THE LONDON MATHEMATICAL SOCIETY

NEWSLETTER

No. 374 October 2008

Society Meetings and Events

2008

Friday 21 November
AGM, London
[*page* 3]

12–13 December
Joint Meeting with the Edinburgh Mathematical Society Edinburgh [*page* 7]

2009

Friday 27 February
Mary Cartwright Lecture, London

31 March – 4 April
LMS Invited Lectures Edinburgh

THE PROPOSAL FOR A NEW SOCIETY

In all likelihood you will now have received a copy of the proposal for a new society, combining the present London Mathematical Society and Institute of Mathematics and its Applications. For a new society to be formed, the IMA and the LMS must both vote separately in favour of the proposal.

There has been debate about this for several years but members could be forgiven for thinking that, despite progress reports appearing in *Mathematics Today* and the *Newsletter*, things had 'gone quiet'. The process leading up to the present proposal has been protracted not because the two societies disagree with one another, which they do not, but because those developing the new model wanted to get the structure right. So it has taken quite a long time.

Some people have made it clear that their minds are already made up, but the Councils hope that most members will be open-minded and will read the proposal carefully before deciding on their position. Opportunities for engaging in discussion include special areas on both the IMA and LMS websites and the possibility of discussions with the two Presidents as they visit various institutions around the country this autumn.

Although the societies in their present form fulfil many of the hopes and expectations of their members, times are changing and the need for mathematics as a unified activity to hold and defend its position in the public sphere grows constantly greater.

As the Presidents' letter which accompanies the report makes clear, there is a pressing need to engage effectively with government, with external bodies, with the media and with the public. A society that represents the broad spectrum of the mathematical community and has a larger membership must inevitably carry greater weight.

Your view is important and you will soon have an opportunity to take part in this important decision. We strongly recommend you to do so.

Charles Evans,
Honorary Secretary Designate IMA
Charles Goldie,
General Secretary LMS

CONSULTATION WEBSITE LAUNCHED

A dedicated website giving information on the proposals for the new unified society, and enabling discussion and feedback, has been launched at www.newmathsoc.org.uk. There are also links to this site from the LMS website.

MATHEMATICS TODAY

As announced in this issue of the LMS *Newsletter*, there will be a wide-ranging consultation of members about the proposals to create a new unified mathematical society to replace the LMS and the Institute of Mathematics and its Applications (IMA). While, as LMS members, you are well informed (not least through the *Newsletter*) of the work and developments of the LMS, you may not be so well acquainted with the activities of the IMA.

The two societies have agreed that, for the period of the consultation, members should be offered the chance of receiving the newsletter of the other society free of charge. Members can also request copies of the latest annual report of the IMA.

Any LMS member who wishes to take up this offer – to receive *Mathematics Today* or the latest IMA annual report – should contact Susan Oakes (susan.oakes@lms.ac.uk).

ANNUAL GENERAL MEETING

21 November 2008

The Annual General Meeting of the Society will be held at 3.15 pm on Friday 21 November 2008 at University College London. The business shall be:

(i) elections to Council and Nominating Committee

(ii) the adoption of the Annual Report for 2007–08

(iii) the report of the Treasurer

(iv) appointment of Auditors

(v) presentation of certificates to Prize winners

I hope that as many members as possible will be able to attend.

Peter Cooper
Executive Secretary

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: Mr A.J.S. Mann (a.mann@gre.ac.uk)

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

Editorial office address: London Mathematical Society, De Morgan House, 57–58 Russell Square, London WC1B 4HS (t: 020 7637 3686; f: 020 7323 3655; e: susan.oakes@lms.ac.uk, w: www.lms.ac.uk)

Typeset by the London Mathematical Society at De Morgan House; printed by Holbrooks Printers Ltd.

Publication dates and deadlines: published monthly, except August. Items and advertisements by the first day of the month prior to publication, or the closest preceding working day.

LONDON MATHEMATICAL SOCIETY

ANNUAL GENERAL MEETING

University College London

Friday 21 November 2008

3.15–3.30	**Annual General Meeting**
3.30–4.30	**Graeme Segal FRS** (Oxford) *Noncommutative geometry and quantum field theory*
4.30–5.00	**Tea**
5.00–6.00	**Michael Green FRS** (Cambridge) 2007 Naylor lecture *Some dualities of string theory and quantum gravity*

The meeting will be held at University College London. The AGM will include the presentation of certificates to the 2008 LMS prize winners.

There are 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).

Enquiries may be addressed to Susan Oakes at the London Mathematical Society.

LMS 2008 ELECTIONS AND OFFICERS

The ballot papers for the November elections to Council and Nominating Committee are being circulated with this copy of the *Newsletter*. Nine candidates for Members-at-Large of Council were proposed by the Nominating Committee for six vacancies.

Please note that completed ballot papers must be returned by **Thursday 13 November 2008**.

A separate form for suggesting names to the Nominating Committee for potential candidates for the 2009 elections is also included; members will also be invited to make direct nominations in the May *Newsletter* next year.

ANNUAL DINNER

The Annual Dinner will be held after the Annual General Meeting at 7.30 pm on Friday 21 November at the Hotel Russell, London WC1. The cost is £42.00 per person, and members may book places for guests. The booking form, enclosed with this *Newsletter*, should be returned together with payment to the London Mathematical Society office by **Monday 17 November.**

LONG-STANDING MEMBERSHIP ELIGIBILITY

At the 2007 AGM, changes to the By-laws were approved. This included the By-law defining the criteria by which long-standing members become eligible for free membership. Formerly there had been two criteria:

(i) attaining the age of 65 and having been a member for not less than 30 years; or

(ii) having been a member for not less than 35 years.

The By-law change deleted criterion (i), i.e. the concession relating to attaining the age of 65 and paying the annual subscriptions for not less than 30 years was removed.

Council recognized that this would affect some members and agreed measures to ensure that members expecting to qualify for free membership under the new By-law were not unduly disadvantaged by this change.

The new arrangements are being phased in over a four-year period such that members who were eligible for free membership under the age-65 and 30-years-membership rule for the 2007–08 subscription year lost no years' free membership; those reaching eligibility for the 2008–09 membership year will lose one year's free membership; those reaching eligibility for 2009–10, two years' free membership, etc. There is no change, of course, to the timing of free membership for those entitled under criterion (ii), i.e. 35 years' continuous membership.

This does mean that those eligible in 2008–09 have lost one year's benefit, i.e. free membership is deferred by one year and will come into effect this time next year. Members affected by the above changes will be contacted direct to inform them of the timing of their new eligibility for free membership.

MATHEMATICS POLICY ROUND-UP

A-level entries

After another year of increases, A-level entries in Mathematics are heading back towards pre-Curriculum 2000 figures. With a 7.5% increase in numbers this year, 65,239 candidates sat the A-level, a similar figure to those sitting the examination in 2001 before the effects of the curriculum change were felt and entries plummeted to 53,940 candidates. However, numbers still have some way to go before they match the peak in 1990, when 78,087 students sat A-level Mathematics. This year, an impressive 9,483 candidates sat the Further Mathematics A-level, an increase of almost 16% on last year. With almost 8% of all A-level entries in mathematics, the subject remains the second most popular after English. Over 80% of A-level candidates achieved at least a C while almost 98% of Further Mathematics candidates did the same. GCSEs have also seen another grade increase, with 56.3% of candidates attaining at least a C.

