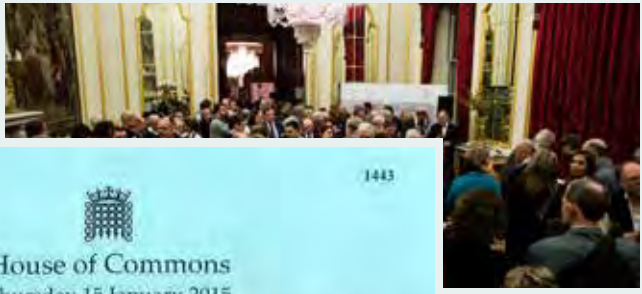
LONDON MATHEMATICAL SOCIETY
150 YEARS

NEWSLETTER

No. 444 February 2015

CONGRATULATIONS TO THE LMS FROM THE HOUSE OF COMMONS



No. 92 1443

House of Commons

Thursday 15 January 2015

Notices of Motions for which no days have been fixed (Early Day Motions)

★ The figure following this symbol is the number of Members who have added their names in support of the Motion, including the Member in charge of the Motion.

After an Early Day Motion (EDM) has been printed for the first time, it is only reprinted when names are added or amendments tabled; only the first six names and any names added since the last printing are included. After the week in which a Motion is first printed and the following week, added names and amendments appear only in a separate paper, *Mature EDMs*, distributed the next Thursday. In the meantime, they are available for inspection by Members in the Table Office and the Library or on the EDM database at edmi.parliament.uk

696 *LONDON MATHEMATICAL SOCIETY 150TH ANNIVERSARY* 15.1.15

Andrew Miller
Stephen Metcalfe
Dr Julian Huppert
Sir Peter Bottomley

★ 4

That this House congratulates the London Mathematical Society on reaching its 150th anniversary; notes that the inaugural meeting of the London Mathematical Society was held at University College, London at eight o'clock on 16 January 1865, at which Professor Augustus De Morgan was elected as its first President; further notes that a commemorative event will be held on 16 January 2015 at Goldsmiths' Hall, London entitled Mathematics: Unlocking Worlds; further notes that this 150th Anniversary celebration will be addressed by mathematicians at the cutting-edge of mathematics research and further notes that it will showcase the exciting ways in which mathematics touches so many parts of people's daily lives; and applauds the London Mathematical Society for its commitment to the idea that mathematics is for everyone and everybody uses it whether consciously or not.

SOCIETY MEETINGS AND EVENTS

- Friday 27 February: Mary Cartwright Lecture, London *page 26*
- 16-20 March: LMS Invited Lectures, Michael Shapiro (MSU), Durham *page 5*
- Wednesday 1 April: LMS 150th Anniversary Celebration Day at BMC-BAMC Joint Meeting, Cambridge *page 27*
- Tuesday 7 April: Northern Regional Meeting, Lancaster *page 9*
- 14-17 April: Women in Maths Event, Oxford *page 10*

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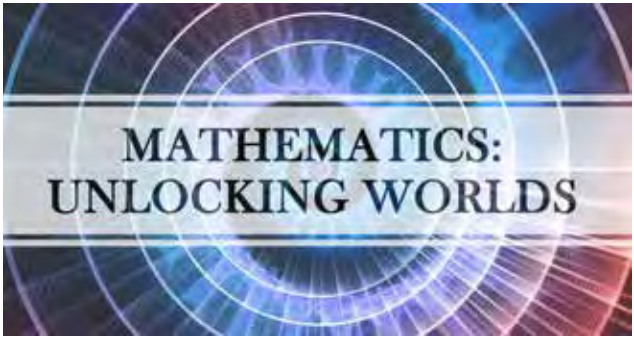
No. 444 February 2015

LMS 150TH ANNIVERSARY LAUNCH EVENT



Ten past presidents of the LMS joined over 300 other guests at Goldsmiths' Hall in the City of London for the launch of the LMS 150th Anniversary on Friday 16 January. The event was live-streamed with schools across the UK invited to join in remotely.

The launch began with a warm welcome from the current LMS President, Professor Terry Lyons, including a message of congratulations from MPs in the House of Commons. Maggie Philbin, presenter of Tomorrow's World and Bang Goes the Theory, linked each section of the programme, which was entitled Mathematics: Unlocking Worlds. Steve Thompson, a writer for Dr Who and Sherlock described how he uses mathematics to develop story lines. In his presentation, Creativity, Curiosity and Discovery, Professor Nigel Hitchin asked many interesting questions including 'what mathematics really is, a discovery or an invention', while Robert Pieké and James Reid gave the audience a visual feast in presenting the mathematics behind visual effects in films such as the *Life of Pi* as well as *Dr Who* and *Sherlock*.

Professor Andrew Blake talked about the role mathematics plays in machine learning for human motion capture, particularly in Kinect for Xbox. Professor Robert Calderbank's presentation looked at how the discovery of quaternions made many years ago has been used to link mobile phones to masts and proceedings were concluded with a history of the LMS and Women in Mathematics from Professor Dame Frances Kirwan.

Further write-ups on the launch will appear in the next edition of the *Newsletter*. In the meantime readers can view the webcast of the event at www.lms.citizenscape.net/core/portal/150-anniversary.

Photographs on the front page are from the 150th launch event. They show (clockwise, from top left): LMS President, Professor Terry Lyons, FRS; the reception; the 150th LMS birthday cake; Professor Dame Frances Kirwan, FRS; the audience; Presenter Maggie Philbin. The central image is of the supporting motion for the event from the House of Commons.

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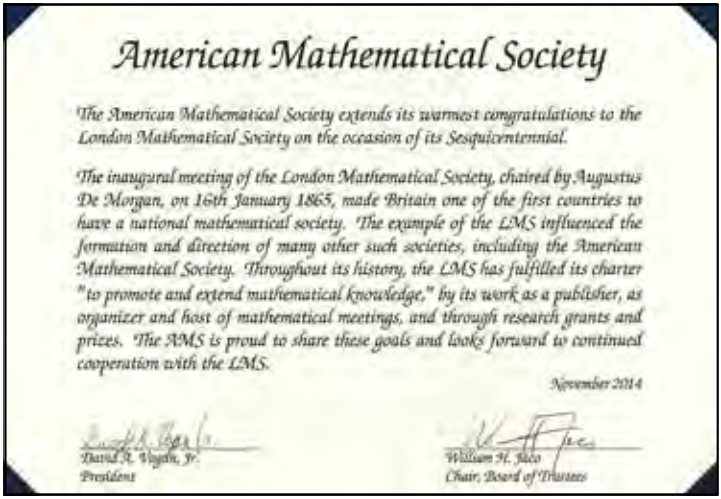
LMS 150TH ANNIVERSARY

Messages of congratulations

We were very grateful to receive a number of messages from societies around the world congratulating us on the 150th anniversary and launch event, held on 16 January 2015.



American Mathematical Society

The American Mathematical Society extends its warmest congratulations to the London Mathematical Society on the occasion of its Sesquicentennial.

The inaugural meeting of the London Mathematical Society, chaired by Augustus De Morgan, on 16th January 1865, made Britain one of the first countries to have a national mathematical society. The example of the LMS influenced the formation and direction of many other such societies, including the American Mathematical Society. Throughout its history, the LMS has fulfilled its charter "to promote and extend mathematical knowledge," by its work as a publisher, as organizer and host of mathematical meetings, and through research grants and prizes. The AMS is proud to share these goals and looks forward to continued cooperation with the LMS.

November 2014

David R. Vogan, Jr.
President

William H. Jaco
Chair, Board of Trustees

Certificate from the American Mathematical Society

REAL SOCIEDAD MATEMÁTICA ESPAÑOLA

On behalf of RSME let me transmit to our deepest congratulations to LMS, and to President Professor Terry Lyons, for the celebration of the 150th Anniversary of its birth. Our society member Jose Antonio Carrillo is our contact person in London and he will represent RSME in the coming events, in particular in today's Jan 16th Launch.

It is very impressive. In fact, RSME is only 104 years old; we still keep the record of our celebration www.rsme.es/centenario/index_i.html.

With our best wishes for LMS and members for 2015, we keep in contact.

Antonio Campillo
President of RSME

CANADIAN MATHEMATICAL SOCIETY

Congratulations and best wishes on your upcoming anniversary!

Johan Rudnick
Director, CMS

INDIAN MATHEMATICAL SOCIETY

We, at the IMS, celebrate this LAUNCH of 150th anniversary of the LMS and join LMS whole heartily in these celebrations.

Pray accept our congratulations and greetings!

We plan to prepare a write up on LMS and put it on IMS website. We shall also notify IMS members about LMS's 150th Anniversary through our Newsletters.

Incidentally I am to inform you that IMS itself is 107 years old.

With warmth and greetings,

N K Thakare,
General Secretary, Indian Mathematical Society

ROYAL DUTCH MATHEMATICAL SOCIETY

Let me take the opportunity to congratulate you on this occasion and wish you a successful year!

Sincerely yours,

Geurt Jongbloed
President of the Royal Dutch Mathematical Society

LMS RESEARCH WORKSHOPS 2015

LMS Research Workshops 2015

In 2015 the LMS Research Meetings Committee will support two research workshops:

- *Hopf-Galois Theory and Galois Module Structure*, University of Exeter; 23-26 June 2015
- *Quantum Groups and Quantum Information Theory*, Herstmonceux Castle, East Sussex; 13-17 July 2015

Research workshops can 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.

Applications for Future Research Workshops

The LMS Research Meetings Committee considers requests for either full or partial support (for travel and subsistence of participants, and reasonable associated costs) in the range £1,000 - £10,000. The maximum award is £10,000, but a typical award is in the range of £3,000 - £5,000. Applications for partial support of workshops with other sources of support will be considered.

Applications can be made at any time but should normally be submitted at least 12 months before the proposed workshop. All proposals are refereed, and support will only be offered if it felt that the benefits to UK mathematics are likely to be significant.

Applications should be made via email to the Chair of the Research Meetings Committee, Professor Beatrice Pelloni (RMC.Chair@lms.ac.uk), at any time. There is no application form. Proposals in PDF or Word format should contain:

- a description of the research area,
- the aims and format of the workshop,
- a list of participants and a budget,
- details of proposed location and timing.

Applicants may consult Professor Beatrice Pelloni (RMC.Chair@lms.ac.uk) informally about their proposed workshop before making an application.

