

# THE LONDON MATHEMATICAL SOCIETY



## NEWSLETTER

No. 383 July 2009

### Society Meetings and Events

#### 2009

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Popular Lectures  
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Midlands Regional  
Meeting, Leicester  
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**Friday 20 November**

AGM  
Presidential Address  
London

**4–6 December**

Joint meeting with the  
Belgian Mathematical  
Society, Leuven

### RESULT OF THE SPECIAL GENERAL MEETING

At a Special General Meeting of the LMS held on 29 May 2009, the membership rejected by 591 to 458 (56% to 44%) the proposals to wind up the Society and create a new unified mathematical society with the Institute of Mathematics and its Applications. The vote reflects concerns by some members at the plans and the importance of ensuring that the work that the Society currently does in support of mathematics, through its conferences, grants and publishing, in particular, would be maintained.

The Society's Council will meet on 3 July to receive the results of the voting, and to consider implications for the Society's future plans. The Council has previously indicated that, whatever the outcome of the vote, it retains its commitment to working closely with the IMA into the future and for the benefits to mathematics that result. Following that meeting, further information will be added to the Society's website at [www.lms.ac.uk](http://www.lms.ac.uk).

The Council thanks the Society's Scrutineers, Professor Alan Camina and Professor Peter Saunders, for the work they put into overseeing the voting for the Referendum in March and the two Special General Meetings, in April and May.

### LMS EDUCATION COMMITTEE

The Society has as one of its aims 'To support mathematical education in schools, colleges and universities, and encourage the public and young people to appreciate and engage with mathematics'. The Society's Education Committee exists to turn this aim into a reality by advising and acting on behalf of Council on all matters concerning mathematics education. The Committee does this by informing and responding to the many government initiatives in mathematics education, supporting initiatives in promoting mathematics and mathematics education, and initiating and assisting projects that advance the teaching and learning of mathematics. All of this work keeps the Committee busy and its contribution to education is becoming increasingly important, as the pressures on the teaching of mathematics are getting greater across all levels.

A very large proportion of the work of the Committee is looking into the teaching of mathematics at school and college levels. In this complex and fast-moving area, the Committee works with many other organisations to maintain and improve standards of mathematics teaching. This regularly includes advising and responding to developments in Functional Skills, GCSEs, Diplomas

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## NEWSLETTER

and A-levels. The Committee also supports teachers with their mathematics enrichment activities in schools by providing high quality lecturers to be made available through the Committee's Holgate scheme.

The Committee promotes best practice for teaching maths in Higher Education. The Committee plays an active role in ensuring that the training of new mathematics lecturers is appropriate for their subject and promotes mathematics as a special case for both teaching and assessment at Higher Education level. The Committee is involved in the Cecil King Foundation Travel Scholarship and assesses the SET Student of the Year mathematics category.

Public engagement work – with the Mathematics Promotion Unit – features highly in the Committee's agenda and includes the Society's Popular Lectures, the annual LMS–Gresham College lecture, and support for the British Science Association Mathematical Sciences Section. The Committee supports initiatives in mathematics education by awarding grants, normally up to £600, to support educational or mathematics promotional activities. Last year £3,219 was given in educational grants, and this year

£3,640 has been awarded to date. Some of the activities funded through the education grant scheme have included: *iSquared* and *Plus+* magazines, Maths Master-classes, Maths Trails and Maths Prizes in Schools.

The Committee has reacted and commented on government initiatives in education. The Committee intends its future work to present the Committee and the Society as having a more proactive lead in mathematics education. This has already begun, the Committee working with *more maths grads* to produce and distribute a booklet describing the nature and benefits of doing a mathematics degree and with the IMA to write a statement of support for all mathematics lecturers in Higher Education. The Committee intends to look for more opportunities to reach out and take hold of issues that effect mathematics and its teaching.

In conclusion, the Committee exists to show everyone why it is important that mathematics is taught effectively and well, and the Committee hopes that all members of the Society can support it to achieve this aim.

Chris Budd  
Education Secretary

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## LONDON MATHEMATICAL SOCIETY ORDINARY MEETING

**Friday 3 July 2009**

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

**15.30** LMS business, including the announcement of the 2009 prize winners (open to all)

**15.45** **Gerhard Huisken** (Max-Planck-Institut)

*The isoperimetric inequality and the concept of mass in General Relativity*

**16.45** Tea

**17.15** **Sergiu Klainerman** (Princeton University)

*On the mathematical magic of Black Holes*

A reception will be held at De Morgan House at 18.30 with a dinner afterwards at a nearby restaurant, costs and location to be confirmed. Those wishing to attend should inform Isabelle Robinson ([isabelle.robinson@lms.ac.uk](mailto:isabelle.robinson@lms.ac.uk)) by **26 June**.

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

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## RESIGNATION OF THE PRESIDENT AND TREASURER

The President, Professor Brian Davies FRS, has with great regret decided to stand down with immediate effect, on grounds of ill-health. In his resignation letter to Council, the President noted the pressures on him caused by the discussions at Council and among the LMS membership over the proposals to create a new unified mathematical society with the Institute of Mathematics and its Applications. The nature of those discussions, more than their ostensible subject matter, had caused him an unreasonable amount of work and stress which had exacerbated a long-existing medical condition.

The President's resignation follows that of

the Treasurer, Professor Nick Woodhouse, who informed Council of his decision the previous week. He felt it was impossible to continue as Treasurer in circumstances created not by the unification discussion itself, but by actions taken in opposition to the proposals, a concern shared by the President.

The LMS Council will meet on 3 July 2009 and, in accordance with the Statutes, will aim to appoint a President and a Treasurer both to serve on an interim basis up to the Society's AGM on 20 November 2009. Further information will be announced on the Society's website, [www.lms.ac.uk](http://www.lms.ac.uk).

### MATHEMATICS POLICY ROUND-UP

The number of enrolments for full-time taught postgraduate courses in the mathematical sciences increased by 70 per cent between 2001 and 2006, according to a report by *Universities UK*. It also revealed that over two-thirds of all taught master's enrolments in 2006 were from non-EU students, with less than a sixth coming from UK students. The report set out to show the importance of the taught postgraduate market in the UK and how this group now constitutes almost a fifth of all higher-education students in the UK, having grown very rapidly over the past decade. It concludes that it may be difficult to maintain the rate of growth that the taught postgraduate sector has recently achieved and suggests that, in the short and medium term, the sector will face the significant challenges of economic recession and demographic decline. For more information visit [www.universitiesuk.ac.uk/Publications/Documents/RR\\_TaughtPostgraduateStudents.pdf](http://www.universitiesuk.ac.uk/Publications/Documents/RR_TaughtPostgraduateStudents.pdf).

The Royal Society has launched an inquiry into the long-term prospects for science and innovation in the UK. *The Fruits of Curiosity* will look at the role science will play in equipping Britain to meet the economic, social and environmental challenges of the next fifty years. The IMA and the LMS submitted a joint input to the first consultation, stressing the way that investment in mathematical research leads to eventual economic and social benefit. It argues that, for example, research in Number Theory, considered fundamental rather than applied research, led to the development of modern cryptography which underlies all modern secure communication. The submission explained that future increases in the number of mathematical scientists are essential to power many sectors of our economy, because mathematics is the language of science and technology.

The Engineering and Physical Sciences Research Council has reviewed its policy, announced earlier in the year, aimed at managing the increasing demand for grants, and the load on referees, panels and administration this causes, including

measures whereby unsuccessful research-funding applicants found themselves 'blacklisted'. Almost 2,000 signatories signed a petition to the Prime Minister, condemning the proposal to ban repeatedly unsuccessful grant applicants from making further applications for a period of 12 months as heavy handed, inappropriate and flawed. The Research Council has now modified its policy, so that previously unsuccessful applicants are no longer barred from submitting proposals but are limited to just one proposal. Investigators who have 'three or more proposals within a two-year period ranked in the bottom half of a funding prioritisation list or rejected before panel and an overall personal success rate of less than 25 per cent' over the same two years will now be allowed to submit one application (as principal investigator or co-investigator) during a 12-month 'cooling off' period. For more information visit [www.epsrc.ac.uk/ResearchFunding/Changes/ReducingPressure.htm](http://www.epsrc.ac.uk/ResearchFunding/Changes/ReducingPressure.htm).