Christopher Ogunleye
Data Analyst, Mathematics Promotion Unit

New members of ACME

The Advisory Committee on Mathematics Education, the independent panel which advises government on mathematics education strategy and policy at all levels in schools, has welcomed new members and its first full-time Head of Secretariat. Roger Porkess, chief executive of Mathematics in Education and Industry, joins the committee, as does Jack Abramsky, an independent mathematics consultant. Dr Nick Bowes joins ACME to run the secretariat, bringing a wealth of policy and influencing experience from his work at EEF, the manufacturers' organisation, where he represented the interests of member companies in Whitehall and Brussels. He has worked for the Labour Party as Head of Business Liaison and at the CBI. Nick has a first degree in geography and mathematics, and a PhD in geography. ACME is chaired by Professor Adrian Smith, FRS, and is based at the Royal Society.

Caroline Davis
Mathematics Policy and Promotion Officer

2008 BA FESTIVAL IN LIVERPOOL

Mathematical Sciences

How did an employee in a Guinness brewery revolutionise statistical thinking and influence modern pharmacology and drug trials? Stephen Senn, professor of statistics at the University of Glasgow and President of the 2008 British Association Mathematical Sciences Section told this curious story in his presidential address, entitled *One hundred not out – the t-test reaches its centenary.* He explained how William Sealy Gosset had published his work under the pseudonym of 'Student' and looked at the way the *t*-test is applied today. The session was followed by an impressive reception sponsored by pharmaceutical company Amgen.

In total, the BA Mathematical Sciences Section ran eight sessions over the course of the Festival Week. These ranged from a fascinating insight into how mathematics was fundamental to Liverpool's maritime heritage, aiding navigation and accurate tide prediction, to Professor Ulf Leonhardt and collaborator Tomas Tyc delighting their audience by creating black holes and an invisibility cloak. There was plenty of hands-on mathematics around, with stalls at the family-centred Science Explosion weekend and sessions from the FunMaths Roadshow. Other sessions explored fractals, and the role of statistics in law and in sustainability in a post-climate-change world.

Arnaud Chéritat receiving a question about Chaos and Fractals at the BA festival

IMA–LMS CHRISTOPHER ZEEMAN MEDAL 2008

The Councils of the IMA and LMS have awarded the inaugural Christopher Zeeman Medal to **Professor Ian Stewart, FRS**, of the University of Warwick, in recognition of his wide-ranging and highly influential activities in promoting mathematics through books, radio, television and public lectures, thereby bringing the excitement and fascination of mathematics to a large number of people.

The Christopher Zeeman Medal was launched this year as a triennial award of the IMA and LMS to recognise and reward the contributions of mathematicians involved in promoting mathematics to the public, and to encourage others to work in this area by demonstrating that such activities are valued and are a part of a mathematician's role and responsibilities. The Medal is to be presented by Sir Christopher at a joint meeting of the two societies in 2009.

Ian Stewart has been an outstanding communicator of mathematics for nearly 40 years, and has set the standards for all mathematics communicators to follow. Ian Stewart has made a huge contribution to the promotion of mathematics both through his individual work, in inspiring those who work with him, and in developing an extraordinary canon of output. He has inspired countless numbers of people both to have an interest in mathematics

LONDON MATHEMATICAL SOCIETY
EDINBURGH MATHEMATICAL SOCIETY

JOINT MEETING

Edinburgh

Friday and Saturday 12–13 December 2008

The meeting will take place on Friday afternoon and Saturday morning in Edinburgh. The topic of the meeting is *Group Theory* and there are four speakers:

- **Laurent Bartholdi** (Göttingen) *Automatically presented groups*
- **Martin Bridson** (Oxford) *Dimension, rigidity and fixed point theorems*
- **Alain Valette** (Neuchâtel) *The Haagerup property and its stability properties*
- **Efim Zelmanov** (San Diego) *Asymptotic properties of finite groups and finite-dimensional algebras*

For more information, contact Tom Lenagan (tom@maths.ed.ac.uk).

and to take up mathematics as a career.

He is a master of all media for communicating mathematics. He has written 14 popular mathematics books (translated into many different languages), all of which are masterpieces in combining clarity of expression, the means to communicate to a broad audience and also enough deep mathematics to satisfy and educate a professional mathematician. They include such notable works as *Does God Play Dice?*, *Concepts in Modern Mathematics*, *The Problems of Mathematics*, *Nature's Numbers*, *The Magical Maze, Letters to a Young Mathematician* and *Why Beauty is Truth*. In all of these books he has never compromised in the level of mathematics that he has presented, and always manages to find a path to lead a general audience upwards so that they can appreciate the true power and beauty of modern mathematics. This was also evident in the many Mathematical Recreations columns that he wrote for the *Scientific American* and more recently in the Enigmas and Puzzles section of *Prospect Magazine*. He has also frequently appeared on both radio and television and has for many years been the major advocate of mathematics in the popular media. In 1997 he was the Royal Institution Christmas Lecturer (the second ever to present mathematics).

In addition to popular works he has written remarkably clear mathematics textbooks such as *Galois Theory*, *Algebraic Number Theory* and *Catastrophe Theory and its Applications*. He has also conducted leading-edge research into the field of bifurcations with symmetry (supervising many research students), co-authoring the major textbook in this field. This has led to 175 publications including seminal papers on animal gait. As well as his mathematical works, he has written successful science-fiction books and books on extraterrestrial biology which further show his ability to communicate scientific ideas to a vast audience.

GEORGE GREAVES

George Richard Herbert Greaves, Reader in Mathematics at Cardiff University, who was elected a member of the London Mathematical Society on 18 January 1980, died on 24 August 2008, aged 67.

Martin Huxley writes: George Greaves was born in Edinburgh in 1941, where his father was Astronomer Royal. Outside Mathematics, George was a keen cyclist and oarsman. Within the last two years he completed a stage of the Tour de France under exam conditions. George Greaves read Mathematics at Edinburgh and Cambridge Universities, and applied to do research with Heilbronn at Bristol. Heilbronn arranged to interview him at Henley Regatta; "luckily," said George, "we rowed well." Soon, however, Heilbronn left for Canada, and Hooley took over his student. When Hooley moved to Durham, George Greaves accompanied him, and completed his PhD there. In Durham George met Sheila Trelease, a PhD student in Applied Mathematics, who became his wife.

George Greaves's first position was at the University of Reading in 1966. In 1969 he joined Hooley's "useful team" in Number Theory at the University College of South Wales and Monmouthshire in Cardiff, where he remained for the rest of his career, missing his retirement date by two weeks.

George Greaves took his sharp wit and intolerance of mistakes from Heilbronn; his analysis course was feared by the students. His research interests in sieves and divisibility properties of values of polynomials came from Hooley. Sieve methods use ingenious combinatorics and real analysis to show that a given polynomial over the integers takes some values with few prime factors. Greaves's weighted linear sieve of 1982 takes one such method as far as possible. Besides mathematical skills, this work required tenure and the strength to resist pressures to publish.

