

# THE LONDON MATHEMATICAL SOCIETY



## NEWSLETTER

No. 390 March 2010

### Society Meetings and Events

#### 2010

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Hardy Lecture  
London

**Monday 13 September**  
Midlands Regional  
Meeting, Nottingham

**Friday 19 November**  
Annual General  
Meeting and Naylor  
Lecture, London

### THE COUNCIL RETREAT 2010

In an extension of my usual role of reporting on formal Council meetings, I'm giving my impressions on this occasion of the Council retreat held at the University of Manchester's Chancellors Hotel and Conference Centre, over the weekend 15–17 January.

This is the start of my fourth year on Council, and this was my second Council retreat. My first, in June 2008, was a positive experience of discussing openly, carefully, and respectfully the issues around the proposals for a new mathematics society. Unfortunately, over the last nine months, associated with very high feelings around these proposals and related processes, life in Council has fallen somewhat below these usual high standards of collegiality. As a result, sadly, I approached this retreat not entirely confident of a positive experience.

In the event, any concerns I had were unfounded. I left on Sunday lunchtime, after the President's summing up of a successful weekend, having got to know my fellow members of the new Council, and confident that the LMS was in good hands. Indeed, the only disappointing aspect of the weekend was the visual appearance of Council in the hotel dining room! In the absence of

our three female members, scattered across the globe at other prior engagements, we presented a distressing image of UK Mathematics as an activity restricted to white middle-aged males; this highlighted by the meeting we shared the hotel with, which, bizarrely and conversely, was entirely female. Sadly, our Treasurer Brian Stewart was unwell and also unable to join us.

We began the weekend, after dinner on the Friday night, with a presentation by Stephen Huggett, the longest-serving member of Council, on trends in the management style of the LMS. Stephen urged us to reflect on the respective roles of Council and what has been its main executive committee, the Finance and General Purposes Committee (F&GPC). Encouraging us to think radically, he questioned the need for or remit of F&GPC, urged greater oversight of F&GPC by Council, and encouraged us to think about issues of openness within the Society. For example, should Council minutes be routinely available publicly to members (save some reserved business, e.g. items that are commercially sensitive, or related to personnel matters, etc.)?

We started on Saturday with a discussion and overview of the LMS finances. We did our best

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in this session, working from a PowerPoint presentation prepared by the Treasurer plus his accompanying notes. But, inevitably, in Brian's absence, there were many more detailed questions about his presentation than we were able to answer.

In the afternoon Chris Budd, Education Secretary, gave us a spectacular presentation about the work of the Education Committee, bringing new Council members up to speed with this important area of the work of the LMS, which comprises lobbying on behalf of the LMS in relation to Mathematics education at secondary school and higher education levels, and encouraging and supporting public engagement activities. In carrying out this remit Chris and his committee liaise with a bewildering number of partners and collaborating bodies, and the acronyms flew thick and fast (CMS, JMC, ACME, MSOR, HEA, ...). Particularly impressive was Chris's response to a question enquiring what "lobbying hard" in respect of standards of mathematics teaching

meant concretely. Chris was able to respond that he was meeting, to put an LMS view, members of both the cabinet and shadow cabinet in the next few weeks.

Very interesting was the next session, led by Garth Dales, one member of a recently established *ad hoc* Membership Group of Council, set up to do some thinking on issues around increasing our membership. A statistic presented, with both positive and negative aspects, was the large proportion of older members that we have. On the one hand there seems to be a suggestion that LMS members can expect a good innings (we have 100 members currently over 80!). Possibly more worrying for longer term demographics is that currently 40% of our members are over 60. Some initial ideas were floated: Garth mooted particularly a membership push amongst colleagues on the applied side. We had interesting discussions too about criteria for membership. Why (asked Burt Totaro and others) is membership of the American Mathematical Society open to

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everyone who wants to join (and one can join online in seconds), whilst membership of the LMS requires a higher degree in Mathematics plus support of a proposer and seconder?

One issue for consideration that had been flagged before the retreat was the urgent need for improvements to the LMS website. Isabelle Robinson, one of the Group Heads within the LMS Staff, and the LMS IT Coordinator, had prepared a briefing note for us on this, and Sasha Borovik gave us a presentation of ideas for future content and functionality. There is a need, at a basic level, for a greater variety of information to be available in a much more appealing and clearer format. Further, much of the business of the LMS should be carried out online, with carefully designed databases in the background: e.g. applications for grants, and administration of membership applications. Sasha also pushed strongly the use of blogs and discussion groups as a means of communication with members and creating an attractive site. (Timothy Gowers' blog at <http://gowers.wordpress.com> was cited as an exciting example of what is possible.)

On the Sunday morning we had contributions from some of the other LMS Officers which I have space to mention only briefly. Martin Hyland, as incoming General Secretary, made important points about the governance of the LMS. He noted that, while we are of course bound by our by-laws and statutes, these are really rather permissive. We need, additionally, to act in a manner which is unarguably reasonable to our membership and the wider public! As a case in point he argued, persuasively, that minor by-law changes proposed by Council last October, which were due to be voted on at a Special General Meeting in Durham in February, should be delayed. The point here was that, although the changes seemed minor to the Council and the proposal to use the meeting at Durham was quite proper according to our by-laws, the fact of the matter was that, without any provision for proxy voting, there was

scope for perception from the membership of Council pushing important changes through without adequate opportunity for members to have a say. Our interim Executive Secretary, Ivor Goddard, also made very useful contributions on governance and the role of Council, and also on the effectiveness of our current staff, and the appointment of his permanent replacement.

I have not yet commented on the social aspect of the weekend. Suffice it to say that, in addition to the scheduled discussion sessions, there were also, as you would expect, opportunities for informal and very enjoyable exchanges of views over dinner and late into the evening with my colleagues in the hotel bar.

Simon Chandler-Wilde

## INTERNATIONAL CONGRESS OF MATHEMATICIANS 2010

### LMS travel grants: deadline extended

The London Mathematical Society would be pleased to see a strong UK contingent at the ICM in Hyderabad from 19 to 27 August 2010 ([www.icm2010.org.in](http://www.icm2010.org.in)). The Society has set aside funds to be used for making grants to support the attendance of UK-based mathematicians at the ICM. You do not need to be an LMS member to apply.

Those who are eligible to apply to the Royal Society for an International Travel Grant ([www.royalsociety.org/funding](http://www.royalsociety.org/funding)) are expected first to do so. Those who are not eligible for a Royal Society grant, or were unsuccessful in obtaining one, can apply to the London Mathematical Society for a grant to contribute to the costs of attending the ICM. Please contact Isabelle Robinson for an application form ([isabelle.robinson@lms.ac.uk](mailto:isabelle.robinson@lms.ac.uk), tel. 020 7291 9977) or download one from the LMS website ([www.lms.ac.uk](http://www.lms.ac.uk)). Applications should be submitted by **30 April 2010** and applicants will be informed of the outcome by mid-May.

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### ICM 2010

#### Local hospitality

The ICM 2010 Executive Organizing Committee is pleased to announce that it is in a position to offer local hospitality to a limited number of pre-registered international participants. Local hospitality includes:

- transfer from the airport to place of accommodation on arrival on 18/19 August and *vice versa* on departure 27/28 August
- accommodation in a service apartment or guest house from 18 to 27 August – you may have to share your accommodation
- daily transport from the place of accommodation to HICC, the ICM 2010 venue, on all mornings (except Monday 23 August) and return in the evening
- a modest subsistence allowance for incidental expenses

Those interested in receiving support should either send an email to [rajattanicm@gmail.com](mailto:rajattanicm@gmail.com) or write to ICM secretariat, Department of Mathematics and Statistics, University of Hyderabad, Hyderabad 500046, India in the format given at [www.icm2010.org.in/financial-support/local-hospitality-support](http://www.icm2010.org.in/financial-support/local-hospitality-support).

