

### Forthcoming Society Meetings

#### 2005

##### London

Annual General  
Meeting  
B. Totaro  
F.C. Kirwan  
[page 3]

#### 2006

##### Friday 10 February

London  
G. Segal  
U. Tillmann  
(Mary Cartwright  
Lecture)  
[page 27]

##### Monday 15 May

Leicester  
Midlands Regional  
Meeting  
M. Bridson  
A. Goncharov  
A. Zelevinsky

##### Friday 16 June

London  
Yu Manin  
(Hardy Lecture)

##### Friday 3 July

Leeds  
Northern Regional  
Meeting  
U. Haagerup  
N. Kalton

### WHAT HAPPENS AT YOUR AGM?

The Annual General Meeting of the London Mathematical Society will take place on Friday 18 November 2005 at 3.15pm in the Chemistry Auditorium, University College London. At the AGM the following events will happen:

Members bringing their ballot papers will have a last opportunity to vote.

The Society's Treasurer, Professor N.M.J. Woodhouse, will present his report on the past year and invite questions.

A list of nominations for election to membership to the Society will be submitted for approval by the meeting.

Any member present who has paid their first subscription and not yet been admitted to the Society will have the opportunity to sign the Membership Book which dates back to the origin of the Society in 1865.

The LMS President, Professor F.C. Kirwan, will present certificates to the 2005 Prizewinners. The Society 2005 Prizewinners were announced at the June Society meeting and published in the July *Newsletter*.

Professor Burt Totaro, the first of two speakers at the Society Meeting, will give a talk on *Dividing sheep from goats*:

*applications of the idea of 'stability' from geometric invariant theory.*

Following the adjournment for tea, Dr D.J. Collins, the scrutineer, will declare the results of the ballot.

The newly-elected President will take the Chair and invite Professor Frances Kirwan to give her Presidential Address entitled *Yang-Mills theory and Tamagawa numbers: the fascination of unexpected links in mathematics*.

The AGM will be followed by a reception at De Morgan House for those members attending the Annual Dinner at The Montague Hotel at 7.30 pm. The cost of the Annual Dinner is £36.00 per person and members may book places for guests. The booking form, enclosed with the October *Newsletter*, should be returned together with payment to the London Mathematical Society office by **Monday 14 November**.

### EPSRC-FUNDED STUDENTS AND LMS MEMBERSHIP

The LMS is one of several learned societies that are taking part in a scheme with EPSRC to offer 'free' membership to EPSRC-funded students. Under this scheme

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EPSRC will meet the costs of students' subscriptions (but not journals) for up to five years.

Students will benefit from free membership of the Society and consequently enjoy access to a range of services that will benefit their further professional development. In particular, participation in events (conferences, networks, etc) and keeping more closely in touch with activities in the mathematics community.

The EPSRC hopes this will strengthen links with the students it sponsors and enable it to conduct a long-term evaluation of how its students have developed their careers beyond their first destinations. The LMS and EPSRC will also benefit from closer collaboration.

Further details of the scheme are available on the EPSRC website ([www.epsrc.ac.uk](http://www.epsrc.ac.uk)). The membership application form for the Society has an additional section to obtain the information required. Email membership @lms.ac.uk for an application form or download one from the LMS website ([www.lms.ac.uk/contact/membership.html](http://www.lms.ac.uk/contact/membership.html)).

Members are encouraged to make their students aware of, and sign up, for this scheme. Enquiries should be directed to Peter Cooper at the Society ([cooper@lms.ac.uk](mailto:cooper@lms.ac.uk)).

## INVITATION TO WRITE ... VISIONS OF THE FUTURE

Leading young scientists, world-wide, are invited to contribute to the 2006 Royal Society's Christmas issue of *Phil. Trans. R. Soc. A*. This is the world's longest running scientific journal, and all issues, from 1665, are archived electronically by JSTOR in the USA ([www.jstor.org](http://www.jstor.org)), accessible through university libraries.

The 2006 issue will be devoted to Mathematics & Physics. Any young scientist (with less than 12 years' post doctoral experience) who wishes to contribute should send an email now to the editor, Michael Thompson ([jmtt2@damtp.cam.ac.uk](mailto:jmtt2@damtp.cam.ac.uk)). This should contain a one-page abstract and a short CV. Abstracts will be assessed in mid November 2005, and successful candidates will be asked to submit a paper by February 2006.

Authors should present some cutting edge research, put it into a wider context, and look forward to new developments. Articles should be timely, topical, and written for a general scientific audience.

They should be well-illustrated, and detailed mathematics should be kept to a minimum. All will be refereed against these criteria.

The best articles in the Christmas issue will be considered for inclusion in the new *Royal Society Series on Advances in Science*. The first book in this series, entitled *Advances in Astronomy: from Big Bang to the Solar System* (ed. J.M.T. Thompson) will appear shortly, published by ImperialCollege Press. For more details of the Christmas series see [www.pubs.royalsoc.ac.uk/philtransa](http://www.pubs.royalsoc.ac.uk/philtransa).

## MENTORING AFRICAN RESEARCH IN MATHEMATICS: CALL FOR PROSPECTIVE MENTORS

The Nuffield Foundation has recently awarded a grant of £105,000 for a two-year pilot project to support mathematics and its teaching in the Anglophone countries of sub-Saharan Africa. The grant has been awarded jointly to the London Mathematical Society (LMS), the International Mathematical Union (IMU) ([www.mathunion.org](http://www.mathunion.org)), and the African Mathematics Millennium Science Initiative (AMMSI) ([www.ammsi-maths.org](http://www.ammsi-maths.org)).

This project is designed to counter the mathematics 'brain-drain' from sub-Saharan Africa by supporting qualified mathematics professionals *in situ*. Continuing professional links to a centre in the developed world, professional mentoring, and the opportunity for periodic research travel will contribute to the possibility and relative attractiveness of contributing one's mathematical expertise at home rather than moving permanently to the developed world.

AMMSI focuses on building infrastructure and networking in mathematics in sub-Saharan Africa. It offers postgraduate scholarships, visiting lectureships, and conference support for the benefit of advanced students and young researchers in the mathematical sciences.

This project proposes to pilot a mentoring relationship between mathematicians in the UK and African colleagues, together with their students. It focuses on cultivating longer-term mentoring relations between individual mathematicians and students. Rather than simply supporting mathematics conferences and workshops in Anglophone countries in which mathematicians from the UK participate, this project will concentrate on the creation of joint research projects between UK mathematicians, their colleagues in sub-Saharan Africa, and doctoral students of those colleagues. During the two-year project period the aim is to create five mentoring collaborations in mathematical research and two in mathematics education.

We are looking for UK mathematicians interested in being part of these mentoring collaborations. We welcome expressions of interest from those with no prior experience of collaborating with research workers in Africa, as well as from those with existing links with African research.

We will expect a willingness to make at least one short visit to Africa and to host a short visit from Africa, as well as a commitment to a continuing mentoring responsibility.

The trustees will evaluate the success of the collaborations by asking the following questions:

- For research collaborations, has the research collaboration resulted in a mathematical publication in a research mathematics journal of international standing? Or has the collaboration produced an MSc or PhD thesis?
- For a mathematics education collaboration, has it produced publishable resource materials for teachers? Or has a mathematics-based professional development programme been sufficiently successful to be replicated elsewhere and/or to attract outside funding?

The deadline for the receipt of these expressions of interest is **31 December 2005**; they should be sent to: Dr Stephen Huggett, The London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS, to whom queries may also be addressed.

### LMS Newsletter

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Items and advertisements by first day of the month prior to publication.

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## FACES COMPETITION 2006

How many faces do you recognise on the front cover of this year's Publications catalogue (enclosed with this mailing of the *Newsletter*)? All of the people are connected to mathematics or the LMS in some way or another. CUP has kindly donated a prize of your choice of 10 books from the Lecture Notes and Student Texts, to whoever can come up with correct identifications to the largest number of people. Further details of the competition can be found on the back cover of the catalogue.

Group applications are welcome – get together at lunchtime and play spot the mathematician!

