

No. 393 June 2010

Society Meetings and Events

2010

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Wednesday 25 August LMS Meeting ICM 2010, Hyderabad

Monday 6 September

Midlands Regional Meeting, Nottingham [page 17]

Wednesday

29 September Popular Lectures Birmingham [*page* 14]

Friday 19 November

Annual General Meeting and Naylor Lecture, London

COUNCIL MEETING 26 March 2010

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After receiving apologies and reviewing the minutes of the previous Council meeting we were updated on news relating to the staffing at De Morgan House. In between this Council meeting and the previous meeting a subgroup of us had been busy in a crucial task on behalf of the Society, namely shortlisting and interviewing for our new Executive Secretary. The President confirmed that, from a strong field, the unanimous recommendation of the interview panel had been that we appoint Fiona Nixon, currently Director of Professional Services, Development and Standards at the College of Optometrists, who will join us from 14 June. We look forward to working closely with Fiona.

Under President's business, Angus Macintyre reported on a busy schedule of meetings on our behalf since the new year. Highlights were officiating with his IMA opposite number at the David Crighton Award to Professor Keith Moffat on 17 March and attending the LMS Mary Cartwright Meeting and Lecture in Durham in February.

We spent some time on a consideration of bids for funding of activities prior to preparation of the draft budget for 2010–11, looking at proposals prepared by the chairs of the various LMS committees, some of these requiring modest increases in spend. The proposals ranged from additional LMS meetings to celebrate our 150th anniversary, to an annual Education Day and for funding to be set aside to develop a journal online tracking system, improving the successful publishing side of the LMS. All had been agreed previously or had strong merit and we asked the Treasurer to try to work to accommodate all these requests when drafting the budget.

The General Secretary, Martin Hyland, presented proposals for filling vacancies on various LMS committees, and for establishing a Website Working Party. This new aroup, consisting of Stephen Huggett as Chair, June Barrow-Green, Sasha Borovik, John Greenlees. Burt Totaro, and from the LMS staff Isabelle Robinson and the new Executive Secretary Fiona Nixon, has a remit to develop proposals for redevelopment of the LMS website, so as to serve the needs of the various activities of the society and its supporting staff. This group will work as quickly as it can, given the urgent need for updating and additional functionality.

As another item of Society Business, we turned to discussion of some proposals on the way Council and its Finance and General Purposes Committee (F&GPC), a committee composed of the Officers of the Society, should operate. Uncontroversial was a proposal that

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the Council return to a schedule of six meetings a year from its current five. There was more debate around proposals for modifications to the remit of F&GPC. Two changes were eventually agreed, including removal of the requirement of F&GPC to "Advise Council on Strategy and Policy": it was felt by the majority on Council that this was the remit either of Council itself, or for delegation, in particular policy areas, to specialist committees.

Looking back at my notes we seem to have spent particularly long at this meeting on matters relating to the organisation of the Society, but this was time well spent, setting in motion other, externally-facing activities through work of the LMS committees. In this vein, Vice-President Ken Brown proposed the beefing up and revitalising of the activities of the Research Policy Committee, which Council subcontracts to do some of the grunt work in developing policies relating to mathematical research, monitoring developments related to the health of mathematics research, and leading on activities to inform and influence public policy. Ken proposed a membership for the committee that he will chair in his VP role, and proposed that the committee work in the first instance to create a number of short position papers on key issues of research policy, with an audience of the mathematical community, policy makers and journalists.

Simon Chandler-Wilde

GENERAL MEETING

There will be a General Meeting of the Society on Friday 2 July, to be held at 3.30 pm at University College London. The business shall be: 1) the appointment of Scrutineers

- i) the appointment of scrutineers
- 2) announcement of Council's recommendation for Election to Honorary Membership
- 3) announcement of Prize winners for 2010 The General Meeting will be followed by

the Society Meeting (see next page). I hope that as many members as possible will be able to attend.

> Ivor Goddard Executive Secretary

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Charity registration number: 252660.

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LONDON MATHEMATICAL SOCIETY MEETING AND HARDY LECTURE

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Friday 2 July 2010

J.Z. Young Lecture Theatre, Anatomy Building, Gower Street, University College London, London WC1

- **3.30** Opening of the meeting and LMS business, including the announcement of the 2010 Prize winners (open to all)
- 3.45 **Raphaël Rouquier** (Oxford) *Title tbc*
- 4.45 Tea/Coffee
- 5.15 Hiraku Nakajima (Kyoto, Japan) will give the Hardy Lecture on Instanton counting and Donaldson invariants
- 6.30 Reception

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

A reception will be held at the LMS at 6.30 pm with a dinner afterwards at the British Museum Restaurant. The cost to attend the dinner will be £35 per person. Those wishing to attend the dinner should contact Isabelle Robinson (isabelle.robinson@lms.ac.uk) before **25 June**.

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@Ims.ac.uk) for further information.

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NEW LMS WEBSITE

LMS Council has set up a working group with a remit to prepare specifications for the design and development of a new website for the London Mathematical Society. As a first step, a blog has been set up – to collect any suggestions from LMS members and the wider mathematics community. In particular, what features, functionality and content would you like to see on the new website? Please feel free to contribute to the blog: http://lmswebsite. wordpress.com.

The website working group are: June Barrow-Green (Member-at-Large of Council and Librarian), Alexandre Borovik (Memberat-Large of Council), John Greenlees (Vice-President), Stephen Huggett (Programme Secretary and Working Group Chair), Fiona Nixon (incoming Executive Secretary), Isabelle Robinson (Group Head, Society & Grants, and current Webmaster), Burt Totaro (Member-at-Large of Council).

LMS RESEARCH WORKSHOPS

The Research Meetings Committee of the LMS has funds to support a number of research workshops every year. These may be held anywhere in the UK, and are an opportunity for a small group of active researchers to work together for a concentrated period, on a specialised topic. Possible aims could include:

- to understand an important new piece of mathematics in an area where the participants hope to make further progress;
- to make progress on a particular problem;
- to combine expertise to shed new light on a specific area.

There is no prescribed format for an LMS workshop, but it is expected that the number of participants will be no more

than 40, and could be as low as 10, meeting for a period of several days. All participants should be actively involved in the programme, and should be identified in the proposal; the participation of appropriate postdocs and graduate students is encouraged. All proposals are refereed, and the Committee will only offer support if it believes that the benefits to UK mathematics are likely to be significant. Applications should be made 8–12 months before the proposed workshop.