The winner of the first LMS-IMA Christopher Zeeman Medal for the promotion of mathematics to the public was interviewed by the *THE* (formerly the *Times Higher Education Supplement*). Professor Ian Stewart, FRS, told the magazine, "Virtually everything I write now, I want to be as widely accessible as is reasonably possible." He added, "I don't think you can explain mathematics to the public with any authority or credibility unless you're well involved in the real thing." Professor Stewart's research is focused on dynamical systems, bifurcation theory, pattern formation and biomathematics and he has also collaborated with renowned science fiction author Terry Pratchett. The medal was presented at a joint meeting of the LMS and IMA at the Science Museum, London, in June. A full report and pictures will appear in the September *Newsletter*. For more information visit [www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=406411](http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=406411).

Caroline Davis  
Mathematics Policy and Promotion Officer



# LONDON MATHEMATICAL SOCIETY

## SOUTH WEST & SOUTH WALES REGIONAL MEETING

**Wednesday 15 July 2009**

**Lecture Theatre C, Avenue Campus, University of Southampton**

- 13.30** Opening of the meeting  
Jim Howie (Heriot-Watt University)
- 14.45** Tea and biscuits
- 15.30** Cornelia Drutu (Oxford University)
- 16.45** Zlil Sela (Hebrew University, Jerusalem)

There will be a dinner afterwards. For registration, further details and to reserve a place at the dinner see the webpage [www.maths.soton.ac.uk/~bean/Limitgroups09/](http://www.maths.soton.ac.uk/~bean/Limitgroups09/) or contact the organisers (details below).

The meeting will be followed by a workshop from 16 to 17 July on *Limit groups and their generalisations*. The following people have agreed to speak at the workshop:

- Martin Bridson (Oxford)
- François Dahmani (Toulouse)
- Vincent Guiradel (Toulouse)
- Dessislava Kochloukova (Campinas)
- Gilbert Levitt (Caen)
- Ashot Minasyan (Southampton)
- Tim Riley (Bristol)

There are limited funds available to support graduate students attending the meeting and/or workshop, and for LMS members attending the meeting. All requests for support should be sent to the organisers (details below).

For information on scientific questions or for information on organisational matters contact the organisers Graham Niblo and Brita Nucinkis ([limitgps@soton.ac.uk](mailto:limitgps@soton.ac.uk)).

### HEILBRONN INSTITUTE DIRECTOR

Professor Malcolm MacCallum of the School of Mathematical Sciences, Queen Mary, University of London, has been appointed as the Director of the Heilbronn Institute for Mathematical Research. Professor MacCallum will also hold a visiting professorship in the Department of Mathematics, University of Bristol, and will take up his appointment in October 2009.

### ANNUAL ELECTIONS TO LMS COUNCIL

In addition to the normal route for nominations to Council, via the Nominating Committee (see *Newsletters* for April and May), there is also provision for all members of the Society to make nominations direct. Any direct nominations should be sent to the Executive Secretary (peter.cooper@lms.ac.uk) to arrive before noon on **1 September 2009**. Such nominations must bear the signatures of the Nominator and three Seconders and of the Nominee.

### LMS GRANT SCHEMES

Readers are reminded of the Society's Schemes to provide conference grants (Scheme 1), grants to visitors to the UK (Scheme 2), grants to support joint research groups (Scheme 3), collaborative small grants (Scheme 4), international short visits (Scheme 5), and grants for postgraduate research conferences (Scheme 8).

For full details of these Schemes please see the Society's website ([www.lms.ac.uk/grants](http://www.lms.ac.uk/grants)). Queries regarding applications can be addressed to the Programme Secretary, Stephen Huggett (tel: 01752 586869, email: [s.huggett@plymouth.ac.uk](mailto:s.huggett@plymouth.ac.uk)) or the Grants Administrator, Sylvia Daly (tel: 020 7291 9971, email: [sylvia.daly@lms.ac.uk](mailto:sylvia.daly@lms.ac.uk), Wednesday–Friday) who will be pleased to discuss proposals informally

with potential applicants and give advice on the submission of an application.

The next deadline for receipt of applications is **15 September 2009**, and these will be considered at a meeting on 8 October 2009. Applications should be submitted well in advance of the date of the event for which funding is requested. Normally grants are not made for events which have already happened or where insufficient time has been allowed for processing of the application.

Information on other grant schemes operated by the Society, for education, the mathematics/computer-science interface, and childcare, is also available at [www.lms.ac.uk/grants](http://www.lms.ac.uk/grants).

### ABEL PRIZE 2010

#### Call for nominations

The Abel Prize is an international prize for outstanding scientific work in the field of mathematics, including mathematical aspects of computer science, mathematical physics, probability, numerical analysis and scientific computing, statistics, and also applications of mathematics in the sciences.

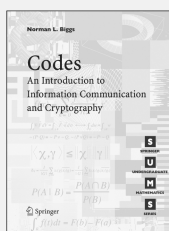
The prize is meant to recognize contributions to mathematics and its applications of extraordinary depth and influence. Such work may have resolved fundamental problems, created powerful new techniques, introduced unifying principles or opened up major new areas.

The deadline for nominations is **15 September 2009**. Details on how to nominate can be found on the Abel Prize website: [www.abelprisen.no/en](http://www.abelprisen.no/en).

### MATHEMATICAL SOCIETY OF JAPAN

Professor Takashi Tsuboi has been elected President of the Mathematical Society of Japan, as the successor of Professor Kenji Yajima.

# The SUMS of Mathematical Teaching



## Codes

**An Introduction to Information Communication and Cryptography**

**N. L. Biggs**, London  
 School of Economics, UK

**From the reviews** ▶ *This undergraduate textbook is a pleasure to read.... The author has a sense of humor, and he is not afraid to use it.... This very enjoyable book deserves many readers.*

▶ **Miklós Bóna**, The Mathematical Association of America, September, 2008

2008. X, 274 p. 36 illus. Softcover  
 ISBN 978-1-84800-272-2 ▶ **€ 26,95 | £19.95**

## General Relativity

**N. Woodhouse**, Mathematical Institute, Oxford, UK

**From the reviews** ▶ *... In fact, the whole book is distinguished by this high quality of exposition....* ▶ **Michael Berg**, MathDL, January, 2007

2007. X, 222 p. 33 illus. Softcover  
 ISBN 978-1-84628-486-1 ▶ **€ 32,95 | £19.95**

## Worlds Out of Nothing

**A Course in the History of Geometry in the 19th Century**

**J. Gray**, The Open University, Buckinghamshire, UK

**From the reviews** ▶ *... Worlds Out Of Nothing is a first-rate addition to the geometry enthusiast's bookshelf.* ▶ **Mark Bollman**, MathDL, January, 2008

2007. XXIV, 376 p. 68 illus. Softcover  
 ISBN 978-1-84628-632-2 ▶ **€ 32,95 | £19.95**

## Sturm-Liouville Theory and its Applications

**M. A. Al-Gwaiz**, King Saud University, Riyadh, Saudi Arabia

**From the reviews** ▶ *As this book amply demonstrates, Sturm-Liouville theory, a special topic within ordinary differential equations, affords the student a nearly perfect case-study-type initiation into higher mathematics....* ▶ **D. V. Feldman**, Choice, Vol. 46 (2), October, 2008

2008. X, 266 p. 25 illus. Softcover  
 ISBN 978-1-84628-971-2 ▶ **€ 32,95 | £19.95**

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### ICMI AWARDS

The Executive Committee of the International Commission on Mathematical Instruction (ICMI) is calling for nominations for the following awards to recognise outstanding accomplishments in mathematics education research:

- the *Hans Freudenthal Award*, for a major programme of research on mathematics education
- the *Felix Klein Award*, for lifelong achievement in mathematics education research.