The last date for applying is **31 March**. To be eligible for support participants will have to register by **1 May**. Remember that you only need to pre-register to apply for support.

Rajat Tandon, Secretary  
Executive Organizing Committee  
ICM 2010

### RAMANUJAN PRIZE 2009

The 2009 Srinivasa Ramanujan Prize will be awarded to Ernesto Lupercio, a researcher at CINVESTAV, Instituto Politécnico Nacional, Mexico.

Ernesto Lupercio is being honoured for his outstanding contributions to algebraic topology, geometry and mathematical physics. The prize is also in acknowledgement of the enormous contribution that Professor Lupercio has made to mathematics in Mexico, through his

energy, enthusiasm and collaborations with young researchers.

The Prize is supported by the Niels Henrik Abel Memorial Fund, with the participation of the International Mathematical Union. For more information visit the website at [http://prizes.ictp.it/pio/words/news/prizes\\_news/2009/2009-ramanujan-prize](http://prizes.ictp.it/pio/words/news/prizes_news/2009/2009-ramanujan-prize).

### THE BALZAN PRIZES 2010

The General Prize Committee of the Balzan International Foundation, chaired in Milan by Salvatore Veca, has selected the subject areas for which prizes will be awarded in 2010:

- European History, 1400–1700 (including the British Isles)
- The History of Theatre in All Its Aspects
- Stem Cells: Biology and potential applications
- Mathematics (pure or applied)

The Balzan Prize is unique among international awards in recognising, on an annual basis, particularly relevant, innovative and specific research carried out in two broad categories: literature, moral sciences and arts, and physical, mathematical and natural sciences and medicine. Consequently, the Balzan Prize aims to promote culture and sciences in all fields of knowledge.

Nominations should be submitted by **15 March 2010** by the leading international and cultural institutions (universities, research institutes, academies) specifically approached by the General Prize Committee. Names submitted must be accompanied by a description of the reasons for the nomination, a list of main publications and a complete *curriculum vitae*. Self-nominations will not be accepted. The amount of each prize is one million Swiss francs. Prize winners are required to earmark half of the sum for the financing of research projects preferably conducted by young scientists and humanists. For further information visit the website at [www.balzan.org](http://www.balzan.org) or email [ufficio.stampa@balzan.it](mailto:ufficio.stampa@balzan.it).



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## NORTHERN REGIONAL MEETING

**Wednesday 14 April 2010**

**Clement Stephenson Lecture Theatre, Agriculture Building,  
University of Newcastle**

- 2.30** Opening of the meeting  
**Michah Sageev** (Technion)  
*CAT(0) cube complexes in group theory*
- 3.45** Tea/Coffee
- 4.15** **Benson Farb** (Chicago)  
*Representation theory and homological stability*
- 6.00** Dinner at a local restaurant

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

For further details, to register or to reserve a place at the dinner, email the organisers (lmsn@ncl.ac.uk). The cost of the dinner will be approximately £30 including drinks.

The meeting will be preceded by a workshop on *Geometry, Analysis, and Logic of Groups*, from 12 to 14 April. For further details visit [www.mas.ncl.ac.uk/lmsnorth](http://www.mas.ncl.ac.uk/lmsnorth) or contact the organiser.

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.

## MATHEMATICS POLICY ROUND-UP

### Statistician in the Home Office

The Royal Statistical Society has welcomed the announcement of the appointment from 1 April 2010 of renowned statistician and current RSS president, Professor Bernard Silverman, as Chief Scientific Adviser to the Home Office. Commenting on his appointment, Professor Silverman said, "I am excited to be taking up this appointment and look forward to making my own contribution to the vital process of providing good scientific advice to government." At the same time, Professor Silverman announced that, in order preserve the RSS's standing as an independent voice in the official and public arena, he would step down from his RSS office, having taken up the presidency in January. Speaking for the Society, vice-president and honorary secretary, Dr Andy Garrett, said, "The Royal Statistical Society is delighted for Bernard on his appointment. It is a recognition of his immense knowledge and expertise in the field of statistics. We are also delighted that this means a leading statistician will be able to ensure that statistics is at the core of scientific opinion for this major government department, together with an important and broader role at the highest level of scientific advice within the network led by Chief Scientific Adviser to Government, Professor John Beddington."

### Public Access Policy in Publishing

The LMS president, publications secretary and publisher wrote to the United States' Office of Science and Technology Policy Public Consultation on Public Access Policy to say that the LMS wholeheartedly supports the submission made by the Association of Learned and Professional Society Publishers (ALPSP). The letter also describes the current LMS practices on open access which have been tailor made to fit the mathematics

community and the unique longevity of the value of mathematics research articles: the final published versions of LMS journal articles are freely available to everyone for the first six months after publication and thereafter they go behind the subscription wall. This enables and encourages people to read the newest research, but provides the journals with the necessary subscription income to sustain their long-term publication. The letter added, "The 'reverse-wall' policy has proved most successful and it is generally well regarded by the community." For more information visit [www.ostp.gov](http://www.ostp.gov).

### National HE STEM Programme

The National HE STEM Programme has appointed two officers to work on its mathematical sciences strand. They are Makhan Singh, currently national project manager for the *More Maths Grads* project, working with former MMG Yorkshire and Humber-side project officer Hazel Kendrick. Both officers will work remotely, but Mr Singh will be based at De Morgan House for part of the week. The new project will carry on the work of MMG, combining it with the other projects funded by the Higher Education Funding Council as part of a six-year programme for the Strategically Important Vulnerable Subjects of physics, chemistry, engineering and mathematical sciences. Its aim is to increase interest in STEM subjects among young people. This second phase will engage with employers, working to enhance higher level skills in the workplace, and with universities to enhance accessibility of HE courses in these subjects. The *More Maths Grads* final report is available online at [www.moremathsgrads.org.uk](http://www.moremathsgrads.org.uk).

Visit [www.stemprogramme.com](http://www.stemprogramme.com) for more information about the National HE STEM Programme.

### Mathematics and Woolworths

Freelance mathematics promoter, *More Maths Grads* officer and stand-up comedian Matt Parker scored media coverage with a research paper entitled *Locations of Ancient Woolworths Stores follow Precise Geometrical Pattern*. Mr Parker analysed the locations of the 800 Woolworths stores to reveal precise geometric patterns, following the research of a Mr Tom Brooks (a retired marketing executive of Honiton, Devon) who found similar patterns in prehistoric monuments across the UK. Mr Brooks looked at 1500 sites and found that some of them follow geometric patterns and he concluded that they must have been part of a sophisticated navigational system. This was reported in the UK national press on 5 January 2010, with the *Daily Mail* reporting that the patterns were so “sophisticated and accurate” that “he does not rule out extraterrestrial help.” Mr Parker’s research revealed similarly unexpected results. He concluded, “These incredibly precise geometric patterns mean that the people who founded the Woolworths Empire must have used these store locations as a form of ‘landmark satnav’ to help hunters find their nearest source of cheap sweets that can be purchased in whatever mix they chose to pick. Well, that or the fact that in any sufficiently large set of random data it is possible to find meaningless patterns of any required accuracy.” Mr Parker’s website is at [www.standupmaths.com](http://www.standupmaths.com).