Requests for support (for travel and subsistence of participants, and reasonable associated costs) in the range £1,000–£10,000 will be considered by the Committee. Applications for partial support of workshops with other sources of support will be considered. The primary purpose of the scheme is to support new research initiatives rather than meetings which form part of an established series. Grant requests for conferences should be made to the Society's Programme Committee instead, which has funds for this purpose.

Applications can be made to the Chair of the Research Meetings Committee, Professor Nick Manton, at any time. There is no application form. Proposals should contain a description of the research area, the aims and format of the workshop, a list of participants and a budget, as well as details of proposed location and timing. Applicants may consult Professor Nick Manton (manton@lms.ac.uk) informally about their proposed workshop before making an application.

Workshops recently supported include:

- Dehn Filling Day (Warwick)
- Degenerate Reaction-diffusion Systems Arising in Solvent Diffusion and Biological Models (Brunel)
- Workshop on Clouds and Turbulence (Imperial)
- Chow Motives, Quadratic Forms and Algebraic Groups (QUB)

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LMS HARDY LECTURER 2010

The 2010 LMS Hardy Lecturer is **Professor Hiraku Nakajima** (Kyoto University). During his visit to the UK he will give talks at Edinburgh, Leeds and Oxford, followed by the Hardy Lecture at the Society meeting in London on 2 July.

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Quiver varieties and cluster algebras

Edinburgh: 18 June at 4.30 pm, Lecture Theatre 175, Old College Organiser: lain Gordon (igordon@ed.ac.uk)

Quiver varieties and cluster algebras

Leeds: 22 June at 4 pm, The Mall, School of Mathematics. Organiser: William Crawley-Boevey (W.Crawley-Boevey@leeds.ac.uk)

Quiver varieties and double affine Grassmannian Oxford: 28 June at 4.30 pm, Room L2, Mathematical Institute. Organiser: Tamás Hausel (hausel@maths.ox.ac.uk).

Instanton counting and Donaldson invariants

London: 2 July at 5.15 pm, Anatomy Building, University College London. Organiser: Isabelle Robinson (isabelle.robinson@lms.ac.uk)

Professor Raphaël Rouquier (Oxford) will also speak at the London meeting (at 3.45 pm).

For further information contact the local organisers. For general enquiries contact Isabelle Robinson (isabelle.robinson@lms.ac.uk).

WILLIAM ROWAN HAMILTON GEOMETRY AND TOPOLOGY WORKSHOP

The 6th William Rowan Hamilton Geometry and Topology Workshop will take place at the Hamilton Mathematics Institute (HMI), Trinity College, Dublin, Ireland from 2 to 5 September 2010. This year's topic is Knots, Surfaces and Three-Manifolds. The speakers are listed on the right.

The workshop is co-sponsored by Boston College, the HMI and the NSF. A limited amount of funding is available for both junior and senior researchers wishing to attend. For further information visit the website at www.hamilton.tcd.ie/events/gt/ gt2010.htm.

Speakers:

- Ian Agol (Berkeley)
- Brian Bowditch (tbc) (Warwick)
- Stefan Friedl (Warwick)
- Cameron Gordon (UT Austin)
- Eli Grigsby (Boston College)
- Brendan Guilfoyle (IT Tralee)
- András Juhász (Cambridge)
- Jeremy Kahn (Stony Brook)
- Graham Niblo (Southampton)
- Brendan Owens (Glasgow)
- Alan Reid (UT Austin)
- Sucharit Sarkar (Columbia)
- Jennifer Schultens (UC Davis)

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MATHEMATICS POLICY ROUND UP

Promoting mathematics as the core of science The National HE STEM Programme's mathematical sciences strand is looking to fund three scoping studies which aim to identify strategies to present mathematical sciences to the public as being at the core of all STEM subjects, rather than being a stand alone subject. Each successful proposal will receive £8,000. University mathematical sciences departments are invited to submit proposals by Friday 11 June 2010 and the work should be finished within six months. The National HE STEM Programme is a three-year, £21million initiative funded by the Higher Education Funding Councils for England and Wales (HEFCE and HEFCW) that commenced on 1 August 2009. Building on the experience of the More Maths Grads project, a group of societies and others in the mathematical sciences have collaborated to oversee and direct the mathematical sciences input to the National HE STEM Programme. The bodies comprise: the LMS, the Institute of Mathematics and its Applications, the Royal Statistical Society, the Heads of Departments of Mathematical Sciences, sigma (the mathematics and statistics Centre for Excellence in Teaching and Learning) and the HEA MSOR Network. Application forms are available at www.ima. ora.uk/hestem/index.html#fcmsor.

For more information about the National HE STEM project visit www.stemprogramme.com.

Strategically Important and Vulnerable Subjects

Following a report on the state of the strategically important and vulnerable subjects (SIVs), on 1 April 2010 HEFCE wrote to heads of universities and eligible HEFCE-funded colleges inviting them to apply for funding to shift the balance of their provision towards these subjects in 2010–11. The subjects in question are certain science, technology, engineering and mathematics subjects and modern foreign languages. The report had noted: "A significant increase in students taking Mathematics A level can be expected to have a positive impact on HE admissions throughout science and engineering." HEFCE has allocated £10 million for the initiative, which it hopes will help to support the movement of between 3,000 and 6,000 undergraduate fulltime equivalent students in 2010–11.

More details are in HEFCE Circular letter 06/2010, which can be accessed at the following link: www.hefce.ac.uk/Pubs/circlets/2010/ cl06_10.

Research Excellence Framework

HEFCE have released details of the responses it received to its latest consultation on the Research Excellence Framework (REF) to which the Council for the Mathematical Sciences submitted a response. In a letter to vice chancellors, HEFCE Chief Executive Sir Alan Langlands wrote: "In the light of the consultation feedback the UK funding bodies have taken initial decisions on many key aspects of the design of the REF, with the main exceptions being the configuration of panels, the method for assessing impact, and the weightings between outputs, impact and environment. We are considering the overall timetable for the completion of the first REF exercise, in the light of feedback from the consultation and the refinements we are making." He noted that many responses had urged the need to develop a robust method for assessing impact. Without offering a specific new proposal, he did suggest the weighting for this element within the overall quality assessment should be lower than the controversial 25 per cent originally proposed, which is in line with what the CMS had argued for in its submission.

To read the CMS submission see www.cms. ac.uk/submissions.html. To read a summary of the responses received by HEFCE see www. hefce.ac.uk/pubs/consult/outcomes/ref2.asp.