LMS Research Workshops 2014

In 2014, the LMS Research Meetings Committee supported the following research workshops:

- *Combinatorial and Algebraic Approaches to the Study of Chemical Reaction Networks*, Portsmouth
- *Edge Days: Birational and Affine Geometries*, Edinburgh
- *London Optimisation Workshop*, King's College London
- *Operator Methods in Harmonic Analysis*, Queen's University Belfast
- *Shrinking Domains*, Gregynog Hall

LMS 150TH ANNIVERSARY INVITED LECTURER 2015

LONDON MATHEMATICAL SOCIETY 150 YEARS

Professor Michael Shapiro
(Michigan State University)
Cluster algebras and integrable systems
16-20 March 2015
Durham University

The minicourse consisting of ten lectures will be devoted to the fast growing area on the intersection of cluster algebras theory and integrable systems, and interactions of these with other areas of mathematics and theoretical physics. The course will be fully accessible to postgraduate students and non-specialists interested in the topic. There will also be supplementary lectures by:

- **Robert Marsh** (Leeds)
- **Andrew Hone** (Kent)
- **Sebastian Franco** (CCNY, New York)

University accommodation will be available.
Limited financial support is available with preference given to UK research students. Contact the organiser Pavel Tumarkin (pavel.tumarkin@durham.ac.uk) for further details.
Deadline for funding: **8 February 2015**.
For further details on the 2015 Invited Lectures please visit: www.maths.dur.ac.uk/users/pavel.tumarkin/LMS2015/.

MATHEMATICIANS HONOURED IN NEW YEAR'S LIST

The London Mathematical Society (LMS) would like extend its warmest congratulations to Professors Gwyneth Stallard and Margaret Brown on receiving the honour of the Order of the British Empire (OBE) in the New Year's Honours list.

Gwyneth Stallard receives her honour for services to Higher Education. She is Professor of Pure Mathematics at The Open University and a member of LMS Council. She has a long standing interest in the issues surrounding women's careers in mathematics and has been Chair of the London Mathematical Society's Women in Mathematics Committee since 2006, which now has representation from all UK mathematics learned societies. While Chair of the Committee Professor Stallard has been instrumental in steering various high profile projects including publication of the benchmarking survey – Advancing Women in Mathematics: Good Practice in UK University Departments (www.blitzadv.co.uk/LMS-BTL-17Report.pdf) in 2013 and delivery of the successful annual LMS Women in Mathematics Days. She also represents the LMS on the UK Athena Forum www.athenaforum.org.uk/.

Margaret Brown receives her honour for services to Mathematics Education and to Governance of Schools in South London and is Professor of Mathematics Education at King's College London. Professor Brown became a secondary mathematics teacher before moving into teacher training and research as a lecturer in mathematics education, initially at Chelsea College and then King's College in 1985. She has directed or co-directed research across all ages from early years to adult learners. Her work has had considerable impact on national policy, especially curriculum and assessment, and on teaching materials.

Professor Terry Lyons, President of the LMS, said: 'Mathematics is vital to our society and we are delighted that the outstanding contributions of Gwyneth Stallard and Margaret Brown have been recognised. The huge contribution to the mathematical community depends both on the effectiveness of mathematics education and on the development of mathematical research. We are very fortunate to have benefited from the services of Gwyneth Stallard and Margaret Brown'.

The LMS would also like to congratulate Charlie Stripp, Chief Executive, Mathematics in Education and Industry on receiving the honour of the Order of the British Empire (MBE) for services to Education.

Professor Gwyneth Stallard, OBE

Professor Margaret Brown, OBE

Mr Charlie Stripp, MBE

CELEBRATING 150 YEARS OF THE LONDON MATHEMATICAL SOCIETY

LONDON MATHEMATICAL SOCIETY 150 YEARS

The following meetings and events are part of the year-long programme celebrating the 150th LMS Anniversary in 2015. Full details of the anniversary programme of activities are available on the LMS website at www.lms.ac.uk/2015.

February - March

Mary Cartwright Lecture: Maria Esteban
27 February, De Morgan House, London
Zeeman Award Ceremony and Lecture: Marcus du Sautoy
3 March, The Royal Society, London
SET for Britain 2015
9 March, House of Commons, London
LMS Invited Lecture: Michael Shapiro
16-20 March, Durham University

April - June

Celebratory Day at B(A)MC
1 April, University of Cambridge
Enhanced Northern Regional Meeting
7-10 April, Lancaster University
LMS-CMI Research School
Statistical Properties of Dynamical Systems
13-17 April, Loughborough University
Women in Maths Celebration: It All Adds Up
14-17 April, University of Oxford
LMS Members' Correspondence Exhibition
1 May - 31 July 2015, The Royal Society, London
Joint LMS-BSHM De Morgan Meeting
9 May, De Morgan House, London
LMS-Gresham Lecture: Reidun Twarock
20 May, London
Anniversary Dinner
18 June, Goldsmiths' Hall, City of London
Royal Society Summer Science Exhibition
30 June – 5 July, London

July - September

LMS-CMI Research School
Regularity and Analytic Methods in Combinatorics
1- 5 July, University of Warwick
LMS Meeting and Hardy Lecture: Nalini Joshi
3 July, London
LMS-CMI Research School
Developments in Modern Probability
5-10 July, University of Oxford
Enhanced Midlands Regional Meeting
8-10 July, University of Warwick
Durham Symposium
Permutation Groups and Transformation Semigroups
20–30 July, Durham University
Durham Symposium
New Moonshines, Mock Modular Forms and String Theory
3-12 August, Durham University
Young Researchers in Mathematics Conference
17-20 August, University of Oxford
LMS-CMI Research School
Diophantine Equations
15-19 September, Baskerville Hall, Hay-on-Wye
Computer Science Colloquium
17 September, The Royal Society, London
Joint Anniversary Mathematical Weekend Meeting with the European Mathematical Society
18-20 September, University of Birmingham
Open House
19-20 September, De Morgan House, London

October - December

Bloomsbury Festival ,
22-25 October, London
AGM and Annual Dinner
13 November, London
Mathematics Festival @ The Science Museum
24-29 November, London
Joint Meeting with the Edinburgh Mathematical Society
10-11 December, ICMS, Edinburgh
Enhanced South West and South Wales Regional Meeting,
14-17 December, University of Southampton
LMS Prospects in Mathematics
15-16 December, Loughborough

MATHEMATICS POLICY ROUND-UP

January 2015

RESEARCH

Research Excellence Framework results announced

The results of the 2014 Research Excellence Framework (REF) demonstrate the world-leading quality of research conducted in UK universities. For the first time in an exercise of this kind, the REF also highlights the wide-ranging and significant benefits that UK research brings to the economy and society.

For the mathematical sciences, around 80% of outputs are excellent and there are a number of institutions with the highest international standards. Mathematical sciences across the UK has a high level of impact. There is a wide distribution of excellent quality research in the mathematical sciences. Information on funding implications will be published in March 2015. More information is available at www.hefce.ac.uk/news/news-archive/2014/news99318.html

SCHOOLS AND COLLEGES

Reformed A-level content

The government has already published subject content for the first group of A-levels to be reformed. It has now published the revised content for A-levels in ancient languages, modern foreign languages, geography, mathematics, and further mathematics. The content for these A-levels was recommended by the A-level Content Advisory Board (ALCAB), drawing on advice from subject experts, universities and subject associations.

'In mathematics, all the content is now prescribed in detail. Students will be required to study both mechanics and statistics. There is an increased emphasis on mathematical problem solving to ensure students understand the underlying mathematical concepts.

In further mathematics, the A-level builds on the mathematics content with 50% of content prescribed. AS includes new minimum requirements for matrices and complex numbers, with 30% of content prescribed.

Alongside these announcements, Ofqual has confirmed its decisions on how these subjects should be assessed, including the proportion of non-examination assessment and the assessment objectives for each subject.

Mathematics and further mathematics will be ready for first teaching in September 2017. More information is available at http://tinyurl.com/musoh67. More information on the assessment arrangements for mathematics and further mathematics is available at http://tinyurl.com/o8pf9mv.

Mathematics and science must be the top priority in our schools

The government is launching a major push on mathematics, science and technology to equip more students with the skills needed to work and succeed in high-tech and science-based industries.

Thousands of mathematics and physics teachers will get specialist training to help raise the quality of teaching in schools and the first ever national college for digital skills and coding will be set up. More information is available at http://tinyurl.com/oa49yh5.

Launch of new high-quality post-16 mathematics qualifications

School Reform Minister Nick Gibb has announced six new core mathematics qualifications to encourage more students to study mathematics post-16.

The new mathematics qualifications, which teach students how to use and apply mathematics in real situations, are designed to encourage more students to continue studying mathematics beyond age 16. More information is available at http://tinyurl.com/nbot573.

OTHER

Government science and innovation strategy

The government has published its new plan to keep UK science and innovation at 'the forefront of global excellence'. This sets out the government's priorities for investment and support as well as the key principles that will underpin science and innovation policy during the years ahead. More information is available at http://tinyurl.com/o29fq4m.

Dr John Johnston
Joint Promotion of Mathematics

LMS 150TH ANNIVERSARY HONORARY MEMBERS 2015

As a part of the celebrations to mark the LMS 150th Anniversary, it is expected that Council will recommend the election of a larger than normal number of honorary members this year. Members are encouraged to suggest eminent mathematicians, based overseas, who may be candidates for honorary membership.

Members making a suggestion are asked to send a short (no more than one side) case for the nomination to Duncan Turton (duncan.turton@lms.ac.uk) by 15 March 2015.

LMS 150TH ANNIVERSARY LMS NORTHERN REGIONAL MEETING

LONDON MATHEMATICAL SOCIETY 150 YEARS

Department of Mathematics and Statistics, Lancaster University
7 April 2015

2.00 pm	Opening of the meeting **Peter Neumann** (Oxford)
3.00 pm	**Dennis Sullivan** (SUNY, Stony Brook)
4.00 pm	Tea/Coffee
4.30 pm	**Ieke Moerdijk** (Radboud University Nijmegen/Sheffield)
6.00 pm	Reception and Dinner

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 and to register and to reserve a place at the dinner, visit the website at www.lancaster.ac.uk/maths/research/homotopical/.

The cost of the dinner will be approximately £30, including drinks.

The meeting forms part of a workshop on ***Homotopical Algebra and Geometry*** from 7 - 11 April 2015. The speakers at the workshop include: D.-C. Cisinski, V. Ginzburg, M. Gross, I. Grojnowski, V. Hinich, D. Joyce, A. King and M. Livernet. For further details visit the website above or contact the organiser (j.grabowski@lancaster.ac.uk).