Caroline Davis  
Mathematics Promotion Officer

### WHERE WILL MATHS TAKE YOU...? IN PARLIAMENT

The *More Maths Grads* (MMG) project celebrated its achievements over the past three years with a Parliamentary Reception demonstrating the crucial role the mathematical sciences play in further study and careers in STEM (science, technology, engineering and mathematics) and beyond.

The ‘Where will maths take you?’ event took place on 27 January 2010 at the House of Commons, hosted by former Secretary of State for Education and Skills, the Rt Hon. Charles Clarke MP. The Churchill Dining room overlooking the river Thames was full to capacity with over 120 people attending the event, including (at the request of the Rt Hon. Ed Balls MP, Secretary of State for Children, Schools and Families) Diana Johnson MP, the Parliamentary Under-Secretary of state for schools.

Guests included MPs, peers, industrialists, the media, other mathematical and STEM organisations and representatives from the five mathematical organisations which developed and managed MMG (the LMS, the IMA, the RSS, Heads of Departments of Mathematical Sciences and the Maths Stats and OR Higher Education Academy).

Mr Clarke congratulated the government-funded MMG project, which set out to develop and evaluate ways of increasing the number of students studying mathematical sciences at university, particularly through encouraging participation from groups of learners who have not traditionally been well represented in higher education.

He underlined the importance of learning mathematics for every citizen to enable them to understand and make sense of the world. Mr Clarke told the reception, “Mathematics is a tremendously important discipline. It is at the core of everything we see around us. It has to be supported and encouraged in every way it can.”

He also described his shock, when in 1998 as a junior minister, a delegation from a group working on how to promote education in mathematics told him the way to make the case for mathematics was to say it was good in helping people to do science. “I was shocked, because it’s also essential for every other discipline, every other form of human thought,” he explained.

He called on all those working in mathematics from those in high-quality research to those working on basic numeracy to work together,

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Professor Duncan Lawson, Rt Hon. Charles Clarke MP, Mr Eddy Pryce, Dame Julia Higgins, Makhan Singh

saying, "We have to stand up at all levels and get more mathematics into the way we live and work and more mathematics in the way we educate. More maths grads, more maths teachers, more maths qualifications."

Other speakers at the event were Dr John Selby from the Higher Education Funding Council for England, the primary funder of the project; Professor Duncan Lawson and Makhan Singh, representing MMG; Eddy Pryce, a head of maths from a school in Coventry which was a partner in the project; Dr Andy Garrett, from the RSS, who represented industry's view as vice president of Quintiles; and Dame Julia Higgins who represented the view from the STEM community.

As well as a display of resources created by *More Maths Grads*, guests enjoyed a demonstration of the new Maths Careers website and exhibits from MMG's sister projects *Stimulating Physics*, the *London Engineering Project* and *Chemistry for our Future*.

Caroline Davis  
Mathematics Promotion Officer

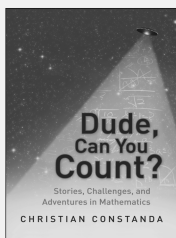
## VISIT OF PROFESSOR B. KRUGLIKOV

Professor Boris Kruglikov (University of Tromsø, Norway) will be visiting the UK from 29 April to 11 May 2010. His interests lie in geometric theory of PDEs. He will give talks at:

- Loughborough University, 29 April  
*Algebra of differential invariants for Monge underdetermined ODEs, overdetermined PDE systems, geometric structures and Monge–Ampère equations*
- University of Kent, 7 May  
*Spencer cohomology, restrictions, characteristics and involutive symbolic PDEs*
- Imperial College London, 10 May  
*Multi-brackets of differential operators and compatibility of PDE systems with applications*

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

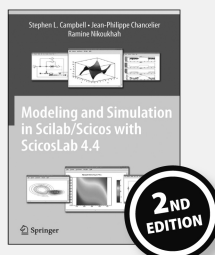
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### RICHARD WORT

Richard Wort, who was elected a member of the London Mathematical Society on 19 March 1959, died on 15 December 2009, aged 93.

*Trevor Stuart writes:* Richard Wort came from Wiltshire of a farming family, the youngest of four. His father was four times Mayor of Salisbury, showing that the family was well established there. In his childhood Richard lived at Milford Hall, but the family also farmed at Countess Farm, rather close to Stonehenge. This led to Richard's having an abiding interest in Stonehenge. He read Mathematics at Cambridge, but also studied Geography and Astronomy, and followed this by gaining a Diploma in Education, which later was to play a substantial part in his life. He became a 50-year member of the LMS on 19 March 2009 and this was recorded in the issue of the *LMS Newsletter* of January 2010; sadly he just missed seeing his name in the published list of Long-Standing Members.

As the second world war started he joined the Wiltshire Regiment, initially being stationed in his beloved Wiltshire. In due course he was sent to the Far East to serve in the Burma campaign, thus participating in that terrible conflict. When he returned to the UK his hair had turned white, perhaps as a result of that ordeal.

Settling down to civilian life he joined the Colonial Education Service and was sent to the colony which is now Tanzania; eventually he became Headmaster of Malangali Secondary School. After some years in the Colonial Service he returned to England and settled in Wimbledon, becoming a Teacher of Mathematics at King's College School. He remained at KCS for the remainder of his professional career, being held in great affection by many former pupils.

During his retirement he remained keenly interested in Stonehenge, which he frequently visited and studied from mathematical, astronomical and geographical points of view. He played a positive role in the public enquiry for the improvements of the A303 and other roads

near to Stonehenge. He was also an active member of the Wimbledon Literary and Scientific Society. He is survived by his wife, Stella, and by their three daughters.

### BOB HART

Dr Robert (Bob) Hart, who was elected a member of the London Mathematical Society on 16 May 1963, died on 13 December 2009, aged 71.

*Chris Robson writes:* Bob Hart was a generous and caring man – a true gentleman. He was born in York in 1938. He graduated in Mathematics and Natural Philosophy from the University of Edinburgh in 1960 and then read for an MSc in Mathematics at the University of Sheffield. He was appointed to the staff of the Department of Pure Mathematics at Leeds in 1962, being promoted to Senior Lecturer in 1977.

He was both an active researcher and a scholar, and was a valued member of the non-commutative ring theory group in Leeds. He published about 14 research papers in that area of mathematics which helped him build an international reputation. Although the number of publications might appear relatively small, the papers were of high quality and contained a rich seam of penetrating insights and original ideas which others went on to mine further. Moreover, he was generous in his supervision of PhD students, several of whom went on to academic careers. The originality and influence of his research was recognised with the award of a DSc degree in 1991. He was an invited speaker at many overseas universities, notably in the USA and Germany. He regularly attended the British Mathematical Colloquium and meetings in Oberwolfach and he was a reviewer for both *Mathematical Reviews* and the *Zentralblatt für Mathematik*.

Bob was for many years a keen potholer and, indeed, a member of a cave rescue team. He was also an amateur radio enthusiast. He retired from his post in 2001. He is survived by his wife, Mary, and two daughters and a son from a previous marriage.

The London  
Mathematical  
Society



THE INSTITUTE OF  
MATHEMATICS AND  
ITS APPLICATIONS

## DAVID CRIGHTON MEDAL PRESENTATION

followed by

### *The problem of turbulence: child's play?*

**Professor H. Keith Moffatt, FRS**

Royal Society, 6 Carlton House Terrace, London SW1Y 5AG

**Wednesday 17 March 2010 at 6.00 pm**

Simple mechanical toys can provide insights into aspects of fluid dynamical behaviour encountered in theories of turbulence: the persistence of spin, chirality, dissipative instability, finite-time singularities and their resolution. These phenomena will be illustrated, and their relevance to turbulence, and the generation of magnetic fields by turbulence, will be discussed.

