



Forthcoming Society Meetings

2006

Monday 15 May
Midlands Regional
Meeting, Leicester
M. Bridson
N. Hitchin
H. Kraft
A. Zelevinsky
[page 3]

Friday 16 June
London
A. Rice
Yu. Manin
(Hardy Lecture)
[page 12]

Monday 3 July
Northern Regional
Meeting, Leeds
U. Haagerup
N. Kalton
[page 29]

Friday 25 August
ICM, Madrid
R. Bryant
G. Toussaint
(LMS-RSME Special
Lectures)

COUNCIL DIARY 17 March 2006

Much of the St Patrick's Day Council was devoted to following up the deliberations at the January retreat on strategic planning; perhaps not the most exciting of topics to read about in a Diary, but crucial to the way in which the Society will support mathematics in the future.

There was considerable discussion on the formulation of a set of top-level objectives for the Society, based on promoting, facilitating and disseminating mathematical research and knowledge.

Not only are clear objectives needed to help the Society plan ahead and make the most effective use of its resources, but the Charities Commission SORP (statement of recommended practice) requires a list of objectives against which to judge the Society's success in fulfilling its charitable purpose.

Setting such objectives marks the start of what will become an annual planning process, into which committees and those responsible for various activities will input their own plans and budget proposals for the next three years. Based on these, the Finance and General Purposes Committee will agree budgets in the different areas

of activity for approval by Council each June.

A number of changes were adopted to streamline future Council business. In particular there will be a change to an 'issues-led' Council agenda as opposed to the current 'officer-led' format, with Council receiving a dedicated paper on each matter identified for discussion within an agenda which reflects the nature and importance of each item. Moreover, Society subcommittees will be given delegated authority to pursue their programmes as approved by Council in the planning process, reporting back only on how their funds had been used to meet their objectives. Terms of reference and operating procedures for committees will shortly be prepared with this in mind.

Council took the next step towards possible unification with the Institute of Mathematics and its Applications (IMA) by authorising preparation of detailed plans along the lines of the 'inverted-Y' framework described in the FSI report (see www.lms.ac.uk/fsi.html). It was agreed that certain basic objectives regarded as central by the Societies should be observed in preparing the plans. The process will be sub-

ject to regular review by Council and the final decision will involve the membership as laid down in the Charter. (For further details see page 4) After taking this decision, Council was informed that this proposal had also been adopted by the IMA two days beforehand. The LMS Advisory Group will now prepare a remit for a Joint Planning Committee, with enhancement of the objectives and setting a time scale amongst the initial priorities.

The Society's Grant Schemes 1-6 have proved extremely valuable in facilitating conferences and small research projects. Council approved a couple of changes to extend the utility of Scheme 5 grants which are now aimed at supporting mathematics in Africa or countries in a similar position. 'Equivalent postgraduate experience' is now accepted as an alternative to a PhD for the African partners, many of who have not had the opportunity to complete a doctorate. Furthermore, the £500 ceiling for travel costs has been removed to reflect the unavoidable high fares to many African countries. For Scheme 1 conference grants, it was agreed that the Society shall not normally make grants to

cover room hire, a policy that can be cited to universities who attempt to impose prohibitive room charges for meetings.

Kenneth Falconer

ANNUAL ELECTIONS TO LMS COUNCIL

The normal way in which nominations to Council are made is via the Nominating Committee, but there is also provision for all members of the Society to make nominations directly. Anyone who wishes to propose someone for a position as an Officer of the Society or as a member of Council is invited to inform E.G. Rees, who is currently chairing the Nominating Committee (E.Rees@bristol.ac.uk) or one of the other members of the Committee (R.A. Bailey, K.A. Brown, P.J. Giblin, C.M. Goldie, M.A.H. MacCallum, D. Rand, S.E. Rees) by **31 May 2006**.

Any direct nominations should be sent to the Executive Secretary (cooper@lms.ac.uk) to arrive before noon on 1 September 2006. Such nominations must bear the signatures of the Nominator and three Seconders and of the Nominee.