(Continued on the next page)

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(continued from page 7)

Defending Mathematics in the City

Dr Tim Johnson, of the Department of Actuarial Mathematics and Statistics at Heriot-Watt University, was interviewed in the Financial Times on 15 April. The article described how financial mathematicians have been thrust to the forefront since the start of the financial crisis, forced to defend the world of mathematics. Dr Johnson is quoted as saying, "There [is] a sense of bewilderment amongst mathematicians [about] that view that mathematics was responsible for the crisis." The article concluded that it was not mathematics or economics which damaged the financial system, but bad mathematics and economics which were used and abused, adding, "Now, more than ever, mathematicians need to get out of their ivory towers or back offices and state that loudly."

To read the article visit www.ft.com/comment/ columnists/gilliantett.

Making Sense of Statistics

In the week before the general election took place, a group of statisticians, scientists and

journalists brought out a guide explaining how they make sense of statistics and what pitfalls to look out for. Key messages included:

- statistics borrow from mathematics an air of precision and certainty but also call on human judgment and so are subject to bias and imprecision
- knowing what has been counted, and how, tells us whether a study can really answer the question it addresses
- like words, numbers and statistics mean different things in different contexts

 just because something is statistically significant it doesn't mean it is practically significant or of importance to society

The guide, entitled Making Sense of Statistics, was a joint production between statistics campaign group Straight Statistics and the science campaigners Sense about Science; the guide's authors include David Spiegelhalter, professor of public understanding of risk at the University of Cambridge, and former journalist Nigel Hawkes, founder and director of Straight Statistics.

To view the report visit the website www. senseaboutscience.org.uk/PDF/MSofStatistics. pdf.

LMS Teaching Position Statement

In April the LMS issued its Teaching Position Statement on *Mathematics degrees, their teaching and assessment;* see the next page. The statement was reported by the Times Higher Education (THE) and the following week also received gently satirical coverage in the THE's *The Poppletonian*.

> Caroline Davis Mathematics Promotion Officer



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TEACHING POSITION STATEMENT

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The LMS Education Committee has issued support for those teaching mathematics in higher education. The *Teaching Position Statement* aims to explain to non-mathematical colleagues some of the distinctive features of the assessment and teaching of mathematics, both as a subject in its own right and in a service teaching context.

The statement comes after numerous requests from LMS members and colleagues. It addresses four areas where the mathematical sciences differ significantly from many other subjects and where, consequently, mathematicians may be asking their universities for flexibility in procedures.

Teaching Position Statement (Précis)

1. A student who fails a small number of individual modules, but has an overall satisfactory average, should not be deemed to have failed a degree programme in mathematics.

In mathematics, raw marks over 90% and under 20% are not uncommon, whereas a range from 50% to 75% would be normal in humanities subjects. Even the best learners may find some topics difficult to grasp and may achieve some low marks in a profile that is clearly of overall excellence. Requiring students to pass all modules to gain a degree, regardless of their overall score (as is expected in some universities), skews the nature of the study of mathematics. It encourages the removal of challenging material from modules and leading students to 'play safe' in their choice of subjects.

2. On occasion, a specific module should be available to more than one year of a mathematics degree.

Not all mathematics modules have a natural year of study in the undergraduate programme. Mathematics is a cumulative and sequential subject, so it can sometimes be difficult to assign a clear level to a particular topic. Some topics fit quite naturally into a modular system with prerequisites, and in turn many more modules may require it. Hence, a module may quite naturally be studied in different years by different students, and yet still make appropriate contributions to the two students' differing sub-webs of connected modules.

3. Masters degrees in mathematics should not necessarily be obliged to reach the frontiers of knowledge.

Mathematics is a very advanced and highly developed subject so it is unsurprising that, in some areas of the subject, reaching the cutting edge of research could require five or more years of rigorous study. Thus, while MMath programmes will have developed students' mathematical maturity, and given them some sense of the nature of the research frontier, they will certainly not have reached it along a broad front.

4. Despite the agreed importance of modern, computer-based teaching and learning, lectures delivered using clearly visible boards should continue to play an important role.

Software packages provide practical aids to learning mathematics, but to understand the process of doing mathematics, students need to see someone else working through and creating the results. Consequently, during a lecture, the lecturer must be able to create and write out a large body of argument. Ideally, most of what is written during a fifty-minute lecture will still be visible at the end: the lecturer will often be referring back to earlier material. Lecture boards (often chalkboards in large lecture theatres) remain an important technology for teaching mathematics in an exciting and interactive way, promoting a good understanding of the subject. In addition, there is growing concern that the practice of putting lecture notes on websites is encouraging students not to attend lectures. Printed notes are no substitute for attending a lecture and seeing mathematics being created.

The committee hopes that the Statement will support colleagues and would be very interested in any feedback from members.

The full statement is on the policy section of the LMS website at www.lms.ac.uk/policy/2010/ teaching_position_statement.pdf.

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LONDON MATHEMATICAL SOCIETY SOUTH-WEST AND SOUTH WALES

REGIONAL MEETING

Operator Algebras and Physics

Monday 21 June 2010, 2.00 pm

Lecture Room M/0.40, School of Mathematics, Cardiff University

Speakers:

Werner Nahm (DIAS, Dublin)

Constantin Teleman (Berkeley)

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 to be held after the meeting, email the organisers David Evans (EvansDE@cf.ac.uk) or Mathew Pugh (PughMJ@cf.ac.uk). The cost of the dinner will be approximately £30, including drinks.

The regional meeting is embedded in a five-day workshop on *Operator Algebras* and *Physics* during 21 to 25 June 2010 at Cardiff.

Constantin Teleman will continue with a series of talks during this workshop on *Two-Dimensional Topological Quantum Field Theories and Gauge Theories*. Other confirmed invited speakers include:

- Theo Banica (Paris)
- Terry Gannon (Alberta)
- Johannes Kellendonk (Lyon)
- Michael Müger (Nijmegen)
- Andreas Recknagel (KCL)
- Karl-Henning Rehren (Göttingen)
- Richard Szabo (Heriot-Watt)
- Jean-Louis Tu (Metz)
- Gerard Watts (KCL)

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 the organisers.

Further details from www.cardiff.ac.uk/maths/subsites/opalg/eu-ncg/lms_meeting.html.

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First printed in 1967, this book has been essential reading for aspiring algebraic number theorists for more than forty years. It contains the lecture notes from an instructional conference held in Brighton in 1965, which was a milestone event that introduced class field theory as a standard tool of mathematics. There are landmark contributions from Serre and Tate. The book is a standard text for taught courses in algebraic number theory.