These awards, which pay tribute to outstanding scholarship in mathematics education, serve not only to encourage the efforts of others, but also to contribute to the development, through the public recognition of exemplars, of high standards for the field. The awards consist of a medal and a certificate, and they are accompanied by a citation. They have a character similar to that of a university honorary degree and are given in each odd-numbered year. At each *International Congress on Mathematical Education* (ICME), the medals and certificates of the awards given since the previous ICME are presented at the Opening Ceremony. Further, the awardees are invited to present special lectures at the ICME.

Nominations for either award have to be accompanied by a summary presenting the *curriculum vitae* and the achievements of the person nominated, as well as the reasons for the nomination. Moreover, nominations have to include the names and coordinates of two or three persons from whom the committee may seek further information. All proposals must be sent by email (mn@ruc.dk) to the Chair of the Prizes Committee no later than **15 September 2009**.

Additional information on the awards can be found at: [www.emis.de/mirror/IMU/Organization/ICMI/Awards](http://www.emis.de/mirror/IMU/Organization/ICMI/Awards).

### WALTER LEDERMANN

Professor Walter Ledermann, FRSE, Emeritus Professor of Mathematics at the University of Sussex, who was elected a member of the London Mathematical Society on 14 June 1951, died peacefully on 22 May 2009, aged 98. His funeral was on 24 May and the Society was represented by the General Secretary, Professor Charles Goldie. Ledermann served as Vice-President (1971–77), Editor of the *Journal* (1968–71) and Editor of the *Bulletin* (1973–77).

*Charles Goldie writes:* Walter was born in Berlin and at university was taught by Hopf, von Mises, Nernst, Planck, Schmidt, Schrödinger and Schur amongst others, being most influenced by Schur. He won a scholarship for Jewish refugees to St Andrews in 1934 and gained his PhD in 1936, supervised by H.W. Turnbull. He was first employed providing mathematical underpinning for the statistical work of the psychologist Professor (later Sir) Godfrey Thompson, which led to an Edinburgh DSc in 1940. He returned to St Andrews to lecture in 1938, being elected FRSE in 1944. He moved to Manchester in 1946 on his marriage to Ruth (Rushi) Stadler, and in 1949 was secretary to the first BMC, held there. In 1962 he moved to Sussex as Reader and a founder member of the Mathematics Department. He was promoted to Professor in 1965 and retired in 1978. The Open University awarded him an honorary DSc in 1993.

Walter was known for his work on matrix theory, homology (four papers with P.J. Hilton), group theory (papers with B.H. Neumann) and number theory (papers with K. Mahler). He enjoyed collaborating with mathematicians from other areas and with scientists generally, and his two papers with G.E.H. Reuter on Markov chains had long-lasting impact. Walter was known above all as a teacher, who for numbers of mathematicians was the best they have ever encountered. The idea for the famous Oliver & Boyd series of

*University Texts* was Walter's, and he contributed its most successful volume, *Introduction to the Theory of Finite Groups*, which ran to five editions. Later, Walter invented and acted as chief editor for the *Library of Mathematics* with Routledge & Kegan Paul, and the *Handbook of Applicable Mathematics* with Wiley.

## JACK GOOD

Professor Jack Good, who was elected a member of the London Mathematical Society on 14 June 1940, died on 5 April 2009, aged 92. He was the longest standing member of the Society.

*Nick Bingham writes:* Irving John (Jack) Good was born Isidore Jacob Gudak to a Polish-Jewish family in London in 1916. He won a scholarship from Haberdashers' Aske's School to Jesus College, Cambridge, where he graduated with a First in mathematics in 1938. He won the Smith's Prize in 1940 (the year he joined the LMS), did postgraduate work under Besicovitch and Hardy, and was awarded a PhD in 1941.

A chess player of county standard, Good was recruited in 1941 by Hugh Alexander, the then British chess champion, to work in the Government Code and Cypher School (GCCS) at Bletchley Park. He became Alan Turing's statistical assistant, and was heavily involved in the successful attack on deciphering German military and naval radio traffic encoded on the Enigma machines. In 1943 Good transferred to the Newmanry, the group working under the mathematician M.H.A. Newman, where he was involved in the development of machines, using banks of vacuum tubes and paper tapes, precursors of the modern computer.

In 1947 Good followed Turing and Newman to the University of Manchester, where he worked on the development of the first computer, the Manchester Mark 1. He left Manchester for the Government Communi-

cations Headquarters (GCHQ was the successor to GCCS) in 1948, and then for the Admiralty Research Laboratory in 1959. He spent 1964–67 at Trinity College, Oxford, before leaving to become a professor of statistics at Virginia Tech, from which he retired in 1994. He was elected Fellow of the American Academy of Arts and Sciences in 1995.

Good was an extraordinarily prolific and versatile scholar, whose vast output included mathematics, statistics, philosophy and computer science. He is best known outside academia for having been one of the first to speak publicly about Bletchley Park, Enigma and the 'Ultra Secret'. To statisticians, he is one of the fathers of Bayesian statistics: his influential 1950 book *Probability and the Weighing of Evidence* grew directly out of his wartime work under Turing. To computer scientists, Good was one of the fathers of artificial intelligence. This too grew out of his war work with Turing, and Turing's post-war use of the programming of computers to play chess as a test case for the development of an 'artificial brain'.

## WILLIAM BEYER

Dr William A. Beyer, who was elected a member of the London Mathematical Society on 15 November 1991, died on 16 August 2008.

Bill Beyer was employed at the Los Alamos National Laboratory from 1959 until 1990, and continued to work for the Laboratory long after his retirement. He contributed to a wide range of mathematical fields related to practical projects, including non-Euclidean geometry, random number generators, complexity, fractal mathematics, and energy economics. He was an outspoken advocate for the elimination of nuclear weapons, for human rights and for a clean environment, and was active in the Democratic Party and social housing campaigns at Los Alamos.

[Source: *Albuquerque Journal*]

## EPSRC POSTDOCTORAL FELLOWSHIPS

### Postdoctoral Fellowships

EPSRC is offering Postdoctoral Fellowships in theoretical physics, theoretical computer sciences, mathematical sciences and cross-disciplinary interfaces to enable the most talented new researchers to establish an independent research career, shortly or immediately after completing a PhD. The awards are for a period of up to three years and cover only the salary costs of the Fellow, incidental equipment, travel and subsistence. Closing date: **4 pm, Tuesday 26 August 2009**. More information can be found at [www.epsrc.ac.uk/CallsForProposals/pdfcall2009.htm](http://www.epsrc.ac.uk/CallsForProposals/pdfcall2009.htm).

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## NEWS FROM THE IMU

### Financial Support for Participation in ICM2010

The International Mathematical Union (IMU) and the ICM2010 Local Organizing Committee are currently making efforts to obtain financial support to enable as many mathematicians as possible from developing and economically disadvantaged countries to participate in ICM2010.

Applicants need not necessarily be from IMU member countries. Travel, registration and living support can be applied for.

The IMU and the Local Organizing Committee have established three different support categories:

1. Young mathematicians from developing and economically disadvantaged countries.
2. Senior mathematicians from developing and economically disadvantaged countries.
3. Mathematicians from developing countries in Asia with emphasis on countries neighbouring India.

All applicants must preregister (starting 15 May 2009) at the Congress website ([www.icm2010.org.in](http://www.icm2010.org.in)) as the preregistration access key will be required as the first step in the process of applying for support. In all cases, the permanent institution of the applicant must be located in a country which is eligible for the corresponding category.

Mathematicians from countries which are eligible under category 1 or category 2 (a list will be posted at the ICM2010 website) may apply under category 1 or 2 but not both. Mathematicians from Asian countries that are eligible under category 3 (a list will be posted at the ICM2010 website) may apply under that category whether or not they have applied under categories 1 or 2. However, the same type of support (e.g. living) will not be granted to the same individual under two different categories.

Mathematicians who do not fall within the three groups listed above are asked to refrain from applying for this support.

All mathematicians who wish to apply for support are kindly asked to complete the corresponding Application Form at the ICM2010 website (the same form is used for all three categories). Applications may be submitted from **1 July 2009 through to 1 January 2010**. The decision of the Selection Committee will be communicated as soon as possible after 1 May 2010. Queries may be sent to the organizers of the ICM2010 at the address [icm-aid@math.tifr.res.in](mailto:icm-aid@math.tifr.res.in).

