

# THE LONDON MATHEMATICAL SOCIETY



## NEWSLETTER

No. 392 May 2010

### Society Meetings and Events

#### 2010

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

### STATEMENT BY THE GENERAL SECRETARY

A learned society is the more effective the more actively engaged are its members. I should like to encourage wider involvement in the affairs of the LMS, and comment on some issues with that in mind.

The April *Newsletter* contained a statement on the Annual Elections to Council which makes it clear that there are two ways to effect nominations. There is the possibility to make suggestions to the Nominating Committee for its consideration; and there is the possibility to make direct nominations.

The Nominating Committee is independent of Council and tries to maintain a balance in gender, subject area and geographical location when drawing up its list. Those are important issues, and I have the impression that they weigh with many members of the LMS when they come to vote. However, often almost all nominations come from the Nominating Committee. Then its proposals look like an official slate and this makes some members uncomfortable. My feeling is that it would demonstrate a healthy interest in the affairs of the Society if each year there were some direct nominations. The Nominating Committee is itself sensitive to these issues. It will try to complete its deliberations to give time for further nominations to be made. This year Nominating Committee

intends to publish its slate of nominations on the LMS website in early August, along with all other nominations received by that date. This gives members a chance to make additional nominations in the light of those already received.

Much of the business of the LMS is conducted in the many Council Committees. It is the responsibility of the General Secretary to make proposals to Council for the membership of these, and also for the representatives of the Society on external bodies. One can get some sense of what is involved by clicking on Contacts on the front page of the website. There is an evident danger that membership of the Committees becomes inward-looking. While most Committees benefit from having some overlap with Council, it must always be good to involve enthusiastic new blood. So I would welcome suggestions of people keen to serve on Committees or to represent the Society. (There is no reason to be shy of suggesting oneself!) Naturally if I get many suggestions then I shall not be able to make use of them all. Moreover, considerations of balance may lead to my not taking up some otherwise excellent proposals. But I would rather be spoilt for choice than have no idea of who might be interested to do what for the Society.

Martin Hyland

# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER

### EXECUTIVE SECRETARY



Fiona Nixon

The London Mathematical Society is delighted to announce that Fiona Nixon has been appointed to the post of Executive Secretary. Fiona stood out in a very strong field, and was the unanimous first choice of the selection panel. She is currently Director of Professional Services, Development and Standards at the College of Optometrists, and prior to that worked in senior administrative and managerial positions at the University of Glasgow and at Imperial College.

Fiona will be taking up her new post on 14 June 2010, although she is already getting involved in a number of Working Groups. The current temporary executive secretary, Ivor Goddard, will remain in post until the end of June in order to ensure a smooth transition.

Ken Brown  
Chair, Personnel Committee

### LMS Newsletter

General Editor: Dr D.R.J. Chillingworth (D.R.J.Chillingworth@maths.soton.ac.uk)

Reports Editor: Dr S.A. Huggett (s.huggett@plymouth.ac.uk)

Reviews Editor: Dr C.M. Roney-Dougal (colva@mcs.st-and.ac.uk)

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

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

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Charity registration number: 252660.

## MATHEMATICS POLICY ROUND UP

### Big Bang

The *Big Bang* Young Scientists and Engineers Fair, which is open to the general public, was held in Manchester from 11 to 13 March, attracting over 15,000 people. The aim of this now annual event is to celebrate the STEM (science, technology, engineering and mathematics) subjects in order to inspire school and college pupils to become "the scientists and engineers of tomorrow". The event organisers made a significant effort to ensure that the mathematical sciences were well represented, and stands at the fair included mathematics busking from the National Centre for Excellence in the Teaching of Mathematics and the Further Mathematics Support Programme; *Manga High*, a website with free online maths games; and a joint stand between the Office for National Statistics and the Royal Statistical Society's Centre for Statistical Education to promote the *CensusAtSchool* initiative. The LMS logo was visible at the Fair, with mathematical contributions to the Science Council's timeline on healthcare development. The event is funded by the Government, regional development agencies, various educational trusts and industry sponsors and is co-ordinated by the Engineering Council. The next Big Bang is expected to take place from 10 to 12 March 2011 at ExCel in London. Visit the website [www.thebigbangfair.co.uk](http://www.thebigbangfair.co.uk) for further information.

### Mathematics at the Royal Institution

The Royal Institution has appointed Dr Dianne Crann as acting Clothworkers' Fellow in Mathematics. The Ri runs a programme of mathematical masterclasses for primary and secondary school students across the UK, hosted by universities, schools, local authorities

and other educational bodies. Dr Crann has been coordinating the Ri's London masterclasses for over 10 years, has experience of both primary and secondary masterclasses and has been spearheading the Ri's Engineering Masterclasses pilot for the past two years. Dr Crann will replace Dr Vinay Kathotia, who is taking up a position at the Nuffield Foundation as Project Head for Mathematics. For further information visit the website at [www.rigb.org](http://www.rigb.org).

### Information for the Mathematics Promotion Unit

The aim of the Mathematics Promotion Unit (MPU) is to raise the profile of mathematics, seeking out opportunities for bringing mathematics, and the role and importance of mathematics, to the attention of policy-makers and advisers, the wider public and the media. The MPU would welcome suggestions from LMS members about significant new research, prizes or other developments which may be suitable to use as the basis for a press release. Please contact the MPU Officer at [mpu@lms.ac.uk](mailto:mpu@lms.ac.uk).

Caroline Davis  
Mathematics Promotion Officer

## GENERAL MEETING

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

- 1) the appointment of Scrutineers
- 2) announcement of Council's recommendation for Election to Honorary Membership
- 3) announcement of Prize winners for 2010

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

Ivor Goddard  
Executive Secretary

## LONDON MATHEMATICAL SOCIETY MEETING AND HARDY LECTURE

**Friday 2 July 2010**

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

**3.30** Opening of the meeting and LMS business, including the  
announcement of the 2010 Prize winners (open to all)

**3.45** **Raphaël Rouquier** (Oxford)  
*Title tbc*

**4.45** Tea/Coffee

**5.15** **Hardy Lecture**  
**Hiraku Nakajima** (Kyoto, Japan)  
*Instanton counting and Donaldson invariants*

**6.30** Reception

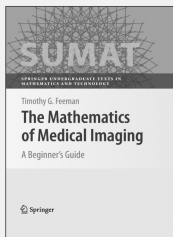
These lectures are aimed at a general mathematical audience. All interested, whether LMS members or not, are most welcome to attend this event.

A reception will be held at the LMS at 6.30 pm with a dinner afterwards at a nearby restaurant, costs and location to be confirmed. Those wishing to attend the dinner should inform Isabelle Robinson ([isabelle.robinson@lms.ac.uk](mailto:isabelle.robinson@lms.ac.uk)) before **25 June**.

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

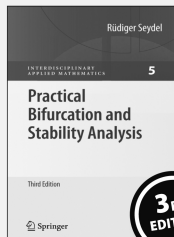


## Highlights in Springer's eBook Collection



This book presents the basic mathematics of computerized tomography – the CT scan – for an audience of undergraduates in mathematics and engineering.

2010. X, 141 p. 20 illus. (Springer Undergraduate Texts in Mathematics and Technology) Hardcover  
 ISBN 978-0-387-92711-4 ► **€ 39,95 | £35.99**



This book covers the central role that bifurcations play in nonlinear phenomena, explaining mechanisms of how stability is gained or lost.

3rd ed. 2010. XVIII, 483 p. 200 illus. (Interdisciplinary Applied Mathematics, Volume 5) Hardcover  
 ISBN 978-1-4419-1739-3 ► **€ 69,95 | £62.99**

### For access check with your librarian

#### The Abel Prize

2003-2007 The First Five Years

H. Holden, R. Piene (Eds.)

2010. XI, 327 p. With DVD. Hardcover  
 ISBN 978-3-642-01372-0 ► **€ 64,95 | £58.99**

#### Theory and Applications of Stochastic Processes

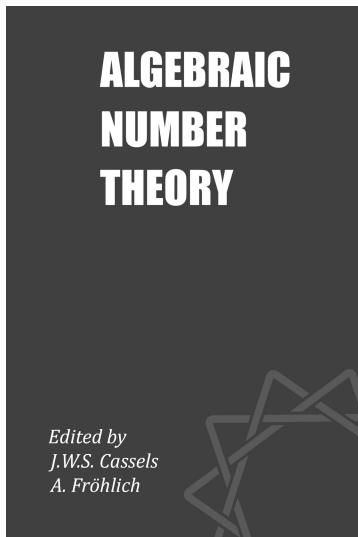
An Analytical Approach

Z. Schuss

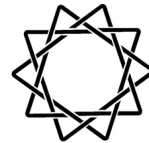
2010. XVIII, 470 p. (Applied Mathematical Sciences, Volume 170) Hardcover  
 ISBN 978-1-4419-1604-4 ► **€ 59,95 | £53.99**

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*The London  
Mathematical  
Society*



## *Algebraic Number Theory*

edited by

**J.W.S. Cassels  
A. Fröhlich**

ISBN 978-0-9502734-2-6  
Paperback, £35, US\$55

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

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

### **Contributors:**

J.V. Armitage	K. Gruenberg	M. Kneser	P. Roquette
M.F. Atiyah	H. Halberstam	R.R. Laxton	J-P. Serre
B.J. Birch	H. Hasse	A. Lue	H.P.F. Swinnerton-Dyer
D.A. Burgess	H.A. Heilbronn	I.G. Macdonald	J.T. Tate
J.W.S. Cassels	K. Hoeschsmann	J. Neggers	C.T.C. Wall
A. Fröhlich			

### **Ordering information:**

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

## ABEL PRIZE 2010

On 24 March 2010, the Norwegian Academy of Science and Letters announced that Professor John Tate, of the University of Texas at Austin and an honorary member of the LMS, had been awarded the 2010 Abel Prize "for his vast and lasting impact on the theory of numbers".

