

THE LONDON MATHEMATICAL SOCIETY



NEWSLETTER

No. 376 December 2008

Society Meetings and Events

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Mathematical Society
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London

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SW & South Wales
Regional Meeting
Southampton

**Wednesday
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Midlands Regional
Meeting, Leicester

COUNCIL DIARY

10 October 2008

In another turbulent week in the financial markets, financial matters dominated the first part of this Council meeting. Our first substantive business was approving the LMS accounts for 2007/08, the auditors pleasingly giving us a clean bill of health while continuing to flag that the current position whereby the cost of membership benefits exceeds the value of subscriptions needs gradually to be addressed to bring the LMS in line with the Charities Act 2006. Our Treasurer reported on the state of our investments in the current climate, with real-time updates through a FTSE 100 feed to his laptop. The upshot of his report and the discussion was that: (a) of course our assets have diminished in the current climate; (b) that we are legally obliged to continue to take professional financial advice on our investment decisions, and we will continue to receive that from Morgan Stanley; (c) that the impact of diminishing assets is strongly filtered by the 'Yale model' we use to draw down investment income, and in particular we saw no reason to reduce planned expenditure in the 08/09 budget. We turned next to discussing that budget, approving additional expenditure suggested by the Finance & General Purposes Committee, the largest item

being new expenditure by the Programme Committee on grant support, including new funding for a scheme for supporting Postgraduate Research Conferences.

The next item, on policy relating to Grant Criteria, on the face of it a minor matter, produced lively and extended discussion. The issue was one of a clash of policies from two different areas. On the one hand the Programme Committee 'does not normally make grants to cover room hire', but on the other, a significant LMS income stream is provided by hire of De Morgan House conference facilities. The proposal, passed eventually after a vote, was to change the rules to allow grant funding to be given if the room hire related to De Morgan House. Opposition included that of regional members who saw this as a London bias (of course the LMS, despite its name, is a national society), and that of members who saw it as inconsistent to allow funding for room hire at the LMS but not elsewhere. Lively discussion followed also on a proposal to create a new Research Committee, and it was agreed to keep the current arrangements whereby the LMS operates a Research Policy Committee, but to look at ways of assisting and improving the operation of the existing committee in carrying out its role of influencing national policy.

The meeting finished with

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impressive presentations by two committee chairs, Gwyneth Stallard of the Women in Mathematics Committee, and June Barrow-Green our Librarian, on the work of their committees. Gwyneth started her presentation with depressing statistics about female representation in mathematics careers: while 40% of undergraduates are women, and numbers at PhD level are strong, only 4% of UK professors are women. One action being taken by her committee is the forthcoming introduction, via Heads of Departments of Mathematical Sciences (HoDoMS), of a version, for mathematics departments, of the Institute of Physics Juno Code of Practice. This will work to encourage best practice in the recruitment and treatment of female students and staff, through the adoption and monitoring of appropriate departmental procedures and structures. June described the many aspects of the work of the Library Committee in maintaining library and archive collections at De Morgan House and University College London. The Council is grateful to both committees for their very effective efforts.

Simon Chandler-Wilde

DON'T LET A NON-VOTE BECOME A NO VOTE!

October and November were hectic months for the Presidents and Executive Secretaries of LMS and IMA. In all, we visited 21 universities, plus one research establishment, to advertise and discuss the proposal for a New Unified Mathematical Society (NUMS). We were joined on various legs of our journey by a most able set of supporters, including Charles Evans, Charles Goldie, Chris Linton, Peter Rowlett and Nigel Steele. Our sincere thanks go out to them, to the IMA and LMS secretariats who organised everything so efficiently and effectively, and to all the departments for their hospitality and for the time and trouble taken over our visits.

The purpose of our 'roadshow' was to explain the reasoning that led both Councils to commend the proposal to their respective memberships. Each meeting consisted of a short presentation followed by an interesting, and often lively, debate. Naturally, opinions ranged widely. We observed that many members of the audiences could see the merits of a larger and more effective society, and that they were naturally concerned

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to preserve the very positive aspects of both existing bodies – as the two Councils are. It was gratifying to see how many colleagues had read the NUMS document in detail. They asked interesting and very important questions about both the rationale for and structure of a New Mathematical Society. A number of queries have been crystallised into a set of FAQs that are available on our NUMS website (<http://www.newmathsoc.org.uk>). This site, available by clicking the link on the home page of either Society, also contains other useful information for members including relevant reports, documents and articles, a forum for discussing your views with others, and contact details for sending queries to us directly.

It was incumbent on us, on behalf of our Councils, to attempt to speak in person to as many members as possible on such an important matter. Nevertheless, despite our best efforts in putting together our NUMS tour, we will probably only have managed to meet some 5% of the combined membership. Therefore, we have placed a recording of a typical presentation (broken into a sequence of short videos) on the NUMS website. If you feel that you need more information on the reasoning behind the proposal for a NUMS then we urge you to view these presentations. We would also welcome feedback on any of the points raised in the videos, and indeed on the NUMS document itself.

We Presidents discovered many things on our sojourns: that late summer sunshine can quickly degenerate into squally gales and even snow; that the quality of hotel accommodation in the British Isles is not what it could be (yet the beer in general is surprisingly good); that student numbers at our sample selection of universities are buoyant; that trains are expensive and overcrowded but now pretty reliable. We also discovered that we have quite distinct views on the time of day appropriate for drinking tea and coffee, and the level of spice required in Eastern food; however, our views on the necessity for our community to unite within a single New Society have not wavered throughout the duration of our

'roadshow'. Why do we, and a substantial majority of those who have sat on the respective Councils of LMS and IMA over the past few years, feel this so strongly? Primarily, it is the view that mathematics is a single subject, a continuum ranging from the very pure to the applied, and that our community is a single entity that is best served by a single strong and effective Mathematical Society. A few figures show that we are not attracting many potential colleagues inside and outside academe – nationally, the UK takes in some 4,500 students each year to study mathematical sciences degrees, yet the combined membership of IMA and LMS is under 8,000. In comparison, the subject disciplines of physics and chemistry each take in some $\frac{2}{3}$ of the number of students each year that we do in mathematics, yet their representative societies, namely the Institute of Physics and the Royal Society of Chemistry, have membership numbers exceeding 30,000. We could and should do much better. Similarly, the USA has five times the population of the UK, but the American Mathematical Society is over 12 times the size of the LMS! On this last point, during our 'roadshow' we were often asked why we needed to merge when AMS and SIAM happily coexist. It should be pointed out that both societies have a much broader membership base than LMS currently has and that the boundary between them is substantially different from that between the LMS and IMA. AMS provides support for core research activities, spanning pure through applied mathematics and including mathematical history and education, but also devotes much of its efforts on public engagement and outreach activities, advocacy, and education. Both IMA and LMS have had to apply increasing resource over the last 15 or more years to these latter roles too, as the external pressures on our subject have increased. This has necessarily led the two societies to work ever more closely in order to stave off the many threats to the health and vitality of our discipline – for example, from the closures of mathematics departments nationally, from the reduction in core mathematical skills of school students,

and from changes in funding mechanisms from both EPSRC and the Higher Education Funding Councils. In a world where short-termism is the order of the day, and all disciplines must justify continued support (nationally and at university level) through their impact and exploitability, we have to work collectively to ensure the long-term survival of the core elements of our subject! We do not believe that it is too strong to say that the very survival of non-applications orientated research (i.e. traditional pure mathematical research) depends on our convincing government of its continuing need. A New Mathematical Society has better prospects of doing this because it will have the organisation and scale to set the mathematical agenda rather than always being reactive to threats. It will be able to offer practising mathematicians in academe, industry and commerce, schools and FE colleges, undergraduates and postgraduates a more relevant organisation that can better provide support for and between its constituent groups. In the latter regard, we expect the New Society to have a more active regional/branch structure for members, as well as encouraging special interest groups.