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.

150♀+ It all adds up: Celebrating 150 years of women across the mathematical sciences

14th-17th April 2015

Mathematical Institute, University of Oxford

The LMS 150th Anniversary Women in Maths event

Tuesday 14th April and Wednesday 15th April: talks and workshops for school students.

Thursday 16th April and Friday 17th April: for mathematicians and mathematical scientists from **undergraduates to professors**, and including lectures, panel discussions, talks, posters, and time to meet others.

Registration: free for students, £5 for others.

Limited funds available for travel costs.

Limited free accommodation and limited free places at the conference dinner on Thursday 16th April (first come, first served).

Prizes for the best posters by students and postdocs.

(Left: Layal Hakim, winner of the best poster competition in 2014.)

For the programme, for registration, to offer a talk or to express interest in submitting a poster, see

www.maths.ox.ac.uk/events/conferences/women-maths

#italladdsup2015

LONDON MATHEMATICAL SOCIETY 150 YEARS

Photographs by Jonathan Tickner Photography

Oxford Mathematics

LMS-EPSRC DURHAM RESEARCH SYMPOSIA

2015

In 2015 there will be two Durham Symposia, all supported by EPSRC:

- **20 - 30 July** *Permutation Groups and Transformation Semigroups*
  Peter Cameron (St Andrews), Dugald Macpherson (Leeds), James Mitchell (St Andrews)
- **3 - 12 August** *New Moonshines, Mock Modular Forms and String Theory*
  Sameer Murthy (KCL), Anne Taormina (Durham), Katrin Wendland (Freiburg)

For further information on these Symposia visit: /www.maths.dur.ac.uk/lms/

LMS Durham Research Symposia have been held at the University of Durham each year in July and August since 1974 and last year, Durham hosted the 101st Durham Symposium. The Symposia cover a wide range of mathematical disciplines and recent symposia include:

2014

- *Building Bridges: Connections and Challenges in Modern Approaches to Numerical Partial Differential Equations*. G.R. Barrenechea, F. Brezzi, A. Cangiani, E. Georgoulis

2013

- *Geometric and Cohomological Group Theory* P. Kropholler, I. Leary, C. Martinez, B. Nuncinkis
- *Graph Theory and Interactions* H. Boersma, P. Cameron, N. Peyerimhoff, A. Vdovina
- *Polylogarithms as a Bridge between Number Theory and Particle Physics* H. Gangl, P. Heslop, G. Travaglini

The Durham website www.maths.dur.ac.uk/events/Meetings/LMS contains information on all previous and forthcoming 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.

100th LMS-EPSRC Durham Symposium
Geometric and Cohomological Group Theory, August 2013

SPITALFIELDS DAY

Call for proposals

LONDON MATHEMATICAL SOCIETY 150 YEARS

The London Mathematical Society is pleased to offer grants of up to **£1,000** towards the cost of a Spitalfields Day.

A Spitalfields Day is a one-day event at which selected participants, often eminent experts form overseas, give survey lectures or talks, which are accessible to a general mathematical audience. The Spitalfields Day is often associated with a long-term symposium and speakers will generally give lectures on topics of the symposium.

The name honours the Society's predecessor, the Spitalfields Mathematical Society, which flourished from 1717 to 1845, and Spitalfields Days have been held each year since 1987.

The grant of £1,000 is intended to cover actual supplementary costs for the event, e.g. subsidising the cost for a lunch for participants, and for small travel grants of £50 to enable LMS members and research students to attend the event.

If you are interested in organising a Spitalfields Day, please write to the Society (grants@lms.ac.uk). The format need not be precisely as described, but should be in a similar spirit.

The next deadline for proposals is **15 May 2015**. (Subsequent deadlines are 15 September 2015 and 31 January 2016. Please note the Society cannot fund events retrospectively so applicants are advised to apply well in advance of the event).

LMS-CMI RESEARCH SCHOOLS

Call for proposals

LONDON MATHEMATICAL SOCIETY 150 YEARS

The London Mathematical Society and Clay Mathematics Institute invite proposals for Research Schools in 2016.

Up to £31,000 is available per Research School which provides training for young researchers in a core area of mathematics. The new series of courses builds on the short courses, previously supported by the Society and EPSRC, and aims at the highest international standing by allowing for support of both international lecturers and participants.

The LMS and the CMI intend to support four Research Schools in 2016.

Prospective organisers should send an outline proposal to Elizabeth Fisher (Research.Schools@lms.ac.uk) by **Wednesday 8 April 2015**.

Outline proposals should discuss:

- The general mathematical area of the proposed Course and its importance.
- The aims of the Course, its appropriateness to the Instructional Course programme and the likely level of demand for the Course.
- The names and affiliations of the lecturers, titles of their courses and brief syllabuses.
- The provision for tutorial support.

Outline proposals should be no more than two A4 sides in length.

For further details about the Research Schools, please visit the Society's website:

www.lms.ac.uk/events/lms-cmi-research-schools.

Before submitting: Organisers are welcome to discuss informally their ideas with the Chair of the Research Meetings Committee (RMC.Chair@lms.ac.uk).

REGULARITY AND ANALYTIC METHODS IN COMBINATORICS

LMS-CMI Research School

1-5 July 2015, University of Warwick

Organisers: Peter Keevash, Daniel Kráľ and Oleg Pikhurko

Course outline

The school will cover three interlinked discrete mathematics topics with computer science applications, which all saw exciting developments in the last few years: the Regularity Method, Limits of Combinatorial Structures, and Property Testing.

The three main lecture course topics are:

- *Regularity Method* (**David Conlon**, Oxford)
- *Limits of Combinatorial Structures* (**Christian Borgs** and **Henry Cohn**, Microsoft)
- *Property Testing* (**Asaf Shapira**, Tel-Aviv).

These lecture courses will be supplemented by tutorial sessions.

The school will also include three more generally focused talks given by:

Noga Alon (Tel Aviv)
Christian Borgs (Microsoft)
Ben Green (Oxford)

The school is collocated with the 25th British Combinatorial Conference.

For further information please visit:
www2.warwick.ac.uk/fac/sci/maths/people/staff/daniel_kral/school15

Applications: Applications should be made using the registration form available via the Society's website at: www.surveymonkey.com/s/WXTVKYD Research students, post-docs and those working in industry are invited to apply.

The closing date for applications is **1 April 2015**. Numbers will be limited and those interested are advised to make an early application. All applicants will be contacted within three weeks after the deadline.

Fees

All research students will be charged a registration fee of **£150**. **There will be no charge for subsistence costs**.

All early career researchers will be charged a registration fee of **£200**. **There will be no charge for subsistence costs**.

All other participants (e.g. those working in industry) will be charged a registration fee of £250 plus the full subsistence costs (£340) **£590** in total.

All UK-based participants must pay their own travel costs. For overseas-based participants, some support will be available to contribute towards travel costs.

Fees are not payable until a place on the course is offered but will be due by 6 May 2015.

LMS-CMI Research Schools aim to provide training for young researchers in core areas of mathematics. Students and post-docs can meet a number of leading experts in the topic as well as other young researchers working in related areas.
The LMS is the UK's learned society for mathematics. Registered charity no. 252660 (www.lms.ac.uk)
The CMI is charitable private operating foundation, incorporated in the USA.

MATHEMATICS EDITOR

Job Description

Company and Position Overview:
Springer is a leading global scientific publisher, delivering quality content through innovative information products and services.

We are looking for an editor to continue to develop a successful existing publishing programme concentrated on undergraduate and master's level textbooks in mathematics, but also eventually including some advanced monographs and some journals, under guidance of and in coordination with the Editorial Director for mathematics.

Main Duties:
- To communicate externally with authors, series editors, and referees through the evaluation process of each submission
- To prepare accepted proposals for all phases of the publishing process
- To communicate internally with other editorial functions, production, marketing and other divisions of the company.

Person Specification:
Essential
- Educated to university degree level in Mathematics
- Publishing experience
- Spoken and written English at native-speaker level
- Availability to travel to international conferences

Please send your CV and covering letter, stating salary expectations, quoting reference (SPR/ED/M) by email to: ukjobs@springer.com.

NEW ZEALAND MATHEMATICS SOCIETY AWARDS

In December 2014, several New Zealand awards were announced at the annual NZMS Colloquium dinner which, this year, was embedded within the 8th Australia New Zealand Mathematics Convention.

The 2014 NZMS Research Award went to **Dimitri Leemans** (University of Auckland) 'for his striking contributions to algebraic combinatorics that combine techniques from algebra, graph theory, combinatorics and number theory for the exploration and classification of highly symmetric geometric structures'.

The 2014 NZMS Early Career Award went to **David Simpson** (Massey University) 'for his contributions to the analysis of the effects of randomness and uncertainties in nonsmooth dynamical systems'.

The 2014 Aitken Prize for the best contributed talk by a student at the NZMS Colloquium went to **Timm Treskatis** (University of Canterbury) for his talk Accelerated gradient vs. primal-dual methods in nonsmooth optimisation.

The 2014 ANZIAM poster prize for the best poster by an early career researcher at the NZMS Colloquium went to **Andrea Babylon** (Massey University) for her poster Modelling Leptospirosis in Livestock.

The following new Fellows of the New Zealand Mathematical Society were announced: Astrid an Huef, Gaven Martin, Graham Weir and Sir Vaughan Jones.

The month before at the Royal Society of New Zealand Research Honours Dinner, two former presidents of the NZMS received medals.

- **David Vere-Jones** of Victoria University of Wellington was awarded the Jones Medal to 'recognise his lifetime achievement in statistics, both for his revolutionary research on modelling earthquakes and his teaching of statistics and mathematics in New Zealand'.
- **Marston Conder** was awarded the Hector Medal 'for his outstanding contributions to mathematics both internationally and locally, particularly in the construction and analysis of discrete objects with maximum symmetry under given conditions'.

Marston Conder

David Vere-Jones

EUROPEAN NEWS

The following items are from the European Mathematical Society (EMS) webpage: www.euro-math-soc.eu/recent-news.

New EMS President

Pavel Exner from the Academy of Sciences of the Czech Republic in Prague has taken over as President of the European Mathematical Society from Marta Sanz-Solé. The following is an edited extract from his welcome message; the full text can be found at www.euro-math-soc.eu/from-the-president.

Let me start by wishing you happy new year marked by good health and humour, as well as by some inspirational ideas.

