The organisers would be very grateful if all members could encourage women mathematicians, particularly students (including final year undergraduates) and those at an early stage in their career, to attend this meeting. Anyone interested in giving a postgraduate talk should contact Gwyneth Stallard (G.M.Stallard@open.ac.uk).

British Women in Mathematics are very grateful for the support given to this event by the London Mathematical Society. For further information contact Frances Spoor at the Society (tel: 020 7927 0800, email: spoor@lms.ac.uk).

OXFORD UNIVERSITY

ST PETER'S COLLEGE and THE MATHEMATICAL INSTITUTE

Pure Mathematics

We are seeking to appoint, with effect from 1 October 2004, a pure mathematician who will be Fellow and Tutor at St Peter's College and Faculty Lecturer in the Mathematical Institute of the University of Oxford, and will teach both in the College and the Institute. The preferred research area is in algebraic geometry, broadly interpreted, but outstanding candidates in other areas of pure mathematics should not be deterred from applying. The combined College and University salary will be according to age on a scale up to £42,900 at age 45 (under review). College allowances will additionally be payable.

Further particulars of the post and the application procedure are available at www.maths.ox.ac.uk/notices/vacancies. The closing date for applications is **2 April 2004**. Potential applicants are welcome to make informal contact with Dr Lionel Mason, College Fellow and Tutor in Applied Mathematics, by telephone (+ 44 (0)1865 278913) or email (lmason@maths.ox.ac.uk).

The British Logic Colloquium and the British Society for the History of Mathematics
present:

Alan Mathison Turing 2004: a celebration of his life and achievements

June 5th, 2004, University of Manchester, UK

<http://www.maths.man.ac.uk/logic/turing2004/>

A celebration of Turing's life and achievements on the 50th anniversary of his death with a program of lectures by Andrew Hodges, Barry Cooper, Jack Copeland, David Anderson and Jonathan Swinton.

Some funds are available to subsidise students to travel to the meeting. See the conference webpage for full details.

Sponsored by the London Mathematical Society and the British Logic Colloquium

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ERGODIC THEORY MEETING

A one-day Ergodic Theory Meeting will be held on Friday 26 March from 11.45 am to 17.00 pm in the Department of Mathematics, University of Surrey. This is part of a series of collaborative meetings between Liverpool University, Manchester University, Queen Mary, London, and Surrey University, supported by a Scheme 3 grant from the London Mathematical Society. The invited speakers are:

- Oscar Bandtlow (Nottingham) *Computing spectral data of transfer operators*
 - Michael Field (Houston) *Stability of rapid mixing for hyperbolic flows*
 - Sebastien Gouezel (Paris) *Decay of correlations for nonuniformly expanding maps*
- Further details can be found at www.maths.surrey.ac.uk/personal/st/I.Melbourne/onedaydynamics.html or contact Ian Melbourne (email: I.Melbourne@surrey.ac.uk, tel: 01483 689643).

ISAAC NEWTON INSTITUTE

Approval has been given for the following programmes in 2006:

- **Logic and Algorithms** (16 January - 7 June 2006)
- **Spectral Theory and Partial Differential Equations** (17 July - 11 August 2006)
- **Noncommutative Geometry** (24 July - 22 December 2006)

A full list of current and future programmes at the Newton Institute can be found on the website (www.newton.cam.ac.uk/programmes/).

The following workshops have now been finalised for 2004:

- **Quantum Information Theory: Present Status and Future Directions** (23 - 27 August) (www.newton.cam.ac.uk/programmes/QIS/qi-sw01.html)
- **Random Matrix Theory and Arithmetic**

Aspects of Quantum Chaos (28 June - 2 July) (www.newton.cam.ac.uk/programmes/RMA/rmaw04a.html)