The Abel Prize is the most important international prize for mathematics, recognising contributions of extraordinary depth and influence to the mathematical sciences. It has been awarded annually since 2003 and carries a cash award of NOK 6,000,000 (close to £670,000 or US\$ 1 million).

Announcing this year's prize, the Abel Committee noted "Many of the major lines of research in algebraic number theory and arithmetic geometry are only possible because of the incisive contribution and illuminating insight of John Tate. He has truly left a conspicuous imprint on modern mathematics."

Professor Angus Macintyre, President of the London Mathematical Society, said, "On behalf of the LMS, I wish to convey to Professor John Tate our delight at the award to him of this year's Abel Prize. Algebraic number theory is one of the glories of mathematics, and John Tate has, since 1950, given to that subject many ideas of exceptional depth and beauty. The award is a source of particular pride and pleasure for us because he has been an Honorary Member of the LMS since 1999."

Algebraic number theory has its origins in ancient questions about equations and primes. It developed rapidly in the 19th century, assimilating ideas from group theory and complex analysis to produce major results about primes and about special cases of Fermat's Last Theorem. Throughout the 20th century, new ideas from across the mathematical spectrum were added, including Galois cohomology, representation theory, complex

function theory, abelian varieties,  $p$ -adic and rigid geometry,  $p$ -divisible groups, and étale cohomology. Tate has been at the forefront of these developments, which have revealed exquisite structure, and enabled the solution of key problems, such as Fermat's Last Theorem. Many concepts and conjectures bear his name. Indeed, Tate's thesis, a by-word in mathematics today, actually originated from his 1950 PhD thesis making it one of the most influential of the last 60 years. The thesis is included in the book *Algebraic Number Theory* edited by Cassels and Fröhlich, which has recently been republished by the LMS.

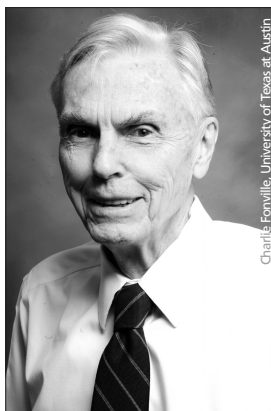
The real-world applications of Tate's mathematics are also distinctly modern. His work on elliptic curves has helped mathematicians to develop sophisticated new techniques to protect the privacy of mobile phones, smart cards and even air traffic control. Data can be converted into a point on a curve and a message can then be encrypted by moving the point around to another point using the geometry underlying these curves.

Professor Marcus du Sautoy, Simonyi Professor for the Public Understanding of Science and Professor of Mathematics at the University of Oxford said, "For thousands of years we've been wrestling with questions about numbers that are as old as mathematics itself. Just

as the telescope allowed astronomers to see new worlds, Tate's mathematics has provided tools and insights which have allowed the mathematicians of this generation to see further into the universe of numbers than ever before. He truly deserves the title of the Galileo of number theory."

Amongst numerous honours, Tate was awarded the American Mathematical Society's Cole Prize for outstanding contributions to number theory at the age of just 31, and in 2002 received the prestigious Wolf Prize in Mathematics.

For further information about the Abel Prize see [www.abelprisen.no/en](http://www.abelprisen.no/en).



John Torrence Tate  
Abel Laureate 2010

Charlie Forville, University of Texas at Austin

# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER

### LMS HARDY LECTURER 2010

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

***Quiver varieties and cluster algebras***

Edinburgh: 18 June. Further details tbc.

Organiser: Iain Gordon (igordon@ed.ac.uk)

***Quiver varieties and cluster algebras***

Leeds: 22 June at 4 pm, The Mall, School of Mathematics.

Organiser: William Crawley-Boevey (W.Crawley-Boevey@leeds.ac.uk)

***Quiver varieties and double affine Grassmannian***

Oxford: 28 June at 4.30 pm, Room L2, Mathematical Institute.

Organiser: Tamás Hausel (hausel@maths.ox.ac.uk).

***Instanton counting and Donaldson invariants***

London: 2 July at 5.15 pm, Anatomy Building, University College London.

Organiser: Isabelle Robinson (isabelle.robinson@lms.ac.uk)

Professor Raphaël Rouquier (Oxford) will also speak at the London meeting (at 3.45 pm). There should also be a programme of events that day for graduate students.

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

### VISIT OF DR E. IRMAK

Dr Elmas Irmak (Bowling Green State University, USA) will visit the UK from 10 to 22 May 2010. Dr Irmak's research focuses on the curve complex and mapping class group of surfaces. She is currently working on extending her results (jointly with N. Ivanov and J.D. McCarthy) on automorphisms of mapping class groups to the case of non-orientable surfaces. She will give seminars at:

- Warwick, 13 May; contact Saul Schleimer (s.schleimer@warwick.ac.uk)
- Birmingham, 18 May; contact Sergey Shpectorov (s.shpectorov@bham.ac.uk)
- Imperial College London (London Topology and Geometry Seminar), 21 May; contact Bill Harvey (bill.harvey@kcl.ac.uk)

Dr Irmak will be based at Birmingham during her visit, hosted by Sergey Shpectorov. This visit is supported by an LMS Scheme 2 grant.

### VISIT OF PROFESSOR S. SILVESTROV

Professor Sergei Silvestrov (Lund University, Sweden) will be visiting the universities of Aberdeen, Glasgow and Lancaster from 23 to 29 May 2010. He has research interests in a number of areas, including dynamical systems, Lie theory, operator theory and operator algebras. During his visit he will give talks as follows:

- University of Aberdeen, Monday 24 May; contact Rob Archbold (mth020@abdn.ac.uk)
- University of Glasgow, Wednesday 26 May; contact Simon Wassermann (asw@maths.gla.ac.uk)
- Lancaster University, Friday 28 May; contact Niels Laustsen (n.laustsen@lancaster.ac.uk)

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

## VISIT AND LEVERHULME LECTURES OF PROFESSOR E.N. DANCER

Professor Norman Dancer (University of Sydney, Australia) will be visiting Swansea University in the period April to June 2010, supported by a Leverhulme Visiting Professorship. His research interests lie in nonlinear analysis and nonlinear ordinary and partial differential equations.

Professor Dancer will present a series of four Leverhulme Lectures at Swansea University from 10 to 11 May 2010, on the topic *Stable and Finite Morse Index Solutions for Nonlinear Elliptic Equations*. All are welcome to attend. For further details visit the departmental website at [www-maths.swan.ac.uk](http://www-maths.swan.ac.uk). Limited funds are available to support graduate students and postdocs to come to the lecture series. For more information contact Elaine Crooks (E.C.M.Crooks@swansea.ac.uk).

## NEWS FROM THE IMU

### ICMI Awards

The Felix Klein and Hans Freudenthal Medals are the two awards created by the International Commission on Mathematical Instruction (ICMI), for recognizing outstanding achievement in mathematics education research. The Felix Klein Medal, named for the first president of ICMI (1908–1920), honours a lifetime achievement. The Hans Freudenthal Medal, named for the eighth president of ICMI (1967–1970), recognizes a major cumulative program of research.

- The **Klein Award** goes to Gilah C. Leder (La Trobe University, Bundoora, Victoria, Australia), in recognition of her more than thirty years of sustained, consistent, and outstanding lifetime achievements in mathematics education research and development.

- The **Freudenthal Award** goes to Yves Chevalard (IUFM, Aix-Marseille, France), in recognition of his foundation and development over the last two and a half decades of a very original, fruitful and influential research programme in mathematics education.

### Clay Millenium Prize

The Clay Mathematics Institute (CMI) announced that Dr Grigoriy Perelman of St Petersburg, Russia, is the recipient of the Millennium Prize for resolution of the Poincaré conjecture. For more see [www.claymath.org/millennium](http://www.claymath.org/millennium).

### ICPAM–CIMPA 2012 Research Schools Call for Projects

The International Centre for Pure and Applied Mathematics ICPAM–CIMPA organizes research schools of about two weeks in developing countries. The purpose of these schools is to contribute to the research training of the new generation of mathematicians, women and men. Once selected by the scientific committee and the Governing board of ICPAM–CIMPA, research schools are organized locally with the help of ICPAM–CIMPA. ICPAM–CIMPA's financial contribution is essentially for young mathematicians from neighbouring countries to be able to attend the research school. ICPAM–CIMPA can help with obtaining funds from other sources. The Research Schools Call for Projects begins on 1 March 2010. The deadline for a pre-proposal is **15 June 2010**. The complete proposal is due by 1 October 2010. The application form can be found on ICPAM–CIMPA website ([www.cimpa-icpam.org](http://www.cimpa-icpam.org)), or email [cima@unice.fr](mailto:cima@unice.fr).

### ICM 2010

A press conference about ICM 2010 has been held in India. The press release appeared in the local press on 31 March (which happens to be Descartes' birthday). To read the text see [www.icm2010.org.in](http://www.icm2010.org.in).

The above items are taken from the 40th issue of the IMU electronic newsletter *IMU Net* (see [www.mathunion.org/IMU-Net](http://www.mathunion.org/IMU-Net)).

## PHILIP LEVERHULME PRIZES 2010

The Leverhulme Trustees are offering up to 25 Philip Leverhulme Prizes for 2010. The prizes are for outstanding young scholars who have made a substantial and recognised contribution to their particular field of study and whose future contributions are held to be of correspondingly high promise. Prizes are available in several disciplines including mathematics and statistics.

The value of each Prize will be £70,000, to be spent within two years. Awards will be made in recognition of the past research achievement of nominees but with the clear recognition that the achievement reflects outstanding promise for future work. Prizes can be used for any purpose to advance the prize holder's research, with the following exceptions: augmentation of the prize holder's salary, capital items and equipment, and institutional overheads.

Prize winners should be under age 36 on 17 May 2010 and should hold a post (irrespective of the source of funding) in a UK institution of higher education or research. Nominations are also accepted for those aged 36 to 39 inclusive if they have had a distinct career change or break. The disciplines selected are intentionally broad, and nominations will be considered regardless of a nominee's departmental affiliation.