LONDON MATHEMATICAL SOCIETY

MIDLANDS REGIONAL MEETING

Lecture Theatre, Ken Edwards Building,
University of Leicester

Monday 15 May 2006

- 10:00 Arrival; poster display
- 10:20 LMS business meeting
- 10:30 Martin Bridson (Imperial College)
Between Teichmüller space and outer space
- 11:45 Hanspeter Kraft (Basel)
Compression of finite group actions and covariant dimension
- 12:45 Lunch
- 2:30 Andrei Zelevinsky (Boston)
Laurent expansions in cluster algebras via quiver representation
- 3:30 Tea and coffee break; poster display
- 4:30 Nigel Hitchin (Oxford)
Geometric structures and the Teichmüller component
- 7:00 Dinner

PhD students are invited to make poster demonstrations of their work for display at the meeting. Springer will donate a prize of the value of £100.00 in books for the best poster. Let the organisers Frank Neumann (fn8@mcs.le.ac.uk) or Joshua Scott (js262@mcs.le.ac.uk) know if you would like to submit a poster.

For further details or to reserve a place at the dinner, contact the organisers or visit the website www.math.le.ac.uk.

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 on Monday 15 May. Requests for support, including an estimate of expenses, may be addressed to the Programme Secretary at the Society (web: www.lms.ac.uk; email: grants@lms.ac.uk).

The meeting will be followed by a workshop from 16-18 May on *Teichmüller Theory and Cluster Algebras* exploring connections recently emerging between cluster algebras and the theory of decorated Teichmüller spaces and related moduli spaces. Visit www.math.le.ac.uk/LMS06.html for further information.

For updated information, including abstracts about the Regional meeting and Workshop visit the website www.math.le.ac.uk/LMS06.html.

LMS Newsletter

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THE LMS AND THE IMA

In April 2005 the report of the Frameworks Study Initiative was published and circulated to members. It was prepared by a joint group representing the LMS and IMA, and it addressed a range of problems that faced the two organisations, focusing on the question of whether a unified organisation would be a better option. The report considered several possible frameworks for the future, but made it no recommendations, and it did not develop detailed plans. The publication of the report was followed by a period of consultation. In November 2005 the Council of the LMS approved a motion calling for the planning process to be continued, at a level of detail that would, in due course, enable the Council and the membership to decide on a specific proposal for unification. The motion was published in the *Newsletter* for January 2006. The Council of the IMA approved the same motion.

The November decision intentionally left open the choice of framework that would form the basis for the planning exercise. This matter was considered carefully at the Council meeting January, and at the 'Retreat' that followed. Council set up an Advisory Group to examine the questions raised by members as part of the consultation exercise, and by the Council. The members of this group were the President, Vice President (Dr Rogers), Treasurer, General Secretary, Executive Secretary, Dr Snaith.

In March 2006 the Council received a report from the Advisory Group. It addressed several issues that were not already covered in the FSI Report, although some of them, such as the name of a merged society, were not considered by the group to be directly relevant to the choice of framework. The Advisory Group recommended that Council should approve the following proposal.

The Council authorizes the preparation of detailed plans for a route to unification of the IMA and the LMS. The plans shall be on

the lines of the 'inverted-Y framework' described in the FSI Report (April 2005). The planning process will be subject to regular review by the Council. In due course Council will decide whether it wishes the plans to be implemented, with the proviso that final decisions must involve the membership, as laid down in the articles of governance.

The following objectives for the activities of a unified organisation shall be observed in the preparation of the plans.

- 1. To maintain and enhance support for mathematical research, by making grants and by other means.*
- 2. To recognize and support the professional status and activities of mathematicians working in all sectors of employment.*
- 3. To speak as a national voice on behalf of mathematics.*
- 4. To represent the UK in the international mathematical community, building on the existing reputations of the two organisations.*

In the course of discussion the Advisory Group was asked to suggest a timescale and to provide more detailed objectives for discussion at the May meeting. On this understanding the proposal was then put to a vote and approved by a substantial majority. After the vote was taken, it was reported that the IMA Council had also approved the recommendation, with very similar comments.