George Greaves wrote 25 research papers and a careful clear monograph *Sieves in Number Theory* (2001). He supervised three PhD students. He is survived by his wife Sheila and two children, Alastair and Hilary.

KNOWLEDGE TRANSFER NETWORKS

The Knowledge Transfer Networks (KTN) for Industrial Mathematics is delighted to announce a major expansion of its *Industrial Mathematics* Internships programme, supported by the Engineering and Physical Sciences Research Council and the Technology Strategy Board.

Over the last year, the Industrial Mathematics KTN has established a successful programme of Industrial Mathematics Internships. The scheme was launched as a pilot in September 2007 and has attracted keen participation from companies and universities. Six successful new collaborations have been established through the Internships. With the support of EPSRC and the Technology Strategy Board, we are now able to offer an expanded programme, which will run from September 2008 until October 2009 and establish 20–30 new Internship projects.

The six pilot projects were *Key Performance Indicators, insurance cycles and optimal portfolio mix* based at Brunel University in collaboration with Lloyd's; *Improvements in stochastic mortality modelling* based at Heriot-Watt University in collaboration with Barrie and Hibbert; *Comparison of complexity, fidelity and cost of internal ballistics models* based at the University of Bristol in collaboration with Frazer–Nash Consultancy; *Simulation of the underwriting cycle in the liability-property insurance market* based at Brunel University in collaboration with ACE; *Modelling and analysis on supermarket transactions* based at UCL in collaboration with Unilever; and *Capital asset maintenance and support* based at the University of Salford in collaboration with LSC Group. Case studies are currently being prepared and will be available soon.

We are now in a position to establish the next round of projects. If you wish to explore particular suggestions, whether or not you have a partner organization in mind, please get in contact with us or fill out an expression-of-interest form. Application material is available at www.industrialmath.net/content/internships.html.

The overarching objective of the programme is to extend the innovation impact of industrial mathematics, through short projects carried out by current PhD students over three to six months. Each project has a clearly defined programme of work, with valuable impact for both the company and the Intern's research group. Internships place an emphasis on creating new collaborations, which can grow in breadth and depth over time through other mechanisms. The resulting relationships will enhance both research and knowledge transfer in the participating university research groups, as they develop a detailed familiarity with business requirements and priorities.

Each Internship is a collaboration between a host company, an Intern, and a research group within a university. Industrial Mathematics Internships are a new opportunity with a threefold advantage. They enable industrialists to explore new horizons or improve existing operations by bringing mathematical expertise and cutting-edge techniques into their innovation activities. They enable postgraduate researchers to demonstrate their knowledge and insight in addressing industrial challenges. And they provide academics with a means of growing new industrial collaborations and relationships.

Each Internship will be supported by the staff of the Industrial Mathematics KTN: we will assist in establishing the projects, building the relationships, exploiting follow-on opportunities and disseminating case studies.

To find out more about how to get involved with the Internships scheme, please email vera.hazelwood@smithinst.co.uk at the Industrial Mathematics KTN.

Gillian Hoyle
Administrator, Smith Institute

EPSRC NEWS

Calls for proposals

Digital Economy Research Hubs
Proposals for large-scale multi-disciplinary Research Hubs are invited to address the major challenges in the Digital Economy by building critical mass, capacity and expertise. Only one bid may be led by a particular institution. Closing date: **4.00 pm Wednesday 26 November 2008**. www.epsrc.ac.uk/CallsForProposals/DEResearchHubs.htm

HPC Software Development Call 2008/09
This call invites proposals for development of HPC Software. The objective for the call is "ensuring better HPC software for future science". Closing date: **4 pm on 16 October 2008**. www.epsrc.ac.uk/CallsForProposals/HPCSoftwareDevelopmentCall0809.htm

MRC, EPSRC and BBSRC Discipline Hopping Grant Scheme
The scheme is designed to encourage researchers to develop imaginative ways of using techniques or expertise from the engineering and physical sciences to tackle biological or medical research questions. Closing date: **4.00 pm on 12 November 2008**. www.epsrc.ac.uk/CallsForProposals/JointDisciplineHoppingGrant.htm

Joint EPSRC and POST Postgraduate Initiative 2009
A three-month secondment opportunity to the Parliamentary Office of Science and Technology (POST) open to EPSRC-funded PhD students. Closing date: **3 October 2008**. www.epsrc.ac.uk/CallsForProposals/JointEPSRCPOSTPostgradInitiative09.htm

Senior Media Fellowships 2009
Applications are invited for Senior Media Fellowships from leading academic researchers with media experience who wish to spend time working more proactively with the mass media. Closing date: **4 pm on Tuesday 11 November 2008**. www.epsrc.ac.uk/CallsForProposals/SeniorMediaFellowships2009.htm

EPSRC support for masters training

Our current Delivery Plan 2008–2011 has provided us with an opportunity to consider our role as a funder of masters training in light of developments in our strategy. EPSRC has funded masters training – both taught and by research – for many years, although we are very much a minor player on the national field. We remain committed to the principle that researchers in HEIs are best placed to plan and manage masters training and to offer places to students directly.

In the future, EPSRC support will be delivered by two routes. To determine the most appropriate source of EPSRC funding for masters, you will need to consider your aims in offering the training.

If a masters course is intended to act, or historically has acted, primarily as a preparation for doctoral training and you would like to use EPSRC funding for it, a Doctoral Training Account (DTA) is the most appropriate source. Provision for such courses will need to be found from within existing resources. While the relative priorities of masters and doctoral training within a DTA will be left to the grant-holding institution to decide, we would like to highlight the value and flexibility of this mechanism in enabling the development of skills in new and/or interdisciplinary areas which may not be well-catered for at the undergraduate level.

Where masters-level training is intended to enable the better exploitation of the research that EPSRC funds, it might

be suitable for inclusion in a Knowledge Transfer Account (KTA) business case. KTA business cases must meet the criteria of the call and should not be used simply as vehicles to secure funding for masters courses. The current call for KTA proposals is available on the website (www.epsrc.ac.uk/PostgraduateTraining/CollabTrainingKT/KTAs.htm). Please note that KTA applications are being coordinated on an institutional basis with a single integrated submission.

This clarification on our support for masters-level training part is to emphasise that in future, EPSRC will only support masters training via these two routes. It is not a sign that EPSRC will no longer fund this type of activity. However, we do want to ensure that, where it is supported with EPSRC funding, masters-level training acts in support of our broader research strategy.

For further information contact Maggie Wilson (maggie.wilson@epsrc.ac.uk) or Lucy Brady (lucy.brady@epsrc.ac.uk).

EPSRC Mathematical Sciences Programme team

Katharine Bowes left the Mathematical Sciences Programme team in early September to take up a new post in the Chief Executive's Office. We are expecting to recruit a new person to start in November. In the mean time Mark and Janet will be attempting to provide 'business as usual'. If you need advice please do not hesitate to contact us. While we will be retaining our own areas of expertise (listed below) we will also deal with any other queries that you may have which you would have addressed to Katharine. Don't worry if you're not sure who it should be: we will pass on messages or answer questions on behalf of others when we can.