In order to determine whether a New Mathematical Society should be formed, all members of LMS and IMA will be balloted separately by post early in the New Year. Each Society requires a majority vote in favour of such a motion in order for it to be carried, but this will be followed by (different) procedures requiring formal General Meetings. However, if either majority vote is based on ballot numbers that represent a small percentage of the membership then that may be insufficient to persuade the relevant government bodies to permit the IMA and LMS to form the New Society and transfer their assets to it. That is, unreturned ballot papers may well have the same effect, intentionally or unintentionally, as No votes! Hence, we urge all members to express their views on this most important matter by returning their ballot papers; we are most keen to receive a clear decision from both LMS and IMA memberships.

Finally, we are aware that naming a New Society

can be a difficult and sensitive exercise. It was decided that, as the future of the two societies should be driven by considerations of the best interests for mathematics rather than preferences on names, this should be the subject of a separate ballot of members. This ballot, offering two options for the New Society's name, will be held only if the result of the first is in favour of the creation of a New Society. Currently, suggestions for the two names are 'Royal Society for Mathematics' and 'British Mathematical Society'. Members should feel free to send us alternative names that they would prefer to see on the ballot paper.

David Abrahams, President of IMA

Brian Davies, President of LMS

DAVID CRIGHTON MEDAL 2009

The David Crighton Medal was established by the Councils of the IMA and LMS in 2002 in order to pay tribute to the memory of Professor David George Crighton, FRS.

The silver-gilt medal will be awarded to an eminent mathematician for services *both* to mathematics *and* to the mathematical community, who is normally resident in the mathematical community represented by the two organisations on 1 January of the year of the award. The award is considered triennially by the Councils of the Societies. The medal-winner is presented with the award at a joint meeting of the Institute of Mathematics and its Applications and the London Mathematical Society, and will be invited to give a lecture.

The first Medal was awarded to Sir John Ball, FRS, and the second to Sir Christopher Zeeman, FRS.

Nominations are invited. These should be made on a nomination form available on either Society's website or from Lynn.Webster@ima.org.uk. Nominations must be received by **28 February 2009**.

The David Crighton Medal Committee will be established in 2009, chaired by the Presidents of the two Societies.

EDINBURGH MATHEMATICAL SOCIETY LONDON MATHEMATICAL SOCIETY

JOINT MEETING *Group Theory*

Edinburgh

Friday and Saturday 12–13 December 2008

A joint meeting of the Edinburgh Mathematical Society and the London Mathematical Society will take place on 12–13 December 2008. The meeting will be held in Lecture Theatre C, School of Mathematics, James Clerk Maxwell Building, King's Buildings, University of Edinburgh. The topic of the meeting is *Group Theory*.

Friday

- 2.45 pm EMS/LMS business
- 3.00 pm **Alain Valette** (Neuchâtel)
The Haagerup property and its stability properties
- 4.00 pm Tea
- 4.30 pm **Efim Zelmanov** (San Diego)
Asymptotic properties of finite groups and finite-dimensional algebras

Saturday

- 10.00 am **Laurent Bartholdi** (Göttingen)
Automatically presented groups
- 11.00 am Coffee
- 11.30 pm **Martin Bridson** (Oxford)
Dimension, rigidity and fixed point theorems

There will be a dinner on the Friday evening.

For more information, and to register and book for the dinner, either visit the website www-groups.mcs.st-and.ac.uk/~colva/edconf.html or contact Tom Lenagan (tom@maths.ed.ac.uk).

ROYAL COMMISSION FOR THE EXHIBITION OF 1851

Research Fellowships

The scheme of 1851 Research Fellowships is intended to give a few PhD-level scientists or engineers of outstanding promise the opportunity for conducting research for a further period. Previously for two years, these fellowships from 2009 will be awarded for three years, providing an exceptional opportunity for PhD graduates to pursue further research at the highest level. Approximately eight awards are made each year.

The Fellowships are open to candidates in any of the physical or biological sciences, in mathematics, in applied science, or in any branch of engineering. Candidates in science subjects should normally have recently obtained their PhD degree, or be in the final stages of their PhD studies. Those offering engineering do not have to be in possession of a PhD, but must be of at least PhD standard.

The Research Fellowship stipend payable in 2009 is £28,500 for the first year, and £30,000 for the second and third years. In addition a London (Overseas) Weighting of £2,500 per annum is payable in appropriate cases. Stipends are reviewed annually.

A candidate must be a citizen of the United Kingdom or the Commonwealth, or of the Republics of Ireland or Pakistan. He or she should either have spent at least two out of the past three years at a UK Institution, or be intending to hold the Fellowship at a UK Institution, or both.

Applications are made online via the website www.royalcommission1851.org and must include two references, plus certification from the institution at which the Fellowship is to be held. Applications must

be received by **5 pm Thursday 19 February 2009**. Appointments to the Fellowship will be made during June 2009. Fellowships commence at the beginning of October in the year of award.

SPITALFIELDS DAYS

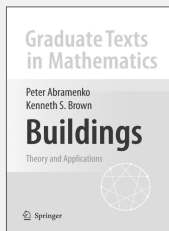
In 1987, the London Mathematical Society instituted a series of occasional meetings called Spitalfields Days. The name honours our predecessor, the Spitalfields Mathematical Society, which flourished from 1717 to 1845.

A Spitalfields Day is usually associated with a long-term symposium on some specialist topic at a UK university. One of the symposium organizers is asked to arrange a one-day meeting at which selected participants, often distinguished experts from overseas, will give survey lectures on topics in the field of the symposium or other types of lecture accessible to a general mathematical audience. These meetings are publicized in the *Newsletter* and all members are invited to attend.

The standard grant for a Spitalfields Day is £500 and is intended to meet actual supplementary costs associated with the event (for example, cost of a subsidy for a lunch for participants and administrative costs). We also encourage grant holders to make some of it available in the form of small (£50) travel grants to enable LMS members and research students to attend the event.

Anyone involved in running a symposium who would be interested in organizing a Spitalfields Day is invited to write to Dr S.A. Huggett, Programme Secretary at the Society (grants@lms.ac.uk). The format need not be precisely as described, but should be in a similar spirit. For examples of previous Spitalfields Days visit www.lms.ac.uk/meetings/spitalfields.html.

New from Springer



Buildings Theory and Applications

P. Abramenko, University of Virginia, Charlottesville, VA, USA; **K. S. Brown**, Cornell University, Ithaca, NY, USA

This book treats Jacques Tits's beautiful theory of buildings, making that theory accessible to readers with minimal background.