Norman Biggs
General Secretary

PRESIDENCY 2007–2009

The President has proposed that Professor E.B. Davies, FRS, be nominated to serve as President of the London Mathematical Society from November 2007. Receiving the news with acclamation, Council has agreed that Professor Davies should be accorded the title President-Designate from the 2006 AGM and invited to attend Council and the Finance & General Purposes Committee from that date.

CMS MEETING WITH RUTH KELLY

Following the meeting with Charles Clarke in 2004, the three CMS Presidents and Executive Secretaries together with Martin Smith as CMS secretariat met with the Rt Hon. Ruth Kelly, MP (Secretary of State for Education and Skills) on 28 March 2006. She was joined by Sir Alan Wilson (HE Advisor) and Professor Celia Hoyles (Chief Advisor for Mathematics).

The recent announcement by the Secretary of State of proposals for creating a framework of two mathematics GCSEs – the first of which will include 'functional maths' – were a source of both interest and concern to the delegation. John Toland (CMS chair) took the opportunity to explain that many schools will not have an incentive to offer the second GCSE if league tables were based on the first qualification only – we feel all students should be entitled to take both GCSEs.

Whilst accepting that functional maths had yet to be fully defined, the CMS expressed its fears that the first GCSE would contain even less of the mathematical techniques needed for A-level. Ruth Kelly gave her absolute assurance that there would be no further 'dumbing down' and that the single GCSE will be at least of the current standard and remain the entrance point to A-level study. The CMS will prepare a note outlining some potential hazards of the two-GCSE concept that it hopes will be considered as the proposals are developed, but without speculating too much on the details.

To complement the DfES's progress in fulfilling the recommendations of Adrian Smith's report *Making Mathematics Count*, the CMS described its intention to formulate and fund an enhanced and independently-chaired CMS to act as an Advisory Committee on Mathematics in Research and Industry. Ruth Kelly will welcome the new body when it is launched, and Peter Grindrod (IMA President) invited an observer from the DfES

to attend the new committee.

An important achievement of the meeting was presenting the CMS's study showing that the the much-quoted 38% increase of mathematics students was misleading: changes in HESA data definitions and counting methods made comparison between years inappropriate. The true numbers of 'core' mathematics undergraduates are at best level. Similarly, the CMS described how recent university department closures affected not only the mathematical teaching in other subjects, but also left geographical 'deserts' of mathematics course provision.

A very pleasing outcome of the meeting was the promise that DfES will soon be issuing guidance to universities on how to act in the face of the approaching Bologna compliance deadline. Better still, in response to our questions, Sir Alan Wilson assured us that the MMath and similar integrated Masters courses were not under threat by the agreement. We have since received a letter from Keith Andrews at DfES that reiterates this message.

Overall, the delegation felt that the outcomes of the meeting were positive. The real benefits of the meeting will be seen when the CMS follows up these actions by providing guidance on the issues surrounding the two mathematics GCSEs and by establishing the enhanced CMS as a source of advice on mathematics in research and industry.

Martin Smith
CMS Secretariat

LUCKY DIP

Are you missing a particular issue of the *Bulletin*, *Journal* or *Proceedings* or after a second copy? We have some back issues available for members to take away on a first-come first-serve basis. These are not recent issues – the latest issues available come from volumes published in 1998 and date back to the earliest days of the *Proceedings* in 1865

and these are paper-bound reprints, not leather-bound original volumes! If you are interested in picking up some of these, please come along to De Morgan House during the hours of 9.30 and 5.00, Monday to Friday during the month of May and rifle through the boxes to see if you can find what you want. Please don't ask the De Morgan House staff to check if particular issues are available; they will not know and the offer is only available for members of the LMS who come in person to check the stock and carry the issues away with them.