Head of Programme

- Mr David Harman. Responsibilities include: Programme budget and strategy. Email: David.Harman@epsrc.ac.uk, tel: 01793 444 304.

Portfolio Managers

- Dr Mark Bambury. Responsibilities include: Applied Mathematics; Mathematics small grants scheme; Postgraduate training. Email: Mark.Bambury@epsrc.ac.uk, tel: 01793 444 183.
- Mrs Janet Edwards. Responsibilities include: Statistics, Operational Research and Mathematical Physics; Postdoctoral Fellowships. Email: Janet.Edwards@epsrc.ac.uk, tel: 01793 444 066.

Details of all the activities within the Mathematical Science Programme can be found on the programme pages starting here: www.epsrc.ac.uk/ResearchFunding/Programmes/MathematicalSciences/

EPSRC–DSTL Signal Processing outline call

EPSRC and the Defence Science and Technology Laboratory (DSTL) have formed a strategic partnership to fund novel research in signal processing, and are launching a call for outline proposals to address research challenges in the area of signal processing.

It is expected that many academic disciplines will have research ideas to contribute to this call. Up to £2 million is available for the call. We envisage a mix of short-term proposals and PhD project based programmes to be successful in this call. Successful proposals will make up the 'open' aspect of the DSTL University Defence Research Centre on Signal Processing. The closing date for outlines is **29 October 2008**.

Source: Various email communications from the EPSRC and the Mathematical Sciences Programme, September 2008

ROYAL SOCIETY FUNDING OPPORTUNITIES

The Royal Society provides funding opportunities for UK-based scientists to apply to attend overseas meetings of international bodies which are part of the International Council for Science (ICSU) family, provided that the main purpose of the visit is ICSU family business. This scheme is open to all UK-based office-holders and those involved with ICSU family organisations. Closing dates are **1 March**, **1 June**, **1 September** and **1 December**. Full details of the scheme are available at http://royalsociety.org/icsubusinessgrants. The Society also provides a wide range of other funding opportunities to support outstanding scientists at http://royalsociety.org/funding.

ICRA AWARDS

The series of International Conferences on Representations of Algebras (ICRA) was established in 1974 to exchange the latest results in the rapidly developing field of Representations of Finite-Dimensional Algebras. From the outset a major focus has been to bring together leading and well-established experts with young researchers who are just starting out, and profit greatly from the possibilities of exchange, and from associated workshops where recent advances are presented in detail.

At ICRA XI in Patzcuaro, Mexico 2004, the Scientific Advisory Committee decided to establish an ICRA Award, to be awarded at each session of ICRA for outstanding work by young mathematicians in the field of Representations of Finite-Dimensional Algebras. For further information visit the website at www.math.uni-bielefeld.de/~sek/icra.html.

At ICRA XIII in São Paulo, Brazil 2008, two ICRA awards were made. One was awarded to Igor Burban (University of Bonn, Germany) for his work on derived categories of coherent sheaves and modules and their relation to the Yang–Baxter equation. He developed new techniques for explicit calculation in such derived categories of modules and coherent sheaves. His main results were obtained in terms of strings and bands, linking the topic to the representation theory of finite-dimensional algebras and matrix problems.

The second one was awarded to Steffen Oppermann (NTNU Trondheim, Norway) for his highly original, inventive and influential work on representation dimension of finite-dimensional algebras. He has introduced completely new and far-reaching methods to determine lower bounds for representation dimension. He also applied his methods to obtain deep results in a broad variety of problems including representations of algebras, finite groups and coherent sheaves.

The chairman of the Scientific Advisory Committee and of the Selection Committee was Professor Hector Merklen. The next ICRA conference and workshop are planned to be held at Tokyo, Japan, in 2010.

THE FERRAN SUNYER I BALAGUER PRIZE

Ferran Sunyer i Balaguer (1912–1967) was a self-taught Catalan mathematician who, in spite of a serious physical disability, was very active in research in classical Mathematical Analysis, an area in which he acquired international recognition. Each year in honour of the memory of Ferran Sunyer i Balaguer, the Fundació Ferran Sunyer i Balaguer awards an international mathematical research prize bearing his name, open to all mathematicians. This prize was awarded for the first time in April 1993.

Conditions of the prize

The prize will be awarded for a mathematical monograph of an expository nature presenting the latest developments in an active area of research in Mathematics, in which the applicant has made important contributions.

The monograph must be original, written in English, and of at least 150 pages. The monograph must not be subject to any previous copyright agreement. In exceptional cases, manuscripts in other languages may be considered. The prize, amounting to €12.000, is provided by the Ferran Sunyer i Balaguer Foundation. The winning monograph will be published in Birkhäuser Verlag's series 'Progress in Mathematics', subject to the usual regulations concerning copyright and author's rights. The submission of a monograph implies the acceptance of all of the above conditions. The name of the prize-winner will be announced in Barcelona in April 2009.

Submission
Monographs should preferably be typeset in TeX. Authors should send a PDF file of the manuscript to ffsb@crm.cat and a hard copy of the manuscript together with a letter to the Fundació Ferran Sunyer i Balaguer, Carrer del Carme, 47, E-08001 Barcelona by **4 December 2008**. For further information email ffsb@crm.cat or visit the website at http://ffsb.iec.cat.

Scientific committee
The winner of the prize will be proposed by a Scientific Committee consisting of: Hyman Bass (University of Michigan), Núria Fagella (Universitat de Barcelona), Paul Malliavin (Université Paris VI), Joan Verdera (Universitat Autònoma de Barcelona) and Alan Weinstein (University of California at Berkeley).

Recent winners
- Luis Barreira *Dimension and recurrence in hyperbolic dynamics* (2008)
- Rosa M. Miró-Roig *Lectures on determinantal ideals* (2007)
- Xiaonan Ma *Holomorphic Morse inequalities and Bergman kernels* (2006)
- Antonio Ambrosetti and Andrea Malchiodi *Perturbation methods and semilinear elliptic problems on* $\mathbb{R}^n$ (2005)
- José Seade *On the topology of isolated singularities in analytic spaces* (2005)
- Guy David *Singular sets of minimizers for the Mumford–Shah functional* (2004)
- Fuensanta Andreu-Vaillo and José M. Mazón *Parabolic quasilinear equations minimizing linear growth functionals* (2003)
- André Unterberger *Automorphic pseudo-differential analysis and higher-level Weyl calculi* (2002)
- Alexander Lubotzky and Dan Segal Subgroup growth (2002)
- Martin Golubitsky and Ian Stewart *The symmetry perspective* (2001)

SHAW PRIZES

The Shaw Prize is an international award to honour individuals who are currently active in their respective fields and who have achieved distinguished and significant advances, who have made outstanding contributions in culture and the arts, or who in other domains have achieved excellence. The award is dedicated to furthering societal progress, enhancing quality of life, and enriching humanity's spiritual civilization. Preference is given to individuals whose significant work was recently achieved.