2008. XXII, 754 p. 100 illus. (Graduate Texts in Mathematics, Volume 248) Hardcover
 ISBN 978-0-387-78834-0 ► € 46,95 | £37.99

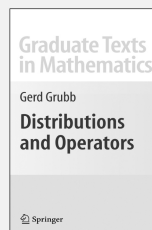
Self-dual Partial Differential Systems and Their Variational Principles

N. Ghoussoub, University of British Columbia, Vancouver, BC, Canada

This text is intended for a beginning graduate course on convexity methods for PDEs. The generality chosen by the author puts this under the classification of "functional analysis". The

applications, however, require a fair knowledge of classical analysis and PDEs which is needed to make judicious choices of function spaces where the self-dual variational principles need to be applied.

2009. XIV, 354 p. (Springer Monographs in Mathematics) Hardcover
 ISBN 978-0-387-84896-9 ► € 46,95 | £37.99



Distributions and Operators

G. Grubb, University of Copenhagen, Denmark

This book gives an introduction to distribution theory, based on the work of Schwartz and of many other people.

Additionally, the aim is to show how the theory is combined with the study of operators in Hilbert space by methods of functional analysis, with applications to ordinary and partial differential equations.

2009. XII, 464 p. 8 illus. (Graduate Texts in Mathematics, Volume 252) Hardcover
 ISBN 978-0-387-84894-5 ► € 46,95 | £37.99

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LONDON MATHEMATICAL SOCIETY PRIZES 2009

In 2009, Council expects to award the Pólya Prize, the Senior Whitehead Prize, the Berwick Prize, up to four Whitehead Prizes and the Naylor Prize and Lectureship in Applied Mathematics.

Nominations should be made by completing the designated form, which is available to download from the LMS website (www.lms.ac.uk) or can be obtained by contacting the Secretary to the Prizes Committee at the Society (tel: 020 7927 0801, email: prizes@lms.ac.uk). Nominations should be received no later than **Friday 23 January 2009**.

The Prizes Committee is keen to increase the number of nominations it receives, and would like to draw attention to the disproportionately low numbers of women nominated for prizes each year. The prize regulations were recently amended to replace age restrictions with the concept of 'academic age' in order to take account more fully of broken career patterns. Also, in order to encourage proposals for candidates, nominations need not describe in detail the candidate's work, as detailed references for those shortlisted will be sought; what is important is that the 'Case for Award' section of the nomination form should be completed in approximately 500 words. Council has emphasised that the scope of the Society's Prizes includes all aspects of mathematics, and that this includes applied mathematics, mathematical physics and mathematical aspects of computer science.

Brief descriptions of the criteria for each Prize are given below. Council reserves the right not to make an award of any particular Prize in the event that no candidate of sufficient merit is recommended by the Prizes Committee. Nominators should note that, in each case, current Members of Council or the Prizes Committee may not be considered for the prize, and that no-one may be awarded the same prize more than once. A list of previous winners appears in the Handbook and on the LMS website. The full regulations for each prize can be obtained from the Society (contact details as above).

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

The **Senior Whitehead Prize** is awarded in odd-numbered years; the grounds for the award may include work in, influence on or service to mathematics, or recognition of lecturing gifts in the field of mathematics. The Senior Whitehead Prize for 2009 can only be awarded to a mathematician who is normally resident in the United Kingdom on 1 January 2009 and may not be awarded to any person who has previously received the De Morgan Medal, Pólya Prize, Senior Berwick Prize or the Naylor Prize. The prize is in memory of Professor J.H.C. Whitehead, a former President of the Society.

The **Berwick Prize** is awarded in odd-numbered years in recognition of an outstanding piece of mathematical research actually published by the Society during the eight years ending on 31 December 2008. The Berwick Prize for 2009 can only be awarded to a mathematician who, on 1 January 2009, is a member of the Society, is not already a Fellow of the Royal Society, and has fewer than 15 years (full-time equivalent) of involvement in mathematics at postdoctoral level, allowing for breaks in continuity, or who in the opinion of the Prizes Committee is at an equivalent stage in their career. It may not be awarded to any person who has previously received the De Morgan Medal, the Senior Berwick Prize, the Senior Whitehead Prize, the Naylor Prize or a Whitehead Prize. The prize is named after Professor W.E.H. Berwick.

The **Whitehead Prizes** are awarded for work in and influence on mathematics – Council has emphasised that this includes all aspects of mathematics, applied mathematics, mathematical physics and mathematical aspects of computer science. Candidates for the 2009 prizes must, on 1 January 2009, (i) be either normally resident in the United Kingdom or members of the Society mainly educated in the United Kingdom, (ii) not be Fellows of the Royal Society, and (iii) either have fewer than 15 years (full-time equivalent) of involvement in mathematics at postdoctoral level, allowing for breaks in continuity, or, in the opinion of the Prizes Committee, be at an equivalent stage in their career. A Whitehead Prize may not be awarded to anyone who has won any of the Society's other Prizes.

The **Naylor Prize and Lectureship in Applied Mathematics** is awarded in odd-numbered years; the grounds for the award may include work in, and influence on, and contributions to applied mathematics and/or the applications of mathematics, and lecturing gifts. The Naylor Prize for 2009 can only be awarded to a mathematician who is normally resident in the United Kingdom on 1 January 2009 and who has not previously received the De Morgan Medal, the Pólya Prize, the Senior Berwick Prize or the Senior Whitehead Prize. The winner of the Naylor Prize for year 2009 is normally invited to give the Naylor Lecture at a Society meeting in the year 2010. The prize is in memory of Dr V.D. Naylor.

STAFF AND OFFICES AT DE MORGAN HOUSE

In the last issue of the *Newsletter* we reported that Susan Oakes would be retiring at the end of the year; plans to recognise her long service and contributions to the Society are in hand. 2008 saw the 10th anniversary of several staff who joined Susan and Sylvia Daly soon after we acquired De Morgan House: Susan Hezlet, Publisher; Ephrem Belay, Accounts Officer; and Lee-Anne Parker, Receptionist. We thank them all for their commitment

and dedication to the Society and its work.

A new staff member, Antony Bastiani, has joined the Society in September for a one-year period, working on research policy, education, prizes and the Library. He is supporting David Larman and the Research Policy Committee to enhance the Society's policy work, its input to CMS and its effectiveness in national debate. He is also providing the secretariat to the Education, Prizes and Library Committees.

After 10 years in De Morgan House, with the changes in staffing and in the range of activities, it was decided to review the use of rooms, to use them more effectively and to get a better grouping of staff. As a result, most staff members have moved their offices – if you are visiting De Morgan House and wish to see a staff member, then please ask at Reception to be directed to the staff member's new office.

As a result of the room moves, the Verblunsky Room, with facilities for members including email terminals, has moved to Room 23 on the Second Floor. Room 12 on the First Floor (directly accessible from the main staircase) has now become the Cartwright Room, used mainly for LMS committee meetings.