Most of these concern the design of the application forms or details of the ways in which we present the guidelines for the grants, with the intention of clarifying our requirements and procedures. As always, however, we would welcome comments from our applicants and grant holders on whether we have achieved this!

We have also made two bigger changes. First, under Scheme 1 (conference grants) we have now restored the maximum to £5,000, by restoring the maximum basic grant (primarily intended for speakers) to £3,000. However, please note that it is still the case that the Programme Committee's budget is under pressure, and we are not always able to make awards as often or as fully as we would like.

Second, we will be discontinuing Scheme 6 at the end of August 2006, as there has been very little demand for it.

It may be that our current schemes are inadvertently excluding potentially valuable modes of support. Programme Committee would very much welcome suggestions for changes or additions to the schemes.

Stephen Huggett  
Programme Secretary

## LMS PROGRAMME COMMITTEE

**Small adjustments to the grant schemes**  
At its September meeting, Programme Committee reviewed all of its grant schemes and proposed a number of small adjustments, which have since been agreed by Council. These changes will be implemented over the next month or so.

Programme Committee has awarded grants to support the following conferences and meetings. These are open to all members. If you wish to attend, or would like more information, please contact the organiser.

Date/Venue	Title	Organiser/email
16-17 December 2005 Leeds	Sklyanin Algebras and Beyond	V.B. Kuznetsov v.b.kuznetsov@leeds.ac.uk
4-5 January 2006 Reading	A Meeting in Memory of Professor Andy King	J. Billingham john.billingham@nottingham.ac.uk
9-10 January 2006 Warwick	Mathematics of Biomolecules	F. Theil theil@maths.warwick.ac.uk
30 June – 5 July 2006 Swansea	Computability in Europe 2006: Logical Approaches to Computational Barriers	A. Beckmann a.beckmann@swansea.ac.uk

## LONDON MATHEMATICAL SOCIETY

### Annual General Meeting

Friday 18 November 2005

3.15 – 3.30 Annual General Meeting

3.30 – 4.30 Professor B. Totaro (Cambridge)  
*Dividing sheep from goats: applications of the idea of 'stability' from geometric invariant theory*

4.30 – 5.00 Tea

5.00 – 6.00 Professor F.C. Kirwan FRS (Oxford)  
**Presidential Address**  
*Yang-Mills theory and Tamagawa numbers: the fascination of unexpected links in mathematics*

The meeting will be held in the Chemistry Auditorium, Christopher Ingold Building, University College London, 20 Gordon Street, London WC1. Please note the early start.

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting. Requests for support, including an estimate of expenses, may be addressed to the Programme Secretary at the Society (web: [www.lms.ac.uk](http://www.lms.ac.uk); email: [grants@lms.ac.uk](mailto:grants@lms.ac.uk)).

The meeting will be followed by the Annual Dinner. For further details see the announcement in this *Newsletter*. All enquiries may be addressed to Susan Oakes (tel: 020 7637 3686, email: [oakes@lms.ac.uk](mailto:oakes@lms.ac.uk)).

## THE ABEL PRIZE 2006

### Call for Nominations

The Norwegian Academy of Science and Letters is calling for nominations of candidates for the Abel Prize 2006. The Abel Prize, which was awarded for the first time in 2003, amounts to NOK 6 million (approximately €750,000). It is an international prize for outstanding scientific work in the field of mathematics, including mathematical aspects of computer science, mathematical physics, probability, numerical analysis and scientific computing, statistics, and also applications of mathematics in the sciences.

The prize is to recognize contributions to mathematics and its applications of extraordinary depth and influence. Such work may have resolved fundamental problems, created powerful new techniques, introduced unifying principles or opened up major new areas. The intent is to award prizes over the course of time in a wide range of areas of mathematics and its applications.

The Abel Committee will submit a recommendation of a candidate for the Abel Prize to the Norwegian Academy of Science and Letters, which will select the Abel laureate on the basis of this recommendation. The name of the Abel laureate will be announced on 23 March 2006.

The nomination letter should contain a CV and a description of the candidate's work, together with names of distinguished specialists in the field of the nominee who can be contacted for independent opinion. The letter should be sent, no later than **15 November 2005**, to The Norwegian Academy of Science and Letters, Drammensveien 78, NO-0271 Oslo, Norway. It is possible to nominate candidates by using the online submission form. For further information visit the website [www.abelprisen.no](http://www.abelprisen.no).

## HOMOTOPY THEORY CONFERENCE

A short homotopy theory conference will take place at the University of Sheffield on 11-14 January 2006. The conference is partly supported by an LMS conference grant. The first talk of the conference will start at 2:00 on Wednesday 11 January and end at lunchtime on Saturday 14 January. Details of the programme will be announced nearer the time. The following people have provisionally accepted invitations to speak.

- Matthew Ando (Urbana-Champaign)
- Dave Benson (Aberdeen)
- Bob Bruner (Wayne State)
- Natàlia Castellana (Barcelona)
- Hans-Werner Henn (Strasbourg)
- Kathryn Hess (Lausanne)
- Rick Jardine (Western Ontario)
- Michael Joachim (Münster)
- Nick Kuhn (Virginia)
- Gerd Laures (Bochum)
- Holger Reich (Münster)
- Charles Rezk (Urbana-Champaign)
- John Rognes (Oslo)
- Ulrike Tillmann (Oxford)
- Steve Wilson (Johns Hopkins)

For further information contact the organisers John Greenlees, Neil Strickland, Sarah Whitehouse or visit [www.shef.ac.uk/personal/p/pm1saw/SHM-C.htm](http://www.shef.ac.uk/personal/p/pm1saw/SHM-C.htm).

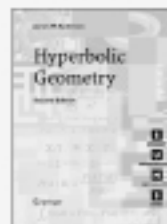
## VISIT OF H.V. DEDANIA

Dr Haresh V. Dedania (Reader in Mathematics, Sardar Patel University, India) is visiting the School of Mathematics, University of Leeds, until mid-July. His interests are in the areas of Banach Algebras and Harmonic Analysis. The latter part of his visit is supported by an LMS Scheme 5 grant. You can contact Haresh at [pmtvd@maths.leeds.ac.uk](mailto:pmtvd@maths.leeds.ac.uk).



[springeronline.com](http://springeronline.com)

## The SUMS of Mathematical Teaching



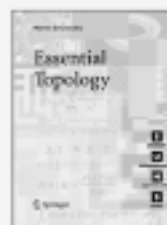
### Hyperbolic Geometry

J. W. Anderson, University of Southampton, UK

Praise for the first edition ► ... *The textbook is a good and useful*

*introduction to hyperbolic geometry, and can be recommended for undergraduate courses.*  
► Newsletter of the EMS, Issue 41, December 2001

2nd ed. 2005. XII, 276 p. 21 illus. (Springer Undergraduate Mathematics Series) Softcover  
ISBN 1-85233-934-9 ► € 29,95 | £ 19,95



### Essential Topology

M. D. Crossley, University of Wales Swansea, UK

This thoroughly modern introduction to undergraduate topology brings the most exciting and useful aspects of modern topology to the reader.

2005. X, 224 p. 110 illus. (Springer Undergraduate Mathematics Series) Softcover  
ISBN 1-85233-782-6 ► € 29,95 | £ 19,95

### Calculus of One Variable

K. E. Hirst, University of Southampton, UK

Understanding the techniques and applications of calculus is at the heart of mathematics, science and engineering. This book presents the key topics of introductory calculus through an extensive, well-chosen collection of worked examples.

2006. XII, 268 p. 72 illus. (Springer Undergraduate Mathematics Series) Softcover  
ISBN 1-85233-940-3 ► € 29,95 | £ 16,95

### Fields and Galois Theory

J. M. Howie, University of St Andrews, UK

This book provides a gentle introduction to Galois theory suitable for third- and fourth-year undergraduates and beginning graduates. The approach is unashamedly unhistorical: it uses the language and techniques of abstract algebra to express complex arguments in contemporary terms.