The Shaw Prize for 2008 consists of three annual awards: Astronomy, Life Science and Medicine, and Mathematical Sciences. Each prize carries a monetary award of US$1 million. The Shaw Prize, established under the auspices of Mr Run Run Shaw in November 2002, is managed and administered by The Shaw Prize Foundation based in Hong Kong.

The Shaw Laureates 2008 in Mathematical Sciences, for their widespread and influential contributions to Mathematical Physics, are:
- Professor Ludwig Faddeev, Director of Euler International Mathematical Institute
- Professor Vladimir Arnold, Chief Scientist of Steklov Mathematical Institute

For further information visit the website www.shawprize.org.

BRITISH–NORDIC CONGRESS OF MATHEMATICIANS 2009

First announcement

The 25th Nordic and 1st British–Nordic Congress of Mathematicians will be held from 8 to 11 June 2009 in Oslo. There will be 11 plenary talks in the morning and 15 different sessions on a variety of subjects in the afternoons. The plenary talks will be:

Monday	Ib Madsen (Århus) *Algebraic Topology and K-theory*
	Mikael Rørdam (Odense) *Operator Algebras*
Tuesday	Erkki Somersalo (Helsinki) *Applied Mathematics, especially inverse problems **
	Niels Peter Jørgensen (Newcastle) *Homological Algebra*
	Martin Bridson (Oxford) *Geometric Group Theory*
Wednesday	Nils Henrik Risebro, Oslo *Differential Equations*
	Olle Häggström (Göteborg) *Probability*
	Dominic Joyce (Oxford) *Differential Geometry **
Thursday	Frances Kirwan (Oxford) *Algebraic Geometry **
	Hermann Thorisson (Iceland) *Probability Theory*
	Carsten Thomassen (Copenhagen) *Graph Theory*

(* to be confirmed)

The topics for the special sessions with their organizers are:

1. Stochastic and applied analysis (G. Di Nunno, B. Øksendal)
2. Quantum fields and representation theory (H.-P. Jakobsen, J. Fuchs)
3. Algebraic topology (J. Greenlees, I. Madsen, B. Dundas)
4. Inverse problems (L. Päivärinta)
5. Discrete probability (J. Steiff)
6. Nonlinear PDE (H. Holden, K. H. Karlsen)
7. Lie theory: transformation groups, geometric structures and integrability (V. Lychagin, B. Kruglikov)
8. Group theory - group actions (M. Barrios, G.A. Jones)
9. Mathematical physics and spectral theory (T. Ø. Sørensen, H. Cornea, S. Fournais)
10. Operator algebras and non-commutative geometry (S. Neshveyev, R. Nest, N. Larsen)
11. Algebraic geometry (K. Ranestad, R. Piene)
12. Spectral theory and analytic functions (M. Langer, A. Luger)
13. Operator methods for wavelets, dynamics and fractals (in honor of Christian Skau's 70th birthday) (P. Jorgensen, S. Eilers, S. Silvestrov)
14. Non-commutative functional analysis (I. Todorov, L. Turowska)
15. Mathematical logic (D. Norman)

The members of the scientific committee are Ola Bratteli (Chair) (Norway), Helge Holden (Norway), Anders Björner (Sweden), Philip Slovej (Denmark), Eero Saksman (Finland), Ragnar Sigurdsson (Iceland), Ulrike Tillmann (London Mathematical Society), Richard Thomas (London Mathematical Society) and Jim Howie (Edinburgh Mathematical Society).

Please visit the congress website at www.math.uio.no/2009/. Further details on the programme will appear soon.

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Faculty Positions in Mathematical Analysis

at the Ecole Polytechnique Fédérale de Lausanne (EPFL)

EPFL is planning to make a number of appointments in the field of mathematical analysis with non-exclusive emphasis on Partial Differential Equations. Appointments will in principle be made at the Assistant Professor level.

Successful candidates will establish and lead vigorous independent research programs, interact with existing projects and be committed to excellence in undergraduate and graduate teaching. Significant start-up resources and research infrastructure will be available.

Applications should be made via
http://sbpositions.epfl.ch/applications/
by **November 30, 2008.**

Candidates should submit their curriculum vitae including list of publications, concise statement of research and teaching interests, and the names and addresses (including email) of five referees as a single PDF file (at most 20 A4-format pages, not counting the list of publications).

For additional information, please contact :

Professor Alfio Quarteroni (Chairman)
Mathematics Search Committee

Email: alfio.quarteroni@epfl.ch, please specify Subject: «Math Positions» in the email heading

The EPFL School of Basic Sciences aims for a strong presence of women amongst its faculty, and qualified female candidates are strongly encouraged to apply.

VISIT OF PROFESSOR K. DYKEMA

Professor Ken Dykema (Texas A&M) will be visiting the UK during October and November 2008. Professor Dykema's research interests concern free probability and the structure of operator algebras. During his visit he will give the following talks at:

- University of Oxford, Thursday 30 October *Sums of Hermitian operators in finite von Neumann algebras*
- Queen's University Belfast, Saturday 1 November, part of the North British Functional Analysis Seminar, two talks on Schur–Horn Inequalities in II_1-factors. The exact titles for these talks are yet to be determined.
- University of Glasgow, Tuesday 3 November *Some results on approximation in II_1-factors*

For further information contact Stuart White (s.white@maths.gla.ac.uk). Professor Dykema's visit is supported by an LMS Scheme 2 grant.

VISIT OF PROFESSOR R. MESHULAM

Professor Roy Meshulam (Technion, Haifa) will be visiting the UK from 21 to 28 October 2008. His main field of interest is combinatorics and convexity, and applications of algebraic topology. During his visit he will give seminars at:

- Oxford, 21 October *Domination numbers, homology and hypergraph matching*
- Cambridge, 23 October *Laplacians, homology and hypergraph matching*
- University College London, 28 October *Combinatorics and topology of Leray complexes*

For further information contact Professor Imre Barany, University College London (barany@math.ucl.ac.uk). This visit is supported by an LMS Scheme 2 grant.

VISIT OF DR M. PAVLOV

Dr Maxim Pavlov (Lebedev Physical Institute, Moscow) will be visiting Loughborough during October and November 2008. During his visit he will give the following three talks:

- *Universality of the Gibbons–Tsarev system* at Imperial College
- *Classification of integrable conservative hydrodynamic chains* at Loughborough University
- *Linearly degenerate systems of hydrodynamic type and new solutions of the WDVV equations* at the University of Glasgow

For further information contact Jenya Ferapontov (E.V.Ferapontov@lboro.ac.uk). This visit is partially supported by an LMS Scheme 2 grant.

DYNAMICS ON CHARACTER VARIETIES

This mini-workshop is a follow up to the Low Dimensional Geometry and Topology Warwick EPSRC Symposium 2006/2007. The central theme will be different approaches to, and interpretations of, the Markoff tree of traces of simple curves on a once punctured torus. It will take place in the Mathematics Institute, Warwick University from 21 to 23 October 2008. The organisers are Caroline Series and Saul Schleimer. Speakers include:

- Serge Cantat (Rennes)
- Brian Bowditch (Warwick)
- Jack Button (Cambridge)
- Jeroen Lamb (Imperial)
- Anthony Manning (Warwick)
- Caroline Series (Warwick)
- Ser Peow Tan (Singapore)

Limited funds are available for UK travel and subsistence. For more information and registration visit www2.warwick.ac.uk/fac/sci/maths/research/events/2008_2009/workshops.