For nomination materials visit the Trust's website at [www.leverhulme.ac.uk](http://www.leverhulme.ac.uk). Nominations must reach the Trust by **4.00 pm on 17 May 2010**. Decisions will be made by the end of November 2010 and the prizes may be taken up at any time before the end of November 2011.

### LMS CONFERENCE FACILITIES

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

## ROLLO DAVIDSON TRUST 2010

The Trustees of the Rollo Davidson Trust award an annual prize for young probabilists. They have awarded the Rollo Davidson Prize for 2010 to Gady Kozma (Weizmann Institute) for work on random walks in the contexts of loop-erasure and percolation, and to Sourav Chatterjee (University of California at Berkeley) for work on Stein's-method spin glasses and concentration of measure. Further details of the Rollo Davidson Trust may be found at [www.statslab.cam.ac.uk/Rollo](http://www.statslab.cam.ac.uk/Rollo).

## FRITZ GRUNEWALD

We are very sad to report the unexpected death of Fritz Grunewald, who succumbed to a heart attack on 21 March 2010. He was well known to many LMS members, through several long-term collaborations with British mathematicians and the well-attended conference in Oxford on the occasion of his 60th birthday in 2009.

The 1998 book *Groups acting on hyperbolic space: Harmonic analysis and number theory* (with J. Elstrodt and J. Mennicke) epitomizes the breadth of his interests, but his numerous important contributions range far wider, over infinite group theory, finite group theory, Diophantine decision problems, arithmetic groups, automorphic forms and algebraic geometry. A widely influential figure, he was particularly inspiring as a collaborator. He will be sorely missed by his numerous coauthors and many friends around the world. As well as publishing around 100 papers, he supervised more than 30 PhD students, several of whom have become established mathematicians. A special issue of the journal *Groups, Geometry and Dynamics* in honour of his 60th birthday is shortly to appear.

Dan Segal  
University of Oxford

# LONDON MATHEMATICAL SOCIETY

## SPITALFIELDS DAY

### *Noncommutative Geometry and Physics*

**Monday 17 May 2010, 2.00 pm**

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

**Terry Gannon (Alberta)**

*K-theory and Conformal Field Theory*

**Nigel Higson (Penn State)**

*The Baum–Connes Conjecture and Group Representations:  
C\*-algebras, unitary group representations and topology*

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This Spitalfields Day is organised in connection with an EU–RTN programme in Cardiff on noncommutative geometry and mathematical physics. The talks by internationally leading experts are centred around recent developments in the theory of noncommutative geometry, index theory, modular invariants and related areas.

These lectures are aimed at a general mathematical audience. All interested, whether LMS members or not, are most welcome to attend this event. For further details, to register or to reserve a place at the dinner to be held after the event, email the organisers David Evans (EvansDE@cf.ac.uk) or Mathew Pugh (PughMJ@cf.ac.uk). The cost of the dinner will be approximately £30, including drinks.

Nigel Higson will continue during the week with a series of talks on the Baum–Connes Conjecture and group representations: *Contractions of Lie groups and the Mackey analogy; Harish-Chandra homomorphisms; The Weyl character formula in KK-theory.*

Further information is available on the website  
[www.cardiff.ac.uk/mathssubsites/opalg/eu-ncg/fs6.html](http://www.cardiff.ac.uk/mathssubsites/opalg/eu-ncg/fs6.html).

There are funds available to contribute in part to the expenses of members of the Society or research students to attend the day. Requests for support, including an estimate of expenses, may be addressed to the organisers.

### MATHEMATICAL SOCIETY OF JAPAN

The 2009 Mathematical Society of Japan prizes were awarded as follows:

- The **Autumn Prize** to Kenji Yajima (Gakushuin University)
- The **Analysis Prize** to Tatsuo Nishitani (Osaka University), Hiroaki Aikawa (Hokkaido University) and Takayoshi Ogawa (Tohoku University)
- The **Geometry Prize** to Ko Honda (University of Southern California) and Yoshikata Kida (Kyoto University)
- The **Takebe Katahiro Prize** to Ryoki Fukushima (Kyoto University), Akihiro Shimomura (Tokyo Metropolitan University) and Hiroshi Iritani (Kyushu University).
- Nigel Mottram (Strathclyde University)
- Juan J. Nieto (University of Santiago de Compostela)
- Allan C. Peterson (University of Nebraska-Lincoln)
- Irena Rachunkova (Palacky University)
- Charles Stuart (École Polytechnique Fédérale de Lausanne)
- John F. Toland (University of Bath)
- Alfonso Vignoli (University of Rome Tor Vergata)

For registration email Gennaro Infante (g.infante@unical.it). There are funds available to contribute in part to the expenses of research students to attend the meeting. Requests for support, including an estimate of expenses, may be addressed to the organisers. For details, registration fees etc. visit the website at [www.gla.ac.uk/departments/mathematics/events/epnade10/#d.en.146040](http://www.gla.ac.uk/departments/mathematics/events/epnade10/#d.en.146040).

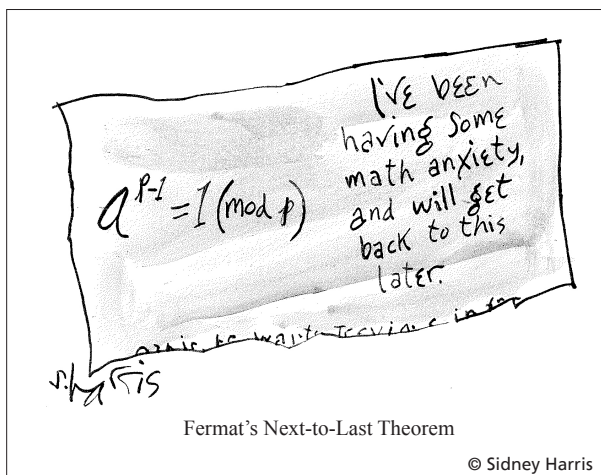
This meeting is supported by the Centre for Analysis and Nonlinear PDE, Edinburgh, the Department of Mathematics at the University of Calabria, Italy, the Department of Mathematics at the University of Glasgow, the Glasgow Mathematical Journal Trust, and the London Mathematical Society.

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### EMERGING PROBLEMS IN NONLINEAR ANALYSIS

A meeting on *Emerging Problems in Nonlinear Analysis and Differential Equations*, on the occasion of the retirement of Professor Jeff Webb, will take place at the University of Glasgow from 1 to 4 June 2010. The meeting will focus on the area of nonlinear and nonlocal boundary value problems while also presenting more general developments in nonlinear PDE and DE. Everybody is welcome to attend. The tentative list of main speakers is:

- John M. Ball (University of Oxford)
- Tomás Dominguez Benavides (University of Seville)
- Luigi De Pascale (University of Pisa)
- Jean Mawhin (Université Catholique de Louvain)
- Raul Manasevich (University of Chile)
- Marius Mitrea (University of Missouri)







THE INSTITUTE OF  
MATHEMATICS AND  
ITS APPLICATIONS

## HOW TO TALK MATHS IN PUBLIC

### An IMA conference on Public Engagement

8–9 June 2010, University of Manchester

Mathematics is receiving an ever-increasing public profile. From academics' lectures and school masterclasses, to mathematical features in newspapers and television documentaries, popular books – even mathematicians modelling designer clothes in mens' magazines – there has never been more mathematics on display. Mathematics holds an intrinsic fascination for most people, whether they feel they can understand it or whether they feel they are left baffled.

But the need for professional engagement with the public in mathematics has never been greater. Economically, the need for more mathematically trained people is growing. At the same time, there are massive shortages of trained mathematics teachers and many people believe standards in mathematics at GCSE and A-level are dropping.

This conference aims to bring together people already active in public engagement with others who will become the next generation who want to be empowered to be the next ambassadors for change. Leading mathematics communicators will speak and then offer workshops to delegates.

#### Topics to include:

- *Can a respectable professional mathematician engage with the public?*
- *Engaging with the press and media*
- *Writing a popular maths book*
- *How much maths is too much?*
- *Routes to funding for public engagement*
- *A talent show: 'e<sup>x</sup> factor'*

#### Speakers to include:

**Marcus du Sautoy** (Charles Simonyi Professor of Public Understanding of Science and Professor of Mathematics at Oxford University) • **Chris Budd** (Professor of Applied Mathematics at the University of Bath and organiser of the *Bath Taps into Science* festival) • **Ian Stewart** (emeritus Professor of Mathematics at the University of Warwick and winner of the 2008 LMS–IMA Christopher Zeeman medal for promotion of mathematics) • **David Spiegelhalter** (Winston Professor of Public Understanding of Risk, University of Cambridge) • **Steve Humble** ('Dr Maths') • **Matt Parker** (Stand-up mathematician) • **Sara Santos** (maths busker) • **Edmund Harriss** (mathematician-artist)

#### Organising Committee

Steve Humble a.k.a. *Dr Maths* (National Centre for Excellence in the Teaching of Mathematics); David Abrahams (University of Manchester); Chris Budd (University of Bath); Caroline Davis (Mathematics Promotion Unit, LMS & IMA); Marcus du Sautoy (University of Oxford); Rob Eastaway (independent mathematics writer and presenter); John Haigh (University of Sussex).

#### More information and registration

Visit the website at [www.ima.org.uk/Conferences/public\\_engagement/index.html](http://www.ima.org.uk/Conferences/public_engagement/index.html).

# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER

### CIRM CONFERENCE CENTER IN MARSEILLES

The CIRM Conference Center in Marseilles, France now offers very attractive conditions for the reception of mathematician researchers of all nationalities.