The EMS is slowly coming of age. In the fall this year it will be twenty five years since the meeting in Mądralin near Warsaw at which 28 national societies agreed, after difficult negotiations, to board a single ship. It proved to be a good decision. We are going to celebrate the anniversary with a small meeting in Paris in October: its main focus should be on challenges which mathematics in Europe and globally will have to face in years to come.

Challenges arise also at a short time scale. We all know the useful role played by the European Research Council and the Marie Curie-Sklodowska scheme. The new European Commission decided to help the economy by an investment package subtracted in part from the Horizon 2020 program. The need for research is thus quoted as a pretext for taxing the excellent research funding. The EMS has joined the other European scientific and learned societies in pointing out the flawed logic of such a reasoning.

Turning inside the society we see many interesting activities ahead. There will be two EMS supported schools and a Joint Mathematical Weekend, lectures by EMS Distiguished Speakers, and a Bernoulli Society-EMS Joint Lecture, to name just a few. Our own congress is not that far either, just some eighteen months separates us from the moment when it will open at the Technical University of Berlin.

There are many other issues to address - development of digital mathematical libraries, the future of the EMS Publishing House, support to the EU-MATHS-IN initiative aiming at industrial applications of mathematics, and others - but an opening message like this one should be brief. When Marta Sanz-Solé wrote her first presidential message after taking over from her predecessor she likened her feelings to those of a runner in a relay race after gripping the baton. So let us run.

Pavel Exner, EMS President

Also at the start of 2015, Sjoerd Verduyn Lunel (Utrecht) has taken over the position as Secretary of the EMS from Stephen Huggett, while Mats Gyllenberg (Helsinki) is the new EMS Treasurer taking over from Jouko Väänänen.

EMS Publishing House

The EMS Publishing House is looking for freelance journal and book production editors. Interested candidates are encouraged to write to Thomas Hintermann (hintermann@ems-ph.org).

2015 AMS Cole Prize in Algebra

Peter Scholze, Hausdorff Professor of Mathematics at the University of Bonn, was awarded the 2015 AMS Frank Nelson Cole Prize in Algebra at the Joint Mathematics Meetings in January in San Antonio, Texas. Scholze is honoured for his work on perfectoid spaces which has led to a solution of an important special case of the weight-monodromy conjecture of Deligne.

ERC awards 328 starting grants

The European Research Council (ERC) has selected 328 first-class scientists, among them 13 mathematicians, to receive its prestigious Starting Grants, worth up to 2 million each. This first Starting Grant competition under the EU's Horizon 2020 programme, and the seventh to date, awards 485 million to early-career talent. This call attracted 3,273 applications and the overall success rate rose to around 10% (from last year's 9%). The share of successful female applicants increased to 33%, from 30% last year.

Mathematics for Digital Science

As a result of an online consultation and a one-day workshop in Brussels on *Mathematics for Digital Science*, the European Commission's Directorate-General for Communications Networks, Content and Technology has now published a report on the results emerging from these activities. The commission has sought specific input from the mathematical and scientific community on how mathematics might help address the challenges of Big Data and near-future high performance computing (HPC). The Commission aims to use this input in its planning of the Horizon 2020 Work Programme 2016-2017. The EMS has participated actively in both the consultation and the workshop.

EMS paper on Open Access

The Publications Committee of the EMS has drafted a report that analyzes the rapidly changing publication patterns, in particular various options of Open Access, and makes recommendations to mathematicians, publishers, libraries and the public sector at large. The EMS Executive Committee has on the background of this report endorsed a shorter paper summarizing the primary issues.

Journal of Computational Mathematics

SMAI, the French professional society for applied and industrial mathematics, has committed to the founding of a new journal of computational mathematics: the *SMAI Journal of Computational Mathematics*, or SMAI-JCM, which will be freely accessible to all and will not require the payment of fees for publication. For further information visit the website at https://ojs.math.cnrs.fr/index.php/SMAI-JCM.

David Chillingworth
LMS/EMS Correspondent

RECORDS OF PROCEEDINGS AT LMS MEETINGS

SOUTH WEST & SOUTH WALES REGIONAL MEETING

held on *17 December 2014* at the University of Plymouth as part of the Regional Workshops on *Combinatorics* and on *Differential Algebra*. Over 35 members and visitors were present for all or part of the meeting.

The meeting began at 2.00 pm with The President, Professor Terry Lyons, FRS, in the Chair.

No members were elected to membership.

Seven members signed the book and were admitted to the Society.

Dr Thomas McCourt introduced a lecture given by Professor Rosemary Bailey on *Circular designs balanced for neighbours at distances one and two*.

After tea, Dr Daniel Robertz introduced the second lecture given by Professor Marius van der Put on *Differential Galois theory*.

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

Afterwards, a dinner was held at the River Cottage Canteen and Deli at Royal William Yard in Plymouth.

SOUTH WEST & SOUTH WALES REGIONAL MEETING

Report

The 2014 South West & South Wales Regional Meeting of the London Mathematical Society was held at Plymouth University on Wednesday 17 December. It was followed by workshops on *Combinatorics* and on *Differential Algebra* on 18 and 19 December. These events were organised by Thomas McCourt and Daniel Robertz (both at Plymouth University).

Signing of the LMS Membership Book

Following an introduction by the LMS President, Professor Terry Lyons, attending members of the LMS who had not signed the Membership Book, were invited to do so. Seven mathematicians took the opportunity.

Colloquium speakers at the Regional Meeting were Professor Rosemary Bailey (St Andrews and Queen Mary, University of London) and Professor Marius van der Put (University of Groningen, Netherlands). Rosemary Bailey's talk on *Circular designs balanced for neighbours at distances one and two* discussed the construction of combinatorial designs used for statistical experiments. Marius van der Put's talk on *Differential Galois theory* was an introduction to this field for a general mathematical audience.

The Regional Meeting ended with a dinner at the restaurant River Cottage at Royal William Yard in Plymouth. It was attended by President Terry Lyons, General Secretary Stephen Huggett, Executive Secretary Fiona Nixon, Membership & Activities Officer Elizabeth Fisher, the speakers of the meeting and workshops, the organisers, and further guests.

Rosemary Bailey (St Andrews and Queen Mary, University of London)

On the following days the workshops on *Combinatorics* and on *Differential Algebra* began with a continuation of Marius van der Put's presentation. He and Felix Ulmer (University of Rennes, France) gave a series of three talks during the workshop which introduced the

Marius van der Put (University of Groningen)

audience to their joint paper *Differential Equations and Finite Groups*, which appeared in the *Journal of Algebra* in 2000. The goal was to give constructions which make the Riemann-Hilbert correspondence between linear differential equations and their monodromy groups explicit when restricting attention to finite monodromy groups.

Guy Casale (University of Rennes, France) gave an introduction to the *Malgrange pseudogroup of a differential equation*. It is a generalization of the concept of Picard-Vessiot extension of differential fields to the case of nonlinear differential equations.

The combinatorics talks covered a range of topics. Iain Moffatt (Royal Holloway, University of London) spoke on *Graph polynomials via Hopf algebras*. He discussed how the Bollobás-Riordan Polynomial and the Penrose Polynomial arise from two natural concepts of 'minors' of graphs in surfaces and explained the common framework that unifies them with the Tutte polynomial.

Robert Brignall's (Open University) seminar was titled *From permutations to graphs: well-quasi-ordering and infinite antichains*. He discussed recent structural developments made in the study of well-quasi-orderability of some graph classes, for example of permutation graphs defined by forbidding a path and a clique.

Karen Gunderson (University of Bristol) gave a seminar on *Graph Bootstrap Percolation* in which she presented new results on the number of steps to percolation in the K_r-bootstrap process when the initially infected edges are chosen randomly.

Unfortunately Tony Nixon (Lancaster University) was unable to present his seminar *Rigidity of spherical frameworks*. Instead Thomas McCourt (Plymouth University) spoke on *Distributive Mendelsohn triple systems*, describing necessary and sufficient conditions for their existence.

Daniel Robertz, Marius van der Put, Terry Lyons, Rosemary Bailey, Thomas McCourt

Thomas McCourt,
Daniel Robertz
Plymouth University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LONDON MATHEMATICAL SOCIETY
150 YEARS

LMS 150TH ANNIVERSARY
POSTDOCTORAL MOBILITY GRANTS

2015-16 Awards

The London Mathematical Society will award grants of up to £9,200 to mathematicians of excellent promise. The purpose of the grants is to support a period of study and research in mathematics between three and six months in the academic year 2015-16 at one or more institutions other than the holder's home institution (the holder's home institution may be included for applicants with circumstances that make moving impractical, please visit the website for the full guidelines). They are intended to support promising researchers during the transitional period between having submitted their thesis and the start of their first post-doctoral employment.

The value of the grant will be calculated at £1,200 per month plus a travel allowance of up to £2,000.

At the time of the closing date applicants have to be UK residents. Successful candidates must have submitted their thesis within twelve months before the start of their grant period. Grant holders are allowed to teach up to three hours a week. Otherwise they are expected to spend their working time on study and research.

Candidates are asked to provide with their application:

- **a completed application form**
- a **cover letter**;
- a **CV** including a list of publications (maximal two A4 pages);
- a **research proposal** including a rationale for the choice of institution(s) to be visited (maximal three A4 pages);
- at least **two letters of reference**, which applicants should request that referees email directly to the LMS (to the email address below) by the closing date;
- and **letter(s) of support** from the host(s) at the institution(s) where the proposed visit will take place; it is expected that host institutions provide the grant holder with office space and access to computing and library facilities.

These grants have been established by the LMS to mark its 150th anniversary.

Applications should be sent by **Tuesday 31 March 2015** by email to: pmg@lms.ac.uk.

Queries should be referred to Katy Henderson: pmg@lms.ac.uk, tel.: +44 (0)20 7927 0809.

Applicants will be notified of the outcome of their application in late May 2015.

LMS 150TH ANNIVERSARY
CECIL KING TRAVEL SCHOLARSHIP

LONDON MATHEMATICAL SOCIETY 150 YEARS

The London Mathematical Society annually awards a £5,000 Cecil King Travel Scholarship in Mathematics, to a young mathematician of outstanding promise. The Scholarship is awarded to support a period of study or research abroad, typically for a period of three months. Study or research in all areas of mathematics is eligible for the award.

The award is competitive and based on a written proposal describing the intended programme of study or research abroad, and the benefits to be gained from such a visit. A shortlist of applicants will be selected for an interview during which they will be expected to make a short presentation on their proposal.