LMS DURHAM RESEARCH SYMPOSIA

Call for Proposals

The LMS Research Meeting Committee is responsible for the planning of the LMS Durham Symposia, which have been running successfully each July and August since 1974, with 88 symposia to date in a wide range of mathematical disciplines. The LMS Research Meetings Committee welcomes ideas for symposia for 2010 and later, from potential organisers and others, who should contact the Chairman of the Committee, Professor N. Manton (manton@lms.ac.uk).

In 2008 there were two Durham Symposia, both supported by EPSRC:

- *Mathematical Aspects of Graphical Models*, 30 June – 10 July (organisers A.P. Dawid, S.L. Lauritzen)
- *Computational Linear Algebra for Partial Differential Equations*, 14–24 July (organisers: A. Ramage, D.J. Silvester, A.J. Wathen)

The symposia in 2006 and 2007 were as follows:

2006

- *Dynamical Systems and Statistical Mechanics* (C. Beck, C. Dettmann, M. Pollicott)
- *Methods of Integrable Systems in Geometry* (F. Burstall, S. Dorfmeister, M. Guest, F. Pedit)

2007

- *Recent Developments in Random Walks* (B. Hambly, L. Saloff-Coste, P. Tarrès)
- *Twistors, Strings and Scattering Amplitudes* (Z. Bern, P. Candelas, X. de la Ossa, L. Mason)

The Durham website (www.maths.dur.ac.uk/events/Meetings/LMS/) gives information about the above, and all previous symposia including, in many cases, a list of participants, abstracts of talks, a symposium photograph (the earliest surviving photograph is from 1976), lecture notes and, for more recent symposia, videos of the talks.

More information about Durham Symposia is available on the LMS website (http:///www.lms.ac.uk/activities/rmc/).

WIMCS PROBABILITY COLLOQUIUM

Since its foundation about a year ago the Wales Institute of Mathematical and Computational Sciences (WIMCS) has taken up work with respect to research organized in five clusters. In order to bring more outstanding probabilists to the UK the Stochastics Cluster has set up the WIMCS Probability Colloquium. The hope is that this Colloquium will stimulate further collaboration across the UK.

The Colloquium will be launched on Friday 17 October at 3 pm in the Seminar Room, Department of Mathematics, Swansea University. The talks will be given by

- K.-Th. Sturm (Bonn) *Optimal transportation and heat flow on singular spaces*
- M. Ledoux (Toulouse) *Markov operators, classical orthogonal polynomial ensembles and random matrices*

In future the Colloquium will be announced on the WIMCS webpage www.wimcs.ac.uk.

TRIANGULATED CATEGORIES WORKSHOP

A workshop on Triangulated Categories will take place from 10 to 12 December 2008 at Swansea University. The aim of the workshop is to bring together mathematicians working in algebraic geometry and topology, mathematical physics and representation theory in order to exchange results, questions and points of view on the role of triangulated categories in their respective fields. Speakers will include:

- Peter Jørgensen (Newcastle, UK)
- Henning Krause (Paderborn, Germany)
- Teimuraz Pirashvili (Leicester, UK)
- Pierre Schapira (Paris, France)
- Bertrand Toën (Toulouse, France)

The workshop is supported by an LMS conference grant. For more information email g.garkusha@swansea.ac.uk or go to www-maths.swan.ac.uk/staff/gg/Workshop.

RECORDS OF PROCEEDINGS AT MEETINGS

ORDINARY MEETING

held on *Thursday 17 July 2008* at the RAI Conference Centre, Amsterdam, during the Fifth European Congress of Mathematics. At least 80 members and guests were present.

The meeting began at 6.30 pm, with Professor E.B. DAVIES, FRS, President, in the Chair. Professor Davies welcomed members and guests including Professor Laszlo Lovàsz, the President of the International Mathematical Union, Professor Ari Laptev, President of the European Mathematical Society and Professor Henrik Broer, President of the Koninklijk Wiskundig Genootschap. The meeting provided an opportunity for overseas members to meet other members of the Society. The President congratulated the European Mathematical Society and the organisers of the Congress on an excellent meeting, and Professor Andrzej Pelczar, of Kraków, who would be hosting the Sixth European Congress in 2012.

Three members signed the membership book. The meeting was followed by a reception.

FIFTH EUROPEAN CONGRESS OF MATHEMATICS

LMS stand

Part view of the LMS stand at the 5ECM

Susan Oakes, LMS

FIFTH EUROPEAN CONGRESS OF MATHEMATICS

Report

The fifth European Congress of Mathematics was held from 14 to 18 July 2008 in Amsterdam. There were 924 participants (45 from the UK), all of whom fitted comfortably into the auditorium at the RAI Conference Centre and, thanks to its superb equipment, expertly operated, all were able to see and hear perfectly. RAI proved to be an excellent venue for the congress; the Dutch mathematicians earned our gratitude for its smooth running.

The congress opened spectacularly with a live reconstruction of Rembrandt's famous painting 'The Company of Frans Banning Cocq and Willem van Ruytenburch', usually known – erroneously, apparently – as 'The Night Watch'. After the tableau had relaxed and the company had marched out of the auditorium with full military accompaniment, the winners of the ten European Mathematical Society prizes and the Felix Klein prize were announced.

Each day of the congress began with a plenary lecture, after which we had to choose from a menu of six invited speakers (or five and a round-table discussion). These included all of the EMS prize-winners, one of whom (Ben Green) served up what for me was the tastiest dish of the whole congress – fully meeting the high standard set by another British number theorist, Richard Taylor, in the opening plenary lecture. On three of the days we then came together again to broaden our horizons with a 'science lecture', though with a pronounced mathematical slant; indeed, one of these lectures, Jonathan Sherratt's delightful tale of periodic travelling waves in field vole populations, had featured earlier this year in the BMC. The other science lectures were given by Tim Palmer on climate change, with a very practical interpretation of the Clay Millennium Prize Problem on the existence of solutions to the Navier–Stokes equation, and Ignacio Cirac giving an authoritative survey of quantum information theory. As at the BMC, the afternoons were devoted to shorter talks in a number of minisymposia on specific topics, and finished with a second plenary lecture.

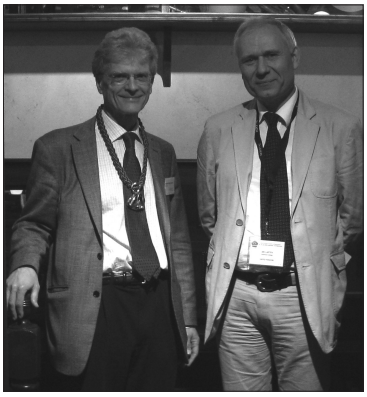
The congress was as successful on the social as on the intellectual level (though, of course, at a gathering of mathematicians the two are hard to distinguish). There was an organ recital and reception in the VU University, framing a lecture by the Brouwer prizewinner Phillip Griffiths; an excellent programme of tours and excursions for companions and participants taking an afternoon off; and a dinner and party in the splendid Hotel Arena in central Amsterdam, accompanied by a violin-piano duo and a jazz quintet (but, in contrast with the ICM in Madrid, no dancing). Finally, and far from least, the LMS capped the social programme with a reception in the

A re-enactment of the famous Rembrandt painting opened the 5ECM

picturesque Café Amsterdam, at the RAI. Brian Davies, the LMS President and Ari Laptev, the European Mathematical Society President spoke, the wine flowed, the canapés iterated and the conversation resonated. This gathering put the cherry on the icing of a very successful congress.