### Developing Countries Strategy Group (DCSG)

In the autumn of 2007 the John Templeton Foundation requested that the Developing Countries Strategy Group of the IMU prepare a brief report on the current state of mathematics in Africa and opportunities for new initiatives to support mathematical development. Sixty-five institutions and individuals in Africa with broad experience in the domain were invited to contribute to the survey. Conclusions drawn from the study centred around four

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ideas, which may be useful for institutions, governments and other organizations desiring to help strengthen mathematics in Africa:

1. Enhancing mathematics and its contributions to development requires simultaneous attention at all levels.

2. One effective way to enhance mathematics development is through research and education networks.

3. Mathematically stronger countries in Africa, and governments and organizations outside Africa desiring to contribute to

continental development, should support, rather than manage, the activities of participating centres in Africa.

4. The support of mathematical development should take account of broader national and regional realities.

The full report is available on the IMU website at [www.mathunion.org/fileadmin/IMU/Report/Mathematics\\_in\\_Africa\\_Challenges\\_\\_\\_Opportunities.pdf](http://www.mathunion.org/fileadmin/IMU/Report/Mathematics_in_Africa_Challenges___Opportunities.pdf).

The above items are taken from the 35th issue of the IMU electronic newsletter *IMU Net* (see [www.mathunion.org/IMU-Net](http://www.mathunion.org/IMU-Net)).

## LONDON MATHEMATICAL SOCIETY MIDLANDS REGIONAL MEETING

**Wednesday 16 September 2009**

**University of Leicester**

Speakers:

**Jean-Louis Loday** (Strasbourg)

**Claudio Procesi** (Rome)

**Ulrike Tillmann** (Oxford University)

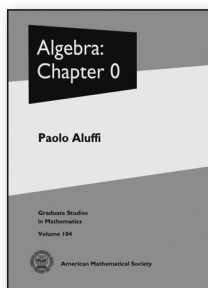
**Times and titles to be confirmed.**

The meeting will be followed by a workshop on *Derived Categories in Algebra, Topology and Geometry* from 17 to 19 September 2009.

There are limited funds available to support graduate students attending the meeting and/or workshop, and for LMS members attending the meeting. All requests for support should be sent to the organisers (details below).

For information on scientific questions or for information on organisational matters contact the organisers Teimuraz Pirashvili ([tp59@mcs.le.ac.uk](mailto:tp59@mcs.le.ac.uk)) or Nicole Snashall ([njs5@mcs.le.ac.uk](mailto:njs5@mcs.le.ac.uk)).

### AMERICAN MATHEMATICAL SOCIETY



## ALGEBRA: CHAPTER 0

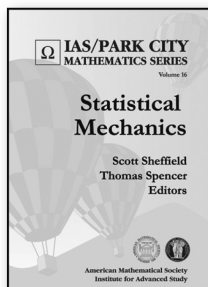
Paolo Aluffi, *Florida State University*

A self-contained introduction to the main topics of algebra, suitable for a first sequence on the subject at the beginning graduate or upper undergraduate level. The primary distinguishing feature of the book, compared to standard textbooks in algebra, is the early introduction of categories, used as a unifying theme in the presentation of the main topics. A second feature consists of an emphasis on homological algebra: basic notions on complexes are presented as soon as modules have been introduced, and an extensive last chapter on homological

algebra can form the basis for a follow-up introductory course on the subject.

Graduate Studies in Mathematics Vol 104

Aug 2009 104pp 978-0-8218-4781-7 Hardback £67.50



## STATISTICAL MECHANICS

### From Tenure-track to Emeritus

Edited by Scott Sheffield, *Massachusetts Institute of Technology* & Thomas Spencer, *Institute for Advanced Study, Princeton*

In recent years, statistical mechanics has been increasingly recognised as a central domain of mathematics. Major developments include the Schramm-Loewner evolution, which describes two-dimensional phase transitions, random matrix theory, renormalisation group theory and

the fluctuations of random surfaces described by dimers. The lectures contained in this volume present an introduction to recent mathematical progress in these fields.

IAS/Park City Mathematics Series Vol 16

Jul 2009 360pp 978-0-8218-4671-1 Hardback £56.95

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## CETL-MSOR CONFERENCE

The 2009 CETL-MSOR Conference (Continuing Excellence in the Teaching & Learning of Maths, Stats & OR) *Opening Windows on Maths & Stats* will be held at The Open University in Milton Keynes from Monday 7 to Tuesday 8 September 2009.

The aim of this conference is to promote, explore and disseminate emerging good practice and research findings in Mathematics and Statistics support, teaching, learning and assessment. CETL-MSOR 2009 will appeal to all those teaching Mathematics, Statistics or Numeracy, whether this is to specialist mathematics students or students studying components of mathematics within their degree programmes (such as bioscience, chemistry, computer science, economics, engineering, nursing, physics, psychology, social work, etc).

The conference will explore issues not only at the transition to university but throughout the entire student learning experience from foundation year through to post-graduate level. This will be achieved by a combination of keynote speeches, plenary sessions, hands-on demonstrations, workshops, poster sessions and discipline-specific discussion sessions. The Organising Committee welcomes the submission of abstracts for presentation (20 minutes), workshop (60 minutes) or poster sessions under any of the following themes:

- Assessment
- The independent learner

- Communicating mathematics
- Practitioner research
- Mathematics, mind and brain
- Evaluating support centres
- Higher level and postgraduate teaching
- Outreach and public engagement
- Innovative practice

The full residential fee of £169 includes all conference fees, B&B, lunches and refreshments throughout the two days, and the conference dinner. The Early Bird rate is £149 (closes **17 July 2009**). For further details visit the website at <http://mathstore.ac.uk/conference2009> or email [Conference@mathstore.ac.uk](mailto:Conference@mathstore.ac.uk).

© Sidney Harris




*"If a man's wit be wandering, let him study mathematics; for in demonstrations, if his wit be called away ever so little, he must begin again."*

*Francis Bacon*

# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER



**Events organised by the  
Mathematical Sciences  
Section:**

**Saturday 5 September**  
**The Magic of Computer Science**  
A clever conjuring show which challenges the audience to work out how the tricks are done. Performed by Peter McOwan, professor of computer science at Queen Mary University of London.

**Mathematics and Meltdown: How Financial Systems Collapse**  
How do we model what goes on in the City when the structures are changing so rapidly? What is the role of statistics in modelling the speculation and high levels of interdependency across markets today?

**Sunday 6 September**  
**From Flapping Birds to Space Telescopes: The Modern Science of Origami**  
Robert Lang, an artist and expert on the mathematics of origami shows how its theorems illuminated long-standing mathematical questions and solved practical engineering problems which even have applications in space.

**Why do journalists love stupid equations?**  
Simon Singh, journalist and documentary maker, asks why the press are suckers for pseudo-mathematical formulas which PR companies cynically use to create quick and easy news stories (Presidential lecture).

**Tuesday 8 September**  
**Chaos in Climate: An Inconvenient Truth?**  
Being able to make sense of the chaos in weather and climate is one of our greatest triumphs. Ian Roulstone and Lucia Elghali, from the University of Surrey show how mathematical modelling is also helping us to devise strategies for adapting to a changing climate.

**Thursday 10 September**  
**Fly Me to the Moon**  
Going back to the moon is the latest focus for space travel. But new mission designs mean sophisticated new mathematical techniques will be needed. Explore with Mark Roberts and Phil Palmer from the University of Surrey.