Applicants must be nationals of the UK or the Republic of Ireland, either registered for or having completed a doctoral degree within 12 months of the closing date.

Applications should be made using the form available on the Society's website (www.lms.ac.uk/content/cecil-king-travel-scholarship) or by contacting education@lms.ac.uk. The closing date for applications is **Friday 6 March 2015**. It is expected that interviews will take place in London in late April or early May.

The Cecil King Travel Scholarship was established in 2001 by the Cecil King Memorial Fund. The award is made by the Council of the London Mathematical Society on the recommendation of the Cecil King Prize Committee, nominated by the Society's Education Committee.

Institute of mathematics & its applications

LONDON MATHEMATICAL SOCIETY 150 YEARS

DAVID CRIGHTON MEDAL 2015
Call for Nominations

The David Crighton Medal was established by the Councils of the LMS and IMA in 2002 in order to pay tribute to the memory of Professor David George Crighton, FRS. The silver gilt medal will be awarded to an eminent mathematician for services **both** to mathematics and to the mathematical community, who is normally resident in the mathematical community represented by the two organisations on the 1st January of the year of the award.

The award is considered triennially by the Councils of the Institute and the Society. The medal-winner will normally be presented with the award at a joint meeting of the IMA and the LMS, and will be invited to give a lecture.

The David Crighton Medal was awarded in 2012 to Professor Arieh Iserles and Dr Peter Neumann, OBE. Previous winners of the Medal are Professor Keith Moffat, FRS (2009), Professor Sir Christopher Zeeman, FRS (2006) and Professor Sir John Ball, FRS (2003).

Nominations are now invited. These should be made on a nomination form available on both Societies' websites (http://bit.ly/DavidCrightonMedal2015) or from the Secretary to the David Crighton Committee (prizes@ima.org.uk).

Nominations must be received by **28 February 2015**.

HEIDELBERG LAUREATE FORUM

LONDON MATHEMATICAL SOCIETY 150 YEARS

LMS TRAVEL GRANTS FOR YOUNG RESEARCHERS

invited to

THE HEIDELBERG LAUREATE FORUM

23-28 AUGUST 2015, HEIDELBERG

The Heidelberg Laureate Forum is a unique opportunity for outstanding young researchers in mathematics & computer science to meet winners of the Abel Prize, Fields Medal, Turing Award and Nevanlinna Prize during a week of scientific talks. The LMS offers financial support for participants based in the UK.

To apply for a place at the forum go to www.heidelberg-laureate-forum.org/forum_2015/

The application deadline is 28 February 2015.

Once invited, for LMS travel support go to www.lms.ac.uk/lms-travel-grants-hlf

Successful candidates will be sent a letter of invitation from the Heidelberg Laureate Forum. For successful candidates based in the UK, the LMS offers travel grants of up £200 (to be matched by travel funding from other sources e.g. candidates' departments).

To apply for an LMS Travel Grant to the Heidelberg Laureate Forum, download the application form (www.lms.ac.uk/lms-travel-grants-hlf) and send to RMC.Chair@lms.ac.uk with a copy of the Heidelberg Laureate Forum invitation and a letter of support from the department.

PTO for further information

BRUNEL-BIELEFELD WORKSHOP ON RANDOM MATRIX THEORY

Report

The 10th Brunel-Bielefeld Workshop on *Random Matrix Theory and its Applications* took place at Brunel University London from 12 to 13 December 2014. This was a two-day international event continuing the series of Random Matrix Theory (RMT) workshops organised by the Mathematical Physics group at Brunel every year since 2005, and jointly on a two-year rotation schedule with Bielefeld University (Germany) since 2011. This year's event aimed to bring together an international group of leading researchers in RMT and related areas of mathematics, with particular focus on connections to integrable systems, random processes including growing complex networks, information theory, and quantum and statistical physics. The programme of the workshop included 14 talks by the invited speakers and a poster session with 26 contributed posters. It attracted a record number of over 70 participants from 14 countries (as far away as US, Brazil, and Mexico, as well as EU/UK). About a third of the participants were PhD students and other early career researchers.

The audience

After-talk discussion: Yan Fyodorov, Alexander Bufetov, Gernot Akemann

The workshop was opened with a short welcome by Gernot Akemann (Bielefeld), highlighting the history of the workshop and its contribution to the development of RMT in the UK and Europe. The programme of talks over two days focussed on recent developments in several active research

The poster session

areas in RMT and related fields. Yan Fyodorov (QMUL) and Maciej Nowak (Krakow) addressed from different viewpoints the issue of stability of large complex systems and the emerging connections between non-Hermitian random matrices and integrable systems (like May-Wigner criterion in biology and Burgers-like equations in turbulence). The related determinantal and pfaffian point processes, their symmetries, and links to interacting particle systems were discussed by Alexander Bufetov (Marseille) and Roger Tribe (Warwick). The classical integrable systems and hierarchies and their role in RMT were further addressed in the talks by Neil O'Connell (Warwick), Clare Dunning (Kent) and Marta Mazzocco (Loughborough). The connections between quantum chaos, RMT and combinatorial problems were discussed by Marcel Novaes (Uberlandia) and Sebastian Müller (Bristol). The talks by Reimer Kühn (King's), Tiago Peixoto (Bremen) and Mario Kieburg (Bielefeld) focused on random processes with complex networks, their links with RMT and applications to e.g. data analysis. Applications of RMT to wireless communications and quantum information theory were further discussed by Ralf Müller (Erlangen) and Karol Życzkowski (Warsaw). The first day of talks was followed by a lively and stimulating poster session, with discussions continuing over the conference dinner.

Arno Kuijlaars, Mario Kieburg, Dries Stivigny

The workshop was supported by the LMS Conference grant, DAAD programme (Bielefeld) and by the Department of Mathematics at Brunel University London.

The next event in this annual workshop series will take place in Bielefeld from 10 to 12 December 2015.

Dmitry Savin and
Igor Smolyarenko
Brunel University
London

LONDON MATHEMATICAL SOCIETY
150 YEARS

150th ANNIVERSARY
MARY CARTWRIGHT LECTURE AND SOCIETY MEETING

Friday 27 February 2015

3.30 Opening Lecture
Mathieu Lewin (Université Paris-Dauphine)
Bose-Einstein condensation: history, model and recent mathematical results

4.30 Tea

5.00 Mary Cartwright Lecture
Maria Esteban (Université Paris-Dauphine)
Eigenvalue problems in relativistic quantum mechanics, theory and applications

6.00 Wine reception

To register

For all event enquiries please contact Katy Henderson (womeninmaths@lms.ac.uk) by Friday 20 February. Late registrations for places may still be accepted, subject to availability.
The reception will be followed by a dinner at the Ambassadors Bloomsbury Hotel, at a cost of £35 per person, inclusive of wine.
There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting.

LONDON MATHEMATICAL SOCIETY
150 YEARS

UNIVERSITY OF CAMBRIDGE

BMC-BAMC 2015: 30 March – 2 April 2015

including

LMS 150TH ANNIVERSARY CELEBRATION

Wednesday 1 April 2015

9.00 am	Morning Speakers: **Ulrike Tillmann** (Oxford), **Ye Tian** (CAS Beijing)
10.00 am	Morning Speakers: **Arend Bayer** (Edinburgh), **Adrian Constantin** (KCL)
11.30 am	Plenary: **Robert Calderbank** (Duke)
12.30 pm	Lunch
2.00 pm	Afternoon Workshops (including LMS Scheme 3 meetings)
4.40 pm	LMS Society Meeting
5.00 pm	Plenary: **Sir Andrew Wiles** (Oxford)
7.00 pm	Drinks Reception at Churchill College
8.00 pm	Conference Dinner at Churchill College (separate ticket required) The after dinner speaker will be **Philip Nelson** (Head of EPSRC)

This 150th celebration day is part of the BMC-BAMC 2015 conference. The full conference will also include plenaries given by Ingrid Daubechies (Duke), Jacques Dumais (UAI, Chile), Phil Hall (Imperial), Peter Kronheimer (Harvard), Sylvia Serfaty (Paris 6 & Courant), and Wendelin Werner (Paris-Sud & ENS), as well as 8 further morning speakers and a public lecture given jointly by Stephen Hawking (Cambridge) and Michael Green (Cambridge).

For further details and to register, please visit www.bmc bamc.org.uk. Early bird registration opens on 1 December 2014 and closes on 7 February 2015. The cost of registration will be approximately £115, with the dinner approximately an additional £50 including drinks. Accommodation in Cambridge Colleges is also available, but the number of rooms is limited and expected to sell out quickly.

VISIT OF ELIJAH LIFLYAND

Professor Elijah Liflyand (Bar-Ilan University) will be visiting the UK from 13 March to 2 April 2015. He works on harmonic analysis and approximation theory. During his visit Professor Liflyand will lecture at:

- University of Liverpool on Tuesday 17 March
- University of Bath on Tuesday 24 March
- Imperial College London, London Analysis Seminar on Thursday 26 March
- Imperial College London, Imperial PDE Working Group on Friday 27 March

For further details contact Michael Ruzhansky (m.ruzhansky@imperial.ac.uk). The visit is supported by an LMS Scheme 2 grant.

WATER WAVES AND FLOATING BODIES

The 2015 *International Workshop on Water Waves and Floating Bodies* (IWWWFB) is jointly hosted by the Universities of Bristol and Bath and will be held in Bristol from 12 to 15 April 2015. This is an annual meeting of mathematicians and engineers with a particular interest in water waves and their effects on floating and submerged marine structures. The IWWWFB was initiated by Professor D.V. Evans (University of Bristol) and Professor J.N. Newman (MIT) following informal meetings between their research groups in 1984. First intended to promote communications between workers in the UK and the USA, the interest and participation quickly spread to include researchers from many other countries around the world including those in Europe, Russia, India, China, Japan, Korea and Australasia. The workshop places particular emphasis on the participation of younger researchers, on the stimulation of discussions between engineers and mathematicians, and to the presentation of preliminary basic scientific work before its publication elsewhere. The workshop proceedings are freely accessible through the dedicated website www.iwwwfb.org where all contributions from 1986 on can be found.

The format of the meeting consists of roughly 55 twenty-minute talks in series over four days with breaks for discussion throughout the programme. There are no plenary speakers.

For more details on meeting and the application procedure go to the meeting website: tinyurl.com/m3ll4uy or email the organisers Dr Richard Porter and Dr Jun Zang at iwwwfb-2015@bris.ac.uk The organisers have limited support for young researchers (in particular for UK based research students). The workshop is supported by an LMS Conference grant.