- **Matrix Ensembles and L-Functions** (12 - 16 July) (www.newton.cam.ac.uk/programmes/RMA/rmaw05a.html)
 - **Protein-protein Interactions in Vitro and in Vivo** (21 - 23 June) (www.newton.cam.ac.uk/programmes/SMC/smcw03.html)
- Final scientific reports on the following past programmes at the Newton Institute are now available at www.newton.cam.ac.uk/reports/:
- **Nonlinear Hyperbolic Waves in Phase Dynamics and Astrophysics** 27 January - 11 July 2003
 - **Computational Challenges in Partial Differential Equations** 20 January - 4 July 2003
 - **New Contexts for Stable Homotopy Theory** 2 September - 20 December 2002
 - **Computation, Combinatorics and Probability** 29 July - 20 December 2002
 - **Foams and Minimal Surfaces** 29 July - 23 August 2002



RECORDS OF PROCEEDINGS AT MEETINGS

ORDINARY MEETING

held on *Friday 9 January 2004* at the Joint Mathematics Meeting, Phoenix, Arizona, USA. At least 35 members and visitors were present for all or part of the meeting. The meeting began at 3.30 pm, with the Programme Secretary, Dr S.A. HUGGETT, in the Chair.

Two people were elected to Ordinary Membership: N.B. Janson, S.T. Theriault; seven were elected to Associate Membership: H.E. Haworth, A.J. Joyce, M.A. Little, A.G. Marasingha, M.E. Meredith, S.M. Smith, F.E. Woolfe. Nine members signed the book and were admitted to the Society.

Dr Huggett introduced a lecture given by Professor G. van der Geer on *Curves over finite fields and congruences between modular forms*.

After the meeting a reception was held at which at least 95 members and guests were present. This was hosted by Cambridge University Press to mark the launch of *Compositio Mathematica*, and Professor van der Geer, Managing Editor of the journal, gave a short talk on its history.

REPORT ON THE LMS MEETING

Friday 9 January 2004

The January meeting of the London Mathematical Society was embedded in the annual meeting of the American Mathematical Society at Phoenix. It featured a lecture by Professor Gerard van der Geer of the University of Amsterdam, who is Managing Editor of *Compositio Mathematica*. In a beautifully constructed talk, Professor van der Geer discussed his recent joint work with Carel Faber on a circle of ideas connecting modular forms, the counting of points in certain moduli spaces over finite fields, and the cohomology of those moduli spaces.

The lecture was peppered throughout with relevant facts and examples from the theory of classical modular forms: their relation to the cohomology of $SL_2(\mathbb{Z})$ with coefficients in symmetric powers of the standard representation of SL_2 , and their relation to counting elliptic curves over finite fields.

The main focus of the talk was Siegel modular forms of rank 2. These are generalizations of classical modular forms associated to the group $Sp_4(\mathbb{Z})$ of integral 4×4 symplectic matrices and an irreducible representation of the algebraic group Sp_4 . Professor van der Geer explained how counting genus 2 curves over F_q allows the computation of the (motivic) Euler characteristic of the part of the cohomology of A_2 corresponding to Eisenstein series with coefficients in a regular irreducible representation of Sp_4 . He explained how a natural conjecture about endoscopic lifts leads to a computation of the eigenvalues $\lambda(p)$ of Hecke operators on rank 2 Siegel cusp forms for all primes $p \leq 37$. He concluded with concrete evidence for a conjecture of Harder, which predicts that certain classical cusp forms that are Hecke eigenforms give rise to a rank 2 Siegel modular form that is a Hecke eigenform for $Sp_4(\mathbb{Z})$ and whose eigenvalues $\lambda(p)$ satisfy congruence conditions predicted by Gunther Harder.

Richard Hain
Duke University

Maths Takes Shape

The Mathematical Association's Annual Easter Conference
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CIME 2004

Centro Internazionale Matematico Estivo (CIME) in Florence, Italy, is an international mathematics summer centre. The following courses are organized for this summer:

Representation Theory and Complex Analysis will take place in Venice from 10-17 June. Course directors are: E.C. Tarabusi (Università di Roma "La Sapienza", Italy), A. D'Agnolo (Università di Padova, Italy), and M.A. Picardello (Università di Roma "Tor Vergata", Italy).