2006. Approx. 240 p. 22 illus. (Springer Undergraduate Mathematics Series) Softcover  
ISBN 1-85233-986-1 ► € 34,95 | £ 19,95

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# Mathematics with Birkhäuser



**Knapp, A.W.**, State University of New York at Stony Brook, USA

## Basic Real Analysis

2005. 680 pages. Hardcover  
€ 58.– / CHF 92.–  
ISBN 0-8176-3250-6  
Comenstones

## Advanced Real Analysis

2005. 496 pages. Hardcover  
€ 48.– / CHF 78.–  
ISBN 0-8176-4382-6  
Comenstones

*Basic Real Analysis* and *Advanced Real Analysis* systematically develop those concepts and tools in real analysis that are vital to every mathematician, whether pure or applied, aspiring or established. These works present a comprehensive treatment with a global view of the subject, emphasizing the connections between real analysis and other branches of mathematics.

**Scheidemann, V.**, Marburg, Germany

## Introduction to Complex Analysis in Several Variables

2005. 180 pages. Softcover  
€ 25.– / CHF 38.–  
ISBN 3-7643-7490-X

This book gives a comprehensive introduction to complex analysis in several variables. It clearly focusses on special topics in complex analysis rather than trying to encompass as much material as possible. Many cross-references to other parts of mathematics, such as functional analysis or algebras, are pointed out in order to broaden the view and the understanding of the chosen topics. A major focus is extension phenomena alien to the one-dimensional theory, which are expressed in the famous Hartog's Kugelsatz, the theorem of Cartan-Thullen, and Bochner's theorem. The book primarily aims at students starting to work in the field of complex analysis in several variables and teachers who want to prepare a course.

*All prices are recommended and subject to change without notice.*

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## MATHEMATICS AT EPSRC

### Doctoral Training Allocations

Recently, some confusion has arisen about the Programme's plans for the allocation of training resources for the mathematical sciences programme element of a university's doctoral training grant. We have no plans to change the mechanism for allocating resources for mathematical sciences departments.

The Mathematical Sciences Programme is the only EPSRC Programme that allocates its Doctoral Training Grant (DTG) resources using a process advised by peer review and based on data provided by departments eligible to be considered for receipt of funding for the training of PhD students in the mathematical sciences. The basic framework for this process was developed following consultation with the research community (led by Professor Adrian Smith) prior to the introduction of doctoral training accounts in 2001.

Recognising that the Mathematical Sciences are very different from other areas of Engineering and the Physical Sciences, the only entry condition is that a whole department should be in receipt of some current EPSRC grant funding from the Mathematical Sciences Programme (and here we also include income from fellowships and small grants).

Information about the peer review process and proformas for the return of data and information to support this year's DTG allocation process was issued to eligible departments. The submissions provide departments with an opportunity to argue for and provide evidence in support of an increase to their doctoral training grant allocation. We do not advise the panel to concentrate resources in large universities or to disperse resources across a large number of universities, but to consider the case departments have put forward in their return on an individual basis.

### Mathematical Sciences Funding Data 2004-2005

Following the publication, last year, of data

relating to research grant funding coming from EPSRC's Mathematical Sciences Programme for the financial years 2001/2-2003/4, we have compiled a similar set of data for the financial year 2004/5. It is presented in such a way as to be as consistent as possible with the data that were published last year. By making such data available, we hope to establish a greater degree of understanding about recent funding rates through the Programme. It is important to realise that much of this information is already available to the whole research community via EPSRC's website, using the Grants on the web grants progress checker and panel finder.

### Statistics Mobility Fellowships

A working group met over the summer to work with us in deciding whether there is merit in any further action to address the concerns raised by the International Review in relation to statistics. The working group was set up on the advice of the Mathematical Sciences SAT and its members were Professors Isham (UCL), Roberts (Lancaster), Green (Bristol), Holmes (Oxford) and Dryden (Nottingham). It was recognised that a number of initiatives have already started aimed at increasing the numbers of academic statisticians by recruiting people with a background in statistics. However, it was noted that world-wide there are not enough statisticians to go round. The working group came up with the idea of funding for academics from another discipline to move into statistics. The advantages for statistics is that the rigorous training in many other disciplines (and in particular the physical sciences and computer science) would provide potential statistics researchers with relevant skills. Statistics as a discipline offers exiting research challenges and the potential for rapid career progression in academia.

EPSRC has decided to pilot 'statistics mobility fellowships' for applicants within 10 years of their PhD who do not have a permanent

position. The fellowship will be for up to 3 years with the expectation that in the first year the fellow will familiarise him/herself with the subject while the second and third year will be spent carrying out research in statistical theory or generic methodology. The applicant must be linked to a statistics mentor who will help them write the application and ensure they have the necessary skills enhancement to carry out a research project in statistical theory or generic statistical methodology. This type of fellowship is a first for EPSRC and will need active participation from the statistics community, as potential applicants will need to be identified, convinced of the merits of statistics as an exciting and interesting research field and supported through both the application process and through the fellowship, if successful. The call will be issued late October/early November with a closing date in March 2006 for a start in October 2006. If successful, EPSRC will give serious consideration to subsequent calls.

#### Studentship Working Group

A working group met over the summer to work with us in deciding what the Programme might consider doing with the limited resources we have to try to address the concerns raised by the International Review about the international academic competitiveness of the UK PhD. The working group was set up on the advice of the Mathematical Sciences SAT and its members were Professors Greenlees (Sheffield), Stuart (Warwick), Bridson (Imperial), Carberry (Edinburgh), Linton (Loughborough) and Weatherill (Swansea). The group felt that the resources, which will be drawn from within the existing Programme budgets, could best be used to set up some centres (actual or virtual) which would provide pump-priming funding for taught courses for 1st year PhD students. It is expected that at the completion of the pump-priming period universities would take on responsibility

for funding the courses, either through DTA or CTA resources or via other funds. The call is being developed and should be issued in early November with a closing date in March. Although the grant would be announced in July 2006, these courses would not be available to their first intake of students until October 2007.

#### Mathematical Analysis working group

A working group also met over the summer to discuss the issue regarding Mathematical Analysis, as raised by the International Review. This meeting, attended by Ball (Oxford), Gillespie (Edinburgh) and Falconer (St Andrews) was very much a preliminary meeting in an attempt to understand exactly what the review meant by 'Hard Analysis', which other areas of Analysis should be included, and who the key players in the UK are that work in this area. As a result of the discussions, a question has been added to this year's DTG Pro forma enquiring about the number of Mathematical Analysis PhD students currently studying in the UK. We intend to extend these discussions to the wider community before any decisions are made about addressing the problem.

#### Mathematical Sciences CASE project call

The Mathematical Sciences Programme invites applications for collaborative PhD studentships projects in mathematics, statistics and operational research, which will provide the student with good training in the mathematical sciences. The closing date for this call is **1 December 2005**.

#### IDEAS Factory – new call for ideas

The IDEAS Factory is an EPSRC innovation designed to combine new ways of generating research direction with new approaches to peer review. This call is an invitation to encourage suggestions for topics which might attract EPSRC and IDEAS Factory funding. If your topic is chosen for an IDEAS

Factory event, you will have the chance to take part in the sand-pit and potentially access £1 million research funding. The closing date for this call is **midday Wednesday 2 November 2005**.

#### Maths for Engineers Summer Schools – call for proposals

EPSRC plans to invest £250k on the development of a series of training courses aimed at increasing the mathematical competencies of UK postgraduate engineers, and exposing them to the latest mathematical techniques. Proposals for summer schools are sought to address specific areas of engineering research. The aim of this initiative is to:

- provide postgraduate students with a greater understanding and knowledge of contemporary mathematical techniques in core areas of engineering research;
- provide an opportunity for Engineering PhD students to network with fellow students, academic tutors and where appropriate industrialists.
- applications may be made in any area of engineering, within the remit of the EPSRC. Summer Schools should focus on a specific engineering topic of benefit to at least 30 UK based engineering PhD students.

Each Summer School should:

- focus on the underpinning mathematical techniques required for the identified engineering theme, covering the newest mathematical methods /techniques available;
- ideally be run as a collaborative effort between Engineers and Mathematicians, and could involve applicants from multiple institutions.