This second edition includes a valuable list of errata compiled by mathematicians who have read and used the text over the years.

Contributors:

J.V. Armitage M.F. Atiyah B.J. Birch D.A. Burgess J.W.S. Cassels A. Fröhlich

K. Gruenberg H. Halberstam H. Hasse H.A. Heilbronn K. Hoechsmann

M. Kneser R.R. Laxton A. Lue I.G. Macdonald J. Neggers P. Roquette J-P. Serre H.P.F. Swinnerton-Dyer J.T. Tate C.T.C. Wall R

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Ordering information:

The book may be ordered via the major online bookstores (e.g. Amazon UK, Amazon USA). A small number are also available directly from the LMS using the order form found at http://www.lms.ac.uk/CasselsFrohlich.pdf.

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ROGER THATCHER

Dr Roger Thatcher, who was elected a member of the London Mathematical Society on 20 January 1984, died on 13 February 2010, aged 83.

John Fox writes: Roger contributed significantly to the international demographic literature on centenarians, especially those who lived to over 110. But throughout his career he was a man of wide ranging interests, with learned articles to his name on subjects as diverse as Newtonian cosmology, mathematics and prehistoric archaeology.

Roger went to Levs School, Cambridge, and then to St John's College, where he studied Mathematics, Economics and Statistics. After demobilisation Roger joined the North Western Gas Board from where he moved to Government Statistics working for the Admiralty, the newly formed Central Statistics Office, pulling together data for the Robbins Committee on demand for Higher Education and the Decimal Currency Commission. In the late 1960s Roger became Director of Statistics in the Department of Employment and Productivity, where he had a ringside seat observing British politics in action. Ministers he served included Michael Foot, Barbara Castle and Willie Whitelaw.

In the late 1970s Roger became the 12th Registrar General for England and Wales since 1836 – one of the oldest offices in central government. He was responsible, in his dual role as Director of the Office of Population Censuses and Surveys (OPCS), for delivering the 1981 Population Census. This was his most challenging role, simply because of the scale of the operation, sensitivity about inclusion for the first time of an ethnic origin question and lack of flexibility.

Roger's interest in centenarians grew out of him noticing that the 1981 Census found about twice the number of centenarians as had been expected on the basis of 90-yearolds recorded in 1971 Census. This led to research that kept him engaged throughout his retirement. He worked with the worldrenowned Max Planck Institute for Demographic Research to create an international database of validated death data at the oldest ages. His book The Force of Mortality at Ages 80 to 120 was first published in 1998 with Väinö Kannisto and James Vaupel and then updated in 2002. A review of Roger's contribution appears on the Institute's website.

Roger is survived by his wife Mary Audrey Betty Thatcher (*née* Street), whom he married in 1950, and his two daughters Jill and Susan.

EXTREMAL AND PROBABILISTIC COMBINATORICS

A one-week study workshop will be held in Petersfield (Hampshire) from 18 to 25 July 2010. The workshop is aimed at PhD students and junior researchers in the area of *Extremal and Probabilistic Combinatorics*. The main part of the programme will be talks given by the participants on research papers of established researchers. Two keynote half-day tutorials will be given by

- Oleg Pikhurko (Carnegie Mellon University, USA)
- Balázs Szegedy (University of Toronto, Canada)

Further information can be found on the workshop website at www2.warwick. ac.uk/fac/cross_fac/dimap/events/webc. The workshop is organised by the Centre for Discrete Mathematics and its Applications (DIMAP), University of Warwick. Support for this event from the London Mathematical Society (Scheme 8 Postgraduate Research Conference grant), DIMAP, and the British Combinatorial Committee is gratefully acknowledged.

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LONDON MATHEMATICAL SOCIETY

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POPULAR LECTURES 2010

Institute of Education, London – Wednesday 30th June University of Birmingham – Wednesday 29th September

Dorothy Buck Imperial College, London

Modelling the Circle of Life: How Maths Untangles Knotty DNA Questions

Come and see how mathematically understanding knots, like the kind in your shoelaces, has helped us to understand DNA better.

Matt Parker

Clutching at Random Straws

Did aliens help prehistoric Britons found the ancient Woolworths civilization? Matt will look at how seemingly incredible results can actually be meaningless random patterns.

LONDON: Commences at 7.00 pm, refreshments at 8.00 pm, ends at 9.30 pm.
Admission is free, with ticket. Apply by 25th June.
BIRMINGHAM: Commences at 6.30 pm, refreshments at 7.30 pm, ends at 9.00.
Admission is free, with ticket. Apply by 24th September.

Tickets available from Lee-Anne Parker, London Mathematical Society, De Morgan House, 57-58 Russell Square, London, WC1B 4HS (email: leeanne.parker@lms.ac.uk). A stamped addressed envelope would be appreciated.

The lectures are intended to be suitable for a general audience and no specific mathematical knowledge will be assumed. Although the talks are not primarily intended for professional mathematicians, everyone is welcome and some members may wish to apply for tickets for friends and relatives.

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INNOVATORS AND EDUCATORS

Exhibition at UCL Main Library

Focusing on some of the pioneering people from the 19th Century, this exhibition displays a small collection of records which give a glimpse into the societies, such as the London Mathematical Society, that grew up around University College London (UCL) and Bloomsbury.

Look out for Augustus De Morgan's light-hearted self-portrait (pictured right) and read through one of the original invitations to the first LMS meetings sent by George De Morgan and Arthur Ranyard.

Other notable exhibits include a sketch of the London Mathematical Society's logo (pictured below) with the Latin motto Vis unita fortior (United Strength is Stronger), which is accompanied by Sophia De Morgan's comments on the two mysterious dates 5625 and 1280.

Alongside images of Augustus De Morgan, the display features letters from John Elliotson, a Professor of Medicine whose use of hypnosis at University College Hospital sparked controversy in the 1830s, records from the 'Graphic

Sketch of the London Mathematical Society logo (Courtesy of UCL Special Collections.)

Sketch of Augustus De Morgan in the Pillory. (Courtesy of UCL Special Collections.)

Society' and maps which chart the growth of the Bloomsbury area.

Housed in a large display case on the Grand Staircase in UCL's main library, the exhibition will run until the end of June and is open during the Library's regular opening hours (09.30–18.45 Mon–Fri, and 11.00–17.45 on Saturdays. Closed on Sundays). Entrance is free.