Lectures:

- *Applications of representation theory to harmonic analysis of Lie groups* M.G. Cowling, (University of New South Wales, Australia)

- *Recent developments in the geometric Langlands* E.V. Frenkel (University of California at Berkeley, USA)

- *Equivariant derived category and representation of semisimple Lie groups* M. Kashiwara (Research Institute for Mathematical Sciences, Kyoto University, Japan)

- *Unitary representations and complex analysis* D.A. Vogan Jr. (Massachusetts Institute of Technology, USA)

- *Representation theory of Lie groups and applications* N.R. Wallach (University of California at San Diego, USA)

Nonlinear and Optimal Control Theory will take place at Cetraro (Cosenza) from 21-29 June. Course directors are: G. Stefani (Università di Firenze, Italy) and P. Nistri (Università di Siena, Italy).

Lectures:

- *Differential geometry of optimal control problems and Hamiltonian systems* A. Agrachev (SISSA Trieste, Italy)

- *Lectures on control using logic and switching* A.S. Morse (Yale University, USA)

- *Input to state stability and related notions* E. Sontag (Rutgers University, USA)

- *Flows, generalized derivatives, variations and necessary conditions for an optimum for curve minimization problems* H. Sussmann (Rutgers University, USA)

- *Sliding modes control: Mathematical tools,*

design and applications V. Utkin (Ohio State University, USA)

Stochastic Geometry will take place at Martina Franca (Taranto) from 13-18 September. Course director: W. Weil (Universität Karlsruhe, Germany).

Lectures:

- *Spatial point processes and their applications* A. Baddeley (University of Western Australia, Australia)

- *Random points, convex bodies, and approximation* I. Barany (University College, London, UK; Hungarian Academy of Sciences Budapest, Hungary)

- *Recent trends in integral geometry* R. Schneider (Universität Freiburg, Germany)

- *Random sets (in particular Boolean models)* W. Weil (Universität Karlsruhe, Germany)

For further information or application forms contact: Fondazione CIME, c/o Dipartimento di Matematica "U. Dini", Viale Morgagni 67/A, 50134 Firenze, Italy (tel: +39-55-434975, email: cime@math.unifi.it) or visit the website www.math.unifi.it/CIME.

POSTGRADUATE GROUP THEORY CONFERENCE

The 6th annual Postgraduate Group Theory Conference will be held from 24-26 March at the Institute of Mathematics, University of Warwick. The conference is aimed at UK-based postgraduate students who are currently working towards obtaining a PhD in mathematics in an area related to Group Theory. One of the main intentions is to bring students together in an un intimidating atmosphere. The two main speakers are Professor R. Thomas (Leicester) and Dr B. Everitt (York). The rest of the programme will be students giving talks on their current research. All participants are encouraged to give one of these talks. The organisers are David Webdale and Matt Owens. For more information visit the website www.pggtc.warwick.ac.uk. The conference is supported by the London Mathematical Society.

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VISIT OF DR D. CHELKAK

Dr Dmitri Chelkak (St Petersburg University) will visit the UK during the second half of March. He will give seminar talks at the London Analysis Seminar, at Bristol University, Cardiff University, and Loughborough University. Dr Chelkak's work concerns inverse

spectral problems for a perturbed harmonic oscillator and can be described as a topic on the borderline between nonlinear functional analysis, complex analysis and spectral theory. His visit is supported by an LMS Scheme 2 grant. For further information contact Alexander Pushnitski at Loughborough University (a.b.pushnitski@lboro.ac.uk).

Moonshine - the First Quarter Century and Beyond

A Workshop on the Moonshine Conjectures and Vertex Algebras

Edinburgh, 4–14 July 2004

Scientific Organising Committee

A. Baker (Glasgow), A. Ivanov (Imperial College), J. Lepowsky (Rutgers),
J. McKay (Concordia), V. Nikulin (Liverpool), M. Tuite (Galway)

Scientific Programme

The aim of this Workshop is to review the impact of this research area on mathematics and theoretical physics and to highlight possible new directions.

The first part of the meeting will be expository, including such areas as Borcherds's proof of the Conway-Norton conjecture, Construction of the Monster, Vertex (operator) algebras, Modular Moonshine, BKM algebras and automorphic forms, FLM's construction and proof of the McKay-Thompson conjecture. The second part of the meeting will consist of invited talks on current research.