Where appropriate involve industry, to demonstrate the application of mathematical techniques. Closing date for applications is **midday on 6 December 2005**.

Information on all the above items can be obtained from the EPSRC website: [www.epsrc.ac.uk](http://www.epsrc.ac.uk).

## NEWS FROM THE IMU

### Developing Countries Strategy Group

Member societies and their affiliated bodies have been enthusiastically responding to IMU President John Ball's New Year appeal to increase the mathematics community's support for mathematics and the study of mathematics in developing countries. In response, the Chinese Mathematical Society hosted six foreign delegates from developing countries at their 70th Anniversary 'Conference Mathematics 2005: Opportunity and Challenge', which took place in Weihei, P.R. China, from 25 – 29 July. The delegates comprised mathematicians from Cambodia, Kenya, P.D.R. Lao and Vietnam, as well as two from South Africa.

In addition to local expenses, provided by their Chinese hosts, delegate travel was supported by the mathematical societies of Japan and the USA, as well as the London Mathematical Society, the International Centre for Pure and Applied Mathematics (CIMPA, France) and the International Science Programme of Uppsala University (Sweden).

The International Mathematical Union and its Developing Countries Strategy Group gratefully acknowledge the generosity and support of all the member societies concerned. Visit [www.ictpt.com](http://www.ictpt.com).

### UMALCA

The 14th Latin American School of Mathematics (XIV ELAM) will be held in Solis Resort, Uruguay on 1-9 December 2005. For further information visit the website: <http://imerl.fing.edu.uy/elam>.

### 2005 Ramanujan Prize

Marcelo Viana, Instituto de Matemática Pura e Aplicada (IMPA), Brazil, has been awarded the first-ever Srinivasa Ramanujan Prize. For further information visit the website: <http://news.ictpt.it/index.php?p=110>.

## ICM 2006

The list of the plenary speakers of ICM2006 is:

- Percy Deift (Courant Institute of Mathematical Sciences, USA)
- Jean-Pierre Demailly (Université Joseph Fourier, France)
- Ronald DeVore (University of South Carolina, USA)
- Yakov Eliashberg (Stanford University, USA)
- Étienne Ghys (École Normale Supérieure de Lyon, France)
- Richard Hamilton (Columbia University, USA)
- Henryk Iwaniec (Rutgers University, USA)
- Iain Johnstone (Stanford University, USA)
- Kazuya Kato (Kyoto University, Japan)
- Robert V. Kohn (Courant Institute of Mathematical Sciences, USA)
- Ib Madsen (Aarhus University, Denmark)
- Arkadi Nemirovski (Technion – Israel Institute of Technology, Israel)
- Sorin Popa (University of California, USA)
- Alfio Quarteroni (École Polytechnique Fédérale de Lausanne, Switzerland)
- Oded Schramm (Microsoft Corporation, USA)
- Richard P. Stanley (Massachusetts Institute of Technology, USA)
- Terence Tao (University of California, USA)
- Juan Luis Vázquez (Universidad Autónoma de Madrid, Spain)
- Michèle Vergne (École Polytechnique, France)
- Avi Wigderson (Institute for Advanced Study, USA)

The list of the invited Section Lecturers can be found on the web site: [www.icm2006.org](http://www.icm2006.org).

### A New Member Country: Pakistan

Pakistan's population of PhDs in Mathematics has been shifting on account of the brain-drain endemic to the Third World, the resident Mathematics community (excluding Statistics and Computer Science) consisting of less than 150 PhDs, despite its

population of 150 million. However, 50 years ago there were not even ten! In fact, the PhDs have quadrupled in the last 15 years.

The first indigenous PhD was produced about 30 years ago and by now about 40 have been produced. Of these not more than a handful contributed steadily to research in Pakistan. Recent Government policies – offering attractive salaries to foreign faculty, increased salaries and tax relief for teachers and researchers, better facilities, scholarships for students – are improving the situation. Nevertheless, not enough good students are entering a mathematics-based career because there is virtually no employment of mathematicians in the private sector outside education, and mathematics (non-PhD) graduates can only get (low-demand) jobs in schools and colleges. The situation will not improve until we can absorb mathematics graduates into the mainstream of our economy.

It is by no means clear how to improve our situation. We hope that by direct contact with the world community of mathematicians, which we hope that the IMU will provide, we will learn how to manage our mathematical development better, more main-stream research will be undertaken and more relevant mathematics will be developed here.

Asghar Qadir

Chair of the Committee for Pakistan

## THE INTERNATIONAL CENTRE FOR MATHEMATICAL SCIENCES

### Call for Proposals

Proposals are now invited for workshops to be held at the International Centre for Mathematical Sciences (ICMS) in Edinburgh in the later part of 2006 or in 2007. The ICMS is based in central Edinburgh, in the birth-place of James Clerk Maxwell. With support from EPSRC, the ICMS is able to offer work-

shops and symposia on all aspects of the mathematical sciences in new or traditional subjects and interdisciplinary areas with significant mathematical content.

ICMS particularly welcomes proposals for workshops in rapidly-developing and newly-emerging areas where there is a need to evaluate new developments quickly. The Programme Committee will consider proposals three times each year: in March, July and December. Submissions will be accepted at any time but applicants should allow sufficient time (we recommend three clear months) for proposals to be reviewed and for the proposers to react to the referees' comments. Therefore, normally proposals should be received by the last day of:

- November in order to be considered in March;
- March in order to be considered in July;
- August in order to be considered in December.

Organisers can expect to receive comments from reviewers about eight weeks after the submission deadline. Applicants should bear in mind the time needed to plan the meeting if a proposal is accepted for inclusion in the ICMS Workshop Programme. Small meetings can be organized in 6-8 months from acceptance; others may require at least 12 months' planning.

Potential organisers should contact ICMS as early as possible to discuss ideas before submitting a firm proposal. The proposal document should not normally exceed five pages and should be submitted electronically (pdf, ps, Word or dvi). Full instructions on how to submit a proposal, together with details of the refereeing process and criteria for selection, can be found on the web pages [www.icms.org.uk/call/index.html](http://www.icms.org.uk/call/index.html).

Successful applicants will be offered a funding package to contribute to the travel and subsistence of a proportion of the participants. ICMS staff will undertake all non-scientific administration connected with the workshop. One of the Scientific Organisers (often an author of the initial proposal) will be appointed Principal Organiser and be the main point of contact.

For all enquiries about ICMS or the procedures for submitting a proposal, please contact Tracey Dart, Executive Secretary, ICMS, 14 India Street, Edinburgh EH3 6EZ (email [Tracey.Dart@icms.org.uk](mailto:Tracey.Dart@icms.org.uk); tel +44 (0)131 220 1777; fax +44 (0)131 220 1053).

### Preliminary programme of workshops in 2006:

- *3-manifolds after Perelman*  
13-17 March, organised by C. Gordon, J. Howie and A. Reid
- *Mathematical population genetics*  
27-31 March, organised by N.H. Barton and A.M. Etheridge
- *Quantile regression, LMS method and robust statistics in the 21st century*  
19-23 June, organised by K. Yu, P. Ng, J. Stander and Y. Feng
- *Applied asymptotics and modelling*  
26-30 June, organised by C.J. Howls and A.B. Olde Daalhuis
- *New directions in applied probability: stochastic networks and beyond*  
10-14 July, organised by T. Konstantopoulos, S. Foss and S. Zachary
- *Extremal Kähler metrics and stability*  
17-21 July, organised by C. Le Brun, M. Singer and R. Thomas
- *Algebraic theory of differential equations*  
7-12 August (dates provisional, preceded by the LMS Invited Lectures, 30 July – 5 August) organised by M.A.H. MacCallum, A.V. Mikhailov, M.F. Singer and S. P. Tsarev
- *Credit risk under Lévy models*  
20-22 September, organised by A.E. Kyrianiou and W. Schoutens

Many of the workshops at ICMS are organized in 6-8 months from acceptance, hence it is probable that other meetings will be added over the next months. Check [www.icms.org.uk/meetings/index.html](http://www.icms.org.uk/meetings/index.html) for additional meetings and for full details of the individual workshops. All workshops will be held in Edinburgh, the majority at 14 India Street.