Tony Sudbery
University of York

Brian Davies André Ran Jan Wiegerinck



Brian Davies Ari Laptev

LMS reception in the Café Amsterdam

LMS 2008 POPULAR LECTURES

Report

On a warm but inevitably wet summer's evening on Wednesday 9 July, a large and enthusiastic crowd gathered at the Institute of Education for this year's LMS Popular Lectures. Two contrasting talks were given; one by Reidun Twarock from the University of York, the other by Tadashi Tokieda from Trinity Hall, Cambridge.

Reidun Twarock's talk united mathematics and biology as she explained her research into the geometry of viruses, and how this work enabled new antiviral strategies to be produced. As someone that had very happily dropped biology after GCSEs, I was slightly apprehensive as to how interesting the lecture would be. Well, I need not have worried; the audience received a clear, coherent talk which both enlightened our knowledge of viruses and demonstrated that mathematics alone is an incredible weapon in the battle to restrain them. She explained how the geometry of a virus can be studied to identify symmetries in terms of their construction from the rotations and translations of different shaped faces (most prominently triangles and pentagons). These geometric constructions can be then exploited and the information used in other areas of study, such as linking mutations to a change in geometric construction. It was fascinating to see how such a simple idea in mathematics (namely the study

of shape) could be used with such devastating effects in the study of viruses. Truly a triumph for mathematics over the other sciences!

The second lecture, given by Tadashi Tokieda, used mathematics in a decidedly more recreational environment: toys that spin. He began by demonstrating how cylinders, filled with different amounts of rice, took different times to roll down a hill, and that some did not even move; he linked this to filling objects with a viscous or viscous-less liquid. From angular dynamics, he moved onto linear momentum, impressing the audience still further as he demonstrated a magnetic Newton's cradle, which, rather than mirroring the number of ball bearings colliding with the number of ball bearings being launched off from the centre, actually adds one ball bearing onto the number being launched off! It is fair to say that the audience were very much enthralled by the demonstrations he was giving (incidentally made very accessible by the use of a video camera and projector). He then combined these two ideas, and proceeded to talk about angular momentum, in the form of his favourite toy, the 'tippy top'. He showed that if it is spun, the toy tries to raise its centre of gravity, causing it to tip over onto its thinner end, and that the time taken for it to tip over can be calculated via quite a simple calculation. Finally, he moved onto a new area of research, known as chiral dynamics, which is the study of objects that spin one way but not the other! His entertaining demonstrations and fascinating results created an excellent lecture thoroughly enjoyed by everyone.

Josh Bernstein
Sixth-Former, Trinity School, Croydon

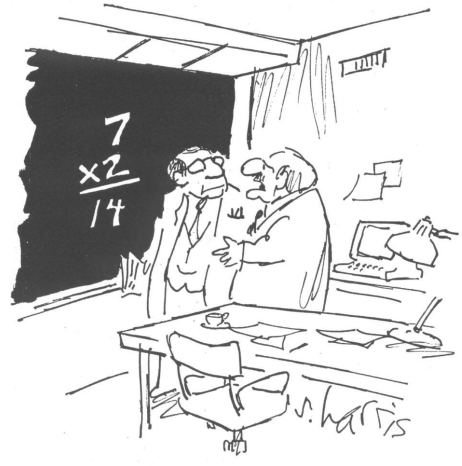
Editorial note: The lectures were recorded for subsequent release on DVD which will be available to buy from the LMS from November: a useful purchase for school and university mathematics departments seeking resources that will stimulate their students.

19TH POSTGRADUATE COMBINATORIAL CONFERENCE 2008

Report

The 19th Postgraduate Combinatorial Conference (PCC) was held from 21 to 23 July at the University of Warwick. The event, which is held annually under the auspices of the British Combinatorial Committee (BCC), was hosted this year by DIMAP (Centre for Discrete Mathematics and its Applications). As DIMAP's areas of interest are discrete modelling, algorithmic analysis, and combinatorial optimization, it provided an excellent environment. In previous years the PCC has been held at the Universities of St Andrews, Glamorgan, Oxford, London (Queen Mary), and Nottingham.

The conference started with a short welcome by Mike Paterson. The general format of the conference was one-hour talks by invited speakers along with twenty-



"With you, everything is gross simplification."

© Sidney Harris

minute contributed talks by participating postgraduates.

The invited speakers were all sponsored by the LMS under a Scheme 1 conference grant. The first invited speaker of the event was Olivier Hudry from École Nationale Supérieure des Télécommunications, Paris, who gave a survey talk on properties of tournament solutions. Imre Leader from the University of Cambridge was the invited speaker for the second day, talking on matchings and paths in the cube. Ian Stewart from the University of Warwick gave an entertaining final talk on generic bifurcation in network dynamics and how problems in this area have curious combinatorial links. Apart from the three invited speakers, there was a careers guidance session provided by Jenny O'Leary, a Careers Consultant from the Careers Support for PhD Students and Research Staff at Warwick University.

The audience consisted of 27 registered student participants and many other Warwick researchers. The contributed talks ranged over extremal graph theory, combinatorics on words, partial orders, and linear extensions to combinatorial game theory. There was a particularly strong showing on the third day by the University of Birmingham with four consecutive talks on graph theory. For more information on the programme and abstracts of the talks see the website http://go.warwick.ac.uk/pcc2008.

The conference banquet was arranged in the Rootes Social Building on campus. The organizers of the event were Haris Aziz (local organizer), Manuela Heuer, Simon Griffiths and Emil Vaughan. The conference was sponsored mainly by the LMS with important contributions from the Open University, BCC and DIMAP. We hope that the sponsors will maintain their support for the PCC in the coming years.

Haris Aziz (University of Warwick)
Manuela Heuer (The Open University)

MATHS ON BBC4

Marcus du Sautoy has a new four-part TV series, *The Story of Maths*, starting at 9 pm (this time is provisional) on Monday 6 October on BBC4. The BBC writes:

"On a journey through the ages and around the world, Marcus du Sautoy describes the often surprising lives of the great mathematicians, explains the development of the key mathematical ideas and shows how – in a multitude of unusual ways – those ideas underpin the science, technology and culture that shape our world."

REVIEWS

MATHEMATICS AT THE EDINBURGH FRINGE
'The root of minus one' by Adam Somerset
14 August 2008

In a rather warm studio at the top of several flights of stairs sat a girl, Rachel, reading Ian Stewart's *From Here to Infinity* and a man, Colwyn, strumming a rather out-of-tune guitar. This was the opening scene of the Edinburgh Fringe production of the play 'The root of minus one' performed by Hartshorn–Hook Productions in association with Angel and Virgins Theatre Company.