For further details and to download the exhibition catalogue, please visit www. ucl.ac.uk/Library/exhibitions/#inovator.

UCL Main Library will also be hosting an exhibition to celebrate the 350th Anniversary of the Royal Society, which will look at UCL academics associated with the Royal Society. This exhibition will follow the current 'Innovators and Educators' exhibition and will open at the start of July.

Having visited the 'Innovators and Educators' exhibition with Isabelle Robinson and Sylvia Daly (who form the Society & Grants Group), I can recommend that the exhibition is worth a visit if you happen to be in or near UCL.

> Elizabeth Fisher Grants & Activities Administrator

NEWSLETTER

What's Luck Got to Do with It?

The History, Mathematics, and Psychology of the Gambler's Illusion

Joseph Mazur

"This is a fascinating book. It's a fresh, funny, philosophical look at gambling by a mathematician who knows what he's talking about, and who has quite obviously thought about gambling for a long time. Mazur isn't afraid to make provocative, opinionated statements." —Paul J. Nahin, author of *An Imaginary Tale*

Cloth \$29.95 £20.95 978-0-691-13890-9

How to Read Historical Mathematics

Benjamin Wardhaugh

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LONDON MATHEMATICAL SOCIETY MIDLANDS REGIONAL MEETING

Monday 6 September 2010

Chemistry Building C15, University of Nottingham

Speakers:

Erik Christensen (Copenhagen)

Siegfried Echterhoff (Münster)

Mikael Rørdam (Copenhagen)

Titles and timings to be confirmed.

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 the organisers (Wilhelm.Winter@nottingham.ac.uk or Joachim.Zacharias@nottingham.ac.uk). The cost of the dinner will be approximately ± 30 , including drinks.

There will be a subsequent workshop on C*-algebras, with special emphasis on classification, from 7 to 10 September. Further details will be posted on: www.maths.nottingham.ac.uk/personal/pmzww/wilhelm_winter/LMS_Regional_Meeting.html.

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 the organisers.

THE KIRILLOV ORBIT METHOD

A one-day meeting on *The Kirillov Orbit Method* will take place at Queen Mary, University of London on Friday 11 June 2010. Prospective speakers are:

- Nikolay Nikolov (Imperial College London)
- Alexander Stasinski (Southampton)
- Christopher Voll (Southampton) The meeting is part of the South England

Profinite Groups Meetings, which are supported by an LMS Scheme 3 grant. Limited funds are available to reimburse travel expenses of UK-based students and young mathematicians. For further information see http:// personal.rhul.ac.uk/urah/146/mathematics/ joint_research_group.html or contact Anton Evseev at a.evseev@qmul.ac.uk.

NEWSLETTER

HEILBRONN CONFERENCE

The 2010 Heilbronn Conference will be held at the University of Bristol from 16 to 17 September 2010, starting at lunchtime on 16 September. A number of distinguished mathematicians are invited to present lectures, intended to be accessible to a mixed audience of mathematicians. Confirmed speakers include

- Gunnar Carlsson (Stanford)
- Chantal David (Concordia)
- Richard Kenyon (Brown)
- Nick Trefethen (Oxford)

All interested mathematicians are invited to attend. There is no registration fee but to enable estimation of numbers intending participants are requested to inform Chrystal Cherniwchan (Chrystal.Cherniwchan@bristol.ac. uk). UK graduate students and postdoctoral fellows who would like to attend and need support should contact Chrystal before 31 July 2010 detailing their requirements, enclosing a brief CV and explaining why other support is not available. The final program and additional details will be posted at www.maths.bris.ac.uk/ research/heilbronn institute in due course.

ALGEBRA, COMBINATORICS, DYNAMICS AND APPLICATIONS

A workshop on Algebra, Combinatorics, Dynamics and Applications will take place at Queen's University Belfast from 30 August to 2 September 2010. It will focus on recent developments and classical ideas in the interplay between structural properties of algebras, properties of their representations and combinatorics and dynamics. The organisers are particularly interested in discussing problems where combinatorial methods appear as a main ingredient in the solution of an algebraic problem or where arguments of dynamical nature help to understand better some algebraic phenomenon. Structures appearing in various applications will be considered, in particular in physics, in analysis and in coding theory. Topics will include, but are not limited to, the following:

- Combinatorics of defining relations, particularly combinatorics and dynamics of words; semigroups and semigroup algebras
- Properties of various generating series associated to rings, Hilbert series, growth, combinatorics of primes
- Representation spaces, dynamics of GL(n) actions; deformation theory
- Novikov structures, pre-Lie algebras, operads, connections with Feynman Graphs, Leibnitz algebras and generalizations, Poisson structures; other structures with origins in physics
- · Combinatorics in Lie theory
- Actions of groups over rings, lower K-groups over noncommutative rings
- Operator algebras and semigroup actions on Banach spaces, their (infinite-dimensional) dynamics
- Computational aspects of the above and some other problems (like the constructive version of the Quillen–Suslin theorem), in particular related to Gröbner basis theory Speakers include:
- Vladimir Bavula (Sheffield)
- Peter Cameron (London)
- Vladimir Dotsenko (Dublin)
- David Jordan (Sheffield)
- Stephane Launois (Kent)
- Tom Lenagan (Edinburgh)
- Jean-Louis Loday (Strasbourg)
- Abdenacer Makhlouf (Mulhouse)
- Sergei Silvestrov (Lund)
- Agata Smoktunowicz (Edinburgh)
- Robert Wisbauer (Düsseldorf)

Anyone interested is welcome to attend. Some funds may be available to contribute to the expenses of research students who wish to attend the meeting. For further details visit http://sites.google.com/site/algebrabelfast2010 or contact Natalia lyudu at n.iyudu@ qub.ac.uk. The workshop is supported by an LMS Conference grant.

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FROM THE INVENTION OF THE ZERO TO THE ASSEMBLY OF THE WORLD'S MOST EMINENT MATHEMATICIANS IT'S BEEN AN EXCITING JOURNEY.

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The Indian mathematical community is happy to invite you to the International Congress of Mathematicians, 2010. From the invention of the decimal place value system and the fundamentals of calculus to the work of Ramanujan and Harish-Chandra this ICM is as much a celebration of our mathematical tradition as it is an occasion to interact with the finest minds in the field today. Please join us in the historic city of Hyderabad, a beautiful blend of modernity and heritage, at the state-of-the-art Hyderabad International Convention Centre.