COMBINATORICS

The 2009 *Open University Winter Combinatorics Meeting* (the tenth in the series) will be held on Wednesday 28 January 2009 in the Christodoulou Meeting Room 11 (CMR 11) on the Open University campus in Milton Keynes. All are welcome and coffee will be available from 10.00 am. The speakers are:

- Peter Cameron (Queen Mary, London)
- Fedor Fomin (Bergen)
- Tim Gowers (Cambridge)
- Jan van den Heuvel (LSE)
- Gareth Jones (Southampton)
- Edita Máčajová (Comenius, Bratislava)

For further information visit <http://wcm.open.ac.uk>, or contact Terry Griggs (t.s.griggs@open.ac.uk) or Kathleen Quinn (k.a.s.quinn@open.ac.uk). The organisers gratefully acknowledge the support of the British Combinatorial Committee.

PUBLICATIONS COMMITTEE STRATEGIC AWAYDAY

Everyone involved in academic writing or publishing knows that the publishing environment is changing rapidly, with a variety of models for electronic journals, open access arrangements, the *arXiv*, etc.

Although the LMS Publications Committee meets regularly, its meetings tend to fill with routine matters such as editorial appointments and pricing, leaving little time to take a strategic overview of publishing directions. Thus it was decided to hold an Awayday in early October to allow time to consider the future of LMS publications. For this, the Committee was joined at Devonport House in Greenwich by several other editors and editorial advisers and two outside specialists in academic publishing.

The meeting began with a fascinating presentation by Rhonda Oliver, Managing Director of Portland Press, describing her involvement in relaunching the *Biochemical Journal* in a '21st century' online format. The main journal is split into seven 'Knowledge Environments' which might be regarded as separate subject area journals. Papers appear on the day of acceptance and are linked to animations, interactive structures, data, etc. There is easy navigation between citations and references both within the paper and to webpages of cited articles. There is a comprehensive search facility and a number of devices are used to ensure that the journal has a very high internet visibility. Financially this venture has been very successful. Whilst not all these features may be appropriate for mathematics, the presentation showed how a modern journal can add considerable value to the basic text of its papers.

Mark Ware, a publishing consultant and a former director of the Institute of Physics Publishing, acted as Facilitator for the Awayday. Discussions started with a review of the current position of LMS journals, for which a great deal of statistical and factual data had been collected. The fact that publications provide two thirds of LMS income is crucial, and with 90% of that from overseas the needs of the international community are important. It was noted that there is a high (70%) rejection rate for papers, with many papers that are highly recommended by referees and advisers rejected owing to the fixed page numbers, something that is wasteful and frustrating and sometimes seen as arbitrary; if a paper is to be rejected this should be done as quickly as possible. Although the formal 'impact factors' of the journals are low, the online usage is very high. The number of papers with preprint versions on the *arXiv* has increased to about 50% and this seems beneficial in the visibility of the papers that are published. The importance of an efficient and effective editorial and paper management system was noted.

The discussions moved to the many external drivers that are likely to affect the future of mathematics journals. The more obvious ones include the declining role of paper versions, that many papers are easily accessible in preprint form, open access pressures and the importance of publishing in peer-review journals for getting jobs or promotion. The effects of interdisciplinary funding, 'atomisation' (that a reader will understand a very small subset of papers), the demand for easy searching, the increasing difficulty in finding referees and the cost of the refereeing and editing process, and the use of metrics for research assessment are all also significant.

Small group sessions considered what

is needed for LMS journals to flourish in this environment and the groups came up with many overlapping ideas. Effective peer review is undoubtedly of paramount importance. A panel of internationally renowned editors is needed to attract top quality papers but more editorial advisers might be needed to support a broad coverage. It is important that the LMS content be easily discoverable with good cross-reference linking. The wastefulness of rejecting good papers should be avoided, with the criterion for acceptance based on quality rather than on page numbers.

The groups came up with remarkably similar models that might be adopted to achieve this. The major conclusion was that there should be one journal devoted to papers of the highest quality by world standards with world leaders as editors. Other very good papers would be published in a second journal with the criterion purely one of quality and with a

separate editorial board. Of course the journals should make the most of the facilities available with modern electronic publishing to provide 'added value' to the individual manuscripts.

These are certainly interesting times for publications and I found the Awayday quite an eye-opener - the above summary mentions only a very few of the varied ideas and possibilities raised. A working group comprising Jim Anderson, John Greenlees, Susan Hezlet and Marc Lackenby will follow up the Awayday and draft a description and rough business plan of a new model - this will doubtless require many iterations. Our journals have a distinguished history and it is hoped the Awayday marked the start of a process that will ensure that they will continue to have a major place in the mathematics community in the future.

Kenneth Falconer
LMS Publications Secretary



Awayday participants

MATHEMATICS POLICY ROUND-UP

Student numbers in mathematics and other 'strategically important and vulnerable subjects' (SIVS) such as physics and chemistry are now growing rather than declining, according to the Higher Education Funding Council for England (Hefce). The Funding Council announced that in 2008/09, universities had accepted 8.1% more students to study the mathematical sciences compared to the previous year, following a trend of increases over recent years (although this must be taken in the context of overall expansion of the university sector over this period – as a proportion of overall student numbers, the BBC website calculated that mathematical sciences have increased by 1.4%). Despite this, following Hefce's review this year, mathematics remains on the SIVS list. The three-year *more maths grads* project, which is part of Hefce's £350 million programme to help the SIVS, will become part of the £20 million next stage national programme for mathematics, physics, chemistry and engineering due to begin in 2009.

The Mathematics Promotion Unit submitted a response on behalf of the LMS and the IMA to the government's *A vision for Science and Society* consultation. The response underlined the importance of mathematics being part of government thinking on science and society and drew attention to the many mathematical public engagement activities already taking place. It called for more opportunities for mathematicians to get

involved in public engagement activities, such as the EPSRC media fellowships. The response also drew attention to problems for classroom teachers and suggested that more information about how mathematics is used in industry and financial institutions would help public understanding. To see the response, go to www.mathspromotion.org.uk.

Future Morph, a new careers site to help school students considering the value of science, technology, engineering and mathematics in their careers, went live in November. The creation of the site was led by the Science Council in partnership with the Department for Children, Schools and Families and others. The site will be a resource for students, but also teachers, careers advisers and parents, aiming to answer the question "Why study science and maths?" The site www.futuremorph.org will work alongside the existing Careers from Maths site www.mathscareers.org.uk.

Caroline Davis

Mathematics Policy and Promotion Officer



PUBLIC UNDERSTANDING OF SCIENCE

Professor Marcus du Sautoy has been appointed to the Charles Simonyi Chair for the Public Understanding of Science at the University of Oxford. The chair is held jointly between the Department for Continuing Education and the post-holder's disciplinary department in the University – in this case, the Mathematical Institute.

Commenting on his appointment, Professor du Sautoy said, "I think that mathematics is a fantastic choice for the Simonyi chair. Mathematics is the language of science. It is at the heart of physics, chemistry and much of biology which makes it a great platform for engaging the public in science."

The aim of the Professorship is to "communicate science to the public without, in doing so, losing those elements of scholarship which constitute the essence of true understanding". The chair-holder does not have substantial teaching or administrative workloads, but instead is expected to carry on with their research programme whilst also giving public lectures, writing articles and books, making television and radio appearances and travelling widely.

At present, Professor du Sautoy is an EPSRC media fellow, which has a similar emphasis on research and communication. For his new role, he has underlined his commitment to continuing his own high-level academic research in number theory and symmetry. He added, "At the same time, I am passionately dedicated to giving as many people as possible access to the exciting and beautiful world of mathematics and science that I inhabit and revealing to them why it is such a powerful way to understand the world."