COMPUTATIONAL COMPLEX ANALYSIS

A meeting on *Computational Complex Analysis for Free Surface Flows* will be held at University College London from 20 to 22 April 2015.

Numerical methods based on complex analysis have long played an important role in understanding free boundary problems such as Hele-Shaw flows, nonlinear waves, vortex dynamics and Stefan problems. While boundary integral methods based, for example, on Cauchy's integral formula, are well-suited to studying such free boundary problems, it has recently become clear that a completely new source of ideas, based on the so-called unified transform method due to Fokas and collaborators, is leading to new methods, insights and competitive computational schemes.

This LMS Conference grant will bring together analysts, applied and computational mathematicians for exchanges of ideas related to computational complex analysis in free surface flows.

The Invited Speakers are:

- Bengt Fornberg (Colorado, USA)
- Tamara Grava (SISSA, Trieste, Italy)
- David Nicholls (Illinois at Chicago, USA)
- Beatrice Pelloni (Reading, UK)
- Michael Siegel (New Jersey Inst. Tech., USA)
- Jean-Marc Vanden-Broeck (UCL, UK)

Enquiries should be addressed to Robb McDonald (n.r.mcdonald@ucl.ac.uk). For further information please visit tinyurl.com/md46kt8.

GEOMETRIC GROUP THEORY DAY

A one-day workshop on *Geometric Group Theory* will take place at University College London on the afternoon of 18 March 2015. Geometric group theory is the study of finitely generated groups and the relations between them and the geometric and topological properties of the spaces they act on. The purpose of the workshop is to celebrate the recent appointment of Larsen Louder as lecturer at UCL. The speakers are:

- John Mackay (Bristol)
- Larsen Louder (UCL)
- Zlil Sela (HUJI)

For more information visit the website www.ucl.ac.uk/~ucahllo/uclggtday/ or email Lars Louder (l.louder@ucl.ac.uk). The meeting is supported by an LMS Conference grant celebrating new appointments and UCL.

POSTGRADUATE COMBINATORIAL CONFERENCE

The *24th Postgraduate Combinatorial Conference* will take place at Queen Mary University of London from Monday 13 to Wednesday 15 April 2015. The Postgraduate Combinatorial Conference is a conference organised by, and for, current research students in all areas of combinatorics and discrete mathematics. Its aim is to allow PhD students to meet and discuss their research in a relaxed environment, to gain practice at presenting their research outside of their own department, and to meet pre-eminent researchers in their area. Invited speakers include:

- Peter Cameron (St Andrews and Queen Mary University of London)
- Imre Leader (Cambridge)
- Julia Wolf (Bristol)

Participants are encouraged to contribute short talks. The registration fee is £35 (for the first 30 applicants), to cover coffee breaks and lunches. Financial support towards travel and or accommodation expenses is available for those who need it. For more information see www.maths.qmul.ac.uk/pcc2015 or contact the organizers, Katie Clinch and Trevor Pinto, by email (pcc2015@qmul.ac.uk).

RELATIONS BETWEEN BANACH SPACE THEORY AND GMT

The workshop *Relations Between Banach Space Theory and Geometric Measure Theory* will take place in the University of Warwick from 8 to 12 June 2015. Plenary speakers include:

- Jesus Castillo (Univ de Extremadura)
- Gilles Godefroy (Université Paris VI)
- William Johnson (Texas A&M University)
- Assaf Naor (Princeton University) tbc
- Mikhail Ostrovskii (St John's University)
- Gideon Schechtman (Weizmann Institute)
- Thomas Schlumprecht (Texas A&M Univ)

The deadline for registration is **15 April 2015**. For further information visit the workshop website at: http://tinyurl.com/BanachGMT. The workshop is supported by a European Research Council grant.

MAFELAP 2016

BRUNEL UNIVERSITY RESEARCH CENTRE
BICOM
Brunel Institute of Computational Mathematics

MAFELAP 2016, the fifteenth conference on the *Mathematics of Finite Elements and Applications*, will take place at Brunel University London from 14 to 17 June 2016.

The internationally recognized MAFELAP conferences have been run by BICOM at Brunel University at three year intervals since 1972. In these conferences exposure is given to research on the theory and practical application of finite element methods.

As on previous occasions the conference will consist of plenary lectures, mini-symposia and parallel sessions. If you are interested in organizing a mini-symposium at MAFELAP 2016 then email your title to mafelap-mini-symposia@brunel.ac.uk as soon as possible.

Preliminary information is available on the conference website: tinyurl.com/l5kq23p.

If you are new to the MAFELAP conferences you can get a flavour of what they involve from the web page of the previous conference: tinyurl.com/n9rfhay.

VOLTAIRE AND THE NEWTONIAN REVOLUTION

A one-day conference on *Voltaire and the Newtonian Revolution* will take place on Saturday 28 February from 10.30 am to 5.30 pm at St Cross College, University of Oxford.

Although Voltaire is known predominantly as the leading philosopher, dramatist and poet of the Enlightenment, slightly less well known is his enthusiasm for the work of Newton in many of its aspects (both gravitation and optics) and its role in supplanting the previously dominant Cartesian worldview. In the promotion of the Newtonian theory he was aided in large part by his long-time companion and leading woman scientist of her era, the Marquise Émilie du Châtelet, herself at the forefront of the mathematics of the era and the translator of Newton's *Principia* into French. This conference explores Voltaire's and du Châtelet's roles in the promotion of Newtonian theory as well as their activities in the physics of their era such as their investigations, both theoretical and experimental, into the nature of fire and combustion. Confirmed speakers include:

- A.C. Grayling (New College of the Humanities, London) *The Cartesian Background to Voltaire's Newtonism*
- Nicholas Cronk (The Voltaire Foundation, University of Oxford) *Voltaire's Career as a Scientist*
- Robert Iliffe (University of Sussex) *The Role of Newtonian Science in the French Enlightenment*
- Sarah Hutton (University of St Andrews) *Émilie du Châtelet's Newton*
- Anne-Lise Rey (Université Lille I) *Émilie du Châtelet's Institutions de Physique: a Leibnizian-Newtonian Synthesis?*

Registration to attend this conference is **free**, but must be confirmed using the conference booking form at www.stx.ox.ac.uk/voltaire-and-newtonian-revolution-one-day-conference by **Monday 23 February**.

There will be a conference dinner at St Cross at the end of the conference with an after-dinner talk by **David Bodanis** (author of *Passionate Minds: The Great Enlightenment Love Affair*). Although the conference itself is free of charge, the dinner costs £35 to attend - booking a place for dinner can be done at http://tinyurl.com/pv8fb48. Bed and breakfast accommodation in the Oxford colleges can be found at www.conference-oxford.com/bb-self-catering.

COMPLEX DYNAMICS

A postgraduate conference in *Complex Dynamics* will take place at De Morgan House, London, from Wednesday 11 to Friday 13 March 2015. The aim of this conference is to bring together PhD students and postdoctoral researchers from all over Europe so that they have the opportunity to present and discuss their work.

The conference will consist of five sessions, each with a keynote talk and several short talks given by the students. The invited speakers are experts that come from five universities in UK that do research in Complex Dynamics:

- Adam Epstein (University of Warwick)
- Dan Nicks (University of Nottingham)
- Mary Rees FRS (University of Liverpool)
- Gwyneth Stallard (The Open University)
- Sebastian van Strien (Imperial College London)

For more information visit the website: www.maths.open.ac.uk/pccd15, or contact the organisers Vasiliki Evdoridou (Vasiliki.Evdoridou@open.ac.uk) and David Martí-Pete (David.MatiPete@open.ac.uk). The conference is supported by an LMS Postgraduate Research Conference grant (Scheme 8) and the Department of Mathematics and Statistics of The Open University.

THE LONDON MATHEMATICAL SOCIETY
JOINTLY WITH GRESHAM COLLEGE

Wednesday, 20 May 2015

6:00pm at The Museum of London

Geometry: A New Weapon in the Fight Against Viruses

Professor Reidun Twarock

University of York

Viruses like the common cold look like tiny footballs and mathematics can therefore help to understand how they form and evolve. Our highly interdisciplinary approach in understanding and combating viruses, in which mathematics plays a key role, provides surprising new avenues in our fight against viral disease.

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OBITUARIES

IVOR GRATTAN-GUINNESS

Professor Ivor Grattan-Guinness, a leading figure in the history of mathematics and logic, died on 12 December 2014, aged 73.

Tony Crilly writes: Ivor Grattan-Guinness was a mathematics scholar at Wadham College, Oxford, graduating in 1962. After a brief employment with Marconi, he was appointed a lecturer in mathematics at Enfield College of Technology in 1964. Later that year he enrolled as a part-time student at the London School of Economics, in the school made famous by Sir Karl Popper and Imre Lakatos.

Ivor was awarded MSc (1966), PhD (1969), and DSc (1978), all from the University of London. His self-appointed quest was to ask the very basic historical question 'what happened in the past'. This, he would say, separated history from heritage which asked the question 'how did we get here'. His PhD completed, he set about his task with phenomenal energy writing two books simultaneously. His thesis formed the basis of *The Development of the Foundations of Mathematical Analysis from Euler to Riemann* (1970), the other (with J.R. Ravetz) *Joseph Fourier* (1768-1830) (1972).

During his career he produced a mountain of academic articles and authored many books. Notable was his three volume *Convolutions in French Mathematics 1800-1840* (1990). He was also an editor, and his two volume *Companion Encyclopedia of the History and Philosophy of the Mathematical Sciences* (1994) sets mathematics in a historical context. For *Landmark Writings in Western Mathematics 1640-1940* (2005) he collated chapters from sixty-five authors from across the world, a testament to his organization and efficiency. When the *Oxford Dictionary of National Biography* (2004) was being revised he was the natural choice as Associate Editor of Mathematics and Statistics.

Ivor rescued the moribund journal Annals of Science which would have been discontinued without his intervention, and he founded the journal History and Philosophy of Logic. He was on the board of Historia Mathematica from its inception. He served as President of the British Society for the History of Mathematics 1986-88.

Ivor much enjoyed 'gigs', as he used to call academic meetings, and was in demand as a speaker. In the recent 'Alan Turing year' (2012) marking the centenary of Turing's birth he focused on Turing's interaction with Max Newman, Turing's mentor at Cambridge and Manchester.