Dates:19th - 27th August, 2010 Venue: Hyderabad International Convention Center, Hyderabad, India To know more log on to www.icm2010.org.in

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NEWSLETTER

The London Mathematical Society

ERGODIC THEORY & ARITHMETIC DYNAMICS

LMS-EPSRC Short Course

Queen Mary, University of London, 25–30 July 2010 Organiser: Professor Franco Vivaldi

Course outline and prerequisites

Ergodic theory is concerned with the probabilistic description of dynamical systems with complicated behaviour. The use of ergodic theory to solve arithmetical problems and the application of arithmetical methods to dynamics are significant research trends. This course will develop the basic ergodic theory and will analyse two areas of arithmetic from a dynamical systems perspective. There will be three lecture series:

- I. Ergodic theory and dynamical systems (Tom Ward, UEA)
- II. Expansions in non-integer bases and their dynamics (Nikita Sidorov, Manchester)
- III. p-adic dynamics (Franco Vivaldi, QMUL).

The programme also includes example classes, and guest lectures by Ben Green (Cambridge) and Graham Everest (UEA).

This course has an interdisciplinary character. It is aimed for PhD students in dynamical systems or number theory, but it will also be of interest to students and postdoctoral researchers in other areas of mathematics. For further information see: www.maths.qmul.ac.uk/~fv/ETAD.html.

Application

Applications should be made using the registration form available via the Society's website at: www.lms.ac.uk/activities/rmc/sc/54poster.html.

The closing date for applications is Friday 11 June 2010. Numbers will be limited and those interested are advised to make an early application. All applicants will be contacted approximately two weeks after this deadline; we will not be able to give information about individual applications before then

Fees

- All research students registered at a UK university will be charged a registration fee of £100 (in the case of EPSRC-funded research students, this fee should be paid by their departments from their Doctoral Training Account; for non-EPSRC research students, their department might be prepared to pay the fee). They will not be charged for subsistence costs.
- UK-based postdocs will be charged a registration fee of £100, plus half the subsistence costs (£194), £294 in total.
- All others (overseas students and postdocs, those working in industry) will be charged a registration fee of £250 plus the full subsistence costs (£388), £638 in total.

All participants must pay their own travel costs (for EPSRC-funded students, this should be covered by their DTA). Fees are not payable until a place on the course is offered.

In the event of over-subscription, preference will be given to UK-based research students.

LMS-EPSRC Short Courses aim to provide training for postgraduate students in core areas of mathematics. Part of their success is the opportunity for students to meet other students working in related areas as well as the chance to meet a number of leading experts in the topic.

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A SNAPSHOT OF LOGIC

A conference on A snapshot of logic – some recent results in mathematical logic will take place on 16 June 2010 from 10.30 at the new UEA London Centre of the University of East Anglia. The speakers will be:

- Wilfrid Hodges (QMUL) A conjecture of Gaifman on relative categoricity
- Oren Kolman (University of East Anglia) Duals vanishing from black boxes
- Dugald Macpherson (University of Leeds) Vapnik–Cervonenkis density in some NIP theories
- Lajos Soukup (Hungarian Academy of Science)
 - Cardinality spectrums and pcf theory
- Simon Thomas (State University of New Jersey)
 - Ramsey cardinals and the HNN embedding theorem

The aim is to keep the meeting fairly relaxed, allowing plenty of opportunity for informal discussion. If you intend to come, it would be useful for catering purposes if you email one of the organisers to let them know, but you are also very welcome simply to turn up on the day if you make a late decision. There is no registration fee for the meeting and coffee and tea during the breaks are provided.

In January 2010 the University of East Anglia opened its new, purpose-built Study Centre at 102 Middlesex Street, London E1 7EZ. The Centre is just a few minutes away from Liverpool Street Station.

The organisers are Mirna Dzamonja (m.dzamonja@uea.ac.uk) and David Evans (d.evans@uea.ac.uk). The conference is entirely supported by the University of East Anglia. For further details about the conference visit the website at www.uea. ac.uk/~h020/UEALondon.

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NEWSLETTER

RECORDS OF PROCEEDINGS AT MEETINGS

REGIONAL ORDINARY MEETING

held on Wednesday 14 April 2010 at University of Newcastle. About 35 members and visitors were present for all or part of the meeting.

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The meeting began at 2.30 pm, with Vice-President, Professor J.P.C. GREENLEES in the Chair.

Two people were elected to Associate membership: F. Bahmani, M. Mesa Frias; and eight people were elected to Ordinary Membership: J.H. Giansiracusa, P.D. Levy, J.D. Lotay, J. Mak, S.N.M. Ruijsenaars, P.M. Schuster, F. Siso-Nadal, J.P. Warder.

The Record of the Proceedings of the Ordinary Meeting of the Society held on 26 February 2010 was signed as a correct record.

No members signed the book or were admitted to the Society.

Professor S.E. REES introduced a lecture given by Professor Michah Sageev on CAT(0) cube complexes in group theory.

After tea, Professor Rees introduced a lecture given by Professor Benson Farb on Representation theory and homological stability.

The Chair expressed the thanks of the Society to the local organisers and the speakers for putting on such an interesting meeting.

After the meeting a dinner was held at Oldfields Restaurant.

LMS NORTHERN REGIONAL MEETING

14 April 2010

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The 2010 Northern Meeting of the LMS took place in Newcastle on Wednesday 14 April, addressed by Professor Benson Farb (University of Chicago) and Professor Michah Sageev (Technion). The meeting was attended by around 35 members and visitors. Formal business was conducted by Vice-President Professor John Greenlees (Sheffield). The meeting was preceded by a two and a half day international workshop on the *Geometry, Analysis and Logic of Groups*, at which Professors Farb and Sageev were joined by a range of experts from this country, North America and mainland

Europe, who delivered an excellent programme of lectures.

The first lecture of the LMS Meeting, by Professor Sageev, discussed CAT(0) cube complexes in group theory. Declaring as his motto for geometric group theory that "we can learn about groups from spaces on which they act isometrically", Professor Sageev defined cubed groups as groups with good actions on non-positively curved cubical complexes; the range of examples includes free groups, surface groups, many 3-manifold groups, various small cancellation groups and limit groups. Professor Sageev surveyed the pro an of A-1 me ert F lec ho ph a s ho on ha sec cor mc bu do the

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properties implied for groups with such an action, which range from solubility of the word and conjugacy problems to A-T-menability, and explained some of the methodology used to deduce these properties for the groups.