For more information visit [www.britishtsciencefestival.org](http://www.britishtsciencefestival.org) or call 0207 019 4947  
The British Science Association is a registered charity, no: 212479 and SC03923

# LONDON MATHEMATICAL SOCIETY

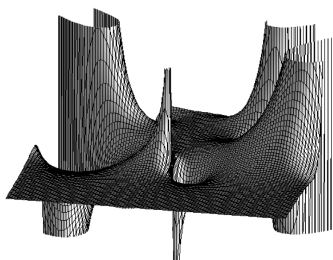
## POPULAR LECTURES 2009

University of Birmingham – Tuesday 15 September

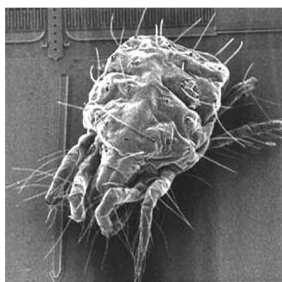
**Dr Nina Snaith**  
University of Bristol

### ***Hollywood's Hippest Mathematics: random matrices and Riemann zeros***

Come and see how physicists helped answer a hundred year old question about prime numbers and how this features in a major Hollywood movie.



15



**Dr Mark Miodownik**  
King's College London

### ***The Scale of Things***

Fleas can jump over 100 times their own height, flies can walk on water and a hamster can survive falling from aircraft without a parachute. Find out about the maths behind *The Scale of Things*.

Commences at 6.30 pm, refreshments at 7.30 pm, ends at 9.00 pm.  
Admission is free, with ticket. **Apply by 10 September.**

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

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



## Stable Homotopy Around the Arf-Kervaire Invariant

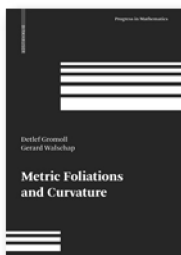
**Snaith, V.P.**, University of  
Sheffield, UK

This monograph describes important techniques of stable homotopy theory, both classical and brand new, applying them to the long-standing unsolved problem of the existence of framed manifolds with odd Arf-Kervaire invariant. Opening with an account of the necessary algebraic topology background, it proceeds in a quasi-historical manner

to draw from the author's contributions over several decades. A new technique entitled "upper triangular technology" is introduced which enables the author to relate Adams operations to Steenrod operations and thereby to recover most of the important classical Arf-Kervaire invariant results quite simply. The final chapter briefly relates the book to the contemporary motivic stable homotopy theory of Morel-Voevodsky.

2009. XIV, 239 p. Hardcover  
ISBN-13: 978-3-7643-9903-0  
EUR 59.90 / CHF 105.00  
PM — Progress in Mathematics, Vol. 273

BIRKHAUSER



## Metric Foliations and Curvature

**Gromoll, D.**, State University of  
New York, Stony Brook, NY, USA  
**Walschap, G.**, University of  
Oklahoma, Norman, OK, USA

In the past three or four decades, there has been increasing realization that metric foliations play a key role in understanding the structure of Riemannian manifolds, particularly those with positive or nonnegative sectional curvature. In fact, all known such spaces are constructed from only a representative handful by means of metric fibrations or deformations thereof. This text is an attempt to document some of these constructions, many

of which have only appeared in journal form. The emphasis here is less on the fibration itself and more on how to use it to either construct or understand a metric with curvature of fixed sign on a given space.

2009. VIII, 174 p. Hardcover  
ISBN: 978-3-7643-8714-3  
EUR 39.90 / CHF 69.90  
PM — Progress in Mathematics, Vol. 268

*All prices are net prices subject to local VAT, recommended and subject to change without notice.*

**www.birkhauser.ch**

**EPSRC**The London  
Mathematical  
Society

## Derived Categories & Applications

### LMS–EPSRC Short Course

City University, 7–11 September 2009

**Organisers:** Professor J. Chuang, Dr A. Cox

#### Course outline and prerequisites

Originally invented and developed as a technical tool for homological algebra, derived categories are now pervasive in many areas of pure mathematics. This course is intended to give students an introduction to derived categories together with applications in a variety of settings across representation theory and geometry. There will be three main series of lectures:

1. *Introduction to derived categories* (5 lectures) – Markus Linkelmann (Aberdeen)
2. *Modular representations of finite groups* (5 lectures) – Raphaël Rouquier (Oxford)
3. *Derived categories for algebraic varieties and noncommutative algebras* (5 lectures) – Iain Gordon (Edinburgh)

These will be complemented by examples classes and two one-off lectures on more recent developments.

The course is primarily aimed at students in algebra or geometry, but may also be of interest to those working in certain aspects of mathematical physics. For further information see [www.staff.city.ac.uk/a.g.cox/Conf/derived.php](http://www.staff.city.ac.uk/a.g.cox/Conf/derived.php).

#### Application

Applications should be made using the registration form available on the Society's website at: [www.lms.ac.uk/activities/rmc/sc/50poster.html](http://www.lms.ac.uk/activities/rmc/sc/50poster.html).

The closing date for applications is **Friday 10 July 2009**. Numbers will be limited and those interested are advised to make an early application.

#### 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 (£92), making a total of £192.
- All others (overseas students and postdocs, those working in industry) will be charged a registration fee of £250 plus the full subsistence costs (£185), making a total of £435.

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.

### ALGEBRA, COMBINATORICS AND DYNAMICS

A workshop on *Algebra, Combinatorics and Dynamics* will take place from 17 to 21 August 2009 at the Queen's University of Belfast. The workshop will focus on recent developments and classical ideas in the interplay between, on the one hand, structural properties of algebras, properties of their representations and other intrinsic algebraic questions with, on the other hand, combinatorics and dynamics. The organisers are particularly interested in discussing problems where combinatorial methods appear as a main ingredient in the solution of an algebraic problem or where arguments of dynamical nature help to understand better algebraic phenomena. Topics include, but are not limited to:

- Combinatorics of defining relations, particularly combinatorics and dynamics of words
- Properties of various generating series associated to rings, Hilbert series, growth, combinatorics of primes
- Combinatorics in Lie theory
- Novikov structures, pre-Lie algebras, connections with Feynman graphs, Leibnitz algebras and generalizations; other structures with origins in physics
- Constructive versions of topics mentioned above and some other problems (like the Quillen–Suslin theorem), in particular, related to Gröbner bases
- Representation spaces, dynamics of  $GL_n$  action
- Actions of groups over rings, lower K-groups over noncommutative rings
- Operator algebras and semigroup actions on Banach spaces, their (infinite-dimensional) dynamics

Speakers include:

- Vladimir Bavula (Sheffield, UK)
- Ken Brown (Glasgow, UK)
- Mikhail Beloloipetsky (Durham, UK)
- Peter Cameron (London, UK)
- Vladimir Dotsenko (Dublin, Ireland)
- Evgenii Golod (Moscow, Russia) – *tbc*
- David Jordan (Sheffield, UK)

- Stephane Launois (Kent, UK)
- Tom Lenagan (Edinburgh, UK)
- Alexander Mikhalev (Moscow, Russia)
- Ian Musson (Wisconsin-Milwaukee, USA)
- Sergei Silvestrov (Lund, Sweden)
- Agata Smoktunowicz (Edinburgh, UK)
- Robert Wisbauer (Düsseldorf, Germany)

Anyone interested is welcome to attend. Some funds may be available to contribute to the expenses of research students who wish to attend the meeting. For further details visit <http://natalia.iyudu.googlepages.com/testlay> or contact Natalia Iyudu at [n.iyudu@qub.ac.uk](mailto:n.iyudu@qub.ac.uk) or [ACD2009@qub.ac.uk](mailto:ACD2009@qub.ac.uk). The workshop is supported by an LMS Conference grant and the British Combinatorial Committee.