GENERAL MEETING

There will be a General Meeting of the Society at 3.30 on Friday 16 June 2006 (see page 12), to be held at the Chemistry Auditorium, University College London. The business shall be:

- (i) the appointment of Scrutineers;
- (ii) the appointment of Auditors;
- (iii) presentation of the 2005 Honorary Membership certificate to Jean-Pierre Bourguignon;
- (iv) announcement of Council's recommendation for Honorary Membership;
- (v) announcement of Prize winners for 2006.

I hope that as many members as possible will be able to attend.

Peter Cooper
Executive Secretary

ROLLO DAVIDSON TRUST

The Trustees of the Rollo Davidson Trust award an annual prize for young probabilists. The prize winner for 2006 is Scott Sheffield (Courant Institute, New York University) for his work on spatial models of probability theory and especially their relationship to stochastic (Schramm) Loewner evolutions.

The Trust was founded in 1975 in memory of Rollo Davidson, an accomplished mathe-

matician of remarkable potential, and Fellow-elect of Churchill College, Cambridge, who died on the Piz Bernina in 1970. Initial funding from the Trust came from the royalties of two collections of papers published in 1973/74 by friends and colleagues of Rollo. The Trust has benefited from the continuing association with the Davidson family. Further details of the Rollo Davidson Trust can be found at www.statslab.cam.ac.uk/Rollo/index.html.

ROYAL SOCIETY OF EDINBURGH

The following mathematicians have been elected fellows of the Royal Society of Edinburgh:

Gavin Gibson (Professor of Statistics, Heriot-Watt University)

Angus Macdonald (Professor of Actuarial Mathematics, Heriot-Watt University)

Iain Duff (Group Leader of Numerical Analysis, Rutherford Appleton Laboratory)

Desmond Higham (Professor of Mathematics, University of Strathclyde)

AUSTRIAN ACADEMY OF SCIENCE

On Friday 5 May 2006, Professor David Larman (University College London) will receive the Austrian Cross of Honour for Science and Art 1st Class. This will be presented by the President of Austria.

The Austrian Cross of Honour for Science and Art was created by a federal law in 1955, and is conferred by the Federal President upon receipt of a proposal by the members of the federal government responsible for the arts and sciences. The award honours Austrians and foreign leading figures who have 'distinguished themselves and earned general acclaim through especially superior creative and commendable services in the areas of the sciences or the arts.'



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New Mathematics Journals from Springer in 2006

Bulletin of Mathematical Biology

Official Journal of The Society for Mathematical Biology

6 issues in 2006

Acta Mathematica

Published by Institut Mittag-Leffler

4 issues in 2006

Chinese Annals of Mathematics Series B

6 issues in 2006

Science in China. Series A Mathematics

12 issues in 2006

Annali dell'Università Ferrara Sezione VII - Scienze Matematiche

2 issues in 2006

Ricerche di Matematica

2 issues in 2006

Central European Journal of Mathematics

Co-published with Central European Science Journals

4 issues in 2006

Arkiv för Matematik

Published by Institut Mittag-Leffler

2 issues in 2006

Frontiers of Mathematics in China

4 issues in 2006

Japanese Journal of Mathematics

Official Publication of the Mathematical Society of Japan, Since 1924.

2 issues in 2006

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THE ABEL PRIZE

Professor Ole Didrik Lærum, the president of the Norwegian Academy of Science and Letters, announced the award the Abel Prize for 2006 to Professor Lennart Carleson, Royal Institute of Technology, Sweden, and Honorary Member of the LMS, for his profound and seminal contributions to harmonic analysis and the theory of smooth dynamical systems.

The Prize will be presented by King Harald of Norway at a ceremony in Oslo on 23 May 2006. A dinner in honour of Professor Carleson will be held on 22 May.