Professor Keith Moffatt (Trinity College, Cambridge) will be presented with the 2009 David Crighton medal on Wednesday 17 March 2010, in the Kohn Theatre at the Royal Society. He will then deliver the 2009 David Crighton Lecture (above), which will be followed by a reception in the Marble Hall.

The David Crighton medal is awarded triennially in recognition of service to both mathematics and the mathematical community. It is co-sponsored by the Institute of Mathematics and its Applications and the London Mathematical Society.

The audience will include IMA and LMS members and invited guests from government, industry, education and kindred professional and learned associations. Admission to the lecture is by ticket only. Tickets are free of charge and will be allocated on a first come first served basis.

To reserve a place please contact Lizzi Lake at the IMA by **Wednesday 10 March 2010**:

Lizzi Lake, Services Officer, The Institute of Mathematics and its Applications,  
Catherine Richards House, 16 Nelson Street, Southend-on-Sea, Essex, SS1 1EF.  
Tel: (01702) 354020 Fax: (01702) 354111 Email: [lizzi.lake@ima.org.uk](mailto:lizzi.lake@ima.org.uk)

Please indicate the names of the person(s) the ticket(s) will be for and supply a postal address to which they should be sent. Please also indicate whether you would also like ticket(s) for the reception.

## WOMEN IN MATHEMATICS TWO-DAY MEETING

**Thursday 15 and Friday 16 April 2010**

**Isaac Newton Institute for Mathematical Sciences, 20 Clarkson Road,  
Cambridge CB3 0EH**

### **Day 1 (Women in Mathematics Day) Thursday 15 April 2010**

- 10.30–11.00** Registration and coffee
- 11.00–11.40** **Julia Gog** (University of Cambridge)  
*Disease dynamics: From equation to experiment (and back)*
- 11.40–12.20** **Hinke Osinga** (University of Bristol)  
*The mystery of chaos in the Lorenz equations*
- 12.20–13.00** **Nina Snaith** (University of Bristol)  
*Random matrices and Riemann zeros*
- 13.00–14.00** Lunch and Poster Session
- 14.00–16.30** Postgrad/postdoc talks
- 16.30–17.00** Tea
- 17.00–18.00** Meet the European Mathematical Society Women in Mathematics Committee
- 18.00–19.00** Reception
- 19.30** Dinner at Newnham College

### **Day 2 Friday 16 April 2010**

- 9.00–9.50** **Alison Etheridge** (University of Oxford)  
*The pain in the torus: modelling populations in a spatial continuum*
- 10.00–11.00** Initiatives for women mathematicians – UKRC/INI/LMS
- 11.00–11.30** Coffee
- 11.30–12.45** Funding opportunities for mathematicians
- 12.45–13.00** Introduction to discussion groups
- 13.00–13.40** Lunch
- 13.40–14.30** Coffee and cake and discussion groups
- 14.30–15.00** Feedback
- 15.00–16.00** **Bodil Branner** (Technical University of Denmark)  
*Why mathematics continues to fascinate me – surgery in holomorphic dynamics in particular*
- 16.00–16.30** Tea and departures



## WOMEN IN MATHEMATICS TWO-DAY MEETING

The *Women in Mathematics Day* is an annual event organised by the London Mathematical Society. Sessions at the day will include talks and posters by women mathematicians in a variety of appointments and at different career stages.

To encourage high-quality posters, a £50 book token will be awarded for the poster that is judged to be the WiM Day Best Poster 2010.

Any postgrads or postdocs interested in giving a talk or presenting a poster should contact Professor Helen Byrne (Helen.Byrne@nottingham.ac.uk), before **12 March**.

This year we have received funding from the UK Resource Centre for Women in SET to follow the Women in Mathematics Day with an additional day containing a number of practical sessions to help women get the most out of their careers in mathematics. Sessions will include advice on how to get funding for your first postdoc and beyond and discussion groups on topics such as combining family and career, working overseas and making the next step in your career. There will also be the opportunity to meet leading women mathematicians from a number of countries across Europe.

The event is open to all but would be of particular interest to PhD students and those at an early stage in their career. The first day would also be of interest to final-year undergraduates. The meeting will be held at the Isaac Newton Institute in Cambridge and bed-and-breakfast accommodation can be booked at Robinson College for a charge of £64 per night. There will be a dinner at Newnham College on Thursday evening – the cost of all meals is covered by the grant from the UKRC.

To register for the event go to [www.newton.ac.uk/cgi/wim-apply](http://www.newton.ac.uk/cgi/wim-apply) by **26 March 2010**.

If you are not able to attend for the whole

event then it is possible to register for just one of the two days. If you have any queries please contact Sarah Fendt (S.Fendt@newton.ac.uk).

Gwyneth Stallard  
Chair, Women in Mathematics Committee

## WALES MATHEMATICS COLLOQUIUM 2010

The Wales Mathematics Colloquium is a forum for the promotion and discussion of current research in Mathematics in Wales. The principal themes of the colloquium in 2010 are *Mathematical Biology* and *Nonlinear Special Functions*, but there will be other talks covering a wide range of topics in Pure and Applied Mathematics. The meeting will be held at Gregynog Hall, Tregynon, near Newtown, Powys, beginning with tea at 4 pm on 24 May and finishing after lunch on 26 May. Invited speakers are:

- Philip Maini (Oxford) *Tumour growth and developmental patterning*
- Peter Clarkson (Kent) *Painlevé equations – nonlinear special functions* (two talks)
- Dan Archdeacon (Vermont) *Toroidal triangulations are geometric*

The meeting is organised by mathematics departments of universities in Wales in conjunction with the Wales Institute of Mathematical and Computational Sciences, and most participants will be staff or research students from those universities. Any others who would like to attend will be very welcome. The registration fee is £210, to include all meals and accommodation. Please note that the organisers are unable to give financial support to outside participants. Owing to limited accommodation, places will be allocated on a first-come, first-served basis. If you are interested contact D.H. Smith (dhsmith@glam.ac.uk) or S. Williamson (administrator@wimcs.ac.uk) or visit the website [www.wimcs.ac.uk/gregynog.html](http://www.wimcs.ac.uk/gregynog.html) for an application form.

# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER

### IMAGINARY EXHIBITION

The Isaac Newton Institute is pleased to be hosting the famous *Imaginary Exhibition* as part of the Cambridge Science Festival. The travelling exhibition, which was developed by the Mathematisches Forschungsinstitut Oberwolfach, will be available for viewing in the Institute during the period 8–17 March 2010 from 10:00 to 17:00 (exceptions Thursday 11 March 10:00–20:00 and Sunday 14 March 14:00–17:00). It presents visualisations and installations inspired by algebraic geometry, and visitors can interact with the exhibits and create their own mathematical artwork using the SURFER system downloadable from [www.imaginary-exhibition.com/surfer.php](http://www.imaginary-exhibition.com/surfer.php). The exhibition is aimed at a general audience from secondary school upwards. A picture competition will be held with prizes awarded for the best entries. See [www.newton.ac.uk/events/imaginary](http://www.newton.ac.uk/events/imaginary). For more information contact Sara Wilkinson ([Sara.Wilkinson@newton.ac.uk](mailto:Sara.Wilkinson@newton.ac.uk)).