### PLASMAS, COMPUTATION AND MATHEMATICS

Effort in plasma physics has developed significantly in recent years. This is as a result of the need to gain a deeper understanding of the behaviour of ionised matter in electro-magnetic fields on scales set by phenomena that range from the astrophysical to the microscopic. Such behaviour continues to pose challenging problems in mathematics and physics. Fundamental conceptual problems include the self-force problem for accelerating point charges and the accommodation of collision processes in dense plasmas. Important problems also arise in computation where modern mathematical tools can be used to advantage in practical simulations of multi-scale phenomena in many plasma processes. The keynote speakers are:

- Tony Bell (University of Oxford)  
*Cosmic ray acceleration*
- Steve Cowley  
(UKAEA Culham Science Centre)  
*Multi-scale turbulent transport in tokamaks*
- Ricardo Fonseca  
(Instituto Superior Técnico, Lisbon)  
*Kinetic plasma modeling with petascale systems: making direct contact between experiment and simulation*

- Keith Moffat FRS (University of Cambridge)  
*Magnetohydrodynamic relaxation to states of complex topology*
- Erik Neyts (University of Antwerp)  
*Modeling of plasmas and plasma growth of carbon nanostructured materials*
- Alex Schekochihin (University of Oxford)  
*Fundamental aspects of plasma turbulence at sub-Larmor scales*
- Gennady Shvets  
(University of Texas, Austin)  
*Studying laser and electron beam propagation and electron trapping in plasma*

The workshop will take place at the University of Cumbria conference centre at Ambleside from 18 to 21 July 2009. The attractive environment of the English Lake District will be the setting of a mutually beneficial forum for applied mathematicians and physicists to exchange ideas on these problems: mathematicians working in nonlinear dynamics, differential geometry, topology, and numerical analysis possess tools that can open up new avenues of exploration in plasma physics and numerical simulation.

Some financial support is available for PhD students (contact [d.burton@lancaster.ac.uk](mailto:d.burton@lancaster.ac.uk)). Registration is via [www.clf.rl.ac.uk/news/Meetings/2009/plasmas\\_computation\\_maths](http://www.clf.rl.ac.uk/news/Meetings/2009/plasmas_computation_maths).

## EUROPEAN CONFERENCE ON COMPLEX SYSTEMS

The Mathematics Institute and Centre for Complexity Science at the University of Warwick is hosting the sixth European Conference on Complex Systems (ECCS'09) from 21 to 25 September 2009. This is the main annual international conference in Complex Systems, and the organisers aim this year to have a particular emphasis on the use and development of mathematics for the subject. Invited speakers include:

- Michael Batty (UCL)
- Peter Cox (Exeter)
- Vittorio Cristini (Texas)

- Peter Deuflhard (Berlin)
- Nigel Gilbert (Surrey)
- David Hales (Delft)
- Dirk Helbing (Zürich)
- Peter Kaczuk (Budapest)
- Robert MacKay (Warwick)
- Mark Newman (Santa Fe Institute)
- Thimo Rolf (Genopole)
- Gabor Terstyan (Westminster)

The main part of the conference is organised in six 'tracks': *Policy, Planning & Infrastructure, Collective Human Behaviour & Society, Interacting Populations & Environment, Complexity & Computer Science, From Molecules to Living Systems and Mathematics & Simulation*.

The conference will also include a series of satellite conferences, the list at the time of advertising being: *Emerging sustainability portal, Putting complexity to work, Complex systems for socially intelligent ICT, Modelling and analysis of cell behaviour, Statistical mechanics of molecular and cell biology, Information, computation and complex systems, Dynamics on and of complex networks, Computing action policies that ensure resilience of social and ecological systems, Emergence and networks, PhD 'in progress' workshop and GeneSys*.

In addition, it will include a public session on *The complexity of global change* and a forum on collaborative research projects and funding opportunities in Complexity Science. For more information and to register visit the website at <http://eccs09.info>.

The London Mathematical Society has provided £1000 towards the attendance of research students studying in the UK if they do not have other means of support, and £1000 towards the attendance of participants from countries in Africa or in a similar position and countries of the former Soviet Union. In addition, the EPSRC has awarded £5000 towards the attendance of research students from outside the UK. Applications for such financial support should be directed to the Conference Event Manager, Aude Exbrayat ([eccs09@warwick.ac.uk](mailto:eccs09@warwick.ac.uk)), marked for the attention of Professor R.S. MacKay.



## New at de Gruyter

Vladimir Anashin and Andrei Khrennikov

### ■ Applied Algebraic Dynamics

2009. Approx. 400 pages. Hardcover.  
RRP € 99.95 [D] / \*US\$ 140.00.  
ISBN 978-3-11-020300-4  
(de Gruyter Expositions in Mathematics 49)  
to be published June 2009

This monograph presents recent developments of the theory of algebraic dynamical systems and their applications to computer sciences, cryptography, cognitive sciences, psychology, image analysis, and numerical simulations.

Vladimir V. Vasin and  
Ivan I. Eremin

### ■ Operators and Iterative Processes of Fejér Type Theory and Applications

2009. Approx. 160 pages. Hardcover.  
RRP € 99.95 [D] / \*US\$ 140.00.  
ISBN 978-3-11-021818-3  
(Inverse and III-Posed Problems Series)  
to be published June 2009

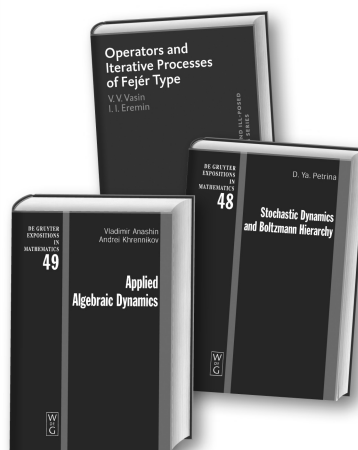
This book deals with classes of iterative methods for the approximate solution of fixed points equations for operators satisfying a special contractivity condition, the Fejér property.

D. Ya. Petrina

### ■ Stochastic Dynamics and Boltzmann Hierarchy

2009. Approx. 240 pages. Hardcover.  
RRP € 99.95 [D] / \*US\$ 140.00.  
ISBN 978-3-11-020804-7  
(de Gruyter Expositions in Mathematics 48)  
to be published June 2009

This monograph is devoted to the stochastic Boltzmann hierarchy, a special type of initial-boundary value problems for first order systems of partial differential systems. The considered topics have many applications, e.g., the derivation of the classical Boltzmann equation, one of the most important partial differential equations.



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ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

NEW TOPICS AT THE INTERFACE BETWEEN  
PROBABILITY AND COMMUNICATIONS

11–15 January 2010

in association with the Newton Institute programme entitled  
*Stochastic Processes in Communication Sciences*  
(11 January – 2 July 2010)

**Workshop organisers:** Venkat Anantharam (Berkeley) and François Baccelli (INRIA Paris – Rocquencourt).

**Workshop programme committee:** David Aldous (Berkeley); Sergey Foss (Heriot-Watt); Bruce Hajek (Illinois); Takis Konstantopoulos (Heriot-Watt); Sean Meyn (Illinois); Andrea Montanari (Stanford) and John Tsitsiklis (MIT).

**Scientific theme:** This is the inaugural workshop of the programme on *Stochastic Processes in Communication Sciences*. It brings together several leading experts studying problems in the modern communication sciences using stochastic techniques. The interplay between these fields has been enormously fruitful over the last couple of decades, with stochastic techniques making an impact on the development of communication systems and problems in communications leading to new developments in the theory of stochastic processes. The aim of the workshop is to survey these developments and to map out possible pathways for the synergistic evolution of these fields in the future.

**Further information and application forms** are available from the web at: [www.newton.ac.uk/programmes/SCS/scsw01.html](http://www.newton.ac.uk/programmes/SCS/scsw01.html). Completed application forms should be sent to Tracey Andrew, Programme & Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email to: [t.andrew@newton.cam.ac.uk](mailto:t.andrew@newton.cam.ac.uk).

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

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES  
STOCHASTIC PARTIAL DIFFERENTIAL EQUATIONS

4–8 January 2010

in association with the Newton Institute programme entitled  
*Stochastic Partial Differential Equations*  
(4 January – 2 July 2010)

**Workshop organisers:** Z. Brzeźniak (York) and M. Röckner  
(Universität Bielefeld).

**Scientific theme:** This is the opening conference of the special semester on stochastic partial differential equations (SPDE) at the Isaac Newton Institute for Mathematical Sciences. The conference will concentrate on the latest developments in the area of SPDE. Among the topics to be covered are, apart from the well-posedness questions in the strong or martingale sense, the following:

- fine paths properties
- asymptotic behaviour path-wise and in law
- ergodic theory (including invariant measures and random attractors)
- large deviations
- non-continuous and non-martingale noises
- Kolmogorov operators and their spectral theory

**Further information and application forms** are available from the web at: [www.newton.ac.uk/programmes/SPD/spdw01.html](http://www.newton.ac.uk/programmes/SPD/spdw01.html). Completed application forms should be sent to Tracey Andrew, Programme & Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email to: [t.andrew@newton.cam.ac.uk](mailto:t.andrew@newton.cam.ac.uk).