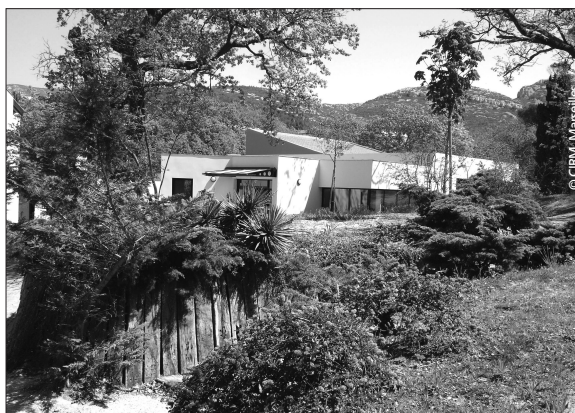
The International Center for Mathematical Meetings is a joint center of the Mathematical Society of France (SMF) and the National Center for Scientific Research (CNRS). It was established in 1981 at the initiative of the French mathematical community, which wanted a research vehicle similar to the Mathematisches Forschungsinstitut Oberwolfach (MFO).

For nearly thirty years the CIRM has greatly diversified its activities: throughout the year, collaborative research is carried out in conferences, trainings and workshops as well as small workgroups and research in pairs. All branches of mathematics are explored. But the CIRM has also in particular increased its international audience. Now, about 3,000 researchers visit the Center

each year, and half of them are not French: 25% are European, 11% from North America. In total, more than fifty nationalities are represented.

The committees that organize the activities often include a French researcher, but this is not required. Indeed, the Center personnel have real expertise, allowing them to meet the needs of researchers even if

they are not familiar with the French administration. Moreover, the organizational tasks are now greatly simplified by the improved funding from the CIRM: from 2010, the accommodation expenses for small workgroups and research pairs are fully supported. From 2011, the Center is able to provide accommodation and catering for at least 40 participants per conference – possibly more, on justified demand of the event managers and after the agreement of the Scientific Council of the Center. Event managers are thus free to invite a larger number of



The CIRM Conference Center in Marseilles



Interior view of the CIRM auditorium

researchers, and encourage the participation of young researchers, or to facilitate the visit of researchers from emerging countries.

Locally, mathematicians have all the necessary equipment and a highly favorable environment for successful exchanges. The auditorium can accommodate 95 people; it is supplemented by several meeting rooms. The library is one of the richest in France in mathematics (40,000 works, 700 journal titles and access to electronic journals). Many computer workstations equipped with all necessary software for mathematical research are available.

But the attraction of the CIRM also lies in its privileged location. Outside the Provençal fortified town, the Center has a large park. Centenarian trees mix with a wide variety of Mediterranean plant species. In the immediate neighbourhood, the natural reserve of *Calanques* (typical beaches for this part of the Mediterranean) offers fabulous views.

Attractive through its equipment and its environment, the CIRM is now also able to offer advantageous financial conditions. May this encourage more mathematicians to cross the border!

For program and information visit the website at [www.cirm.univ-mrs.fr](http://www.cirm.univ-mrs.fr).

## CONTACT AND SYMPLECTIC TOPOLOGY

Contact topology and symplectic topology are both thriving fields with links to low-dimensional topology, algebraic geometry, dynamics, mirror symmetry, integrable systems and more. This diversity is reflected in the creation of a new Europe-wide network, *CAST: Contact and Symplectic Topology*, under the auspices of the European Science Foundation. The network involves active researchers in more than a dozen countries, working across the spectrum of the eponymous fields. The activities of the network,

which are funded collectively by agencies based in numerous member states and in particular are generously supported by EPSRC, will include summer schools, conferences, and visits for the purpose of collaborative research or training (by faculty members, their postdocs or graduate students, as appropriate). The initial funding for CAST lasts until January 2015.

Activities of the network, and related activities of interest to geometers in these fields, will be updated regularly on the website <http://cast.ulb.ac.be/index.php>, which already lists numerous conferences and which explains how to apply for funding (in due course, further relevant information will be assimilated here, including job opportunities). The UK co-ordinator for CAST is Ivan Smith ([is200@cam.ac.uk](mailto:is200@cam.ac.uk)).

## WIENER-HOPF TECHNIQUE

A two-day workshop on *Wiener-Hopf Technique and its Applications* will take place at Aberystwyth University from 28 to 29 June 2010. The invited speakers will be:

- David Abrahams (Manchester University)
- Jane B. Lawrie (Brunel University)
- Alexander Movchan (University of Liverpool)
- Natasha Movchan (University of Liverpool)
- Andrea Piccolroaz (University of Trento)
- Enrico Radi (University of Modena and Reggio Emilia)
- Sergei Rogosin (Belarusian State University)

The organiser is Gennady Mishuris (Aberystwyth). Presentations (both oral and poster) are cordially invited (deadline for abstracts has been extended to **14 May 2010**). Limited travel support is available for young Wales researchers. For further information contact Gennady Mishuris ([ggm@aber.ac.uk](mailto:ggm@aber.ac.uk)). The workshop is funded in part by an LMS Scheme 3 grant and the Wales Institute of Mathematical and Computational Sciences (WIMCS).

[www.bristol.ac.uk](http://www.bristol.ac.uk)

## Heilbronn Research Fellows

£33,600 - £43,840 (to be agreed)

The Department of Mathematics invites applications for a number of Research Fellows in Mathematics in association with the Heilbronn Institute for Mathematical Research. The areas of interest include but are not restricted to; Combinatorics, Number Theory, Algebra, Algebraic Geometry, Quantum Algorithms, Probability and Statistics. Preference may be given to candidates with research interests in Arithmetic Geometry or Quantum Algorithms. The Fellowships will be for three years, with a preferred start date of 1st January 2011.

You will divide your time equally between your own research and the research programme of the Heilbronn Institute. Due to the nature of the Heilbronn Institute's work, you must satisfy vetting before appointment. Normally only UK resident UK nationals will be able to meet this condition. You may become a member of the USS pension scheme. Research expenses of at least £2,000 per annum will also be available.

Enquiries about the fellowships may be addressed to Professor Trevor Wooley, School of Mathematics on +44 (0)117 331 5240, email: [assoc-director-himr@bristol.ac.uk](mailto:assoc-director-himr@bristol.ac.uk) Enquiries about the work of the Heilbronn Institute may be addressed to Professor Malcolm MacCallum on +44 (0)117 980 6303, email: [m.a.h.maccallum@bristol.ac.uk](mailto:m.a.h.maccallum@bristol.ac.uk)

Further details and an application form can be found at [www.bristol.ac.uk/jobs](http://www.bristol.ac.uk/jobs) Alternatively you can telephone (0117) 954 6947, or e-mail [recruitment@bristol.ac.uk](mailto:recruitment@bristol.ac.uk) quoting reference number 15325.

The closing date for applications is 9.00am, 28 May 2010.

The anticipated interview date is 24 June 2010.

**EXCELLENCE THROUGH DIVERSITY**



## SHEAVES IN REPRESENTATION THEORY

A workshop and conference on *Sheaves in Representation Theory* will take place at Sabhal Mòr Ostaig, Skye from 23 to 28 May 2010. This meeting is organised within the framework of the network *Representation Theory Across the Channel*. It will consist of two parts:

1) A working seminar, with talks given by participants, whose programme is organised by Peter Fiebig (Erlangen), Daniel Juteau (Caen) and Geordie Williamson (Oxford).

2) A section with individual talks presenting new developments in the wider area of representation theory; currently, the list of speakers includes:

- Tom Braden (Amherst)
- Peter Fiebig (Erlangen)
- Misha Finkelberg (Moscow)
- Dennis Gaitsgory (Harvard)
- Daniel Juteau (Caen)
- Carl Mautner (Austin)
- Kevin McGerty (Imperial)
- Ivan Mirkovic (Amherst)
- Dmitriy Rumynin (Warwick)
- Catharina Stroppel (Bonn)
- Geordie Williamson (Oxford)

The organisers are Meinolf Geck (Aberdeen) and Iain Gordon (Edinburgh). For further details consult the webpage at [www.maths.abdn.ac.uk/skye2010/index.php](http://www.maths.abdn.ac.uk/skye2010/index.php). The conference is supported by an LMS Conference grant.

## ONE-DAY COLLOQUIA IN COMBINATORICS

Two linked one-day colloquia in combinatorics will be taking place in London. The first day will be held at Queen Mary, University of London, on Wednesday 19 May and the second will take place at the London School of Economics and Political Science on Thursday 20 May. It is hoped that the talks will be of wide interest to all those working in

combinatorics or related fields. The schedule is as follows:

### Queen Mary, University of London (19 May)

- Imre Bárány (University College London) *Extremal problems for convex lattice polytopes*
- Boris Bukh (University of Cambridge) *Sum-product estimates for rational functions*
- Jan van den Heuvel (London School of Economics) *Graph colouring with distances*
- Deborah Lockett (University of Leeds) *Homogeneous coloured multipartite graphs*
- Eoin Long (University of Cambridge) *Long paths in subgraphs of the cube*
- Klas Markström (Umeå University, Sweden) *Minimum degree conditions for perfect matchings in uniform hypergraphs*

### London School of Economics (20 May)

- Peter Allen (University of Warwick) *Randomising extremal combinatorics*
- Daniela Kühn (University of Birmingham) *Sumner's universal tournament conjecture*
- Tomasz Łuczak (Adam Mickiewicz University, Poland) *Colouring dense graphs via VC-dimension*
- Mathew Penrose (University of Bath) *Strict inequalities of critical points in continuum percolation*
- Oleg Pikhurko (Carnegie Mellon, USA) *All large trees are prime*
- Andrew Thomason (University of Cambridge) *The probability of hereditary properties*

Anyone interested is welcome to attend. Some funds are available to contribute to the expense of research students who wish to attend the meetings. Further details can be obtained from the webpage at [www2.lse.ac.uk/maths/Seminars/Colloquia\\_in\\_Combinatorics.aspx](http://www2.lse.ac.uk/maths/Seminars/Colloquia_in_Combinatorics.aspx) or from Graham Brightwell ([g.r.brightwell@lse.ac.uk](mailto:g.r.brightwell@lse.ac.uk)) and Robert Johnson ([r.johnson@qmul.ac.uk](mailto:r.johnson@qmul.ac.uk)). Support for this event by the London Mathematical Society and the British Combinatorial Committee is gratefully acknowledged by the organisers.