### COMBINATORICS AT OXFORD

A one-day Combinatorics Meeting will be held in Oxford on Wednesday 17 March 2010. The meeting will take place in the Mathematical Institute, with talks starting at 11 am and coffee available beforehand from 10.30 am. This year's speakers will be:

- Adrian Bondy (Lyon)
- David Gamarnik (MIT)
- Mark Jerrum (QMUL)
- Benny Sudakov (UCLA)
- Günter Ziegler (Berlin)



Anyone interested is welcome to attend. Some funds may be available to contribute to the expenses of research students who wish to attend the meeting. Further details can be obtained from Alex Scott ([scott@maths.ox.ac.uk](mailto:scott@maths.ox.ac.uk)) or from the web page at [http://people.maths.ox.ac.uk/~scott/Pages/one-day\\_meeting.htm](http://people.maths.ox.ac.uk/~scott/Pages/one-day_meeting.htm). Support for this event by the London Mathematical Society and the British Combinatorial Committee is gratefully acknowledged.

### GROUP THEORY

The 4th International Conference on Group Theory will be held in Ischia, Naples, Italy, from Wednesday 14 to Saturday 17 April 2010. The meeting will consist of talks given by invited speakers and a permanent poster session. The scientific programme will be dedicated to the memory of M. Silvia Lucido on Thursday and to the memory of Karl W. Gruenberg on Friday. For further information visit the website at [www.dmi.unisa.it/ischia2010](http://www.dmi.unisa.it/ischia2010).

## LMS INVITED LECTURES

The London  
Mathematical  
Society



### *Stability of Queuing Networks*

**Maury Bramson (University of Minnesota)**

**12– 16 April 2010, WIMCS**

**Hosted by Swansea University**

Professor Bramson's lectures will develop machinery and explain problems associated with showing stability for networks. In addition to the lecture series given by Professor Bramson, there will be a small number of invited guest lecturers elaborating on the theme that innovative rigorous mathematics can give fundamental insight into applications in Optimisation and OR. For example, Professor Adam Letchford (Lancaster University) will give a lecture on *The Travelling Salesman Problem* and another on *Optimization over Cones*.

Research students are particularly encouraged to attend.

Lectures will begin on Monday 12 April and finish on Friday 16 April.

All mathematicians are welcome to attend the lectures. There will be a registration fee of £30, payable on arrival. The registration fee will be waived for research students.

Financial support is available to support participants. Priority will be given to research students and mathematicians who would benefit from attending the lectures, but who would otherwise be prevented from attending by financial constraints.

To express interest in taking part in the Invited Lecture Series, contact Stephen Williamson, WIMCS Administrator ([administrator@wimcs.ac.uk](mailto:administrator@wimcs.ac.uk)). For further information, see [www.wimcs.ac.uk/lmsinvitedlectures.html](http://www.wimcs.ac.uk/lmsinvitedlectures.html).



**Wales Institute of Mathematical and Computational Sciences**  
**Sefydliad Gwyddorau Mathemategol a Chyfrifiannol Cymru**

### VISIT OF PROFESSOR W. HANSEN

Professor W. Hansen (University of Bielefeld, Germany) will visit the UK from 8 to 12 March 2010. Professor Hansen's research area is harmonic analysis and related fields. He will give seminars at:

- Bristol, 8 March, 4 pm, Room SM4;  
contact M.vandenBerg@bris.ac.uk
- Swansea, 10 March, 3 pm, Room 224;  
contact V.A.Liskevich@swansea.ac.uk
- Imperial College London, 11 March,  
3 pm, Room 139;  
contact Yuri.Safarov@kcl.ac.uk

For further details consult seminar web pages. This visit is supported by an LMS Scheme 2 grant.

University, Queen Mary, Surrey University and Warwick University, supported by a Scheme 3 grant of the London Mathematical Society.

Renaud's visit is supported by an LMS Scheme 2 grant, and hosted by Henk Bruin (University of Surrey).

### VISIT OF PROFESSOR V. RUNDE

Professor Volker Runde (University of Alberta, Canada) will be visiting Newcastle University from 6 to 16 May, Lancaster University from 17 to 22 May and the University of Leeds from 23 May to 4 June. Professor Runde's research area is functional analysis, especially Banach algebras, and its interplay with abstract harmonic analysis. A central role in his research is played by the phenomenon of amenability and its various manifestations. In recent years he has used operator space methods to study the Fourier algebra  $A(G)$  and related algebras. He will give talks at:

- Newcastle, Thursday 6 May, 4 pm,  
*Amenable Banach algebras: Barry Johnson's memoir of 1972 and the aftermath*;  
website link [www.ncl.ac.uk/math/research/seminars/pure.htm?theme=Analysis](http://www.ncl.ac.uk/math/research/seminars/pure.htm?theme=Analysis)
- Lancaster, Friday 21 May, 4 pm,  
*Banach algebras of operators on Banach spaces and their amenability*;  
website link [www.maths.lancs.ac.uk/departments/events/mathseminars](http://www.maths.lancs.ac.uk/departments/events/mathseminars)
- Leeds, Saturday 29 May, 11 am,  
*Dual Banach algebras: an overview*;  
website link [www.amsta.leeds.ac.uk/pure/analysis/yfag.html](http://www.amsta.leeds.ac.uk/pure/analysis/yfag.html)

Further details can be obtained from Dr Zinaida Lykova (Z.A.Lykova@ncl.ac.uk). This visit is supported by an LMS Scheme 2 grant.

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### VISIT OF RENAUD LEPLAIDEUR

In the last week of April and first week of May 2010, Renaud Leplaideur (Département de Mathématiques, Université de Brest, France) will visit several universities in Britain. Renaud's areas of interest include thermodynamic formalism and non-uniformly hyperbolic dynamical systems. The schedule of his lectures is:

- Queen Mary, University of London, Department of Mathematics, Tuesday 27 April, 4 pm,  
*Some results on maximizing measures*
- University of Warwick, Department of Mathematics, Thursday 29 April, 2 pm,  
*Some results on maximizing measures*
- University of Surrey, Department of Mathematics, Friday 7 May,  
*The central limit theorem for dimension of Gibbs measures*

This last talk will be within a one-day Ergodic Theory Meeting, which is part of a series of collaborative meetings between Liverpool University, Manchester

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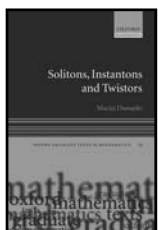
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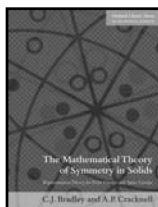


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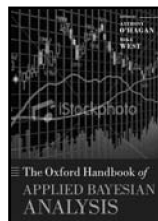
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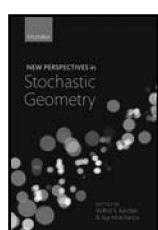
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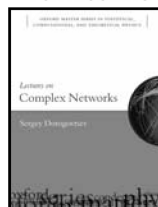


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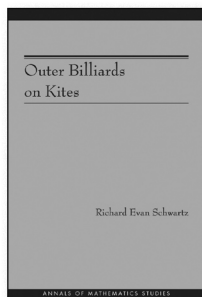
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## Outer Billiards on Kites

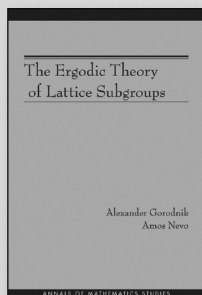
*Richard Evan Schwartz*

The Moser-Neumann question is an idealized version of the question of whether, because of small disturbances in its orbit, the Earth can break out of its orbit and fly away from the Sun. In *Outer Billiards on Kites*, Richard Schwartz presents his affirmative solution to the Moser-Neumann problem.