He was a man of wide cultural interests. Being on the Council for Psychical Research he wrote *Psychical Research: A Guide to Its History* (1982). An academic paper of his is devoted to numerology in Mozart's music. One way to detect whether Ivor was in College was to listen out for his hummed rendition of the Horn Concerto which could reverberate around the corridors.

Ivor was content to stay at the same institution for his entire career. It was near London with its libraries, close to airports for international meetings, and he had freedom to pursue his researches, which he did without sparing himself. When Enfield College became part of Middlesex Polytechnic he was encouraged to take on doctoral students – I was the first of eight students he saw through to completion. Ivor's working style was not to engage in long discussions, but to get down to writing. Work submitted to him invariably came back by return.

Soon after Middlesex Polytechnic became Middlesex University, he was appointed professor of the history of mathematics and logic in 1993. After retirement he joined a research team at the London School of Economics, and only in the last fortnight of his life did he stop working.

He is survived by his wife Enid. He died just before their Golden Wedding anniversary.

ROGER F. WHEELER

Dr Roger Wheeler, who was a member of both the London Mathematical Society and the Mathematical Association, died on 29 March 2014, aged 85.

John Watters writes: Born in Sheffield, Roger's secondary education was at Bradford Grammar School from where he went to Trinity College, Cambridge in 1946. His studies were interrupted by National Service and he graduated in 1951. In his final years at Cambridge Roger produced a dissection of a 6-cube into eight pieces which could be reassembled to form a 3-cube, a 4-cube and a 5-cube. Reference to this is made by Greg. N. Frederickson in his book *Dissections: Plane & Fancy*. Frederickson remarks that he 'marvelled that anyone had been able to discover such a solution'. Roger's work was published in 1951 in *Eureka* and followed a publication, also in *Eureka*, in 1950 by Leech which gave a 10-piece dissection.

On graduation Roger began teaching at Hymers College in Hull. He spent the academic year 1955-56 at Wakefield High School, Arlington, Virginia under the Foreign Exchange Programme. Roger became an active member of the Mathematical Association in 1954 and made numerous contributions to the Mathematical Gazette during his time in Hull and subsequently. One lasting benefit to Roger from this membership was his marriage to Dab who taught mathematics in Beverley.

In 1961 Roger was appointed to a Lectureship in Pure Mathematics at Leicester University. He published work on propositional connectives and completed a PhD thesis, *Composition Algebras and their Generators*, in 1971 under the supervision of R.L. Goodstein. Roger was seconded to the University's School of Education from 1976-79 to work with the Mathematics Methods group. As with his undergraduates, his PGCE students were appreciative of his teaching. He always saw the need for forethought and rigour in presentation. Building on his teaching experience Roger wrote his book *Rethinking Mathematical Concepts* which was published in 1981 in the Ellis Horwood series, Mathematics and Its Applications. In this book he sought to encourage a critical attitude on the part of the reader. Whilst in Leicester Roger and Dab were very active in the local branch of the Mathematical Association. The meetings on the Oxbridge entrance papers which Roger ran were especially well attended. He was also involved with the Diploma in Mathematics (Teaching) which the MA offered until the mid-seventies. From 1980 to 2001 Roger was Director of the MA's Problems Bureau providing assistance in solving problems submitted to the Bureau; he dealt with some 1,800 queries. Roger also worked as a translator for the LMS's *Russian Mathematical Surveys* edited by his colleague Eric Primrose.

Roger took early retirement in 1985. Dab and he moved to Gloucestershire where they threw themselves into the life of the Cheltenham Croquet Club; Roger served as Chairman and sat on the Croquet Association Council. Roger's role as Problem Bureau Director continued and they were founder members of the Gloucestershire branch of the MA. He was also active in the Cirencester Science and Technology Society, formed in 1997, serving as Programme Secretary. His number theory monographs *Making the Clock Strike: Some Explorations in Number Theory and Continued Fractions: A Popular Survey* appeared in 1986 and 2001.

Roger's health deteriorated through diabetes and he spent time in local hospitals. Despite his difficulties Roger was always his happy and optimistic self, maintaining an interest in people he had known. His parting gift was a celebration of his life held at the Cheltenham Croquet Club on 1 May 2014 attended by a great many friends. His generosity of spirit lived on.

JACQUELINE STEDALL

Snezana Lawrence writes: Jacqueline Stedall, who died on 27 September 2014 aged 64, was a well-known and highly regarded historian of mathematics. I met Jackie at the beginning of our PhDs, both undertaken at the Open University in the mid-1990s. Jackie at first appeared a quiet and reserved person, but over the years I learnt that this was an expression of her determination and strength of character, and that, whilst she was also modest and humble, Jackie carried a considerable intensity and intellectual might. She was at peace with herself and the world, and was able to examine the world through mathematics she studied, discover how it emerged through the study of old masters, and tell that to others with clarity and that same sense of grounding that was obvious to all those who met her.

Over the years Jackie built the *BSHM Bulletin* to a respected journal in the history of mathematics that it now is, and published a number of highly acclaimed edited volumes and monographs enlarging the field of history of mathematics. She did a crucially important work on Harriot, Pell, and Wallis, bringing to our attention the complexity of the development of algebra and calculus in the century preceding Newton's work. With Eleanor Robson she edited a now very popular *Oxford Handbook for the History of Mathematics*, a rigorous but highly sympathetic and inclusive view of what it means to do mathematics in different societies and historical periods.

In various history of mathematics forums and meetings I was glad to have time to speak to her and learn of her love for her children of whom she was immensely proud. They will probably not be aware of how much and often she spoke of their achievements, so that when I met them at Jackie's funeral in Oxford, I immediately recognized the humanity and talent that she was so proud of, and which it was obvious she passed on and shared with her children.

Jackie will be sorely missed by historians of mathematics and others interested in the cultural and historical roots of mathematics. In a relatively short period of time Jackie worked in it, she enriched and raised the scholarship in the field and left behind a considerable opus that will be enjoyed for many years by scholars and students of mathematics alike.

REVIEWS

THE THEORY OF EVERYTHING

"This will not be a fight. It will be a very heavy defeat. For all of us." With these words Stephen Hawking's father advises Jane Wilde to stay away from his son at the beginning of the new movie *The Theory of Everything*. It may seem a brutal comment, but the young Stephen Hawking had just been diagnosed with motor neurone disease and given two years to live, so it did not seem likely that any relationship would last. Regardless of the budding scientist's talents and promise, Nature would not compromise. Of course, it did not quite work out that way.

The Theory of Everything is based on Jane's story of her life with Stephen. It is a com-

pelling story - a tragedy and a triumph. The young family struggles to cope as the scientist's body decays, but his brilliant mind refuses to yield as he makes a series of breakthroughs that propel him to international stardom. The science features throughout the movie, and is portrayed reasonably well, but it is never the focal point. This is essentially a movie about the human condition.

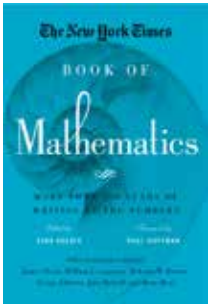
The acting is excellent throughout. The two leads, Eddie Redmayne as Stephen Hawking and Felicity Jones as Jane Wylde, stand out. In fact, I would not be at all surprised if there were an Oscar nomination for Redmayne following this performance. His portrayal of the increasingly disabled scientist's mannerisms is astonishing.

As a scientist, I had some fun trying to identify other characters in the story. There is a cameo portrayal of Roger Penrose, the Oxford mathematician who stimulated Hawking's interest in spacetime singularities, and the father figure of Dennis Sciama, Hawking's PhD supervisor, naturally features throughout. Hawking's fellow Cambridge gravity students are not so clearly identified, but this is probably natural. I particularly enjoyed Kip Thorne's alleged comments from Hawking's PhD viva examination that this and that chapter was a "disaster" and the exclamation from the Russian Khalatnikov after the first seminar on black-hole evaporation "The little one has done it!" made me smile.

In all honesty, I did not expect to enjoy this movie. I am not a fan of biopics of living people in general and we all know that science movies often fail to satisfy the "expert" audience. However, I actually liked *The Theory of Everything* very much and I would certainly recommend it. But don't see this movie expecting to learn about the mysteries of the universe…

Nils Andersson
Gravity Group, University of Southampton

THE NEW YORK TIMES BOOK OF MATHEMATICS edited by Gina Kolata, 2013, Sterling Publishing Co., 496 pp, £19.99, US$24.95, ISBN 978-1-4027-9322-6.



This book is a collection of mathematically themed newspaper articles written by a number of different authors from the New York Times stretching back more than 120 years. The authors include writers of many other popular mathematics texts such as James Gleick (*Chaos: Making a New Science and The Information: A History, A Theory, a Flood*) and Paul Hoffman (*The Man Who Loved Only Numbers: The Story of Paul Erdős*).

The vast majority of the articles are from the 1970s onwards and so many of the stories told here will be familiar to anyone clued up on recent popular mathematical literature. For example, Appel and Haken's computer proof of the Four Colour Theorem; the drama surrounding Andrew Wile's proof of Fermat's Last Theorem and more recently the astonishing events surrounding Perelman's proof of the Poincaré conjecture are all featured. Whilst much of these stories will be familiar to the reader the unusual format of presenting the events over time through the medium of newspaper articles provides a fresh take on many of them. For instance, when discussing Fermat's Last Theorem we of course all immediately think of Yoichi Miyaoka's proposed 1988 proof and its demise over several weeks. A 2006 article described Perelman's proof of the Poincaré conjecture which was followed three days later with an article answering a flurry of questions readers had written in response – an eye opening view of how the general public respond to popular mathematics writing!

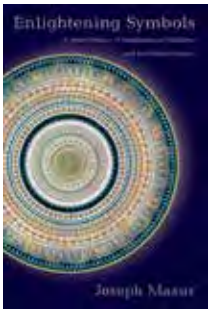
This book really comes into its own when reprinting much older articles discussing concerns and views of the day that are now largely forgotten. One enthusiastic article dating from 1946 describes the great excitement surrounding the then radical idea of using an

"electronic calculator", employing mathematical principals, to predict the weather. An even older contribution dating from 1927 describes the workings of a "product intergraph" (or "Thinking machine" in headline parlance) for solving differential equations.

Being broken into a number of bite-size chunks (the articles are typically around four pages in length, the longest being around fifteen pages) written by a number of different people makes this a very readable volume that it is easy to 'dip in and out' of.