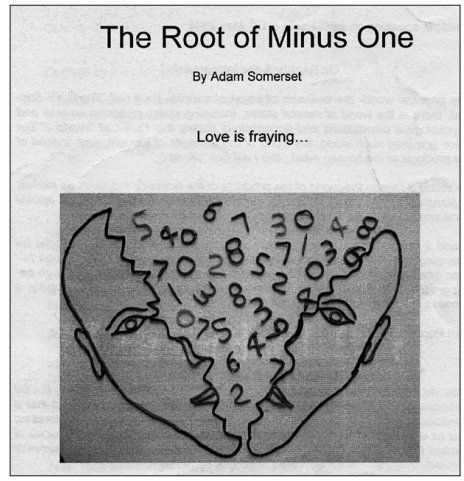
The play unfolded into a poignant insight into this couple's struggle to come to terms with the death of their sister/sister-in-law. The sister, Michelle, had been a budding mathematician at university but had met with a fatal accident before completing her degree. She had developed a very close and possibly intimate relationship with her lecturer, Karen, who helped Rachel and Colwyn find out more about the maths in Michelle's life. Discussions with Karen covered a wide variety of mathematical issues: certain historical mathematics topics such as counting, infinity and the Pythagoreans and other mathematical areas such as topology, calculus and as the title suggests – imaginary numbers.

The actress playing the part of Karen also

cleverly played the character Emily the counsellor who, without giving her own opinion, helped the couple to understand their own fears and feelings.

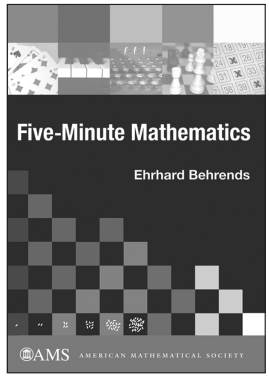
The mathematical content came over with a passion that I hope would inspire others to take more than a passing interest in the subject, as well as a number of amusing insights about mathematicians. If the theatre company ever staged a production in London it would make a great trip for maths students – I would enjoy seeing it again.

Noel Ann Bradshaw
Greenwich University



Five-Minute Mathematics by Ehrhard Behrends, American Mathematical Society, 2008, 380 pp, £19.25, ISBN 978-0-82-184348-2.

Five-Minute Mathematics started life as a series of one hundred weekly columns entitled Fünf Minuten Mathematik, published throughout 2003 and 2004 in *Die Welt* and the *Berliner Morgenpost*. The author's hope was "to convince readers who were traumatized by school mathematics that the subject is not the boring, dry-as-dust subject that they remember, but a wellspring of fascination and excitement". The columns generated considerable interest when they first appeared, and the author decided to collect them all together in book form, first in a German edition, and now in an English edition published by the American Mathematical Society and Oxford University Press. The columns have been carefully revised and extra material has been added when this seemed appropriate.



The columns are a delight to read. They range very widely through mathematics, both ancient and modern, from Euclid's proof that there are infinitely many primes to the 'P = NP?' Conjecture, from straightedge-and-compass constructions to the Monty Hall problem in probability, and from the mathematics of music to Andrew Wiles's proof of Fermat's last theorem.

Professor Behrends is a well-known expositor who will shortly be taking over as Chair of the European Mathematical Society's committee on Raising Public Awareness of Mathematics. He has certainly raised public awareness with these fine columns, which are clearly and engagingly written, and he does not shy away from difficult topics when he can find a way to explain them at an appropriate level – even the Riemann hypothesis and the work of Perelman find a place within these pages. The publishers have also done an excellent job; the print is clear and there are a large number of full-colour pictures, all printed on high-quality paper. The book is a delight to dip into, and can be highly recommended as a stocking present for yourself or someone else this Christmas.

Robin Wilson
Open University

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

INSTRUCTIONAL WORKSHOP

12–23 January 2009

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

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

Theme of workshop: The programme *Algebraic Lie Theory* covers a wide spectrum of topics, ranging from more classical areas like the theory of Lie algebras and Lie groups (over real, complex, *p*-adic or finite fields), through connections with geometry, combinatorics and homological algebra (Schubert varieties, Kazhdan–Lusztig theory, categorification, ...), and on to the study of new classes of algebras like cyclotomic Hecke algebras or finite *W*-algebras. The 2-week instructional period provides an introduction to these topics by leading experts in the field. There will be a mixture of lectures, informal discussions and/or problem sessions, in order to ensure a close interaction between the speakers and the participants.

Speakers will include:

- P. Achar (Louisiana State University)
- C. Bonnafé (Université de Franche Comté)
- M. Broué (Institut Henri Poincaré)
- J. Chuang (City University, London)
- M. Geck (University of Aberdeen)
- A. Kleshchev (University of Oregon)
- A. Ram (University of Melbourne)
- R. Rouquier (University of Oxford)
- D. Vogan (Massachusetts Institute of Technology)

Further information and application forms are available from the web at: www.newton.ac.uk/programmes/ALT/altw01.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 October 2008.**

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).

OCTOBER 2008

28 WIMCS Probability Colloquium, Swansea (374)
21-23 Dynamics on Character Varieties Mini-Workshop, Warwick (374)
28 Mathematical and Statistical Modelling in Medicine and Health Science Symposium, Belfast (372)

NOVEMBER 2008

11 LMS/BCS-FACS Evening Seminar, London
21 LMS AGM, London (374)

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)
12-13 Joint Meeting with the Edinburgh Mathematical Society, Edinburgh (373)
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)

JANUARY 2009

5-9 Dense Granular Flows, IMA Conference, INI Cambridge (370)
12-23 Algebraic Lie Theory Instructional Workshop, INI, Cambridge (374)

FEBRUARY 2009

27 LMS Mary Cartwright Lecture, London

MARCH 2009

23-27 Algebraic Lie Structures with Origins in Physics Workshop, INI, Cambridge (373)
31-4 Apr LMS Invited Lectures, A. Ionescu, Edinburgh

APRIL 2009

6-9 BMC, Galway
7-9 BAMC, Nottingham (370)

JUNE 2009

8-11 British–Nordic Congress of Mathematicians, Oslo (374)
15-19 Nonlinear PDE and Free Boundary Problems, Warwick

AUGUST 2009

1-15 Groups St Andrews 2009, Bath (372)

AUGUST 2010

19-27 International Congress of Mathematicians 2010, Hyderabad, India (365)

LMS CONFERENCE FACILITIES

Organising a conference in central London? Meeting rooms and catering are available in De Morgan House. For terms and availability, please call 020 7927 0800 or email roombookings@demorganhouse.co.uk.

J. GLAISHER

LMS member 1868–1902

A.J. Melhuish, Portman Square, London

James Glaisher, FRS, FRAS
Meteorologist and aeronaut. Superintendent of the department of meteorology and magnetism at Greenwich Observatory 1838–74. Established the Meteorological Society in 1850 and later co-founded the Aeronautical Society of Great Britain. Author of *Travels in the Air* (1867).