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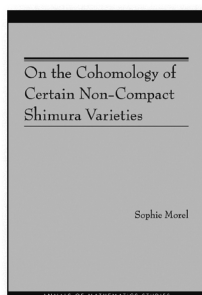
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**EPSRC**The London  
Mathematical  
Society**MODEL THEORY****LMS–EPSRC Short Course****University of Leeds, 18–23 July 2010****Organiser:** Professor Dugald Macpherson**Course outline and prerequisites**

Model theory is a branch of mathematical logic which studies the extent to which properties of mathematical structures can be expressed in formal logical languages. It has an internal theory (for example, stability theory and generalisations) and widespread interaction with other parts of mathematics. This course will develop both the pure theory, and some connections to real and complex algebraic and analytic geometry. There will be three main series, each with five lectures.

- I. *Introduction to geometric stability theory* (David Evans, UEA)
- II. *Introduction to o-minimality with applications* (Marcus Tressl, Manchester)
- III. *Geometric stability and Zariski geometries* (Boris Zilber, Oxford)

These will be complemented by examples classes and by one-off lectures by Angus Macintyre (QMUL), Jonathan Pila (Bristol) and Anand Pillay (Leeds). For further information see [www.maths.leeds.ac.uk/modeltheory](http://www.maths.leeds.ac.uk/modeltheory).

**Application**

Applications should be made using the registration form available via the Society's website at: [www.lms.ac.uk/activities/rmc/sc/51poster.html](http://www.lms.ac.uk/activities/rmc/sc/51poster.html).

The closing date for applications is **Friday 28 May 2010**. Numbers will be limited and those interested are advised to make an early application. All applicants will be contacted approximately two weeks after this deadline; we will not be able to give information about individual applications before then.

**Fees**

- All research students registered at a UK university will be charged a registration fee of £100 (in the case of EPSRC-funded research students, this fee should be paid by their departments from their Doctoral Training Account; for non-EPSRC research students, their department might be prepared to pay the fee). **They will not be charged for subsistence costs.**
- UK-based postdocs will be charged a registration fee of £100, plus half the subsistence costs (£140), £240 in total.
- All others (overseas students and postdocs, those working in industry) will be charged a registration fee of £250 plus the full subsistence costs (£280), £530 in total.

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

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

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

### GROUP-THEORETICAL METHODS IN PHYSICS

Symmetry plays an important role in sciences and art and group theory provides a mathematical framework for the studies of symmetries. The International Colloquium on Group-Theoretical Methods in Physics (ICGTMP) conference series is the oldest conference series in the fields of geometry and physics. It is a traditional meeting place for physicists and mathematicians who use mathematical and numerical methods based on geometry and symmetry in their work. The aim of the forthcoming conference is to broaden and diversify these methods further through their applications to biosciences, physical sciences, quantum information, nonlinearity and complexity.

The 28th ICGTMP, organised jointly by Durham and Northumbria Universities, will take place at Northumbria University, Newcastle upon Tyne from 26 to 30 July 2010. The conference will focus on the following main topics:

- Mathematical and Theoretical Physics (including particle physics, conformal theory and cosmology)
- Condensed Matter
- Quantum Optics and Quantum Information
- Complex and Nonlinear Systems
- Biosciences and other new exciting areas

Confirmed plenary speakers are:

- Raymond Goldstein (University of Cambridge, UK)
- Jens Eisert (Potsdam University, Germany)
- Francesco Iachello (Yale University, USA)
- Ulf Leonhardt (University of St Andrews, UK)
- Fabio Marchesoni (Perugia University, Italy)
- Arndt von Haeseler (Vienna University and University of Veterinary Medicine, Austria)

- Shahn Majid (Queen Mary, University of London, UK)
- Mark Trodden (University of Pennsylvania, USA)
- Michael Berry (University of Bristol, UK)
- Richard Ward (Durham University, UK)
- Katrin Wendland (Augsburg University, Germany)
- María Vozmediano (CSIC, Spain)

The conference will have an interdisciplinary character. It will bring together experts and young researchers from different fields and will encourage cross disciplinary interactions. Funding of £1000 has been received from the LMS Conference grant to support the attendance of PhD students. Grants of £100 will be offered to 10 PhD students on a competitive basis. For further details and to register visit the website at <http://group28.unn.ac.uk>. The organisers are Maia Angelova and Wojtek Zakrzewski.

### ADVERTISING IN THE LMS NEWSLETTER

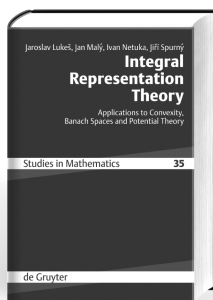
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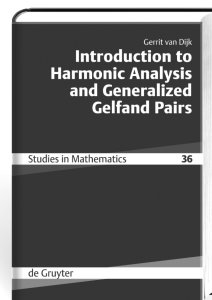
xvi, 715 pages.

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2009. ix, 223 pages.

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This book is intended as an introduction to harmonic analysis and generalized Gelfand pairs. The scope of the book is limited, with the aim of enabling students to reach a level suitable for starting PhD research.

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### IWOCA 2010

The 21st International Workshop on *Combinatorial Algorithms* (IWOCA 2010) will take place at King's College London from 26 to 28 July 2010. The series of IWOCA conferences grew out of a 17-year history of the Australasian Workshops on Combinatorial Algorithms (AWOCA). Previous AWOCA and IWOCA meetings have been held in Australia, Indonesia, Korea, Japan and Czech Republic. IWOCA 2010 continues the long and well-established tradition of encouraging high-quality research in theoretical computer science and bringing together specialists and young researchers working in the area. The scientific program will include invited lectures, accepted contributed talks, posters, and a problem session. The topics of the workshop include (but are not restricted to):

- Algorithms and data structures
- Applications (including bioinformatics, music analysis, networking)
- Combinatorics of words and strings
- Combinatorial optimization

- Combinatorial enumeration
- Decompositions and combinatorial designs
- Complexity theory (structural and computational)
- Computational biology
- Discrete and computational geometry (including graph drawing)
- Databases (security, compression and information retrieval)
- Graph theory and combinatorics

The Invited Speakers are:

- Alan Frieze (Carnegie Mellon, USA)
- Gregory Kucherov (LIFL, CNRS, INRIA, France)
- Mirka Miller (Newcastle, Australia)
- Dorothea Wagner (Karlsruhe, Germany)

Invited papers and accepted contributions will be published after the conference as a volume of the Springer Lecture Notes in Computer Science. The deadline for submission of papers is **25 April 2010**.

For further information and to register visit the website at [www.iwoca.org/iwoca2010](http://www.iwoca.org/iwoca2010). The conference is supported by an LMS Conference grant and King's College London.



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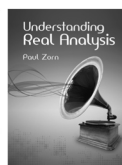
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### Understanding Real Analysis

Paul Zorn

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This book covers the rigorous study of continuous, single-variable functions in the real number system. Familiar objects from calculus are explored in terms of formal mathematical language, and previously acquired facts are proved rigorously and systematically.



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## REVIEWS

**Those Fascinating Numbers** by Jean-Marie de Koninck, American Mathematical Society, 2009, 426 pp, £36.95 US\$49, €41.00, ISBN 978-0-8218-4807-4.