## LONDON MATHEMATICAL SOCIETY

### SOUTH-WEST AND SOUTH WALES REGIONAL MEETING

#### *Operator Algebras and Physics*

**Monday 21 June 2010, 2.00 pm**

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

Speakers:

**Werner Nahm** (DIAS, Dublin)

**Constantin Teleman** (Berkeley)

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

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

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

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

Other confirmed invited speakers include:

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

There are funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting and workshop. Requests for support, including an estimate of expenses, may be addressed to the organisers.

Further details from [www.cardiff.ac.uk/mathssubsites/opalg/eu-ncg/lms\\_meeting.html](http://www.cardiff.ac.uk/mathssubsites/opalg/eu-ncg/lms_meeting.html).

## LONDON MATHEMATICAL SOCIETY

### POPULAR LECTURES 2010

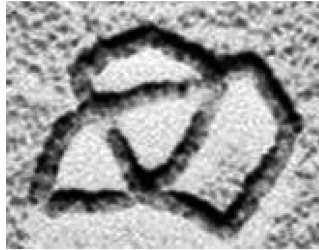
**Institute of Education, London – Wednesday 30<sup>th</sup> June**  
**University of Birmingham – Wednesday 29<sup>th</sup> September**

**Dorothy Buck**

Imperial College, London

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

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



**Matt Parker**

QMUL

***Clutching at Random Straws***

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



**LONDON:** Commences at 7.00 pm, refreshments at 8.00 pm, ends at 9.30 pm.

Admission is free, with ticket. **Apply by 25<sup>th</sup> June.**

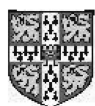
**BIRMINGHAM:** Commences at 6.30 pm, refreshments at 7.30 pm, ends at 9.00.

Admission is free, with ticket. **Apply by 24<sup>th</sup> 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.





UNIVERSITY OF  
CAMBRIDGE

## THE PROFESSORSHIP OF PURE MATHEMATICS

The Board of Electors to the Professorship Pure Mathematics invite applications from persons whose work falls within the general field of Pure Mathematics to take up appointment on 1 September 2011 or as soon as possible thereafter.

Further information is available at: [www.admin.cam.ac.uk/offices/academic/secretary/professorships](http://www.admin.cam.ac.uk/offices/academic/secretary/professorships) or contact the Academic Secretary, University Offices, The Old Schools, Cambridge CB2 1TT (email: [ibise@admin.cam.ac.uk](mailto:ibise@admin.cam.ac.uk)), to whom a letter of application should be sent, together with details of current and future research plans, a *curriculum vitae*, a publications list and form PD18 (parts I and III only) with details of two referees, so as to reach him no later than **4 June 2010**.

Informal enquiries may be made to  
Professor Martin Hyland  
Head of the Department of Pure Mathematics  
and Mathematical Statistics  
tel: +44 1223 337995  
email: [m.hyland@dpmms.cam.ac.uk](mailto:m.hyland@dpmms.cam.ac.uk)



## LONDON MATHEMATICAL SOCIETY MIDLANDS REGIONAL MEETING

**Monday 6 September 2010**

**Chemistry Building C15, University of Nottingham**

Speakers:

**Erik Christensen** (Copenhagen)

**Siegfried Echterhoff** (Münster)

**Mikael Rørdam** (Copenhagen)

Titles and timings to be confirmed.

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

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

There will be a subsequent workshop on *C\*-algebras*, with special emphasis on classification, from 7 to 10 September. Further details will be posted on: [www.maths.nottingham.ac.uk/personal/pmzww/wilhelm\\_winter/LMS\\_Regional\\_Meeting.html](http://www.maths.nottingham.ac.uk/personal/pmzww/wilhelm_winter/LMS_Regional_Meeting.html).

There are funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting and workshop. Requests for support, including an estimate of expenses, may be addressed to the organisers.

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## PROBABILITY, STATISTICS AND ANALYSIS ON GROUPS

A two-day meeting on *Probability, Statistics and Analysis on Groups* organised by Dave Applebaum, will take place at Sheffield University from 9 to 10 June 2010 under the auspices of the Sheffield Mathematics and Statistics Research Centre. Confirmed speakers include:

- Jacques Faraut (Paris)
- Herbert Heyer (Tübingen)
- Niels Jacob (Swansea)

- Peter Jupp (St Andrews)
- Nicolas Le Bihan (Grenoble)
- Mick McCrudden (Manchester)
- Neil O'Connell (Warwick)
- Michael Ruzhansky (Imperial)

The meeting is open to all and intending participants should contact Cheryll Bracey (tel: 0114 2223731, email: [C.Bracey@sheffield.ac.uk](mailto:C.Bracey@sheffield.ac.uk)).

**EPSRC**

The London  
Mathematical  
Society



## COMPUTATIONAL MATHEMATICS & SCIENTIFIC COMPUTING

### LMS–EPSRC Short Course

University of Durham, 25–31 July 2010

Organisers: Dr James Blowey and Dr Max Jensen

#### Course outline and prerequisites

This course will develop the theory, application and solution of approximation techniques when applied to certain classes of Partial Differential Equations. No prior knowledge of Galerkin methods will be assumed. There will be four main series, each with five lectures.

- I. *Finite Element Approximation of Eigenvalue Problems* (Daniele Boffi, Università di Pavia)
- II. *Finite Element Methods for Elliptic Boundary Value Problems* (Susanne Brenner, Louisiana State University)
- III. *Numerical Methods for the Time-Dependent Maxwell System* (Peter Monk, University of Delaware)
- IV. *Finite Element Solution of Problems from Mathematical Biology* (Paolo Zunino, Politecnico di Milano)

For further information and full description of the content see [www.maths.dur.ac.uk/nass](http://www.maths.dur.ac.uk/nass).

#### Application

Applications should be made using the registration form available via the website above.

The closing date for applications is **Monday 31 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.

#### 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 (£210), £310 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 (£420), £670 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.

## USING MAPLE

Adept Scientific will be working with Manchester Metropolitan University (MMU) to deliver a one-day conference on 24 June 2010 that demonstrates how Maple can be used to help deepen students' understanding of a variety of mathematics and technical concepts.

Maple has a 25-year track record of delivering significant teaching benefits to leaders of a wide range of mathematics-based courses at school, college and university level. Maple experts and novices alike will see how this software delivers real results in the classroom environment. The speakers are:

- Surak Perera, Maple Product Specialist, Adept Scientific
- Stephen Lynch, MMU, author of *Dynamical Systems with Applications using Maple* (2nd edn, Birkhäuser, 2009)

Space is limited and registration is required. More information and registration details can be found at [www.docm.mmu.ac.uk/maple\\_maths\\_conference](http://www.docm.mmu.ac.uk/maple_maths_conference).

## COMPUTATIONAL CHALLENGES IN PDEs

A six-month research programme entitled *Computational Challenges in Partial Differential Equations* was held at the Isaac Newton Institute (INI), Cambridge, in 2003. During this programme a number of significant contributions were made in the fields of adaptivity and error control, the construction and mathematical analysis of multiscale numerical algorithms, the approximation of high-dimensional PDEs and the mathematical analysis of numerical algorithms for general PDEs.

Building on the success of this programme, the INI and the Wales Institute of Mathematical and Computational Sciences (WIMCS) are jointly arranging a one-week follow-up meeting on *Computational Challenges in*

*Partial Differential Equations*. The meeting will be held at Swansea University from 4 to 8 April 2011. The organisers are Mark Ainsworth (Strathclyde), Charles Elliott (Warwick), Kenneth Morgan (Swansea) and Endre Süli (Oxford). The meeting will consist of 32 invited presentations in the general areas of multiscale modelling, interface modelling, PDEs on surfaces and geometric evolution problems, biomedical applications, computational rheology, atomistic-to-continuum passage, low-order modelling and uncertainty modelling.

Further information may be obtained at [www.wimcs.ac.uk/INI\\_Meeting.html](http://www.wimcs.ac.uk/INI_Meeting.html).

## LIE POWERS AND RELATED TOPICS

A three-day meeting on *Lie Powers of Group-Modules and Related Topics* will be held at the Mathematical Institute, Oxford, from lunch-time on Monday 24 May to the afternoon of Wednesday 26 May 2010. The session on 24 May will also be a Bristol–Leicester–Oxford Colloquium (BLOC) meeting. Speakers will include:

- Stephen Donkin (University of York)
- Peter Fleischmann (University of Kent)
- Frank Himstedt (Technical University Munich)
- Laci Kovács (Australian National University)
- Athanassios Papistas (University of Thessaloniki)
- James Shank (University of Kent)
- Kai Meng Tan (National University of Singapore)
- Michael Vaughan-Lee (University of Oxford)
- Jie Wu (National University of Singapore)

All are welcome. Further details can be obtained from Karin Erdmann ([erdmann@maths.ox.ac.uk](mailto:erdmann@maths.ox.ac.uk)) or Roger Bryant ([roger.bryant@manchester.ac.uk](mailto:roger.bryant@manchester.ac.uk)). The meeting is part of an EPSRC-funded project; and BLOC is supported by an LMS Scheme 3 grant.

### PDEs AND FLUID MECHANICS

A workshop on *Partial Differential Equations and Fluid Mechanics* will take place at the Warwick Mathematics Institute from 5 to 9 July 2010. This workshop will bring together experts in the rigorous theory of the Navier–Stokes and Euler equations, and will be focused on the analytic and theoretical issues involved with these fundamental mathematical models of fluid dynamics. All are welcome, and some support is available for younger researchers. Confirmed speakers are:

- Claude Bardos (Laboratoire Jacques Louis Lions)
- Michele Bartuccelli (University of Surrey)
- Luigi Berselli (Università di Pisa)
- Alexey Cheskidov (University of Illinois at Chicago)
- Sergei Chernyshenko (Imperial College)
- Peter Constantin (University of Chicago)
- Diego Córdoba (CSIC, Madrid)
- Charles Doering (University of Michigan)
- Charles Fefferman (Princeton University)
- Susan Friedlander (University of Southern California)
- Andrei Fursikov (Moscow State University)
- Isabelle Gallagher (Université Paris VII)
- Thierry Gallay (Université Grenoble I)
- John Gibbon (Imperial College)
- Darryl Holm (Imperial College)
- Robert Kerr (University of Warwick)
- Igor Kukavica (University of Southern California)
- Milton Lopes Filho (Unicamp, São Paulo)
- Josef Málek (Charles University, Prague)
- Helena Nussenzweig Lopes (Unicamp, São Paulo)
- Gregory Seregin (Oxford University)
- Roman Shvydkoy (University of Illinois at Chicago)
- Alexis Vasseur (University of Texas at Austin)

For further information and to register visit the website [www.warwick.ac.uk/go/pdefm10](http://www.warwick.ac.uk/go/pdefm10).