Erling Størmer, the chairman of the international Abel Committee said: 'Carleson is always far ahead of the crowd. He concentrates on only the most difficult and deep problems. Once these are solved, he lets others invade the kingdom he has discovered, and he moves on to even wilder and more remote domains of Science.' Carleson has solved many very difficult open problems. In the Committee's opinion, the most impressive of these concerns Fourier series. His name is also associated with the solution of the famous corona problem. Carleson has made many essential contributions to several fields within mathematics. Carleson's work has also been influential in the sense that other mathematicians have been able to build on the foundation he has created. The Abel Committee says in its citation: 'Carleson's work has forever altered our view of analysis. Not only did he prove extremely hard theorems, but the methods he introduced to prove them have turned out to be as important as the theorems themselves. His unique style is characterized by geometric insight combined with amazing control of the branching complexities of the proofs.' The impact of the ideas and actions of Lennart Carleson is not restricted to his mathematical work. Carleson has played an important role in popularising mathematics in Sweden, and he has always been especially interested in school mathematics.

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.

ICMI 2005 AWARDS

The International Commission on Mathematical Instruction (ICMI) of the International Mathematical Union has announced recipients of its 2005 awards.

Felix Klein Medal

The second Felix Klein Medal of ICMI is awarded to Professor Ubiratan D'Ambrosio, Brasil. This distinction acknowledges the role Ubiratan D'Ambrosio has played in the development of mathematics education as a field of research and development throughout the world, above all in Latin America. It also recognises Ubiratan D'Ambrosio's pioneering role in the development of research perspectives which are sensitive to the characteristics of social, cultural, and historical contexts in which the teaching and learning of mathematics take place, as well as his insistence on providing quality mathematics education to all, not just to a privileged segment of society. His role in promoting mathematics education research and development in Latin America, both as regards priorities and content and as regards institutional and organi-

sational frameworks, can hardly be over-estimated. His focus on providing graduate and postgraduate programmes for young researchers exemplifies his contribution.

Hans Freudenthal Medal

The second Hans Freudenthal Medal of ICMI is awarded to Professor Paul Cobb, Vanderbilt University, USA, whose work is a rare combination of theoretical developments, empirical research and practical applications. His work has had a major influence on the mathematics education community and beyond.

SCIENCE & INNOVATION AWARDS FOR STATISTICS

Bristol and Cambridge Universities have won major strategic research funding for initiatives in Statistics, in the form of Science and Innovation Awards from the EPSRC, joining Warwick that was successful in the 2005 round.

The grant to Bristol of £3.5 million will fund a new initiative entitled SuSTain (Statistics underpinning Science, Technology and Industry), to be led by Peter Green, Guy Nason and Christophe Andrieu. It will support an ambitious programme to conduct and disseminate internationally-leading research in mathematical statistics, equipping the discipline to face the challenges of future applications. In partnership with the University of Bristol, the award will fund a new Chair of Statistics, several lectureships, postdocs and studentships, and activities including workshops and research kitchens, visitor support, an international conference and a comprehensive programme of research training for graduate students.

Cambridge University has been awarded a grant of £2.3 million for an initiative to develop core aspects of methodological statistics. The initiative will be based in the Centre for Mathematical Sciences and the Engineering Department and will involve the

many Cambridge Institutes where applications of statistics flourish. Potential areas of special interest include for example engineering and the biosciences, together with industrial applications of statistics. The project will be led by Ian Leslie, Geoffrey Grimmett, Steve Brooks, Simon Tavaré and Bill Fitzgerald, together with a newly appointed Professor of Statistics. It will enable the appointment of new lecturers in statistics, and of research associates and doctoral students.

Further information is available at www.stats.bris.ac.uk and www.statslab.cam.ac.uk.

SCANDINAVIAN JOURNAL OF STATISTICS PRIZE FOR YOUNG RESEARCHERS

The Scandinavian Journal of Statistics Prize of DKK 40,000 will be given to the young researcher who presents the best paper at the NORDSTAT meeting /c/13qFGFJEY2hnBuR to be held in Rebild Bakker, Denmark, 11-15 June 2006, provided that the paper is accepted (before or after the meeting) as a regular submission to the Scandinavian Journal of Statistics (SJS). The editor of SJS must be informed that the paper is a candidate for the Scandinavian Journal of Statistics Prize. See the website <http://blackwell-publishing.msgfocus.com> for further details.