He will succeed evolutionary biologist Professor Richard Dawkins, who has held the position

since the chair was created in 1995. Professor Dawkins's tenure attracted much attention in particular for his outspoken atheist views. Professor du Sautoy is likely to take a different approach, saying, "Of course I am bracing myself for questions about my views on God but this job is about communicating the wonders and excitement of science."

Dr Charles Simonyi is a computer scientist who was instrumental in the development of personal computing, working for many years as chief software architect at Microsoft. Professor du Sautoy took up the position on 1 December 2008. His four-part series *The Story of Maths* was broadcast on BBC4 during

October (see page 20 for a review). Professor du Sautoy is also a member of the Mathematics Promotion Unit Steering Group.



Marcus du Sautoy

KAC-MOODY GROUPS – A PROFINITE PERSPECTIVE

A one-day meeting on *Kac-Moody Groups – A Profinite Perspective* will be held on 17 December 2008 at Royal Holloway, University of London. Prospective speakers are:

- Christopher Voll (Southampton)
- Nikolay Nikolov (Imperial)
- Pierre-Emmanuel Caprace (IHÉS)

The meeting is part of the South England Profinite Groups Meetings which are funded by an LMS Scheme 3 grant. Limited funds are available to reimburse travel expenses of UK-based students and young mathematicians. For more details see www.ma.rhul.ac.uk/profinite_groups/meetings.html or contact Y. Barnea and B. Klopsch (profinitegroups@googlemail.com).

VISIT OF PROFESSOR V. SHULMAN

Professor Victor Shulman (Vologda State University, Russia) is visiting the London Metropolitan University until 24 December 2008. Professor Victor Shulman is a specialist in the theory of Operator Algebras. During December he will give the following lectures:

- 3 December, Queens University Belfast (contact I. Todorov, i.todorov@qub.ac.uk)
- 10 December, London Metropolitan University (contact E. Kissin, e.kissin@londonmet.ac.uk)

For further details of this visit contact Edward Kissin. The visit is supported by an LMS Scheme 2 grant.

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VISIT OF DR F. WUBS

Dr Fred Wubs (University of Groningen, The Netherlands) will be visiting the Numerical Analysis Group at the Rutherford Appleton Laboratory (RAL) from November 2008 to March 2009. His main field of interest is the design of algorithms for the solution of large sparse linear systems arising in computational fluid dynamics. During his visit he will give the following three talks:

- Brunel University, 8 December 2008
Numerical solution of linear systems in an implicit ocean flow model
- University of Reading, 12 December 2008
Preconditioning for an implicit thermohaline circulation model
- Rutherford Appleton Laboratory, 22 January 2009
Preconditioning of linear systems in an ocean flow model

For further information contact Dr Jennifer Scott, RAL (j.a.scott@rl.ac.uk). This visit is partially supported by an LMS Scheme 2 grant.

ALGEBRAIC TOPOLOGY, GROUP THEORY AND REPRESENTATION THEORY

An international conference on *Algebraic Topology, Group Theory and Representation Theory* will take place from 9 to 15 June 2009 (with the expected arrival and departure dates on the 8th and 16th). The conference will take place on the Isle of Skye - a scenic island off the west coast of Scotland.

The aim of the conference is to stimulate activity in and enhance interaction between Algebraic Topology, Group Theory and Representation Theory. The conference will also be an opportunity for colleagues to celebrate the 60th birthday of two distinguished mathematicians, Bob Oliver and Ron Solomon. It is planned to have several plenary speakers as well as contributed talks, with exact numbers to be determined later. Currently the following have agreed to give a plenary talk:

- Alejandro Adem (Univ. of British Columbia)
- Michael Aschbacher (Caltech)
- George Glauberman (University of Chicago)
- John Greenlees (University of Sheffield)
- Robert Griess (University of Michigan), TBC
- Jesper Grodal (University of Copenhagen)
- Lars Hesselholt (MIT)
- Nick Kuhn (University of Virginia)
- Jean Lannes (École Polytechnique)
- Ian Leary (Ohio State University)
- Peter Neumann (University of Oxford)
- Raphael Rouquier (University of Oxford)
- Stephen Smith (University of Illinois at Chicago)
- Alexandre Turull (University of Florida)

The organisers are: Dave Benson, Carles Broto, Inna Capdeboscq (Korchagina), Radha Kessar, Kathryn Lesh, Ran Levi and Assaf Libman. For further information visit the website at www.maths.abdn.ac.uk/skye2009/ or email conference@maths.abdn.ac.uk. This conference is supported by an LMS conference grant.

LONDON MATHEMATICAL SOCIETY NORTHERN REGIONAL MEETING

Room G107, Alan Turing Building, University of Manchester
Wednesday 14 January 2009

- 14.00** Opening of the Meeting
- 14.15** **Imre Leader** (Cambridge)
Euclidean Ramsey Theory
- 15.15** **Kathryn Hess** (EPFL, Switzerland)
Free loop spaces in topology and physics
- 16.15** Tea/Coffee
- 16.45** **Paul Baum** (Penn State, USA)
What is K-theory and what is it good for?
- 18.00** Dinner at the Tai Pan restaurant

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These lectures are aimed at a general mathematical audience. All interested, whether LMS members or not, are most welcome to attend this event.

For further details, to register or to reserve a place at the dinner, email magic@maths.manchester.ac.uk. The cost of the dinner will be approximately £25 including drinks.

The meeting is preceded by the postgraduate student conference MAGIC09 from Monday 12 January to mid-day on Wednesday 14 January. For further details visit www.maths.manchester.ac.uk/~magic or contact the organisers Dr Marianne Johnson, Dr Andrew Hazel, Gemma Lloyd, Hadi Zare at magic@maths.manchester.ac.uk.

Lunch will be provided on Wednesday for delegates of the MAGIC09 conference. This lunch is also open to everyone attending the meeting.

There are funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting and workshop. Requests for support, including an estimate of expenses, may be addressed to Marianne Johnson (email above).



www.bristol.ac.uk

Heilbronn Research Fellows £33,432 - £43,622 (to be agreed)

The Department of Mathematics invites applications for a number of Research Fellows in Mathematics in association with the Heilbronn Institute for Mathematical Research. The areas of interest are: Combinatorics, Number Theory, Algebra, Algebraic Geometry, Quantum Algorithms, Probability and Statistics. The Fellowships will be for three years, starting in October 2009.

You will divide your time equally between your own research and the research programme of the Heilbronn Institute. Due to the nature of the Heilbronn Institute's work, you must satisfy security vetting before appointment. The Fellowships are therefore limited to British nationals. You may become a member of USS. Research expenses of at least £2,000 per annum will also be available.

Enquiries about the Fellowships may be addressed to Professor Trevor Wooley, School of Mathematics, telephone (+44) (0)117 331 5240, e-mail trevor.wooley@bristol.ac.uk Enquiries about the work of the Heilbronn Institute may be addressed to Professor Elmer Rees, telephone (+44) (0)117 980 6303, e-mail e.rees@bristol.ac.uk

Further details and an application form can be found at www.bristol.ac.uk/vacancies Alternatively you can telephone (+44) (0)117 954 6947 or e-mail recruitment@bristol.ac.uk quoting reference number 14392.