For enquiries contact one of the organisers James Robinson ([j.c.robinson@warwick.ac.uk](mailto:j.c.robinson@warwick.ac.uk)), José Rodrigo ([j.rodrigo@warwick.ac.uk](mailto:j.rodrigo@warwick.ac.uk)) or Witold Sadowski ([W.Sadowski@warwick.ac.uk](mailto:W.Sadowski@warwick.ac.uk)). The workshop is supported by an LMS Conference grant and the EPSRC.

### POSTGRADUATE COMBINATORIAL CONFERENCE

The Postgraduate Combinatorial Conference (PCC) is an established annual conference organised by, and for, current research students in all areas of combinatorial and discrete mathematics, under the auspices of the British Combinatorial Committee. The PCC is mainly aimed at UK-based students, but also open to those from abroad.

This year's PCC will be held at Queen Mary, University of London from 7 to 9 July 2010. The aim of the conference is to allow research students to meet and discuss their research in a relaxed environment, to gain practice at presenting their research outside of their own department, and to meet pre-eminent researchers in their area. Each student is encouraged to contribute by giving a talk which will last 20 minutes (including five minutes question-and-answer time). Invited talks will be given by:

- Peter Cameron (QMUL) *Laplace eigenvalues, electrical circuits, connectedness, and optimal block designs*
- Deryk Osthus (Birmingham) *Hamilton decompositions of graphs and digraphs*
- Jan van den Heuvel (LSE) *Degrees of perfection*
- Søren Riis (QMUL) *title tbc.*

For further details visit the website at [www.pcc2010.co.uk](http://www.pcc2010.co.uk). The conference is funded by an LMS Scheme 8 (Postgraduate Research Conference) grant.

**EPSRC**The London  
Mathematical  
Society**ERGODIC THEORY & ARITHMETIC DYNAMICS****LMS–EPSRC Short Course****Queen Mary, University of London, 25–30 July 2010****Organiser: Professor Franco Vivaldi****Course outline and prerequisites**

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

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

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

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

**Application**

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

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

**Fees**

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

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

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

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

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## 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.

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## WALES MATHEMATICS COLLOQUIUM 2010

The Wales Mathematics Colloquium 2010 will be held at Gregynog Hall, Tregynon, near Newtown, Powys, from 24 to 26 May 2010 (see the March LMS *Newsletter*). The colloquium is supported by the London Mathematical Society and the Gregynog Fund. Fuller information on the programme and details of how to apply can be found at [www.wimcs.ac.uk/gregynog.html](http://www.wimcs.ac.uk/gregynog.html).

## NETWORK DYNAMICS AND SYNCHRONIZATION

A three-day conference on *Network Dynamics and Synchronization* will take place from 17 to 19 May 2010 at the University of Manchester. The conference will look at problems involving the theory of synchronization in network systems, and applications in biology and engineering. There have been major theoretical breakthroughs in this area through the work of Field on the one hand (with the idea of re-patching equivalence) and Golubitsky and Stewart (through balanced colouring). One of the motivations behind this conference is to stimulate the interaction between researchers working on particular applications and those involved in theoretical issues. It is particularly important that graduate students and other younger researchers understand the breadth of the area (if working in applications) or the way applications can stimulate new theoretical questions (if working on theory), and the LMS provides five bursaries (three nights' accommodation and lunch only) for UK graduate student participation. Confirmed invited speakers are:

- M. Aguiar (Oporto, Portugal)
- D. Arrowsmith (QMUL, UK)
- P. Ashwin (Exeter, UK)
- D.S. Broomhead (Manchester, UK)

- M. Field (Houston, Texas, USA)
- C. Grebogi (Aberdeen, UK)
- A.S. Pikovsky (Potsdam, Germany)
- N. Przulj (Imperial College, UK)
- I. Stewart (Warwick, UK)
- M. Thiel (Aberdeen, UK)

For further information visit the website at [www.cicada.manchester.ac.uk/events/NetworkDynamics/index.php](http://www.cicada.manchester.ac.uk/events/NetworkDynamics/index.php) or contact Mrs Helen Harper, CICADA Project Manager (tel: 0161 275 5856, email: [Helen.Harper@manchester.ac.uk](mailto:Helen.Harper@manchester.ac.uk)). The organisers D.S. Broomhead, M. Field, P. Glendinning and M. Muldoon are grateful to the LMS for funding under the LMS Conference grant scheme and to CICADA (funded by EPSRC and the University of Manchester).

## INTERNATIONAL PURE MATHEMATICS CONFERENCE

The 11th International Pure Mathematics Conference 2010 (11th IPMC 2010) is in a series of pure mathematics conferences that take place in Islamabad every year in August. It is a thematic conference on Algebra, Geometry, and Analysis held under the auspices of the Pakistan Mathematical Society. This year the conference will take place from 6 to 8 August 2010 at the National Centre for Physics, Quaid-i-Azam University Campus, Islamabad in the modern, peaceful and beautiful federal capital of Pakistan located at the footsteps of the scenic Margalla Hills. There will be free housing for foreign participants. Some travel grants are available for foreign speakers. Several recreational trips will be organized in and around Islamabad introducing the unique local and multi-ethnic culture. For further information and the on-line registration form visit the website at [www.pmc.org.pk](http://www.pmc.org.pk).

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## CLASSICAL & QUANTUM INTEGRABLE MODELS

### LMS–EPSRC Short Course

University of Kent, 18–23 July 2010

Organiser: Dr Andrew Hone

#### Course outline and prerequisites

The problem of integrating differential equations goes back to the origins of classical mechanics. Nowadays integrable systems not only constitute a core part of mathematical physics, but also have deep connections with many aspects of modern algebra, geometry and quantum field theory. The school will introduce the main concepts and methods in integrable systems, as well as some current research areas where these methods are being further developed and applied. The school will be accessible to first year PhD students in mathematics, and also to beginning graduate students in theoretical physics who require techniques for exactly solvable models. There will be three lecture courses of five lectures each, as follows:

- I. *Classical and quantum integrable systems* (Evgeni Sklyanin, York)
- II. *Hamiltonian approach to integrable discretization* (Yuri Suris, TU Berlin)
- III. *Quantum integrability, braid groups and quantum algebras* (Anastasia Doikou, Patras)

The lectures will be supported by examples classes, and there will be guest lectures by Ed Corrigan (Durham), Masatoshi Noumi (Kobe) and Sasha Veselov (Loughborough).

For further information see [www.kent.ac.uk/lms/personal/tcd/webpages/lms/index.html](http://www.kent.ac.uk/lms/personal/tcd/webpages/lms/index.html).

#### Application

Applications should be made using the registration form available via the Society's website at: [www.lms.ac.uk/activities/rmc/sc/52poster.html](http://www.lms.ac.uk/activities/rmc/sc/52poster.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.

The fees charged will cover all meals and accommodation during the course. All participants must pay their own travel costs. 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.



## RIGIDITY OF FRAMEWORKS AND APPLICATIONS

A workshop on the *Rigidity of Frameworks and Applications* will take place from 12 to 15 July 2010 at Lancaster University. The theory of bar-joint frameworks and related constraint systems of geometric objects forms a broad mathematical subject which makes use of diverse techniques drawn from combinatorics and matroid theory, from commutative algebra and algebraic geometry and from analysis. Additionally there are significant applications in engineering, material science and CAD software development. Recent scientific meetings have shown increased vitality in the area as have a number of recent developments, such as:

- (i) the resolution of the molecular conjecture,
- (ii) stress matrix characterisations of global rigidity, and
- (iii) group-representation and operator-theory methods for symmetric frameworks and infinite frameworks.

The meeting will bring together leading international researchers, new researchers and young researchers for scientific exchange and collaboration. Amongst the expected principle participants are:

- Bob Connelly (Cornell)
- Walter Whiteley (York University, Toronto)
- Martin Dove (Cambridge)
- Patrick Fowler (Sheffield)
- Tibor Jordan (ELTE, Budapest)
- Katoh Naoki (Kyoto University)
- Shin-ichi Tanigawa (Kyoto University)

Anyone interested is welcome to attend. The meeting is supported by an LMS Conference grant and there is some funding available for postgraduate students. For further details visit [www.maths.lancs.ac.uk/~power/LancRigidFrameworks.htm](http://www.maths.lancs.ac.uk/~power/LancRigidFrameworks.htm) or contact Bill Jackson ([b.jackson@qmul.ac.uk](mailto:b.jackson@qmul.ac.uk)) or Stephen Power ([s.power@lancaster.ac.uk](mailto:s.power@lancaster.ac.uk)).



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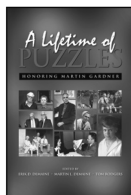
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### In Honor of Martin Gardner



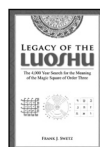
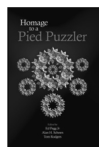
*"This . . . is a lovely tribute to Martin Gardner, the great magician, entertainer, and father of modern recreational mathematics. It will bring many happy moments to the readers keen on exploring connections between puzzles, magic, and mathematics."*

—Zentralblatt MATH

*"The personalized articles are wonderfully done and give the reader insight into Gardner's inquisitive nature..."*

—MAA Reviews

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(left to right) Professor Angus Macintyre, Professor Keith Moffatt and Mrs Johanna Crighton

## DAVID CRIGHTON 2009 MEDAL AWARD LECTURE

The Presidents of the London Mathematical Society and the Institute of Mathematics and its Applications presented Professor Keith Moffatt with his David Crighton medal in an event held at the Royal Society in March.