Ben Fairbairn
Birkbeck, University of London

ENLIGHTENING SYMBOLS: A SHORT HISTORY OF MATHEMATICAL NOTATION AND ITS HIDDEN POWERS by Joseph Mazur, 2014, Princeton University Press, 285 pp $29.95, £19.95, ISBN 978-0-6911-5463-3.



Having an intuitive and compact notation is part of the very fabric of how we do mathematics. Good notation facilitates efficient thought and can convert the obscure and awkward into the obvious and crystal clear. Think for a few moments of the power of something as straightforward as the laws of indices, or at a higher level, the div, grad and curl of vector calculus and imagine how you would get along in your work without them. Such notations and tools are so heavily embedded in modern mathematics that we take them for granted but, like everything else in the discipline, they have a history. Before they became the textbook standards of the present, there were times when they did not exist, and times when they competed with other notations for supremacy.

Joseph Mazur's book gives an introductory tour of the history of mathematical notation. He divides the book into three parts. The first two sections deal with history proper, with Mazur treating the development of numerals and algebra separately. Though these two subjects are not chronologically distinct, the separation is not an unnatural one, and the author achieves it successfully. This division allows the reader to use the book as an introduction to only one of these topics if so required. Both sections are under 100 pages, and so could be used by a student as 'introductory reading' on either topic. Being *A Short History of Mathematical Notation* the book is necessarily selective, and this is perhaps most clearly seen in the fact that the history effectively ends with Newton and Leibniz (though some later mathematicians do get mentions). Thus if the reader wants to know about notational developments in the 18th, 19th and 20th centuries, she must look elsewhere.

After the two history sections, the concluding section of the volume deals with what might be described as the more psychological aspects of mathematical notation. Amongst other things, the author reflects on his own mental representation of, for example, the proof of the irrationality of $\sqrt{2}$, and considers results from experiments using functional magnetic resonance imaging (fMRI) to investigate how human subjects respond to simple mathematical expressions. I have to confess to finding this the least interesting section of the book, purely because it was the section that contained the least history. However, this is a comment on the reviewer's personal interests rather than any criticism of the content.

Overall, the book provides a readable introduction to the history of mathematics up to the beginning of the 18th century as seen through the lens of the development of its notation. Mazur introduces the reader to major characters, weaves in relevant aspects of wider culture and gives a feel for the breadth of mathematical history. It is a useful book for both student and interested layperson alike.

Mark McCartney
University of Ulster

RANDOM AND OTHER ERGODIC PROBLEMS

22 – 26 June 2015

in association with the Newton Institute programme
Periodic and Ergodic Spectral Problems
(5 January -26 June 2015)

Organisers: Ilya Goldsheid (Queen Mary, London), Frédéric Klopp (Université Pierre et Marie Curie), Leonid Parnovski (UCL).

Workshop Theme: The goal of this workshop is to get together top specialists on the mathematics of random operators (random Schrödinger operators, spectra of random graphs, random matrices, etc). The broad field has been evolving quickly. A number of important new results have been obtained in the last five years (spectral statistics of random matrices and ergodic Schrödinger operators, new spectral types for random Schrödinger operators on trees, new results on localization, the study of interacting systems, etc). The conference is meant to provide the audience with an overview of state of the art in the field and to foster collaborations within a field which has a large scope and broad interconnections.

Further information and application forms are available from the website
www.newton.ac.uk/event/pepw04

Closing date for the receipt of applications is **26 April 2015**.

THE IMPROBABILITY PRINCIPLE

by David Hand, 2014, Bantam Press, 288 pp, £20.00, ISBN 978-0-5930-7281-3.

What's David Hand trying to do, take my job? I am paid to explain risk and chance to the masses, but then Professor Hand comes along and, presumably in his spare time, produces this delightful and clever analysis of how we should think about all the remarkable coincidences that appear to happen to other people, and even to us.

His overall thesis, which he calls the 'Improbability Principle', is that "extremely unlikely events are commonplace". He puts in the stuff we would expect from any standard mathematical analysis of coincidences: that you just need 23 people in a room to have a greater than 50% chance of two sharing a birthday, and so on. But there is so much more. We get the history of ideas of chance, and the birth of probability through the analysis of gambling problems. But he includes a nuanced discussion of the conflict over what probability actually means, giving deserved prominence (from my personal Bayesian perspective) to the idea that probability does not even exist.

Many of us have spent hours talking about coincidences and why they happen so often, but Hand has neatly managed to summarise the issues in a series of five principles. First is the 'Law of Inevitability': something must happen, no matter how unlikely: some lottery ticket will turn up, and so in some special circumstances it can be worth trying to buy all the tickets, and he tells the remarkable stories of when people have tried this feat. Then there is the 'Law of Truly Large Numbers': given enough opportunities, even very surprising events will occur, and Hand covers a massive range of extraordinary occurrences of multiple lottery wins, holes-in-one, animals predicting football results, and so on.

So far, so standard. But then we get on to the 'Law of Selection' – the crucial idea that we need to consider 'why are we hearing about this event?' When notable things occur they tend to attract attention, and so we notice them when they occur again. Another consequence is regression-to-the-mean, which explains why speed cameras appear to have an exaggerated influence on road accidents. Then Hand explores the 'Law of the Probability Lever', in which small changes in conditions can have large consequences in the chances of events, such as in ESP experiments. Finally he includes the 'Law of Near Enough', which I really like as it includes the all-to-human ability of finding patterns where none exist, and then ascribing them to a mystical force.

Through all of this, Hand has managed to include innumerable stories of the way that probability comes into our lives in surprising ways: some familiar, such as Jung's descriptions of coincidences and his ascribing them to the underlying force of 'synchronicity', and the intricacies of dealing with uncertain evidence in criminal trials, and some more unusual, such as the nature of physical constants in the universe.

This is a remarkable book, full of wonderful stories and insights, packed full of statistical and probability goodies, and very well-written. Unlike most popular science books, I found it a real page-turner. Of course I deeply resent it, as it is exactly the book I should have written. But, swallowing my pride in a noble fashion, I strongly recommend it to anyone interested in how chance comes into our lives, and this should include everyone.

David Spiegelhalter
Statistical Laboratory, Centre for
Mathematical Sciences,
Cambridge

CALENDAR OF EVENTS

This calendar lists Society meetings and other mathematical events. Further information may be obtained from the appropriate LMS Newsletter whose number is given in brackets. A fuller list is given on the Society's website (www.lms.ac.uk/content/calendar). Please send updates and corrections to calendar@lms.ac.uk.

FEBRUARY 2015

4–8 CERME 9, Prague (439)
5–6 London Stringology Day & London Algorithms, King's College London (443)
6 Graph Theory in Design and Evaluation of Algorithms, King's College London (443)
27 Mary Cartwright Lecture, London (444)
28 Voltaire and the Newtonian Revolution Conference, Oxford (444)

MARCH 2015

2-6 New Perspectives in Analysis and Probability, Sussex (443)
3 Christopher Zeeman Lecture, London (443)
9-13 Stochastic Systems Simulation and Control ICMS Workshop, Edinburgh (440)
11-13 Complex Dynamics Postgraduate Conference, De Morgan House, London (444)
16-20 LMS Invited Lectures, Professor Michael Shapiro (MSU), Durham (444)
18 Geometric Group Theory Workshop, University College London (444)
19 Mathematics 2015 IMA Conference, Mary Ward House, London (438)
23-26 Limit Theorems in Probability, Imperial College, London (443)
23-27 Galerkin Methods with Applications in Weather and Climate Forecasting ICMS Workshop, Edinburgh (440)
23-27 Periodic and other Ergodic Problems INI Workshop, Cambridge (442)
30–31 Flood Risk Assessment IMA Conference, Swansea (438)
30–2 Apr BMC and BAMC Joint Meeting, Cambridge (438)

APRIL 2015

1 LMS 150th Anniversary Celebration Day at BMC-BAMC Joint Meeting, Cambridge (444)
7 LMS Northern Regional Meeting, Lancaster (444)
7-10 Almost-Periodic and other Ergodic Problems INI Workship, Cambridge (442)
7-11 Homotopical Algebra and Geometry Workshop, Lancaster (441)
12-15 Water Waves and Floating Bodies International Workshop, Bristol (444)
13-15 Postgraduate Combinatorial Conference, Queen Mary University of London (444)
13-17 Mathematics for Health and Disease ICMS Workshop, Edinburgh (440)
13-17 Statistical Properties of Dynamical Systems LMS-CMI Research School, Loughborough (442)
14-17 LMS Women in Maths Event, Oxford (444)
20 Mathematical Education of Engineers IMA Conference, Loughborough (438)
20-21 Inductive Logic Summer School, Kent (442)
20-22 Computational Complex Analysis for Free Surface Flows Meeting, University College London (444)
20-24 Gradient Flows: From Theory to Application ICMS Workshop, Edinburgh (440)
20-24 Random Planar Structures INI Workshop, Cambridge (441)
22-24 Combining Probability and Logic, University of Kent (442)

MAY 2015

9 LMS-BSHM De Morgan Meeting, De Morgan House, London
20 LMS-Gresham College Joint Lecture, London (444)
28-30 Edinburgh Mathematical Society & Societat Catalana de Matematiques Joint Meeting, Barcelona (443)

JUNE 2015

8-12 Relations between Banach Space Theory and Geometric Measure Theory Workshop, Warwick (444)
10-13 AMS-EMS-SPM International Meeting, Porto, Portugal (442)
22-26 Random and other Ergodic Problems INI Workshop, Cambridge (444)

JULY 2015

1-5 Regularity and Analytic Methods in Combinatorics, LMS-CMI Research School, University of Warwick (444)
3 Hardy Lecture, LMS Meeting, London
5-10 Developments in Modern Probability LMS-CMI Research School, University of Warwick
8-10 LMS Midlands Regional Meeting, Warwick
20-30 Permutation Groups and Transformation Semigroups LMS-EPSRC Durham Research Symposium, Durham (443)
20-31 LMS Undergraduate Summer School, Loughborough (444)

AUGUST 2015

3-12 New Moonshines, Mock Modular Forms and String Theory LMS-EPSRC Durham Research Symposium, Durham (444)
17-20 Young Researchers in Mathematics Conference, Oxford
23-28 Heidelberg Laureate Forum, Heidelberg (444)

SEPTEMBER 2015

15-19 Diophantine Equations LMS-CMI Research School, Baskerville Hall, Hay-on-Wye
17 LMS Computer Science Colloquium, The Royal Society London
18-20 LMS/EMS Joint Anniversary Mathematical Meeting, Birmingham (443)