APPLICATIONS SHOULD BE MADE AS SOON AS POSSIBLE AND NOT LATER THAN THE CLOSING DATE OF 9.00AM, 19th DECEMBER 2008. APPLICATIONS SHOULD INCLUDE A STATEMENT OF PROPOSED RESEARCH (NOT MORE THAN ONE SIDE OF A4). CANDIDATES SHOULD ASK THREE REFEREES TO SEND REFERENCES DIRECTLY TO MS HELEN CRAVEN, SCHOOL OF MATHEMATICS, UNIVERSITY OF BRISTOL, UNIVERSITY WALK, BRISTOL BS8 1TW BY THE CLOSING DATE. (IT IS THE CANDIDATE'S OWN RESPONSIBILITY TO ENSURE THAT THE REFERENCE LETTERS ARE RECEIVED BY THE CLOSING DATE. REFERENCES CAN BE SENT BY EMAIL TO helen.craven@bristol.ac.uk).

EXCELLENCE THROUGH DIVERSITY

LEARNING • DISCOVERY • ENTERPRISE

MATHEMATICS OF WEATHER AND CLIMATE PREDICTION

Computations using large and complex numerical models are fundamental in predicting the circulations of the atmosphere and ocean, and hence in weather and climate prediction. Validation of these models is essential, particularly in climate prediction where no verification is possible. It can be achieved by demonstrating that important asymptotic limit solutions of the governing equations, which are simple enough to be resolved by the computer models, can be successfully reproduced. There have been major advances in the mathematical analysis of several of these sets of limit equations, which has brought such validation within reach.

A meeting on this topic will take place from 30 March to 3 April 2009 at the Meteorological Office in Exeter. It will contain four mini-courses describing recent developments in the mathematical analysis and physical understanding of equations describing atmosphere and ocean circulations. There will be about eight additional research lectures on specific topics in the area. The intended audience are graduate students and researchers working in either nonlinear partial differential equations or meteorology and oceanography. The intention is that meteorologists and oceanographers will learn about the new results that have been achieved and the methods that can now be used for nonlinear problems, and that the mathematicians will learn about physically important unsolved problems to work on.

Confirmed speakers are:

- Yann Brenier (University of Nice)
- Peter Constantin (University of Chicago)
- Gregory Falkovich (Weizmann Institute)
- Isabelle Gallagher (Paris VII)
- Michael Ghil (UCLA)
- Andrew Majda (Courant Institute of Mathematical Sciences)
- Laure Saint-Raymond (Paris VI and École Normale Supérieure)

- Sebastian Reich (Universität Potsdam)
- David Sexton (Met Office Hadley Centre)
- Roger Temam (Indiana University)
- John Thuburn (University of Exeter)
- Vladimir Zeitlin (École Normale Supérieure)

There is funding available to support postgraduate students and postdoctoral researchers to attend. For further information and to register, visit www.maths.ox.ac.uk/groups/oxpde/events. The meeting is co-organised by the Mathematical Institute Oxford, The Maxwell Centre for Analysis and Nonlinear PDEs and The Meteorological Office.

REPRESENTATIONS OF FINITE GROUPS OF LIE TYPE AND THEIR SUBGROUPS

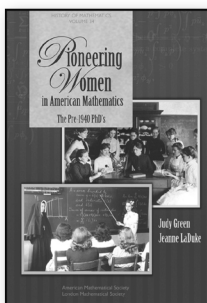
17

There will be a meeting on *Representations of Finite Groups of Lie Type and their Subgroups* held from 15 to 17 December 2008 at the University of Birmingham. The speakers are:

- Carlos André (Lisbon)
- Michel Broué (Paris)
- David Craven (Oxford)
- Anton Evseev (Cambridge)
- Rod Gow (Dublin)
- Frank Himstedt (Munich)
- Gerhard Hiss (Aachen)
- Laci Iancu (Aberdeen)
- Tung Thien Le (Aberdeen)
- Martin Liebeck (London)
- Götz Pfeiffer (Galway)

The meeting is supported an LMS conference grant and the EPSRC network *Representation Theory Across the Channel*. There is funding available to support participation of research students. There will also be some introductory lectures in the morning of Monday 15 December suitable for PhD students. The organisers are Simon Goodwin, Kay Magaard and Chris Parker. For further information visit the website at <http://web.mat.bham.ac.uk/S.M.Goodwin/repstlie/>.

AMERICAN MATHEMATICAL SOCIETY



New FROM THE AMS

Pioneering Women in American Mathematics The Pre-1940 PhD's

Judy Green, *Marymount University, Arlington, VA*, and
Jeanne LaDuke, *DePaul University, Chicago, IL*

More than 14 percent of the PhD's awarded in the United States during the first four decades of the twentieth century went to women, a proportion not achieved again until the 1980s. This book is the result of a study in which the authors identified all of the American women who earned PhD's in mathematics before 1940, and collected extensive biographical and bibliographical information about each of them. By reconstructing as complete a picture as possible of this group of women, Green and LaDuke reveal insights into the larger scientific and cultural communities in which they lived and worked.

The book contains an extended introductory essay, as well as biographical entries for each of the 228 women in the study. The authors examine family backgrounds, education, careers, and other professional activities. They show that there were many more women earning PhD's in mathematics before 1940 than is commonly thought. Extended biographies and bibliographical information are available from the companion website for the book: www.ams.org/bookpages/hmath-34.

The material will be of interest to researchers, teachers, and students in mathematics, history of mathematics, history of science, women's studies, and sociology. The data presented about each of the 228 individual members of the group will support additional study and analysis by scholars in a large number of disciplines.

History of Mathematics, Volume 34; 2008; 345 pages; Hardcover; ISBN: 978-0-8218-4376-5; List US\$79; AMS members US\$63; Order code HMATH/34

Co-published with the London Mathematical Society beginning with Volume 4. Members of the LMS may order directly from the AMS at the AMS member price. The LMS is registered with the Charity Commissioners.

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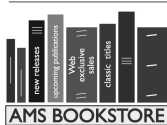
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American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA

LONDON MATHEMATICAL SOCIETY

MARY CARTWRIGHT MEETING

Friday 27 February 2009

Clare Lecture Theatre, Department of Mathematics, Imperial College London

3.30 Opening of the Meeting

Simon Donaldson, FRS (Imperial College London)

A spectator's commentary on symplectic topology

The talk will survey some of the developments of modern symplectic topology over the past 30 years, aimed at non-specialists. We will discuss the developments of pseudoholomorphic curve techniques, Floer homology, connections with geometric topology in 3 and 4 dimensions and the theory of complex algebraic surfaces.

4.30 Tea

5.00 Mary Cartwright Lecture

Dusa McDuff, FRS (Barnard College, Columbia University)

Symplectic embeddings of 4-dimensional ellipsoids

Gromov's celebrated nonsqueezing theorem of 1985 says that it is impossible to embed symplectically a large ball into a thin cylinder. One of the foundational results of modern symplectic topology, this led to a more or less complete solution of the 4-dimensional symplectic packing problem (which asks when a given disjoint union of balls can be symplectically embedded into another ball). However, there are many other packing problems. In this talk we discuss recent joint work with Schlenk about the constraints on embedding a symplectic ellipsoid into a ball. This leads to some intriguing elementary questions in number theory. The result has applications to constructing 6-dimensional manifolds with symplectic circle action.