Professor Moffatt delivered a fascinating lecture entitled *The problem of turbulence: child's play?* in which he explored three classical children's toys (the tippy top, Euler's disk and the celt), each with somewhat counter-intuitive behaviour. His thesis was that these simple mechanical toys can provide insights into aspects of fluid-dynamical behaviour encountered in theories of turbulence, and he went on to explain how the persistence of spin, chirality, dissipative instability, finite-time singularities and their resolution all contributed to the toys' behaviour.

The David Crighton Medal award was instituted in 2002 by the Institute of Mathematics

and its Applications (IMA) and the London Mathematical Society (LMS) in memory of Professor David George Crighton FRS. The Award is made triennially by the Councils of the Institute and the Society, with the first award made in 2003. The silver-gilt medal is awarded to a mathematician who is normally resident in the mathematical community represented by the two organisations for services both to mathematics and to the mathematical community – and Professor Moffatt amply fits both sets of criteria.

An internationally respected mathematician whose work revolutionised fluid mechanics, Professor Moffatt's seminal works include his creation of the new sub-discipline of topological fluid mechanics, in which he used fundamental notions from topology to shed light on the dynamics of turbulent flow; his discovery of unsteady circulatory motion

in low-Reynolds number corner flow (the so-called Moffatt eddies); and in magneto-hydrodynamics, in which he elucidated the interaction between fluid turbulence and magnetic fields.

Professor Moffatt has also made an immense contribution to the mathematics community. His highly successful tenure as Director of the Isaac Newton Institute (INI) in Cambridge has had a major impact on both UK and international mathematics. Professor Moffatt has also given many years of outstanding service to the International Union of Theoretical and Applied Mechanics (IUTAM), including a period as President 2000–2004. Beyond these contributions he is active in helping to build capacity for mathematical research in developing nations, and has been a long-term champion of the African Institute of Mathematical Sciences in Cape Town.

The event was attended by Johanna Crighton. All tickets for the event were taken, with members of both societies attending as well as invited guests from government, industry, education and kindred professional and learned associations. Professor Moffatt's lecture was followed by a reception.

Caroline Davis  
Mathematics Promotion Officer

## REVIEWS

**The Abel Prize 2003–2007: The First Five Years** edited by Helge Holden and Ragni Piene, 2010, Springer, 327 pp, £58.99, US\$89.95 with DVD, ISBN 978-3-642-01372-0.

The Abel prize was established by the Norwegian government in 2002, the bicentenary of Abel's birth, to recognise outstanding scientific work in the field of mathematics. Since then it has been awarded annually, and this book

surveys the first five years.

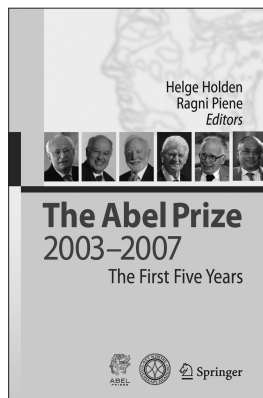
The volume under review presents the winners of the first five prizes, together with a brief history of the prize and a very short biographical sketch of Selberg, the first, honorary, laureate. There is a short autobiographical piece by each laureate, followed by a more extensive review of their work. Included with the book is a DVD of interviews carried out with the laureates when their prizes were awarded.

The writers of the various overviews of the prize-winners' work have been set a difficult task. Each presents in some detail the main achievements of the respective laureates, while endeavouring to give an overview suitable for a general mathematical audience. In general I think they have been very successful, and the resulting essays provide a rewarding insight into the respective fields.

The first and longest review, by Pilar Bayer, is of the work of Serre. It is also the most ambitious, as it attempts in 55 pages to survey almost all 285 publications. Unfortunately this does mean that in places the material turns into little more than a list of topics, with classic works such as FAC (faisceaux algébriques cohérent) reduced to a few short lines. On the other hand, the reader soon appreciates the range and power of Serre's work across a number of fields.

The second review, by Nigel Hitchin, surveys the background to the Atiyah–Singer index theorem and some of its many applications. This leads the reader gently but rapidly from the definition of an index, through the various geometric ideas needed and then on to various versions of the index theorem in different contexts.

The remaining reviews are shorter, and cover selected highlights of the respective laureates' work. Helge Holden and Peter Sarnak review the contributions of Lax, particularly to partial differential equations, integrable systems, and scattering theory. Tom Körner discusses Carleson's contributions



# THE LONDON MATHEMATICAL SOCIETY

## NEWSLETTER

to modern analysis (particularly the proof of Lusin's conjecture), and this essay is noteworthy both for being aimed (in part) at a general audience and also containing some actual proofs! Finally, Terry Lyons discusses Varadhan's work in stochastic analysis. Each of these essays provides the reader with a flavour of the respective disciplines, and of the distinctive contribution of the various laureates.

The short autobiographical pieces by the various laureates are each of interest, but still more rewarding are the lengthy interviews included on the accompanying DVD. The majority of these were shown on Norwegian TV, and the interviewers (both mathematicians) and interviewees do an excellent job at balancing technical precision with the demands of a general audience.

This volume is intended to be the first of a series; if the rest reach the same high standard then they will provide a rich survey of a broad range of modern mathematics.

Anton Cox  
City University

**Homage to a Pied Puzzler** edited by Ed Pegg Jr, Alan H. Schoen, Tom Rodgers, 2009, A.K. Peters, 318 pp, £39.50, US\$49.00, ISBN 978-1-56881-315-8.

This book is a collection of articles from the seventh *Gathering for Gardner*, an annual conference for mathematicians and magicians in memory of Martin Gardner. It is split into four main parts. The first part is in memory of Jay Marshall, a magician and comic made famous during World War II. It tells the story of his life through anecdotes, and is a thoroughly enjoyable read, even for those that have never heard of him.

The second part is about Sam Loyd, to whom were attributed many mathematical puzzles in the late 1880s. It is mostly a denouncement of his claims to have invented the 15 Puzzle – the shifting squares labelled 1 to 15 in a 4x4 square – but also tells the interesting story of the craze ten years earlier, and applauds him for being a major

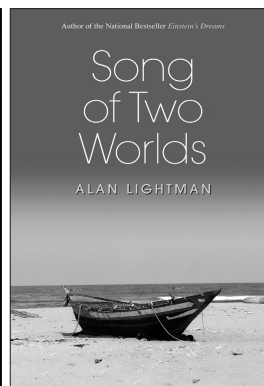
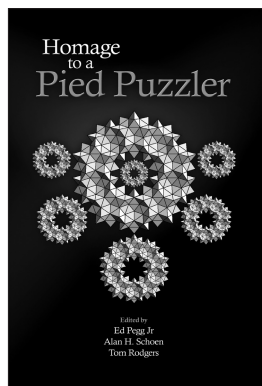
player in bringing mathematical puzzles to the general populace.

The third part is a collection of articles loosely related to the number 7. It is much more mathematical in flavour and seems a bit disjointed from the rest of the book, as can be expected from a conference proceedings. However, it does contain an article teaching you how to knit a 7-coloured torus!

The final section tells the stories of how various mathematical games were invented, and if you are a fan of them gives many that you might not have heard of before. This section makes the book, and whether you are interested in puzzles, origami or card tricks, it has them all. It also has a couple of articles from the inventors of games, which give great insight into how they come up with their ideas. Finally, it contains various changes to well-known games like *Conway's Game of Life*, the *Knight's Tour* and coverings of boards with polyominoes.

This is a good read for anyone of a combinatorial persuasion. The third section is difficult for anyone without a reasonable knowledge of the area, but the rest of the book is easily accessible to anyone, even those who haven't studied but are interested in mathematical games. So, if you are bored with doing Sudoku and fancy reading about games of a similar ilk, then this is the book for you.

Simon Craik  
University of St Andrews



**Song of Two Worlds** by Alan Lightman, A.K. Peters, 2009, 112 pp, £19.50, US\$24.95, ISBN 978-1-56881-463-6.

Alan Lightman may be tired of the label 'physicist and novelist' since it might subtly suggest that this dual expertise makes his literary work more interesting than it otherwise would have been! In fact his writing is able to stand on its own merits, and his novels *Einstein's Dreams* and *The Diagnosis* have been highly praised. In his new book *Song of Two Worlds* he ventures into poetry to describe a search for 'something to believe in'. In this search, a narrator is guided on a "Dante-like journey", first by scientists such as Darwin and Newton and later by Lao-Tsu, Rembrandt and Omar Khayyam. This is an ambitious undertaking, especially for (what appears to be) the author's first poetry publication.

The book begins with an un-named protagonist finding himself suddenly moved to re-examine his life, both to confront past tragedies and failings and also to look for meaning. We overhear his thoughts as he uses his scientific skill to interrogate the mechanisms of the cosmos and the workings of his own body. When he reaches the limits of scientific 'questions with answers' he turns to 'questions without answers' which must be explored by faith, art or philosophy. Alongside rehearsals of insights by great thinkers and teachers we also get glimpses of the narrator's relationship with an old and loyal servant. This weaving of the lofty with the human and mundane is one of the more effective aspects of the book.

As a narrative of introspection, the book is partially successful: but it falls short of its own ambitions. Unlike Dante (with whom comparison is boldly invited!), the narrator does not converse with his guides. The insights of Newton, Khayyam and the rest are faithfully paraphrased so we can marvel at the physical and imaginative worlds they illuminate. But lack of dialogue with the narrator detracts from any sense of engagement with the quest supposed to be taking place. The narrator

endlessly asks himself questions – but these remain too vague and inconclusive. Vagueness emerges in overuse of words like 'some' or 'something', and inconclusiveness appears in a tendency merely to lay out several possible explanations for various events, without risking commitment to any one of them.