## INTEGRABLE DAY IN LOUGHBOROUGH

A half-day workshop on Integrable Systems will be held at Loughborough University, Room W145 on 25 November. The speakers are:

- Ian Strachan (Glasgow) *Duality for Jacobi group orbit spaces*
- Igor Loutsenko (Oxford) *Integrability in free boundary problems*
- Nick Manton (Cambridge) *Skymions and nuclei*
- Alexander Odesski (Manchester) *Introduction to elliptic algebras*

This is one of the joint meetings of the Integrable Systems groups from Edinburgh, Glasgow, Leeds and Loughborough universities, which are supported by the London Mathematical Society. Funds may be available to support the attendance of postgraduate research students. Enquiries should be addressed to the organiser: A.P.Veselov@lboro.ac.uk or 01509 222866.

## SKLYANIN ALGEBRAS AND BEYOND

A meeting on Integrable Systems and Noncommutative Algebra will be held in the School of Mathematics, University of Leeds from 2.00 pm on Friday until 6.00 pm on Saturday, 16-17 December. The speakers will be:

- Vladimir Bavula (Sheffield)
- Kenneth Brown (Glasgow)
- Edward Corrigan (York)
- Edwin Langmann (KTH, Stockholm)
- Dmitry Lebedev (Moscow)
- Alexander Odesskii (Manchester)
- Vitaly Tarasov (Indiana-Purdue)
- Alexander Veselov (Loughborough)

The organizers are Vadim Kuznetsov (Leeds), Bill Crawley-Boevey (Leeds) and Maxim Nazarov (York). For more informa-

tion, including help with accommodation, visit the website [www.maths.leeds.ac.uk/~pmtwc/sklyanin](http://www.maths.leeds.ac.uk/~pmtwc/sklyanin) or contact Vadim Kuznetsov (email: [vadim@maths.leeds.ac.uk](mailto:vadim@maths.leeds.ac.uk), tel: 0113 343 5119). The meeting is supported by a London Mathematical Society grant. There is some funding available to support participation by research students – please contact Vadim Kuznetsov.

## MEETING IN MEMORY OF PROFESSOR ANDY KING

Professor Andy King, who died in January of this year, was an outstanding applied mathematician, with wide-ranging research interests. At this meeting, fifteen of his friends and collaborators will give invited talks on subjects relevant to Andy's work. Topics will include industrial mathematical modelling, reaction-diffusion equations, free surface flows and combustion. Confirmed speakers are:

- David Abrahams (Manchester)
- John Billingham (Nottingham)
- Stephen Decent (Birmingham)
- Sam Falle (Leeds)
- John King (Nottingham)
- John Merkin (Leeds)
- David Needham (Reading)
- John Ockendon (Oxford)
- David Riley (Nottingham)
- Ruben Schulkes (Norsk Hydro)
- Nigel Scott (East Anglia)
- Gary Sharpe (Birmingham)
- Yulii Shikhmurzaev (Birmingham)
- Jean-Marc Vanden-Broeck (East Anglia)
- Graham Wilks (Keele)

The meeting will be held at the University of Reading, where Andy was a Special Professor. The meeting will start at 1.30 pm on 4 January and end at 3.30 pm on 5 January 2006. All are welcome to attend, but a registration fee of £50 will be charged to cover overnight accommoda-

tion and the conference dinner. However, we have funds to cover the costs of eight research students. To register, please email John Billingham at [John.Billingham@Nottingham.ac.uk](mailto:John.Billingham@Nottingham.ac.uk). For further details, go to [www.maths.nott.ac.uk/personal/pmzjb1/ACK.htm](http://www.maths.nott.ac.uk/personal/pmzjb1/ACK.htm). A special issue of the *IMA Journal of Applied Mathematics* dedicated to Andy, and containing contributions from most of the speakers, will appear after the meeting.



## Please join the European Mathematical Society

Since its inception, the number of national mathematical societies belonging to the European Mathematical Society has increased. The number of mathematical institutes which have signed up has also grown. But the number of individual members has remained stubbornly between 2,200 and 2,300.

We need individual members, because they add weight to the Society's claim to speak for European mathematics. You may think that it's too grand a claim: there are indeed issues on which it is hard to find a policy which all mathematicians can sign up to. But there are junctures in the long conversation of European scientific policy-making where, without the EMS, mathematicians would have no voice and our particular needs would be ignored.

The Society talks to European policy-makers; it protests at threatened closures of mathematics departments; it nominates

members to prize committees; it supports mathematicians in less well-off countries; it promotes congresses, summer schools, mathematical meetings, mathematical prizes; its not-for-profit publishing house now produces high-quality mathematics books and journals.

The Society has gained a voice in many places and it will continue to act on what it thinks is your behalf. But it needs you as a member, either simply taking note of what the Society does, or better, protesting when you think the Society is wrong, or better still, taking part in the Society's Council or one of its committees. It is easy to join: just tick the EMS box on the LMS membership renewal form.

David Salinger  
EMS Publicity Officer

## ONE-DAY MEETING IN BATH

To honour Professor L.E. Fraenkel there will be a one-day meeting on 16 December in Bath followed by a dinner. Speakers include: D.E. Edmunds, W.K. Hayman, V. Maz'ya, J.B. McLeod, L. Tartar. For further details email [jft@maths.bath.ac.uk](mailto:jft@maths.bath.ac.uk) or visit the website [www.bath.ac.uk/math-sci](http://www.bath.ac.uk/math-sci).

## 5ECM First announcement

The Fifth European Congress of Mathematics (5ECM) is organised under the auspices of the European Mathematical Society and the Koninklijk Wiskundig Genootschap (Royal Dutch Mathematical Society). It will be held at the RAI Congress Center, Amsterdam, from 14-18 July 2008. Complete the form on the website ([www.5ecm.nl](http://www.5ecm.nl)) in order to receive the second announcement due in September 2006, and information on registration and hotel reservations.

## EINSTEIN v NEWTON

To commemorate the expedition led by Sir Arthur Eddington FRS to West Africa and South America in 1919 which confirmed Einstein's theory of relativity and helped to launch Einstein on a world stage (prior to the expedition's findings Einstein had not been a publicly recognisable figure), the Royal Society is holding a discussion to consider both the scientific legacies and cultural iconographies of Einstein and Newton.

Arguing for Einstein will be Dr Jim Al-Khalili and Dr Mark Lythgoe, while the Newton team consists of Sir John Enderby FRS and Dr Patricia Fara. The discussion will be chaired by Professor Marcus Du Sautoy (Mathematical Institute, Oxford) on 23 November at 6.30 at the Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG. Admission is free, on a first come first served basis. No tickets are issued or reservations taken.

## SING 2 and XVI IMGTA

The Spain Italy Netherlands Conference on Game Theory (SING 2) and the Italian Meeting on Game Theory and Applications (XVI IMGTA) will take place in Foggia, Italy, from 14-17 June 2006. It is open to game theorists from all over the world, the areas of interest covering all aspects of Game Theory, its applications and its practice. For further information visit the conference website [www.dsems.unifg.it/sing2](http://www.dsems.unifg.it/sing2).

## MATHEMATICS OF BIOMOLECULES

A workshop on Mathematics of Biomolecules will take place at the Mathematics Institute, Warwick University, from 9-10 January 2006. The workshop will gather mathematicians and physicists interested in modelling biomolecules. The objective is to identify:

- a) fundamental mathematical problems arising in the analysis of theoretical and computational models of biomolecules
- b) new mathematical tools which might be helpful for the identification of suitable coarse grained models to describe solutes or the solvent they are embedded in.