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

Imperial College  
London



## PUBLIC LECTURE

in association with the Oxford Centre for Nonlinear  
Partial Differential Equations

# Professor Pierre-Louis Lions

## *Analysis, models and simulations*

In the Chair: Sir John Ball, FRS, Sedleian Professor of Natural Philosophy  
at the University of Oxford and Director of the Oxford Centre  
for Nonlinear PDE

**Abstract:** In this talk, Professor Lions will first present several examples of numerical simulations of complex industrial systems. All these simulations rely upon some mathematical models involving partial differential equations and he will briefly explain the nature, history and role of such equations. Examples showing the importance of the mathematical analysis (i.e. 'understanding') of those models will be presented, concluding with a few trends and perspectives.

**Biography:** Pierre-Louis Lions is the son of the famous mathematician Jacques-Louis Lions and has himself become a renowned mathematician, making numerous important contributions to the theory of non-linear partial differential equations. He was awarded a Fields Medal in 1994, in particular for his work with Ron DiPerna giving the first general proof that the Boltzmann equation of the kinetic theory of gases has solutions. Other awards Lions has received include the IBM Prize in 1987 and the Philip Morris Prize in 1991. Currently he holds the position of Chair of Partial Differential Equations and their Applications at the prestigious Collège de France in Paris.

This lecture is given as part of the 7th ISAAC Congress • [www.isaac2009.org](http://www.isaac2009.org)

Clare Lecture Theatre, Huxley Building, Imperial College London,  
South Kensington Campus, London SW7 2AZ

**RSVP:** Attendance is free, but with registration in advance  
Michael Ruzhansky • [m.ruzhansky@imperial.ac.uk](mailto:m.ruzhansky@imperial.ac.uk)

**Monday 13 July 2009 • 18.00**

### AUSTRALIAN STATISTICAL CONFERENCE

The Statistical Society of Australia (SSAI) will host the Australian Statistical Conference 2010 in Fremantle, Western Australia, from 6 to 10 December 2010. The theme for the conference, *Statistics in the West: understanding our world*, provides opportunities for presentations on a wide range of topics. The technical programme will have significant content for all types of statisticians working in a broad range of specialist areas, including medicine and the pharmaceutical industry, finance and insurance, mining, environmental science and ecology, agriculture and food quality control. Statistical educators who teach across areas as diverse as social science, health sciences, natural resource management, mining and engineering will also be well represented. The keynote speakers include:

- Adrian Baddeley  
(University of Western Australia)  
*Spatial statistics*
- Tadeusz Bednarski  
(University of Wrocław, Poland)  
*Robust methods in finance, insurance and medicine*
- Noel Cressie  
(Ohio State University, USA)  
*Environmental statistics*
- Persi Diaconis  
(Stanford University, USA)  
*Markov chain Monte Carlo algorithms and more*
- Denise Lievesley  
(King's College London)  
*Official statistics*
- Gordon Smyth  
(WEHI, Melbourne)  
*Biomedical statistics*

For further information visit the website at [www.promaco.com.au/2010/asc](http://www.promaco.com.au/2010/asc). All enquiries should be directed to the conference organisers Promaco Conventions Pty Ltd ([promaco@promaco.com.au](mailto:promaco@promaco.com.au)).

### REVIEWS

**Mathematical People: Profiles and Interviews**, second edition, edited by Donald J. Albers and Gerald L. Alexanderson, A.K. Peters, 2008, US\$59.00, £44.50, ISBN 978-1-56881-340-0.

In 1985 the editors compiled the first edition of this fascinating collection of interviews and profiles. Most of the twenty-five distinguished mathematicians featured here are household names in the mathematical world, and readers were able to enjoy learning about their early lives, their mathematical backgrounds and motivations, and their attitudes towards matters of general concern to mathematicians.

The interviewees ranged widely. Some were best known for their research output, such as Garrett Birkhoff and Paul Erdős, while others, such as Martin Gardner, were selected for their ability to communicate the subject widely. Others, such as Paul Halmos and John Conway, have had a foot in both camps, and three are women (Mina Rees, Constance Reid, and Olga Taussky-Todd). All of them had an interesting story to tell and some interesting photographs to show. The book was so successful that it was followed five years later with *More Mathematical People*, featuring a further eighteen mathematicians.

In their preface to this second edition the editors lamented "the low esteem in which mathematical history was held by the general public, and even by professional historians": in a currently popular world history of 1000 pages they counted only four or five pages of scientific interest. On the other hand they welcomed the recent explosion in the number of popular books on mathematics, and especially on its history and its personalities, publications that "would have been unimaginable in 1985".

Recognising that much of the material in this book is not readily available elsewhere, they determined to make the interviews available to a new generation of readers

interested in mathematics. The interviews themselves have been left untouched, and half of those featured are no longer alive (Birkhoff, Chern, Coxeter, Erdős, Halmos, Kemeny, Kline, Lefschetz, Pólya, Rees, Robbins, Taussky-Todd, Tucker and Ulam). Happily, the others (Blackwell, Conway, Diaconis, Gardner, Graham, Hilton, Knuth, Mandelbrot, Pollak, Reid and Smullyan) are still with us. The new edition features mini-biographies of all of these figures.

This book will be of great interest to anyone interested in contemporary mathematicians and what 'makes them tick', and can be warmly recommended. It is to be hoped that the editors will similarly revisit *More Mathematical People* before too long.

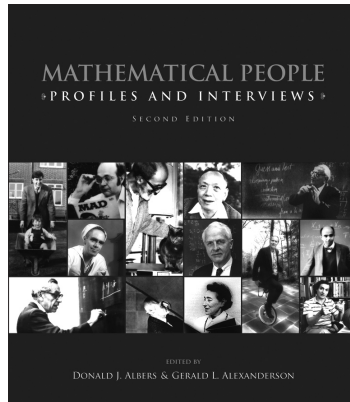
Robin Wilson  
Open University

#### FROM ORDER TO OBSESSION: A VIEW OF MATHEMATICS

An exhibition at the Science Museum Smith Centre, Imperial College Road, London SW7.

In *From Order to Obsession* Jane Wess has skilfully brought together an exquisite selection of objects that manages to accentuate the seriousness and discipline of mathematics whilst revelling in the sheer aesthetic beauty and creative playfulness. It covers four themes: beauty, power, necessity and play, and provides a tantalising glimpse of what might be on offer in the new Science Museum mathematical gallery proposed for 2011.

Starting with John Hudson's models of the icosahedron and its 59th stellation and ending with a toilet roll embossed with Penrose's non-periodic tiling, we are taken on a wonderful



String surface model 'Conoids'  
by Fabre De Lagrange, 1872.

The Science Museum, London

journey through the Science Museum's mathematical collection. My favourites include Kepler's diagram in *Mysterium Cosmographicum* which connects the planets to the Platonic solids, various intriguing String Surface models by Fabre de Lagrange, a Klein Bottle knitted by Alexander Crum-Brown and a slide rule for determining the impact of a nuclear bomb.

The exhibition is on show to Patrons of the Science Museum until November. Sadly, it is not open to the general public, but if you get an opportunity to attend I would heartily recommend it.

Noel-Ann Bradshaw  
University of Greenwich

#### FERMAT'S ROOM

A film starring Santi Millán, Lluís Homar, Federico Luppi, Alejo Sauras, and Elena Ballesteros, written and directed by Luis Piedrahita and Rodrigo Sopena.