The talk does not use much symplectic topology and will be accessible to graduate students and nonspecialists.

A reception and dinner will be held after the meeting. Contact Susan Oakes (susan.oakes@lms.ac.uk) for further information.

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting. Contact Isabelle Robinson (isabelle.robinson@lms.ac.uk) for further information.

REVIEWS

THE STORY OF MATHS

**Four BBC television programmes made by
Marcus du Sautoy**

This series of four programmes is a real triumph. Together with Simon Singh's famous programme on Fermat's Last Theorem these are the best mathematical programmes ever shown on UK television. For an account of the programmes see Marcus's article in the *Newsletter of the EMS*, September 2008.

Marcus had considerable help from the BBC to take him on location to tell his story. It begins in ancient Egypt, with the Pyramids forming an exotic background. We learn that the Egyptians used a decimal system but without zero and that they had the idea of calculating by using fractions of the form $1/n$, an idea still found today in Egypt. Then on to Babylonian Mathematics where the base was 60. (However, Health and Safety restrictions meant that Marcus could not film in Iraq.) All this was before the flowering of Greek Mathematics, when most of us consider Mathematics in its modern sense to have been developed.

Independent of Greek Mathematics, there was the distinct mathematics of the Chinese, for example the Chinese Remainder Theorem, and Marcus told us how it was used for everyday calculations, and not just for Astronomy. This programme found him walking the great Wall of China which I imagine was just for local colour! Then on to India where, at last, zero was discovered in the temple of Gwalior. We learned that the Indians developed some sophisticated mathematics, for example the use of infinite series, and they were able to get good approximations for π . Some of this mathematics was not discovered in Europe until several hundred years later. In fact, one of the most interesting parts of the programmes was showing that great mathematics was being done by the

Chinese and, above all, the Indians well before the Europeans.

There was a description of Muslim Mathematics. This is famous for the work on tessellations, where they found the 17 groups of plane crystallography. What is less well known is the work of the poet Omar Khayam. He was obsessed with solving the cubic equation.

We then moved to Europe which was just coming out of the dark ages and experiencing a new flowering of mathematics. There was the work of Fibonacci, illustrated by a cute graphic involving bunnies. Then came the work of Tartaglia and Cardano on the cubic equation. We then moved to the great mathematics of Desargues and Fermat and then on to the Bernoullis and Euler. We covered the bridges of Königsberg (now Kaliningrad) and the beginnings of Topology. (If I may add a personal reminiscence: my wife was the Mayor of Southampton, and we were twinned with Kaliningrad. She had to welcome the dignitaries of that city, and in her speech she said that Kaliningrad was famous because of the seven bridges which led to the development of Topology. Our guests were amazed – not many mayors would have been aware of this!)

With the work of Gauss, Riemann, Galois and Poincaré mathematics is much like it is today. In the final programme the mathematics becomes quite advanced, mentioning for example the work of Grothendieck and Weil on algebraic geometry. A choice has to be made as to the mathematics to be discussed and some notable work was omitted. There are mathematicians who would disagree with the choice but it was unavoidable.

Overall an excellent set of programmes. It is to be hoped that the BBC will make a video, and then these programmes should be shown to all our undergraduates.

David Singerman
University of Southampton

50 mathematical ideas you really need to know by Tony Crilly, Quercus, 2008, 208 pp, £8.99, ISBN 978-1-84724-008-8.

This is one of a series of books of '50... ideas you really need to know'. Management, philosophy and physics have so far received the same treatment. We would all have, I suspect, our own version of what those 50 mathematical ideas should be, but they would certainly overlap considerably with Tony Crilly's selection, which ranges from zero to the Riemann hypothesis, with a good smattering of anything else you care to name in between. Each 'idea' gets a four-page treatment, and there is a certain amount of cross-referencing as you would imagine – mathematics is not a series of self-contained boxes.

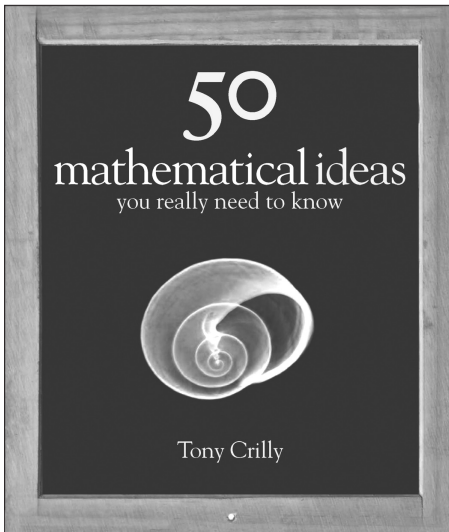
The book has an occasional American feel, which can jar (I hate 'donut'!) but one can accept that on the whole, and there are some inconsistencies (was it C. Friederich, or just Friedrich Gauss – probably he used both, anyway), but the only serious misspelling I spotted was 'absurdam' for 'absurdum'. And from a type-setting point of view, I was sorry that

most of the fractions were so small! In that section the author mentions recurring decimals, but the notation as printed was new to me: for example $\frac{5}{7}$ is printed as $0.\overline{714285}$, whereas I was taught to put the dots only over the first and last digits of the repeating part – a very powerful notation as Tony Crilly says.

There is quite a lot on probability and statistics, with a discussion of Bayesian probability in terms of diagnosis, and also a mention of inheritance and genetics. Naturally the famous numbers of mathematics, e , π , i get their own slots as does infinity – there we are, infinity reduced to a four page spread! But very skilfully. The section on Pascal's triangle is only flawed by its introduction – that should be changed for a second edition: 11^5 is *not* as printed. And in the chapter on curves it is suggested that the cable of a suspension bridge hangs in a catenary, which is true for a free chain, but not, I think, when there is the large weight of the carriageway to support. I was intrigued by the analysis of 'near birthdays' as an extension of the 'same birthday' problem. I had never considered it – and should have: my wife's birthday was the day before mine, and my elder daughter shares mine!

I would like to have seen a little more applied mathematics – why do skaters spin faster when they pull their arms in? But as the author says in his introduction, the problem is not finding things to put in, it's deciding what to leave out. So, at whom is this book aimed? The publisher implies that it's definitely for the layman. The blurb on the dust jacket says: "For once, mathematics couldn't be simpler." That may well be true, but as Einstein opined, "Everything should be made as simple as possible, but no simpler". There are still some knotty points here, which is as it should be. That said, this book can be read with profit by anyone with a good school grounding.

M.L. Perkins



ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES
REPRESENTATION THEORY AND LIE THEORY

22–26 June 2009

in association with the Newton Institute programme entitled
Algebraic Lie Theory
(12 January – 26 June 2009)

Organisers: M. Geck (University of Aberdeen), A. Kleshchev (University of Oregon) and G. Röhrle (Ruhr-Universität Bochum).