The invited speakers are:

- Stefan Adams (Leipzig, Germany)
- Chun Liu (Penn State, USA)
- Oscar Gonzalez (Austin, USA)
- Amos Maritan (Padova, Italy)
- Theo Odijk (Delft, Netherlands)
- Rudolf Podgornik (Ljubljana, Slovenia)
- Christof Schuette (Berlin, Germany)
- Matthew S. Turner (Warwick, UK)

For further information contact Florian Theil ([theil@maths.warwick.ac.uk](mailto:theil@maths.warwick.ac.uk)). This workshop is supported by an LMS conference grant.

## JORDAN STRUCTURES IN ANALYSIS AND GEOMETRY

Recent years have seen many important developments and applications of Jordan structures in geometry, analysis and operator algebras. An international conference on Jordan Structures in Analysis and Geometry will be held from 3-7 April 2006 at the National Sun Yat-sen University in Taiwan, supported by the Taiwan National Science Council and the Sun Yat-sen University. Confirmed main speakers include:

- L.G. Brown (Purdue)
- C-H. Chu (London)
- C.M. Edwards (Oxford)
- Y. Friedman (Jerusalem)
- W. Kaup (Tübingen)
- K. McCrimmon (Virginia)
- H. Upmeyer (Marburg)
- P-Y. Wu (Chiao-Tung)

Some funds are available to young researchers and PhD students. For further information and registration contact the organisers Professor Cho-Ho Chu ([c.chu@qmul.ac.uk](mailto:c.chu@qmul.ac.uk)) or Professor Ngai-Ching Wong ([wong@math.nsysu.edu.tw](mailto:wong@math.nsysu.edu.tw)) or visit: [www.math.nsysu.edu.tw/~wong/wjs2006](http://www.math.nsysu.edu.tw/~wong/wjs2006).



### Professor of Pure Mathematics

Ref: 05/L119A

School of Mathematics and Physics

The School of Mathematics and Physics at Queen's University Belfast seeks to appoint a Professor of Pure Mathematics by April 1st 2006 or as soon as possible thereafter. We are seeking an outstanding person with an international research profile, and the appointee is expected to become the Director of Research in Pure Mathematics.

Applicants must have a PhD or equivalent in Pure Mathematics and an ability to teach Pure Mathematics at all levels through the medium of English. In addition, they must have a body of high quality publications in the peer-reviewed literature, show evidence of ability to provide research leadership and to obtain significant research grants from national and international funding agencies, and have successfully supervised research students and/or postdoctoral research assistants.

The current research interests in Pure Mathematics comprise Analysis, Algebra and Topology, but the opening-up of a new research direction would be welcome. For more details of our current research activities please consult the Pure Mathematics research website at :

<http://www.qub.ac.uk/mp/pmr>

Salary will be determined in accordance with the appropriate Professorial ranges as applied within the University. A generous start-up package will be available.

An application pack for the post, which contains further details of the essential criteria as well as information on the desirable criteria, is available from our website:

<http://www.qub.ac.uk/jobs>

Informal enquiries about the post may be directed to Dr M Mathieu, e-mail: [m.m@qub.ac.uk](mailto:m.m@qub.ac.uk); Tel: +44 (0)28 9097 3672 or Dr T B M McMaster, e-mail: [t.b.m.mcmaster@qub.ac.uk](mailto:t.b.m.mcmaster@qub.ac.uk); Tel: +44 (0)28 9097 3666.

Closing date: 4.00pm on Friday 25 November 2005.

## ISAAC NEWTON INSTITUTE

### Principles of the Dynamics of Non-Equilibrium Systems

9 January – 30 June 2006

Organisers: M.R. Evans (Edinburgh), S. Franz (ICTP, Trieste), C. Godreche (SPEC, Saclay), D. Mukamel (Weizmann Institute)

#### Workshops:

*Relaxation dynamics of macroscopic systems*

9 January – 13 January

*Non-equilibrium dynamics of interacting particle systems*

27 March – 7 April

*First-passage and extreme value problems in random processes*

26 June – 30 June

Visit the website [www.newton.cam.ac.uk/programmes/PDS](http://www.newton.cam.ac.uk/programmes/PDS) for full details on how to apply for these workshops.

#### Logic and Algorithms

16 January – 7 July 2006

Organisers: A. Dawar (Cambridge), M.Y. Vardi (Rice)

#### Workshops:

*Finite and algorithmic model theory*

(Satellite meeting at Durham)

9-13 January

*Logic and databases*

27 February – 3 March

*Mathematics of constraint satisfaction: logic, algebra and graph theory*

(Satellite meeting at Oxford)

20-24 March

*New directions in proof complexity*

10-13 April

*Constraints and verification*

8-12 May

*Games and verification*

3-7 July

Visit the website [www.newton.cam.ac.uk/programmes/LAA](http://www.newton.cam.ac.uk/programmes/LAA) for full details on how to apply for these workshops.

## THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS



#### Forthcoming Conferences

- *Third IMA Younger Members' Conference*, Lady Margaret Hall College, Oxford, 19 November 2005
- *Cryptography and Coding X*, Royal Agricultural College, Cirencester, 19-21 December 2005
- *Mathematical Education of Engineers V*, Loughborough University, 11-13 April 2006
- *Mathematics in Heat, Mass and Fluid Transfer*, Bradford, 2006
- *Mathematics of Complexity*, Warwick, September 2006
- *Flood Risk Analysis II*, Plymouth, September 2006
- *Mathematics in Communications III*, Royal Agricultural College, Cirencester, December 2006

#### Co-sponsored Conference

*The Second International Workshop on Analysis and Numerical Approximation of Singular Problems*, Karlovassi, Samos, Greece, 6-8 September 2006.

For further details of all these conferences visit [www.ima.org.uk](http://www.ima.org.uk) or contact Lucy Nye, Conference Officer, The Institute of Mathematics and its Applications, Catherine Richards House, 16 Nelson Street, Southend-on-Sea, Essex SS1 1EF (direct line: 01702 356104; switchboard: 01702 354020; email: [conferences@ima.org.uk](mailto:conferences@ima.org.uk); fax: 01702 354111).

## SEMIDEFINITE PROGRAMMING AND ITS APPLICATIONS

The Institute for Mathematical Sciences (Singapore) is organizing a programme on Semidefinite Programming (SDP). The programme will take place from 1-31 January

2006 in Singapore. The Organizing Committee consists of Michael Todd (Cornell University), Jie Sun (National University of Singapore) and Kim-Chuan Toh (National University of Singapore).

The programme will provide a forum for the exchange of ideas among researchers working in theory, applications, algorithms, and software development of SDP. It will consist of tutorials and a workshop, with ample opportunities for collaborative research among local and international participants. The tutorials will take place from 9-10 January followed by the workshop from 11-13 January.

For general enquiries email [imssec@nus.edu.sg](mailto:imssec@nus.edu.sg). For enquiries on the scientific aspects of the programme email Kim-Chuan Toh ([mattohk@nus.edu.sg](mailto:mattohk@nus.edu.sg)). Further information and registration, can be found on the website: [www.ims.nus.edu.sg/Programs/semidefinite/index.htm](http://www.ims.nus.edu.sg/Programs/semidefinite/index.htm).

### LONDON MATHEMATICAL SOCIETY

#### MARY CARTWRIGHT LECTURE

Friday 19 February 2006

Chemistry Auditorium, Christopher Ingold Building, University College London, 20 Gordon Street, London WC1

Graeme Segal (Oxford University)

Mary Cartwright Lecture

Ulrike Tillmann (Oxford University)

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the Society meeting. Requests for support, including an estimate of expenses, may be addressed to the Programme Secretary at the Society (web: [www.lms.ac.uk](http://www.lms.ac.uk); email: [grants@lms.ac.uk](mailto:grants@lms.ac.uk)).



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

### Lecturers in Pure Mathematics

The University of Bristol invites applications for two permanent positions in pure mathematics at the level of Lecturer (comparable to Assistant or Associate Professor) or Reader (Associate Professor). Preference will be given to the research areas of discrete mathematics, number theory and ergodic theory. Applicants for a Lectureship are expected to have demonstrated outstanding research potential in one of the above or closely related research areas. Candidates for a Readership are expected to have an outstanding record of research and to demonstrate their academic leadership. Salary will be made on the Senior Lecturer scale (to be agreed).