Expository Talks will be given by: J. Bruinier (Cologne), C. Dong (Santa Cruz), T. Gannon (Alberta), R. Griess (Michigan), Y.-Z. Huang (Rutgers), E. Jurisich (Charleston), H. Li (Rutgers), A. Meurman (Lund), M. Miyamoto (Tsukuba), A. Ryba (CUNY)

Research Talks are currently being invited (see the website for up-to-date information) and will include talks by J. Conway* (Princeton), C. Cummins (Concordia), P. Goddard* (IAS), G. Mason (Santa Cruz), S. Norton (Cambridge), R. Wilson (Rutgers)
(* = tbc)

The meeting is supported by EPSRC (Engineering and Physical Sciences Research Council of the United Kingdom). Limited support is available for UK-based PhD students and staff from UK mathematical departments.

The meeting webpages contain detailed information:
www.ma.hw.ac.uk/icms/meetings/2004/moonshine/index.html

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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/calander.html).

MARCH 2004

8 Inverse Problem Workshop, UMIST (323)
13 SECANTS, Oxford University (324)
17 Postgraduate Open Day, Loughborough University (324)
18-20 21st Century Mathematics Conference, Pakistan (323)
24-26 Postgraduate Group Theory Conference, Warwick University (324)
26 Ergodic Theory Meeting, Surrey University (324)
29-1 Apr Modelling Permeable Rocks IV, IMA Conference, Southampton University (319)
30 Applications of K-theory and Cohomology; Spitalfields Day, Southampton University (323)
30-2 Apr Applications of K-theory and Cohomology Meeting, Southampton University (321)
31-2 Apr Quantitative Modelling in the Management of Healthcare IV, IMA Conference, Salford University (319)

APRIL 2004

5-7 Modelling in Industrial Maintenance and Reliability V, IMA Conference, Salford University (319)
5-8 BMC, Queen's University, Belfast (315)
13-16 Maths Takes Shape, MA Annual Easter Conference, York University (324)
15-17 Computation for Multiscale Problems in Physics, University of Warwick
16-17 Howard Hoare Symposium, Birmingham University (324)
19-22 BAMC, East Anglia University (320)

20-22 Postgraduate Combinatorial Conference, Queen Mary, University of London (323)

MAY 2004

12 LMS Midlands Regional Meeting, Nottingham (324)
28-31 Meeting in Honour of Professor Wong, City University, Hong Kong (319)

JUNE 2004

5 Alan Mathison Turing 2004 Meeting, Manchester University (324)
10-17 Representation Theory and Complex Analysis CIME Summer Course, Venice, Italy (324)
16-18 Croatian Congress of Mathematics, Split University, Croatia (321)
18 Hardy Lecture, LMS Meeting, London
19-24 Symmetries and Integrability of Difference Equations EURESCO Conference, Helsinki, Finland (323)
21-25 Mathematics for Industry European Conference, Eindhoven, The Netherlands (321)
21-29 Nonlinear and Optimal Control Theory CIME Summer Course, Cosenza, Italy (324)
21-2 Jul SMS-NATO Advanced Summer Institute Summer School on Morse Theoretic Methods in Non-linear Analysis and Symplectic Topology, Université de Montréal, Canada (322)
27-2 Jul Fourth European Congress of Mathematics, Stockholm, Sweden (315)
28-30 Analysing Conflict and its Resolution, IMA Conference, Oxford (319)
28-2 Jul Random Matrix Theory and Arithmetic Aspects of Quantum Chaos Conference, INI, Cambridge (323)
30-2 Jul Mathematical Knowledge Conference, Cambridge (323)

JULY 2004

2 LMS Northern Regional Meeting, Newcastle University

PERCY ALEXANDER MACMAHON
DE MORGAN MEDALLIST
1923



Major MacMahon received the De Morgan Medal on 8 November 1923. His early work was inspired by problems connected with the invariants of algebraic forms. He followed that by developments of the work of Sylvester and Cayley for the theory of partitions of numbers, with incidental reference to some problems of probability. In the last years of his life, his activ-

ity was largely taken up by consideration of repeating patterns to fill the plane, of which he constructed and coloured a vast number. He proposed, and made much progress with, a computation of all Latin squares with a specified number of rows and columns. He was concerned also with proposals for generalizing the theory of determinants.