To qualify as a candidate for the SJS Prize, the author must have received a PhD degree at most five years before the NORDSTAT meeting or be younger than 35 years of age at the time of the meeting. The young author is preferably the sole author of the paper, but if multiple young authors are involved, the paper will also be considered.

Young researchers of any nationality are strongly encouraged to present their work at the NORDSTAT 2006 meeting and to submit their papers to the SJS and for the SJS Prize competition.

EPSRC MATHEMATICAL SCIENCES PROGRAMME

In 2000, EPSRC produced a brochure called *Cutting Edge Mathematics* aimed at showcasing the mathematical sciences. Now we are planning a new brochure primarily aimed at decision makers and opinion formers. Therefore we need stories of cutting edge mathematical sciences research. If you have some exciting EPSRC supported research that illustrates the importance of the mathematical sciences to the UK economy and society, we would love to hear from you. It may be that the exciting results have come many years after the initial EPSRC grant was awarded, or it may be the direct result of an award – either way we would welcome an update on your research. We will be looking for case studies that will appeal to the public in general, and specifically MPs – this is a key opportunity to illustrate why the mathematical sciences need to be supported in the future.

EPSRC invites outline proposals from UK universities for the third round of Science and Innovation Awards. These awards are made to establish new research groups in strategic areas to ensure future research leadership in the UK. Target areas for this call are: chemical engineering at the life sciences interface, physical organic chemistry, quantum coherence, renewable energy, and mathematical analysis. Non-linear Partial Differential Equations (PDEs) are often used to model physical systems and the study of these equations provides the theoretical underpinning for our understanding of many different phenomena. The rigorous analysis of non-linear PDEs requires novel mathematical ideas and poses profound intellectual challenges. A strong interface between pure and applied mathematics in this area is therefore essential. The international Review of Mathematics identified a lack of capacity within the UK in the study of non-linear PDEs and a shortage of young people choosing to

enter this field. Applications should approach the theoretical challenges in non-linear PDEs with an inclination towards applications and may draw on other areas of analysis (e.g. harmonic, functional, complex) as necessary without losing the focus on non-linear PDEs. If you are considering submitting a proposal to this call, please contact either Caroline Batchelor (caroline.batchelor@epsrc.ac.uk, tel: 01793 444 458) or Annette Bramley (annette.bramley@epsrc.ac.uk, tel: 01793 444 304) to discuss your bid. Closing date for outline proposals: **4 pm 30 May 2006**.

Springboard Fellowships are aimed at mathematicians, statisticians and operational researchers, to promote adventurous research, mobility of researchers and collaborative research with other disciplines and industry. They provide short-term support to enable researchers in the mathematical sciences, who are permanent employees of an eligible research organisation, to work: at the interface with another discipline; with business or industry; on a particularly innovative project or a short-term feasibility study. The aim of these awards is to provide opportunities for researchers to take time out from their normal activities in order to develop their careers in new directions and to expose them to new ways of working, with the fellowship acting as a 'springboard' for their future research. These fellowships are intended to be 'pump-priming' support that will lead to new avenues of research, new collaborations, and follow-on research projects. Closing date for applications: **26 July 2006**.

Mathematical Sciences Small Grants were processed through the Mathematical Sciences Small Grants Scheme. For administrative reasons with the introduction of full economic costing, these grants will now be processed through the 'Mathematical Sciences Small Grants Open Call' (which means there are no closing dates). Revised guidelines on how to apply will appear on the web shortly – basically you pick the call

once you have chosen which scheme (i.e. whether it is standard research for visiting researchers or overseas travel grants for travelling overseas). The criteria and the financial limit of £20k remains the same although the wording has been changed slightly to reflect it is a call. Anyone who submits a research proposal that is within the remit of the programme and is under a full economic cost of £20k will be asked whether they wish it to be considered under the call. Any proposals that are over the £20k will be transferred to normal responsive mode and be subject to full peer review.