Four characters (one of whom has just become famous for proving Goldbach's conjecture) are invited to a mysterious location, where they are assigned as pseudonyms the names of famous mathematicians and find themselves having to solve a series of mathematical puzzles. The plot develops fast and the stakes quickly

# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER

become high. This Spanish thriller, or perhaps horror film (originally *La habitación de Fermat*), is now on release in the UK and will certainly appeal to mathematicians: I found it thoroughly enjoyable, even if, on reflection, the plot has almost as many holes as the sieve of Eratosthenes. (Well, I exaggerate somewhat.) The film-makers clearly have a keen interest in and knowledge of mathematics: the details are generally accurate (although Galois's age at his death is wrongly given, the change is essential for the plot), and the problems the characters have to solve are interesting (though unlikely to be new to most LMS members). I would particularly recommend this film to students: it's an interesting addition to the filmography of mathematics, and will get its audience talking about mathematics.

The LMS has been offered three pairs of tickets for showings of this film in July. At the time of writing confirmed venues in July include Hammersmith (from 3 July for two days), Northampton (from 8 July for three days) and the Dukes, Lancaster (from 31 July for four days). Up-to-date information on venues will be available at <http://cms.gre.ac.uk/~A.Mann/> room. The tickets will be given to the first three people to email Tony Mann ([A.Mann@gre.ac.uk](mailto:A.Mann@gre.ac.uk)) with the mathematical pseudonyms given to the four main characters (not including 'Fermat').

Noel-Ann Bradshaw  
University of Greenwich



## 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)).

### JULY 2009

- 1-3 Design Theory and Applications Conference, National University of Ireland, Galway (379)
- 1-3 Game Theory SING5, Amsterdam, The Netherlands (379)
- 1-3 Graph Theory Workshop, Bristol (380)
- 3 LMS Meeting, London (383)
- 3-16 Proof Theory and Constructivism Symposium, Leeds (380)
- 4-5 Proofs and Computations Conference, Leeds (380)
- 5-8 Algebra and Analysis around the Stone-Čech Compactification Conference, Cambridge (380)
- 5-10 British Combinatorial Conference, St Andrews (378)
- 5-10 Set Theory Meeting, Będlewo, Poland (380)
- 6-10 PRIMA Congress, Sydney, Australia (380)
- 6-10 26th Journées Arithmétiques, Saint-Étienne, France (379)
- 6-16 Combinatorial and Geometric Structures in Representation Theory, LMS Durham Research Symposium, Durham (381)
- 13-16 European Postgraduate Fluid Dynamics Conference, Nottingham (382)
- 13-17 Probabilistic Combinatorics LMS-EPSRC Short Course, Cambridge (381)
- 13-18 7th ISAAC Congress, London (382)
- 14-18 Imprecise Probability: Theories and Applications Symposium, Durham (381)
- 15 LMS SW & South Wales Regional Meeting, Southampton (383)

**15-16** Sparse Matrices for Scientific Computation Meeting, Abingdon, Oxford (377)  
**18-21** Plasmas, Computation and Mathematics Workshop, Ambleside, Cumbria (383)  
**20-24** The Cardiac Physiome Meeting, INI, Cambridge (378)  
**20-24** Probability at Warwick Young Researchers Workshop, Warwick (379)  
**20-30** New Directions in the Model Theory of Fields, LMS Durham Research Symposium, Durham (381)  
**25-30** International Mathematics Competition, Budapest, Hungary (381)  
**26-31** *Geometry, Field Theory & Solitons, LMS-EPSRC Short Course, Leeds* (381)  
**27-31** Stochastic Processes and their Applications Conference, Berlin, Germany (380)  
**27-31** Non-Abelian Fundamental Groups in Arithmetic Geometry Introductory Workshop, INI, Cambridge (379)

## AUGUST 2009

**1-15** Groups St Andrews 2009, Bath (372)  
**3-7** Logic and Mathematics 09, York (379)  
**3-8** Pan African Congress of Mathematicians, Ivory Coast (378)  
**3-8** ICMP09, Prague, Czech Republic (380)  
**9-14** Model Theory Meeting, Będlewo, Poland (380)  
**10-14** Nonlinear Problems for  $\Delta_p$  and  $\Delta$  Conference, Linköping, Sweden (382)  
**17-21** Algebra, Combinatorics and Dynamics Workshop, Queen's University Belfast (383)  
**17-21** The Dynamics of Discs and Planets Conference, INI, Cambridge (378)  
**24-28** Stochastic Differential Equations, Stochastic Partial Differential Equations and Related Topics Conference, Manchester (382)  
**24-28** Anabelian Geometry Workshop, INI, Cambridge (379)  
**25-28** European Women in Mathematics General Meeting, Novi Sad (382)

## SEPTEMBER 2009

**3-5** Modern Mathematical Methods in Science and Technology Conference, Poros Island, Greece (380)  
**5-10** British Science Festival, Surrey (383)  
**7** Function Theory Meeting, London (382)  
**7-8** Opening Windows on Maths & Stats, CETL-MSOR Conference, Open University (383)  
**7-10** Harmonic Map Fest, Cagliari, Italy (382)  
**7-10** Numerical and Analytical Solution of Stochastic Delay Differential Equations Meeting, Chester (382)  
**7-11** *Derived Categories & Applications, LMS-EPSRC Short Course, City University* (383)  
**10-11** Mathematical Models in Ecology and Evolution Meeting, Bristol (382)  
**11-12** Heilbronn Institute Annual Conference, Bristol (382)  
**11-17** Models in Developing Mathematics Education, Dresden, Germany (380)  
**14-15** British Topology Meeting, Leicester (382)  
**15** *LMS Popular Lectures, Birmingham* (383)  
**16** *LMS Midlands Regional Meeting, Leicester* (383)  
**21-25** European Conference on Complex Systems, Warwick (383)  
**28-30** Planetesimal Formation Workshop, INI, Cambridge (379)

## NOVEMBER 2009

**9-11** Dynamics of Outer Planetary Systems Conference, INI, Cambridge (382)  
**20** *LMS AGM, London*

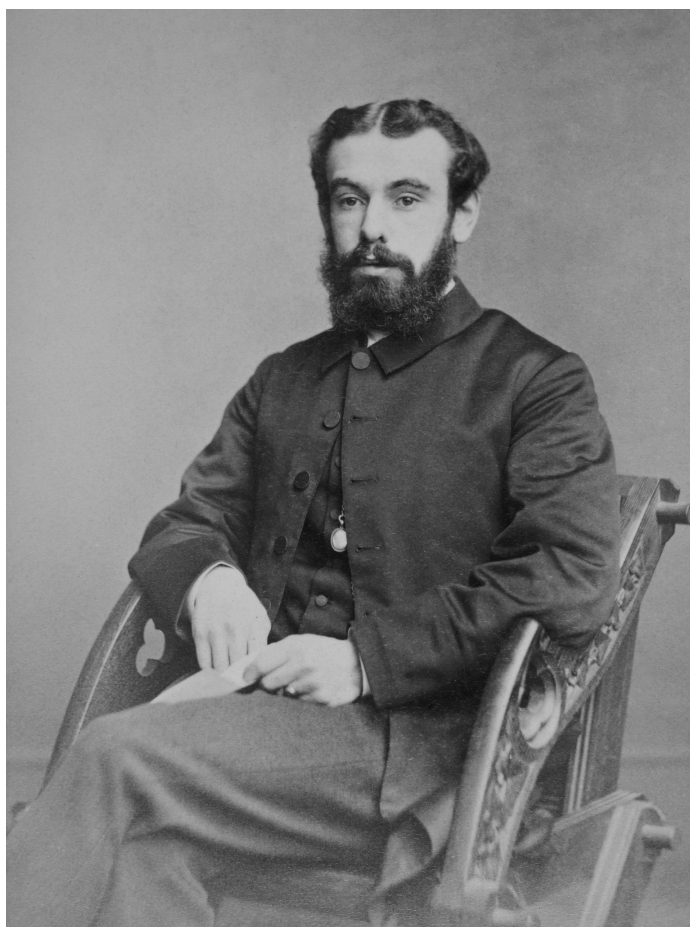
## DECEMBER 2009

**4-6** *LMS-Belgian Mathematical Society joint meeting, Leuven*  
**8-12** Operators and Operator Algebras Conference, Edinburgh (382)



# W.H. LAVERTY

LMS member 1874–1893



Hills & Saunders

Rev. Willis Hay Laverty, MA  
Fellow of Queen's College, Oxford  
Rector of Headley