The Department of Mathematics is one of the leading centres for research and teaching in mathematics in the UK. It has close links with the newly established Heilbronn Institute for Mathematical Research, which will host a co-ordinated series of research programmes, conferences and workshops, and is expected to be one of the foremost focal points of activity in discrete mathematics and number theory.

Applicants should arrange for three referees to send letters of recommendation directly to Prof Jena Marklof, e-mail [j.marklof@bristol.ac.uk](mailto:j.marklof@bristol.ac.uk), fax +44 117 928 7999 by the closing date. It is the applicant's responsibility to ensure that the reference letters are received by the closing date.

For informal enquiries please contact Prof J Marklof on +44 117 928 7900 or e-mail [jmarklof@bristol.ac.uk](mailto:jmarklof@bristol.ac.uk)

Further details and an application form can be found at [www.bristol.ac.uk/vacancies](http://www.bristol.ac.uk/vacancies) Alternatively you can telephone +44 117 954 6547 or e-mail [recruitment@bristol.ac.uk](mailto:recruitment@bristol.ac.uk) (stating postal address ONLY), quoting reference number 11629.

The closing date for applications is 9.00 am, 1st December 2005.

Interviews will be held during January 2006.

EXCELLENCE THROUGH DIVERSITY

## RECORDS OF PROCEEDINGS AT MEETINGS

### REGIONAL ORDINARY MEETING

held on *Monday 5 September 2005* at the University of Bristol. At least 70 members and visitors were present for all or part of the meeting.

The meeting began at 2.00 pm, with the President, Professor F.C. KIRWAN FRS, in the Chair. Five people were elected to Ordinary Membership: D.J. Benson, J.K. Lonyangapuo, R.C. Miles, R.A. Schmidt, J.M. Talbot; two were elected to Associate Membership: D. Iber, C.K. Litterer; and three were elected Members under Reciprocity Agreements: E.T. Brown (Amer. Math. Soc.), S.P. Gupta (Amer. Math. Soc.), O.O. Ugbebor (Nigerian Math. Soc.).

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

Professor B.J. GREEN introduced a lecture given by Professor V. Bergelson on *Ergodic Ramsey theory and properties of large sets*.

After tea, Professor Green introduced a lecture given by Professor T. Tao on *Ergodic theory, arithmetic progressions and the primes*.

Professor Kirwan expressed the thanks of the Society to the University of Bristol and the speakers for putting on such an excellent meeting.

After the meeting an open discussion on the LMS-IMA Frameworks Study Initiative was led by Mr P.R. Cooper, Executive Secretary of the London Mathematical Society, and Mr D. Youdan, Executive Director of the Institute of Mathematics and its Applications.

A dinner was then held in the City Museum.

### LMS SOUTH-WEST AND SOUTH WALES REGIONAL MEETING AND WORKSHOP 2005

The SW and SW regional meeting of the LMS was held at the University of Bristol on Monday 5 September. It was followed by a workshop on additive combinatorics which lasted the rest of the week.

The main business of the meeting was the two invited talks. We were very lucky to have Vitaly Bergelson (Ohio State) and Terry Tao (UCLA) come and give admirable general-audience talks. Vitaly spoke on *Ergodic Ramsey theory and properties of large sets*, and Terry gave a talk entitled *Ergodic theory, arithmetic progressions and the primes*. Both talks set the scene for the workshop which was to follow, elaborating as they did on the connections between the seemingly distant disciplines of ergodic theory and number theory which have come to the fore over the last 30 years, starting with the seminal work of Fürstenberg.

The meeting concluded with a discussion of the IMA-LMS Frameworks Study Initiative. A dinner was held at the Bristol Museum and Art Gallery, a unique venue which caters for large parties by special arrangement. The availability of copious elderflower cordial, as well as the opportunity to peruse important artefacts of Cornish geology, provoked much interesting mathematical discussion. The dinner started at 8.00, yet the business of the meeting was concluded by 5.30; it is fortunate that local hostellers were able to provide working space for the delegates during the intervening period.

The workshop on additive combinatorics was, in my opinion, a great success. Additive combinatorics is a fairly new name given to the area of mathematics at the triple point of analysis, combinatorics and number theory. In inviting speakers I took a somewhat narrow view, wanting to focus on issues related

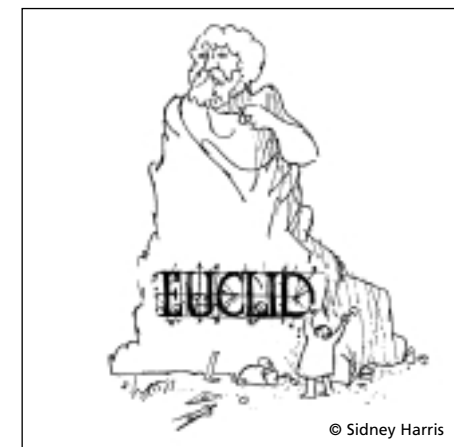
to Szemerédi's theorem and to arithmetic progressions of primes.

In the mornings there were mini-lecture series by Bernard Host, Roger Heath-Brown, Imre Ruzsa, Terry Tao and myself. Bernard and Roger were charged with the difficult task of explaining parts of their subjects (ergodic theory and analytic number theory) to non-experts at a fairly introductory level. I have since received several favourable reports which suggest they were highly successful in this regard.

The afternoons were devoted to invited one-hour lectures. Although the background of the invitees ranged from ergodic theory to computer science, more or less all of the talks had something to do with Szemerédi's theorem. I received several comments from people to the effect that talks whose title they had thought obscure had in actual fact proved highly engaging.

I should like to conclude by remarking that the fine weather ensured that delegates saw the best of what the fine city of Bristol has to offer. I should also like to record my thanks to Cathy Badley for organising the administrative side of the conference so brilliantly.

Ben Green  
Bristol University





## INSTITUT DES HAUTES ÉTUDES SCIENTIFIQUES

L'Institut des Hautes Études Scientifiques, located in Bures-sur-Yvette (France), welcomes each year up to 250 mathematicians and theoretical physicists from all over the world for various periods going from two to three weeks up to one to two years.

Created in 1958, IHÉS is an international research institute, registered as a Foundation in the Public Interest since 1980, whose purpose is to support and develop theoretical research in the mathematical sciences, physics and more recently, in molecular biology. IHÉS is financed by different institutions, such as: the French Research Ministry, several European research agencies among which the Engineering and Physical Sciences Research Council (EPSRC), the European Commission, the US National Science Foundation, and also some private foundations and corporations. The EPSRC has now been supporting IHÉS for a number of years. In doing so, its aim is to foster closer links between British and French mathematical research centres. British mathematicians and theoretical physicists are invited to apply to IHÉS for visits (for more information, consult the website [www.ihes.fr](http://www.ihes.fr)). They can use their stay to work with researchers from other research groups in the Paris area.

Director:	Jean-Pierre Bourguignon
Permanent Professors:	Thibault Damour, Mikhael Gromov, Maxim Kontsevich, Laurent Lafforgue, Nikita Nekrasov
Honorary Professor:	David Ruelle
Léon Motchane Chair:	Alain Connes
Louis Michel Chairs:	Michael Douglas, Jürg Fröhlich, Samson Shatashvili
Long term CNRS visitors:	Christophe Breuil, Ofer Gabber, Dirk Kreimer, Christophe Soulé
External Members of the Scientific Committee:	Curtis Callan, Michael Green, Stanislas Leibler, George Papanicolaou, Marc Mezard, Gerd Faltings

### William Hodge Fellowships 2006/2007

In 2000 the EPSRC committee reviewing IHÉS suggested that the EPSRC and IHÉS offer each year two 1-year fellowships bearing the name of Sir William Hodge, the eminent British mathematician. The fellowships enable outstanding young mathematicians and theoretical physicists to spend time at IHÉS. At the next review in 2005, it was suggested that each fellow be encouraged to have a UK-based mentor.