**Biscuits of Number Theory** edited by A.T. Benjamin and E. Brown, Mathematical Association of America, 2009, 336 pp, US\$62.50, ISBN 978-0-88385-340-5.

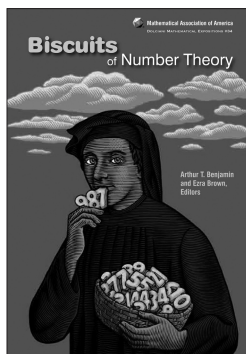
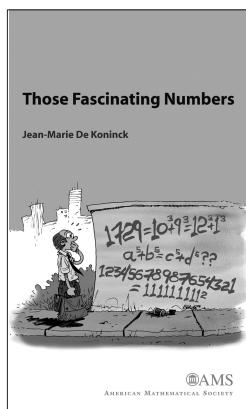
Any odd composite integer is the subtraction of two squares, which can sometimes help you in looking for fast factorisations. I guess we all know that, but it's the sort of thing you only really *know* after reading books such as these. The first, *Those Fascinating Numbers*, is a sequential tour through the positive integers. Each integer covered is related to number theoretic properties. So, (opening randomly) you might be told that 1031 is the fifth number such that the decimal number 111...11 (1031 times) is prime, and, most importantly, you are directed on to the number 19, which has the same property and is one of nine numbers known with it. Cross-referencing is everything in this sort of book and here it is meticulous and helpful. This is a first rate resource for teachers and should certainly interest researchers. Its list of numbers begins with 1, and the first integer not specifically appearing is, of course, the first *patently uninteresting* number – 95 (see 106 which is also absent). An average student reading this book would acquire some mastery of the arcane terms of elementary number theory – amicable numbers, pseudo-primes, horse numbers, vampire numbers (?) ... together with some grasp of the elementary

number-theoretic functions. In the nature of things it is easier to stumble on something here than search for it but just what you stumble on gives a real feel for the sort of thing that mathematicians have considered or found to be considerable; also the index takes you, not to the page, but to the number. I loved this book and am glad I have it to play with.

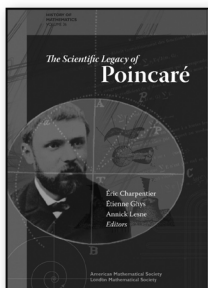
It would be fun to organise a competition for the most obscure mathematics book described as 'an introduction'. I seem to possess many introductions that never bloomed into full-blooded relationships. On that basis, *Biscuits of Number Theory* is superbly named, though the intention of the book is probably a little different from that of a standard intro-

duction. The cover shows, well, not Leibniz, but Fibonacci, and he seems to be nibbling a biscuit in the shape of 987 – a number mentioned in the other book but only in a very technical context.

*Biscuits* starts with a quote from the American philosopher and biscuit salesman Garrison Keillor, who once observed that all the children in Lake Wobegon were above average. All the articles in the book are too; because that is what the book is – a collection of accessible and even profound essays on number theory gleaned from a wide variety of writers and journals – everyone from Euler to Quine, plus many recent popular expositions, mainly from American sources. Another great resource for teachers, this is an invigorating and generally undemanding excursion into surprise. The book is arranged into seven parts: Arithmetic, Primes, Irrationality and Continued Fractions, Sums of Squares, Fibonacci Numbers, Number Theoretic Functions and Elliptic Curves, the



AMERICAN MATHEMATICAL SOCIETY



## THE SCIENTIFIC LEGACY OF POINCARÉ

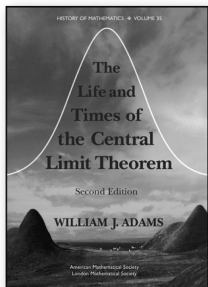
Éric Charpentier, *Université Bordeaux I*, Étienne Ghys,  
*École Normale Supérieure de Lyon*, & Annick Lesne,  
*Université Pierre et Marie Curie*

Translated by Joshua Bowman

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editors prefacing each with an informative introduction to the articles they have selected. I really loved the articles on elliptic functions – I never seemed to be very receptive to anything that I did not have to instantly write down in my own mathematics education, and the background information on the subject and its development that the articles here contained was very interesting to me (though perhaps well-known to a specialist). I noticed the article 'Great Moments of the Riemann Zeta Function' mentioned the contribution of Nina Snaith, who gave a fine LMS Popular Lecture on it this year. That article also describes the chance meeting between Dyson and Montgomery which brought random matrices into the weaponry of those working on the Riemann hypothesis and it gave me a clearer idea of what else one might want in the first book on fascinating numbers – some reference to number patterns appearing in the natural sciences up to and including the numerology of Eddington and Dirac. Still, you can't have it all (as so many different theorems find so many ways to tell us). These are first-rate books. They will live long on our library shelves and be actually used throughout their lives.

Bob Lockhart  
Kellogg College

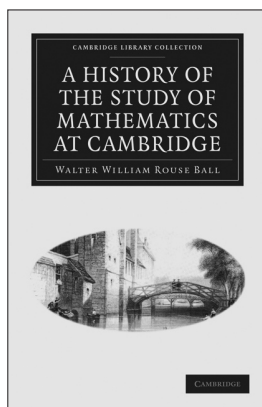
**A History of the Study of Mathematics at Cambridge** by Walter William Rouse Ball, 1st edn. 1889, facsimile paperback reprint 2009, Cambridge University Press, £15.99, US\$23.99, ISBN 978-1-108-00207-3.

When Rouse Ball, fellow and lecturer at Trinity College Cambridge, wrote on the history of mathematics, there were few competitors in English. His *A Short Account of the History of Mathematics* (1888) long remained in

print and influenced British views of the development of mathematics. The book presently reviewed has a much narrower focus, although it covers a long time-span, from Cambridge University's origins in the late twelfth century until 1858, when new Victorian statutes were introduced. Its re-issue is part of CUP's Cambridge Library Collection devoted to the history and influence of the University. These are all facsimiles, available on a print-on-demand basis.

It is easy to criticise the shortcomings of Rouse Ball's book: it is outdated and inaccurate in various ways, and he adopts a parochial view that fails to situate mathematics at Cambridge within European, or indeed British, mathematics. But his broader *Short Account...* provides some defence for the restricted focus of the present work. Also, Rouse Ball wrote at a time when few research aids were available. The (old) *Dictionary of National Biography* then covered only the first few letters of the alphabet, and his work precedes most of the now numerous college and university histories.

Those interested in the organisation of teaching and examining in the University and its colleges, and the lives of the students, should begin with chapter XI, 'Outlines of the history of the university'; then proceed to chapters VIII, IX and X on 'The organisation and subjects of education', 'The exercises in the schools' and 'The mathematical tripos'. In the mediæval period, arrangements for teaching and examination were cursory. The Elizabethan statutes of 1570 sought to improve matters, and they remained in force until 1858, by which time many were ignored or accorded lip-service. Rouse Ball quotes, without



# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER

translation, some late eighteenth-century Latin oral disputations: these later became farcical travesties before abandonment.

The senate-house examination, or mathematical tripos, began about 1725, with order-of-merit lists printed from 1747 onwards. Questions were dictated, rather than written or printed, until after 1786; and Rouse Ball gives those from 1785 and 1786. The problem papers from 1802 are also reproduced. With the growth in prestige of the tripos, candidates increasingly had recourse to private tutors. The outstanding results of William Hopkins and Edward J. Routh are briefly mentioned, but fuller modern accounts exist.