Professor Farb delivered the second lecture on Representation theory and homological stability. The remarkable phenomenon of homological stability for a sequence G_n of groups states that the homology group $H_i(G_n)$ does not depend on *n* for big enough *n*. The groups $GL(n,\mathbb{Z})$ have this property, but for many natural sequences G_n , from pure braid groups to congruence groups to Torelli groups, homological stability fails horribly. However, building on a pattern they observed while doing some homology computations for the Torelli group, Farb and Tom Church came up with a notion of 'stability of a sequence of representations of groups G_n' ,

Benson Farb

a broader notion of stability which would imply results (some already well known, others new) in many areas, ranging from group representations to Malcev Lie alge-

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bras to the homology of congruence groups. Professor Farb explained the broad conjectural picture via some of its many instances in a fascinating lecture which raised some exciting questions.

Dinner in the evening took place in a restaurant under the arches of the Tyne railway bridge. It had been a warm and stimulating meeting and workshop, with a very committed group of speakers, whose contribution was much appreciated. The organisers were extremely sorry that the closure of airspace the next morning caused by the volcanic eruption in Iceland's Eyjafjallajökull glacier meant that many of our speakers did not reach their homes until a week later.

> Sarah Rees Newcastle University

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Michah Sageev

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D-Forms

Surprising New 3-D Forms From Flat Curved Shape:

John Sharp

NEWSLETTER

REVIEWS

D-forms: Surprising New 3-d Forms from Flat Curved Shapes, John Sharp, 2009, Tarquin Publications, 44 pp, £9.95, ISBN 978-1-899618-873.

Take two convex planar pieces of paper with smooth boundaries of the same perimeter, and mark a point on each boundary. Now lift the paper out of the plane and identify the boundaries, starting at the two marked points, to form a surface in 3-space. The result is a D-form, a construction pioneered by the designer Tony Wills, of Wills-Watson Associates [5, 7]. An example is given by taking two pieces bounded by congruent ellipses, but choosing differently situated start-

ing points on the two pieces, and sometimes the definition is relaxed to allow the pieces to have corners, or not to be convex. The general construction, even for the original definition, bristles with mathematical problems: will the curved sheets made from the two surface pieces have creases; is the surface obtained unique and rigid; is it the boundary of a convex solid, even the convex hull of a space curve; how can one compute the surface given the two planar pieces? - and so on. The book under review is happily free from such considerations. There is a pleasant discussion of developable surfaces - that is, surfaces formed from a flat sheet by bending, as classified by Euler and Monge in the eighteenth century into tangent developables of space curves (envelopes of one-parameter families of planes), together with cones and cylinders. This is followed by descriptions and photographs of D-forms, including ones made in stainless steel by Tony Wills. There are detailed instructions on how to assemble the D-forms (made from paper), using tabs to stick the boundaries together. They have names, such as the Wobbler and the Squaricle. The second half of the book is devoted to shapes to cut out and make your own D-forms. The book is a delightful example of a simple and highly imaginative idea which can be carried out in practice and can teach some nice mathematics at the same time.

One of the first publications in the technical literature to draw attention to D-forms is the 2001 book of Pottmann and Wallner [4, p.418], in which the authors describe some of the differential-geometric problems associated with the construction. Since then there has been a good deal of progress on these problems. A recent reference is [2]. In this article the authors consider making surfaces with planar pieces having smooth (C^{∞}) boundaries, allowing just a single piece with equal-length

parts of the boundary identified (a 'pita-form'), or several pieces meeting along seams (a 'seamform'), with D-forms the special case of two pieces. They show, with appropriately precise definitions of all the terms, that every seam-form is the convex hull of its seams and vertices (endpoints of seams), and that there are no creases on the developable parts of a D-form – the parts made from the flat planar pieces. Pita-forms have at most one crease. There is also a report of progress [3] on the computational problem, and its connexion with the Alexandrov– Pogorelov theorem which guarantees a unique convex embedding in 3-space.

There is also an interesting *local* problem of taking a planar region with a smooth boundary Γ and fitting this boundary locally along a *given* space curve γ . This turns out to be always possible provided γ is 'more curved' than Γ , and furthermore there are exactly two ways to do it. See the elementary but elegant article [6] and also [4, p. 417]. Of course D-forms show that these results are definitely local; indeed the main mathematical, and visual, challenges of

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D-forms lie in their very interesting global structure. Among the websites devoted to D-forms I recommend [1].

> Peter Giblin University of Liverpool

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- http://local.wasp.uwa.edu.au/~pbourke/ geometry/dform.
- E.D. Demaine and G.N. Price, 'Generalized Dforms have no spurious creases', *Discrete and Computational Geometry* 43 (2010) 179–186.
- D. Kane, G.N. Price and E.D. Demaine, 'A pseudopolynomial algorithm for Alexandrovs theorem', Algorithms and Data Structures Symposium (WADS) (2009), arXiv:0812.5030.
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- D. Fuchs and S. Tabachnikov, 'More on paperfolding', *Amer. Math. Monthly* 106 (1999) 27–35.
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Dude, can you count? by Christian Constanda, 2010, Springer, 294 pp, £19.99, €27.95, US\$27.50, ISBN 978-1-84882-538-3.

"There is no doubt about it: the world is going to the dogs". So begins this eclectic collection of mathematical stories, puzzles and discussions. In the preface, the author claims that current trends in mathematics education are a major cause of this "general malaise of the human species", and he aims to show how a lack of numeracy and logical reasoning can impinge upon various aspects of everyday life, in sometimes surprising and humorous ways.

The book comprises 25 short chapters, or SCAMs (Stories, Challenges and Adventures

in Mathematics) as Constanda calls them, each one dedicated to a particular theme. The topics range from a discussion of the state school system in the USA, to a lighthearted critique of modern art, touching on such diverse themes as car salesmen, TV advertising and inconsiderate drivers along the way. The author has a lot to get off his chest!

At the start of each chapter, we find the narrator (presumably Constanda himself) at a mathematics conference in conversation with an extraterrestrial being, who has been dispatched from a Jovian moon to survey mankind's intelligence. The alien, armed with a truth-telling gadget, recalls his interviews with various people related to the main topic of the chapter. These are often quite amusing encounters, but frequently they simply serve to reaffirm the rather condescending and opinionated views of the narrator. It is hard to disagree with some of Constanda's opinions, but he makes very little effort to present a balanced analysis of the issues.