Theme of conference: This is the concluding conference of the programme on *Algebraic Lie Theory*. It brings together leading experts of the various branches in this field, ranging from classical Lie theory to the modern use of geometric methods in representation theory. The goal is to review the state of the art and to map out new directions in this highly dynamic and interdisciplinary area of current research.

Speakers will include:

- J. Bernstein (Tel Aviv University)
- C. Bonnafé (Université de Franche-Comté)
- J. Brundan (University of Oregon)
- P. Etingof (Massachusetts Institute of Technology)
- P. Fiebig (Universität Freiburg)
- E. Friedlander (Northwestern University)
- I.G. Gordon (University of Edinburgh)
- R.M. Guralnick (University of Southern California)
- V. Kac (Massachusetts Institute of Technology)
- G.I. Lehrer (University of Sydney)
- I.V. Loseu (Massachusetts Institute of Technology)
- E.M. Opdam (University of Amsterdam)
- V. Ostrik (University of Oregon)
- A. Premet (University of Manchester)

Further information and application forms are available from the web at: www.newton.ac.uk/programmes/ALT/altw04.html. Completed application forms should be sent to Tracey Andrew, Programme & Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email to: t.andrew@newton.cam.ac.uk.

Closing date for the receipt of applications is **31 March 2009**.

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/newsletter/calendar.html).

DECEMBER 2008

- 1-2 From Nonlinear Dynamics to Systems Biology Workshop, Warwick (373)
- 1-5 Large Amplitude Internal Waves, ICMS Workshop, Edinburgh (369)
- 5-12 Partial Differential Equations and Applications Conference, Hong Kong (372)
- 8-12 Rotating Stratified Turbulence and Turbulence in the Atmosphere and Oceans, INI Workshop, Cambridge (371)
- 10-12 Infinite Group Theory and Related Topics Workshop, Edinburgh (373)
- 10-12 Triangulated Categories Workshop, Swansea (374)
- 11 *Harmonic Things*, Gresham Lecture, London (375)
- 12-13 **Joint Meeting with the Edinburgh Mathematical Society, Edinburgh (376)**
- 15-17 Representations of Finite Groups of Lie Type and their Subgroups Meeting, Birmingham (376)
- 15-19 Classical and Quantum Transport in the Presence of Disorder, INI Conference, Cambridge (372)
- 16-18 Mathematics in Signal Processing, IMA Conference, Cirencester (370)
- 17 Kac-Moody Groups – A Profinite Perspective Meeting, Royal Holloway, University of London (376)

JANUARY 2009

- 5-9 Dense Granular Flows, IMA Conference, INI Cambridge (370)
- 7 Global Analysis and Quantisation Day, Warwick (375)
- 8-11 Dynamics and Complexity, UK-Japan Winter School, Bath (375)

- 12 *The Maths of Pylons, Art Galleries and Prisons under the Spotlight*, Gresham Lecture, London (375)

- 12-23 Algebraic Lie Theory Instructional Workshop, INI, Cambridge (374)

- 14 **LMS Northern Regional Meeting, Manchester (376)**

- 28 Winter Combinatorics Meeting, Open University, Milton Keynes (376)

- 29 *Some Interesting Curves*, Gresham Lecture, London (375)

FEBRUARY 2009

- 27 **Mary Cartwright Lecture, London (376)**

MARCH 2009

- 3 *How to be a Winner: The Maths of Race Fixing and Money Laundering*, Gresham Lecture, London (375)

- 23-27 Algebraic Lie Structures with Origins in Physics Workshop, INI, Cambridge (373)

- 30-3 Apr Mathematics of Weather and Climate Prediction Meeting, Meteorological Office, Exeter (376)

- 31-4 Apr **LMS Invited Lectures, A. Ionescu, Edinburgh**

APRIL 2009

- 6-9 BMC, Galway

- 7-9 BAMC, Nottingham (370)

- 20-22 Atiyah80: Geometry and Physics Workshop, Edinburgh (375)

JUNE 2009

- 8-11 British-Nordic Congress of Mathematicians, Oslo (374)

- 9-15 Algebraic Topology, Group Theory and Representation Theory Conference, Isle of Skye (376)

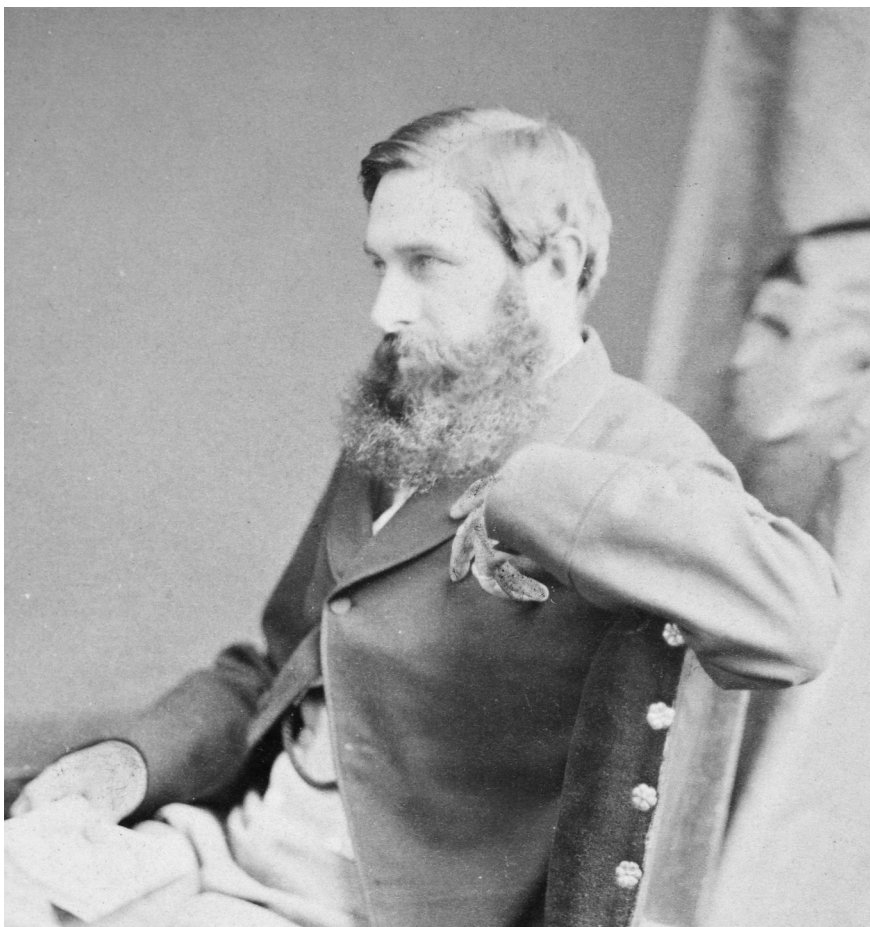
- 15-19 Nonlinear PDE and Free Boundary Problems, Warwick

- 22-26 Representation Theory and Lie Theory Workshop, INI, Cambridge (376)

- 29-3 July Discrete Systems and Special Functions Workshop, INI, Cambridge (375)

R.B. HAYWARD

LMS member 1871–1902



Hills & Saunders, Harrow

Robert B. Hayward, MA, FRS, FCPS
Mathematical Master at Harrow School; Fellow of St John's College, Cambridge;
Fellow of University College London.