**Conditions for application:** PhD in the Mathematical Sciences or Theoretical Physics obtained in 2004 or 2005. One of the two grants awarded will go to an applicant who has just received his/her PhD from a UK institute or has spent at least the preceding nine months at a UK academic institute.

**Selection of applicants:** Applications will be reviewed and selection made based on the sole criterion of excellence in research by IHÉS Scientific Committee on 17 December 2005. The Committee consists of the Permanent Professors, the Director, and some external members (their names are listed above).

**Fellowship starting date:** Autumn 2006.

**How to apply:** An application file should be sent through the IHÉS website ([www.ihes.fr](http://www.ihes.fr)) and should include: a motivation letter, a CV, a publication list, a research project, two or three letters of recommendation, and a proposal for a UK mentor.

**Deadline for applications:** 1 December 2005.

**Information:** IHÉS, 35, route de Chartres, F-91440 Bures-sur-Yvette, France (tel: +33 1 6092 6668; fax: +33 1 6092 6669; email: [hodge@ihes.fr](mailto:hodge@ihes.fr); website: [www.ihes.fr](http://www.ihes.fr)).

## Coming soon

### ■ Projective Varieties with Unexpected Properties

A Volume in Memory of Giuseppe Veronese. Proceedings of the international conference 'Varieties with Unexpected Properties', Siena, Italy, June 8—13, 2004

Ed. by Ciro Ciliberto / Antony V. Geramita / Brian Harbourne / Rosa Maria Mirò-Roig / Kristian Ranestad

November 2005. Approx. XX, 380 pages. Cloth.  
€ [D] 148.00 / sFr 237.00 / for USA, Canada, Mexico US\$ 168.00.  
ISBN 3-11-018160-6

This volume contains refereed papers related to the lectures and talks given at a conference held in Siena (Italy) in June 2004. Also included are research papers that grew out of discussions among the participants and their collaborators. All the papers are research papers, but some of them also contain expository sections which aim to up-date the state of the art on the classical subject of special projective varieties and their applications and new trends like phylogenetic algebraic geometry.

The topic of secant varieties and the classification of defective varieties is central and ubiquitous in this volume. Besides the intrinsic interest of the subject, it turns out that it is also relevant in other fields of mathematics like expressions of polynomials as sums of powers, polynomial interpolation, rank tensor computations, Bayesian networks, algebraic statistics and number theory.



*Prices are subject to change.*

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

**LOGIC AND DATABASES**

**27 February – 3 March 2006**

in association with the Newton Institute programme  
entitled *Logic and Algorithms* (16 January to 7 July 2006)

**Organisers:** Anuj Dawar (Cambridge) and Martin Grohe (Berlin).

**Theme of workshop:** Logic and databases have been intimately linked since the rise of relational database systems in the 1970s. Relational databases can be modelled by finite relational structures, and first-order logic lies at the core of standard database query languages such as the Structured Query Language, SQL. As another example, closer to current research, XML documents can be modelled by labelled unranked trees, and XML query languages as logics on trees.

The workshop will focus on recent research on logical aspects of the theory of database systems. These include the applications of logic and logical methods in the study of databases as well as questions in logic that arise from this study. Particular topics of interest include the expressive power and complexity of query languages; models and languages for semi-structured data; probabilistic databases; constraint databases, etc.

**Speakers:** Phokion Kolaitis, Leonid Libkin, Frank Neven, Nicole Schweikardt, Thomas Schwentick, Luc Segoufin, Dan Suciu, Victor Vianu.

**Location and cost:** The workshop will take place at the Newton Institute where limited accommodation is available. Three packages are available:

- £585: single bedroom with private bathroom and breakfast at the Arundel House Hotel (approx 10 minutes' walk from the Institute), lunch and refreshments during the days that lectures take place from Sunday 26 February to Thursday 2 March 2006
- £140: lunches on days that lectures take place, formal dinner and refreshments
- £55: registration fee, no meals

Please indicate on the application form which package you require. A list of local Guest Houses is available from the web at: [www.newton.cam.ac.uk/accommodation.html](http://www.newton.cam.ac.uk/accommodation.html).

Self-supporting participants are very welcome to apply.

**Further information and application forms** are available from the web at: [www.newton.cam.ac.uk/programmes/LAA/laaw02.html](http://www.newton.cam.ac.uk/programmes/LAA/laaw02.html). Completed application forms should be sent to Tracey Andrew, Programme & Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email ([t.andrew@newton.cam.ac.uk](mailto:t.andrew@newton.cam.ac.uk)).

Closing date for the receipt of applications is **30 November 2005**.

**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/meetings/calendar.html](http://www.lms.ac.uk/meetings/calendar.html)).

**NOVEMBER 2005**

- 3** History From Below: Mathematics, Instruments & Archaeology, Gresham College, London (340)
- 4-5** NBFAS, Glasgow University (341)
- 7** Einstein and Beyond, LMS Spitalfields Day, INI, Cambridge (341)
- 9** The Free Will Theorem Lecture, J.H. Conway, Cambridge (341)
- 11** Edinburgh Mathematical Society Meeting, Glasgow University (341)
- 16** Who Invented the Calculus? Gresham College, London (340)
- 18** LMS AGM, London (342)
- 19** Belfast Functional Analysis Day, QUB (337)
- 19** IMA Younger Members' Conference, Oxford (342)
- 22-26** Kingfisher DELTA 05, Australia (336)
- 23** Einstein v Newton, Royal Society, London (342)
- 24-1 Dec** Reform, Revolution & Paradigm Shifts in Mathematics Education, Malaysia (338)
- 25** Integrable Systems Day, Loughborough University (342)
- 27-30** LUMS International Conference on Mathematics, Lahore, Pakistan (339)

**DECEMBER 2005**

- 9** Edinburgh Mathematical Society Meeting, Heriot-Watt University (341)
- 12-16** Einstein Constraint Equations Conference, INI, Cambridge (334)
- 16** Meeting in Honour of L.E. Fraenkel, Bath University (342)

- 16-17** Sklyanin Algebras & Beyond, Leeds University (342)
- 17-19** Recent Advances in Mathematics & Its Applications Symposium, India (340)
- 19-21** Cryptography & Coding IMA Conference, Royal Agricultural College, Cirencester (342)

**JANUARY 2006**

- 1-31** Semi-definite Programming & Its Applications, Singapore (342)
- 4-5** Meeting in Memory of Professor Andy King, Reading University (342)
- 9-10** Mathematics of Biomolecules Workshop, Warwick University (342)
- 9-13** Relaxation Dynamics of Macroscopic Systems Conference, INI, Cambridge (338)
- 11-14** Homotopy Theory Conference, Sheffield University (342)
- 20** Edinburgh Mathematical Society Meeting, Edinburgh University (341)
- 23-27** Models & Methods for Human Genomics Conference, Italy (340)

**FEBRUARY 2006**

- 10** LMS Meeting, Mary Cartwright Lecture, London (342)
- 17** Edinburgh Mathematical Society Meeting, Edinburgh University (341)
- 27-3 Mar** Logic & Database INI Workshop, Cambridge (342)

**MARCH 2006**

- 17** Edinburgh Mathematical Society Meeting, Dundee University (341)
- 27-7 Apr** Non-Equilibrium Dynamics of Interacting Particle Systems School, INI, Cambridge (341)

**APRIL 2006**

- 3-7** Number Theory & Polynomials Workshop, Heilbronn Institute, Bristol University (340)
- 3-7** Jordan Structures in Analysis & Geometry Conference, Taiwan (342)
- 10-13** BMC, Newcastle University (329)

**SYDNEY CHAPMAN  
DE MORGAN MEDALLIST  
1944**



Professor Chapman received the De Morgan Medal on 16 November 1944. At the time of the award he had published about 200 of his over 400 papers on geomagnetism (a name which he coined), the kinetic theory of gases, atmospheric tides and ionospheric

problems. His influential book entitled *The Mathematical Theory of Non-Uniform Gases*, written in collaboration with T.G. Cowling, was published in 1939 and he had published two other books (in 1936 and 1940) on geomagnetism.