Thankfully, each chapter also contains some mathematics, starting with two

puzzles which require basic arithmetic, algebra or logical reasoning to solve. Familiar examples include a variant of the Monty Hall problem, and brain teasers involving truth-tellers and compulsive liars. Students will enjoy these puzzles and they provide a good source of interesting examples for teachers at the pre-university level. Clearly explained solutions are provided at the end of each chapter, together with a useful list of DOs and DON'Ts. The latter focuses on

the formal principles involved in the solutions, such as the manipulation of fractions

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NEWSLETTER

and inequalities, and the basic rules of calculus. The author also uses each chapter as an opportunity to share some mathematical anecdotes with the reader, which are sometimes loosely related to the main theme of the chapter. It is fair to say that some are more entertaining than others, although many will amuse those who have not heard them before.

This rather unique, imaginative and personal book raises some important points which merit further discussion and serious debate. The mathematical sections are well written, and will appeal to both students and teachers, while the anecdotes are a welcome addition. However, by using the book to simply express his general frustrations with aspects of modern society, Constanda misses the opportunity to focus on the main issues relating to mathematics.

> Tim Burness Southampton

LMS NEWSLETTER ONLINE

Readers are reminded that they may choose to read the LMS *Newsletter* on screen. A file of the current *Newsletter* can be accessed at www.lms.ac.uk/newsletter/current_issue. pdf at any time. The current *Newsletter* and the archive of past *Newsletters* are also available in HTML (web-browser) format via www. Ims.ac.uk/newsletter/. The HTML version is conveniently structured according to news categories, with indexes listing the individual articles, making it very easy to navigate to items of particular interest. Commercial adverts and the monthly cartoon are not included in the HTML version.

Anyone who wishes to stop receiving a paper copy can choose to receive instead an email alert at the beginning of each publication month, containing precise links to the current PDF and HTML versions. To do so, please write to membership@lms.ac.uk.

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).

JUNE 2010

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1-4 Emerging Problems in Nonlinear Analysis and Differential Equations Meeting, Glasgow (392)

7-11 Functional Analysis Meeting, Valencia, Spain (388)

8-9 How to Talk Maths in Public, Manchester (392)

9-10 Probability, Statistics and Analysis on Groups Meeting, Sheffield (392)

11 The Kirillov Orbit Method Meeting, London (393)

14-18 Hodge-theoretic Reflections on the String Landscape ICMS Workshop, Edinburgh (386)

16 A Snapshot of Logic Conference, UEA London Centre (393)

18 LMS Hardy Lecture, Edinburgh (393)

20-22 Geometry and Topology Conference, Durham (388)

21 LMS South-West and South Wales Regional Meeting, Cardiff (393)

21-24 Mathematical Billiards and their Applications Conference, Bristol (391) 21-25 Operator Algebras and Physics Workshop, Cardiff (393)

22 LMS Hardy Lecture, Leeds (393)

22-25 Group Representation Theory and Related Topics Conference, Lausanne, Switzerland (386)

22-25 Mathematical Challenges and Modelling of Hydroelasticity ICMS Workshop, Edinburgh (386)

24 Using Maple Conference, Manchester (392)

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28 LMS Hardy Lecture, Oxford (393)

28-29 Wiener–Hopf Technique and its Applications Workshop, Aberystwyth (392)
28-30 Banach Algebra and Operator Space Techniques in Topological Group Theory Conference II, Leeds (391)
28-30 Postgraduate Group Theory Conference, St Andrews (391)
30 LMS Popular Lectures, London (393)

JULY 2010

2 LMS Meeting, Hardy Lecture, London (393)

5-9 Symplectic Geometry and Transformation Groups ICMS Workshop, Edinburgh (386)
5-9 Partial Differential Equations and Fluid Mechanics Workshop, Warwick (392)
5-15 Numerical Analysis of Multiscale Problems EPSRC–LMS Durham Research Symposium, Durham (391)

6-8 Individual and Collective Fluid Mechanics of Swimming Microorganisms Conference, Glasgow (391)

7-9 Postgraduate Combinatorial Conference, London (392)

12-13 Reconstructing and Understanding Climate Change over the Last Few Millennia and the Holocene ICMS Workshop, Edinburgh (386)

12-15 Rigidity of Frameworks and Applications Workshop, Lancaster (392) 18-23 Model Theory, LMS–EPSRC Short Course, Leeds (392)

18-23 Classical & Quantum Integrable Models, LMS–EPSRC Short Course, Kent (392)

18-25 Extremal and Probabilistic
Combinatorics Workshop, Petersfield (393)
18-25 Non-Perturbative Techniques in
Field Theory EPSRC–LMS Durham Research
Symposium, Durham (391)

19-20 Mathematics and the Arts, Paris, France (388)

24-30 17th IMC for University Students, Blagoevgrad, Bulgaria (391) 25-30 Ergodic Theory & Arithmetic Dynamics LMS–EPSRC Short Course, London (393) 25-31 Computational Mathematics & Scientific Computing LMS–EPSRC Short Course, Durham (392)

26-28 Combinatorial Algorithms Workshop, King's College London (390)
26-30 Group-Theoretical Methods in Physics Colloquium, Northumbria (390)

AUGUST 2010

6-8 International Pure Mathematics Conference (392)

17-18 International Conference of Women Mathematicians 2010, Hyderabad, India (391)

19-27 ICM 2010, Hyderabad, India (393) 25 LMS Meeting, ICM 2010, Hyderabad, India

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30-2 Sep Algebra, Combinatorics, Dynamics and Applications Workshop, Belfast (393)

SEPTEMBER 2010

2-5 William Rowan Hamilton Geometry and Topology Workshop, Dublin (393)
6 LMS Midlands Regional Meeting, Nottingham (393)

6-8 British Topology Meeting, Oxford (391)
6-10 Multivariate Approximation and Interpolation with Applications ICMS Workshop, Edinburgh (386)

7-10 C*-algebras Workshop, Nottingham (392)

12-17 Highly Oscillatory Problems: From Theory to Applications, INI, Cambridge (389) 16-17 Heilbronn Conference, Bristol (393) 29 LMS Popular Lectures, Birmingham (393)

NOVEMBER 2010

19 LMS Annual General Meeting, Naylor Lecture, London

C.J.C. PRICE LMS member 1866–1893

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Charles James Coverley Price, MA Fellow and Mathematical Lecturer, Exeter College, Oxford Author of *A Treatise on Trilinear Co-ordinates, Intended Chiefly for the Use of Junior Students* (John Henry and James Parker, Oxford and London, 1866)

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