The first seven chapters address the teachers and researchers under the headings 'Mediaeval mathematics', 'The mathematics of the renaissance', 'The commencement of modern mathematics', 'The life and works of Newton', 'The rise of the Newtonian school', 'The later Newtonian school', and 'The analytical school'. These have least stood the test of time, for most individuals mentioned have been the subjects of more modern scholarship.

A historian friend recently described this as 'a nice old book' and so it is. Though no longer of much value as a historical source, it gives a concise overview of mathematics at Cambridge, and some of Rouse Ball's personal comments are trenchant. For instance, we learn that Isaac Barrow was slovenly in dress and an inveterate smoker; that Richard Bentley's features were "indicative of cruelty and selfishness"; and that sympathy for William Frend, banished in 1793, "will probably be dissipated by reading his own account of the proceedings".

Alternative versions of this out-of-copy-right title are available free of charge from [www.archive.org/details/texts](http://www.archive.org/details/texts) in electronic format.

Alex D.D. Craik  
University of St Andrews

## CALENDAR OF EVENTS

This calendar lists Society meetings and other events publicised in the *Newsletter*. Further information can be obtained from the appropriate LMS *Newsletter* whose number is given in brackets. A fuller list of meetings and events is given on the Society's website ([www.lms.ac.uk/newsletter/calendar.html](http://www.lms.ac.uk/newsletter/calendar.html)).

### MARCH 2010

- 3-5 Mixture Estimation and Applications ICMS Workshop, Edinburgh (386)
- 8-17 Imaginary Exhibition, INI, Cambridge (390)
- 9 *Maths and Sport*, Gresham College Public Lecture, Museum of London (384)
- 17 David Crighton Lecture, H.K. Moffatt, Royal Society, London (390)
- 17 Combinatorics Meeting, Oxford (390)
- 19 Paris-London Analysis Seminar, London (389)
- 22-26 Stochastic Networks Workshop, INI, Cambridge (386)
- 25-28 Geometric Model Theory Conference, Oxford (389)

### APRIL 2010

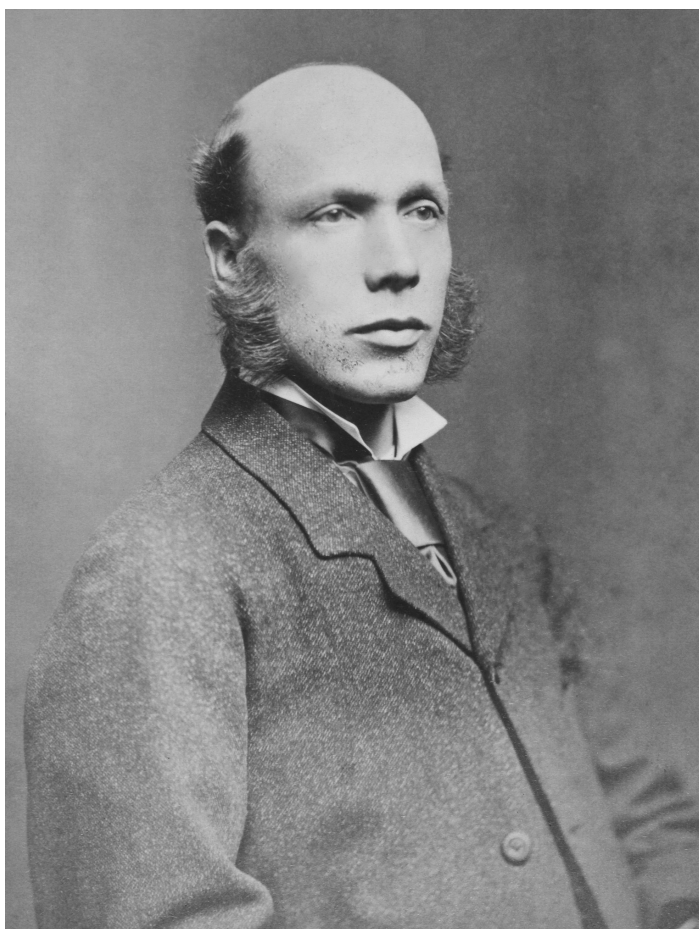
- 6-9 BMC/BAMC 2010, Edinburgh (387)
- 6-9 BCME7, Manchester (385)
- 6-9 Spatial Network Models for Wireless Communications, INI, Cambridge (386)
- 6-9 UK Graduate Modelling Camp, Oxford (389)
- 12-14 Stochastics, Control and Finance Workshop, Imperial College London (387)
- 12-14 Geometry, Analysis, and Logic of Groups Workshop, Newcastle (390)
- 12-16 LMS Invited Lectures, Maury Bramson, Swansea (390)

**14 LMS Northern Regional Meeting, Newcastle (390)****14** Lecture Day, Durham (388)**14-17** Group Theory Conference, Naples, Italy (390)**15-16** Women in Mathematics Two-Day Meeting, Cambridge (390)**19-21** Mathematical Neuroscience Conference, ICMS, Edinburgh (386)**MAY 2010****4** *Indra's Pearls: Geometry and Symmetry*, LMS-Gresham College Lecture, London (389)**10-14** Numerical Solution of the Painlevé Equations ICMS Workshop, Edinburgh (386)**16-22** Algebraic Methods in Dynamical Systems Conference, Będlewo, Poland (389)**24-26** Wales Mathematics Colloquium 2010, Gregynog (390)**24-28** Uncertainty Quantification ICMS Workshop, Edinburgh (386)**JUNE 2010****7-11** Functional Analysis Meeting, Valencia, Spain (388)**14-18** Hodge-theoretic Reflections on the String Landscape ICMS Workshop, Edinburgh (386)**20-22** Geometry and Topology Conference, Durham (388)**21** *LMS South-West and South Wales Regional Meeting, Cardiff***22-25** Group Representation Theory and Related Topics Conference, Lausanne, Switzerland (386)**22-25** Mathematical Challenges and Modelling of Hydroelasticity ICMS Workshop, Edinburgh (386)**JULY 2010****2** *LMS Meeting, Hardy Lecture, London***5-9** Symplectic Geometry and Transformation Groups ICMS Workshop, Edinburgh (386)**6-8** Individual and Collective Fluid Mechanics of Swimming Microorganisms Conference, Glasgow**12-13** Reconstructing and Understanding Climate Change over the Last Few Millennia and the Holocene ICMS Workshop, Edinburgh (386)**18-23** Model Theory, LMS-EP SRC Short Course, Leeds (390)**19-20** Mathematics and the Arts, Paris, France (388)**26-28** Combinatorial Algorithms Workshop, King's College London (390)**26-30** Group-Theoretical Methods in Physics Colloquium, Northumbria (390)**AUGUST 2010****17-18** International Conference of Women Mathematicians 2010, Hyderabad, India (386)**19-27** International Congress of Mathematicians 2010, Hyderabad, India (386)**SEPTEMBER 2010****6-10** Multivariate Approximation and Interpolation with Applications ICMS Workshop, Edinburgh (386)**12-17** Highly Oscillatory Problems: From Theory to Applications, INI, Cambridge (389)**13** *LMS Midlands Regional Meeting, Nottingham***NOVEMBER 2010****19** *LMS Annual General Meeting, Naylor Lecture, London*



# T. MUIR

LMS member 1874–1914



White Photo, Glasgow

Sir Thomas Muir, CMG, MA, LL.D., FRS, FRSE  
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Member and President of the Edinburgh Mathematical Society  
Honorary Fellow of the Royal Scottish Geographical Society  
Vice-Chancellor of the University of the Cape of Good Hope  
President of the South African Association for the Advancement of Science  
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