Since the author has chosen to attempt poetry, it is fair to ask if he has succeeded. There are some pleasing lines: "Bang goes the clock in the hall / clamping the air, slicing the hours ..."; "desert unfolds like a roll of brown paper"; "...olive trees hunched / like a throng of old men"; and there are passages where the free verse generates rhythmic energy. But, on the whole, strong concrete images are rare among rather clipped and list-like conceptual descriptions. And how is poetry – which should be capable of being read aloud – served by quoting the first 786 digits of  $\pi$  or half a page of DNA codes?

As I.A. Richards implies in the classic *Science and Poetry* (Norton, 1926), accurate description of something wonderful need not make wonderful poetry. The art of the poet is in saying something non-technical and imprecise that conveys unexpected truths. Lightman fills 26 dense lines with the technicalities of vision: but see what the poet Alice Major does with one scientific fact in three lines:

"We could not see without our tears.

They smooth their film across the eyes'  
irregularities, a constant mending..."

These lines (from *Memory's Daughter*, University of Alberta Press, 2010) show how poetry can say much more by economy and focus than by heaping up detail. As a poem, *Song of Two Worlds* gives too much information too explicitly, rather than leaving room for readers to fill in emotional details of their own.

Michael Bartholomew-Biggs

Michael is a retired mathematician and non-retired poet. He has blended mathematics and poetry in *Uneasy Relations* (Hearing Eye, 2007) and his most recent collection is *Tradesman's Exit* (Shoestring Press, 2009). Find out more at [poetrypf.co.uk](http://poetrypf.co.uk).

### CALENDAR OF EVENTS

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

#### MAY 2010

- 4 *Indra's Pearls: Geometry and Symmetry*, LMS–Gresham College Lecture, London (391)
- 7 Ergodic Theory Meeting, Surrey (391)
- 10–14 Numerical Solution of the Painlevé Equations ICMS Workshop, Edinburgh (386)
- 16–22 Algebraic Methods in Dynamical Systems Conference, Będlewo, Poland (389)
- 17 **Noncommutative Geometry and Physics Spitalfields Day, Cardiff (392)**
- 17–19 Network Dynamics and Synchronization Conference, Manchester (392)
- 19 Stochastic Differential Equations Workshop, Swansea (391)
- 19–20 Combinatorics Colloquia, London (392)
- 23–28 Sheaves in Representation Theory Workshop, Skye (392)
- 24–26 Wales Mathematics Colloquium 2010, Gregynog (392)
- 24–26 Lie Powers of Group-Modules and Related Topics Meeting, Oxford (392)
- 24–28 Uncertainty Quantification ICMS Workshop, Edinburgh (386)
- 27–29 Banach Algebra and Operator Space Techniques in Topological Group Theory Conference I, Leeds (391)
- 29 Bill Morton's 80th Birthday Conference, Oxford (391)

#### JUNE 2010

- 1–4 Emerging Problems in Nonlinear Analysis and Differential Equations Meeting, Glasgow (392)
- 7–11 Functional Analysis Meeting, Valencia, Spain (388)
- 8–9 How to Talk Maths in Public, Manchester (392)
- 9–10 Probability, Statistics and Analysis on Groups Meeting, Sheffield (392)
- 14–18 Hodge-theoretic Reflections on the String Landscape ICMS Workshop, Edinburgh (386)
- 18 **LMS Hardy Lecture, Edinburgh (392)**
- 20–22 Geometry and Topology Conference, Durham (388)
- 21 **LMS South-West and South Wales Regional Meeting, Cardiff**
- 21–24 Mathematical Billiards and their Applications Conference, Bristol (391)
- 21–25 Operator Algebras and Physics Workshop, Cardiff (392)
- 22 **LMS Hardy Lecture, Leeds (392)**
- 22–25 Group Representation Theory and Related Topics Conference, Lausanne, Switzerland (386)
- 22–25 Mathematical Challenges and Modelling of Hydroelasticity ICMS Workshop, Edinburgh (386)
- 24 Using Maple Conference, Manchester (392)
- 28 **LMS Hardy Lecture, Oxford (392)**
- 28–29 Wiener–Hopf Technique and its Applications Workshop, Aberystwyth (392)
- 28–30 Banach Algebra and Operator Space Techniques in Topological Group Theory Conference II, Leeds (391)
- 28–30 Postgraduate Group Theory Conference, St Andrews (391)
- 30 **LMS Popular Lectures, London (392)**



**JULY 2010**

- 2 LMS Meeting, Hardy Lecture, London (392)**  
**5-9** Symplectic Geometry and Transformation Groups ICMS Workshop, Edinburgh (386)  
**5-9** Partial Differential Equations and Fluid Mechanics Workshop, Warwick (392)  
**5-15** Numerical Analysis of Multiscale Problems EPSRC–LMS Durham Research Symposium, Durham (391)  
**6-8** Individual and Collective Fluid Mechanics of Swimming Microorganisms Conference, Glasgow (391)  
**7-9** Postgraduate Combinatorial Conference, London (392)  
**12-13** Reconstructing and Understanding Climate Change over the Last Few Millennia and the Holocene ICMS Workshop, Edinburgh (386)  
**12-15** Rigidity of Frameworks and Applications Workshop, Lancaster (392)  
**18-23** Model Theory, LMS–EPSRC Short Course, Leeds (392)  
**18-23** Classical & Quantum Integrable Models, LMS–EPSRC Short Course, Kent (392)  
**18-25** Non-Perturbative Techniques in Field Theory EPSRC–LMS Durham Research Symposium, Durham (391)  
**19-20** Mathematics and the Arts, Paris, France (388)  
**24-30** 17th IMC for University Students, Blagoevgrad, Bulgaria (391)  
**25-30** Ergodic Theory & Arithmetic Dynamics LMS–EPSRC Short Course, London (392)  
**25-31** Computational Mathematics & Scientific Computing LMS–EPSRC Short Course, Durham (392)  
**26-28** Combinatorial Algorithms Workshop, King's College London (390)  
**26-30** Group-Theoretical Methods in Physics Colloquium, Northumbria (390)

**AUGUST 2010**

- 6-8** International Pure Mathematics Conference (392)  
**17-18** International Conference of Women Mathematicians 2010, Hyderabad, India (391)  
**19-27** International Congress of Mathematicians 2010, Hyderabad, India (386)

**SEPTEMBER 2010**

- 6 LMS Midlands Regional Meeting, Nottingham (392)**  
**6-8** British Topology Meeting, Oxford (391)  
**6-10** Multivariate Approximation and Interpolation with Applications ICMS Workshop, Edinburgh (386)  
**7-10**  $C^*$ -algebras Workshop, Nottingham (392)  
**12-17** Highly Oscillatory Problems: From Theory to Applications, INI, Cambridge (389)  
**29 LMS Popular Lectures, Birmingham (392)**

**NOVEMBER 2010**

- 19 LMS Annual General Meeting, Naylor Lecture, London**

**DECEMBER 2010**

- 6-10** Australian Statistical Conference 2010, Fremantle, Australia (383)

**APRIL 2011**

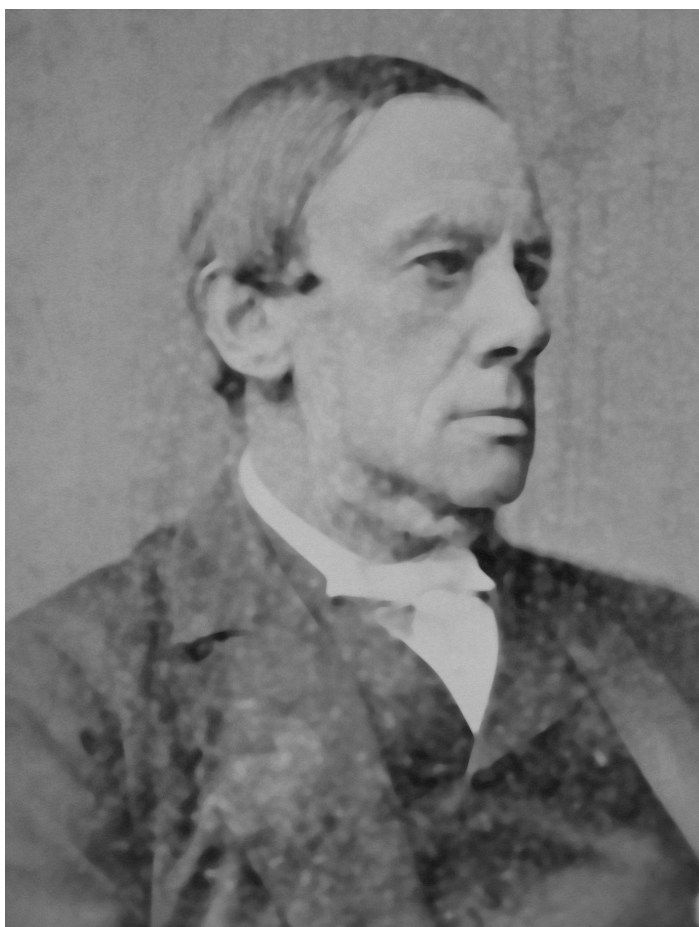
- 4-8** Computational Challenges in Partial Differential Equations Meeting, Swansea (392)

**JULY 2011**

- 18-22** ICIAM 2011, Vancouver, Canada (388)  
**25-29** Oscillatory Integrals in Harmonic Analysis ICMS Workshop, Edinburgh (386)

## B. PRICE

LMS member 1866–1898



Barraud & Jerrard, London

Rev. Bartholomew Price, DD, FRS, FRAS, Hon FCPS  
Member of LMS Council 1867  
Master of Pembroke College, Oxford  
Member of the Physical Society  
Member of the Société Mathématique de France  
Canon of Gloucester Cathedral  
Honorary Fellow of Queen's College, Oxford  
Sedleian Professor of Natural Philosophy, University of Oxford  
Curator of the Bodleian Library