The Maths for Business call has recently been re-launched as the Maths for Industry and Business call. Real world problems increasingly need novel mathematical approaches to find satisfactory answers. Therefore, interaction between academics carrying out high quality research in mathematical sciences and those wishing to solve these challenging questions is crucial. Encouraging the development and exploitation of novel and adventurous mathematical sciences by industry and business through collaboration on research projects is a priority for EPSRC. This call has been set up to encourage researchers in mathematics, statistics or mathematical foundations of operational research to view their research as having potential important contributions to industry, business and the public sector, and to develop collaborations outside of academia. The aim of the call is two-fold: to generate innovative research in the mathematical sciences, and to utilise this research to give industry and business a competitive edge by developing dynamic collaborations outside the academic community. There is no closing date and proposals can be submitted at any time. Proposals will be assessed in competition with each other and separate from proposals submitted in responsive mode.

The EPSRC Mathematical Sciences Programme is pleased to announce a call to

establish, via pump-priming support, a number of taught course centres for PhD students in the mathematical sciences. The courses should provide a breadth of training that will complement the more specialised training provided elsewhere. It is expected that, although preference should be given to EPSRC-funded students, courses would also be available to students not funded by EPSRC but that the costs of their attendance will be found from other sources. As this initiative provides resources for student training, it does not come under the full-economic cost model.

A new email alert from the main EPSRC website allows you to register for a weekly email that lists all of the latest EPSRC calls for proposals available on the website. To register for the email go to: <http://fd.epsrc.ac.uk/EmailAlert>.

Please see a full list of current calls on our website: www.epsrc.ac.uk. For details on the Mathematical Sciences Programme, please see: www.epsrc.ac.uk/ResearchFunding/Programmes/MathematicalSciences/default.htm.

INDUSTRIAL MATHS BULLETIN

£80 million available for collaborative R&D

DTI has announced the areas of the Spring 2006 competition for Collaborative R&D funding, launched on 26 April:

- Management of Complex Fluid Flow Conditions – £12m
- Novel Technologies For Low-Cost, High-Efficiency Electronics and Lighting Systems – £9m
- Low Carbon Energy Technologies – £15m
- Oil and Gas Technologies – £2m
- Energy Efficiency Technologies (includes Building Design & Controls and Manufacturing Processes) – £12m
- Exploitation of Bioscience for Industry – £4m
- Safety Biomarkers for Pharmaceutical Development – £8m

- Materials for Extended First Use and Re-use – £9m
- Data, Scientific and Medical Visualisation for innovative products and services – £9m

Further details are available by clicking on News at www.industrialmaths.net.

EUROPEAN SCIENCE FOUNDATION

The European Science Foundation (ESF) announces the following calls for proposals:

EUROCORES (European Science Foundation Collaborative Research): The scheme provides a framework to bring together national research funding organisations to support European research. The EUROCORES Theme Call is an important step to identify new areas for European collaborative research across all scientific fields. This creates future funding opportunities by

developing the themes for new EUROCORES programmes. Deadline: 1 June 2006.

ESF Research Networking Programmes: Long term networking activities bringing together nationally funded research groups to address a major scientific or research infrastructure issue. Proposals must show the potential to be carried out at the European level. New Programmes should be launched from 1 January 2008. Deadline: **30 October 2006**.

EURYI Awards: These awards enable outstanding young scientists in any area of scientific research, from any country in the world, to create their own research teams at European universities and other research institutions. The 4th EURYI Call is expected to open later this year. Deadline: **30 November 2006**.

For information on all ESF activities, please go to www.esf.org.

LONDON MATHEMATICAL SOCIETY

Friday 16 June 2006

Chemistry Auditorium, Christopher Ingold Building,
University College London

3.30 – 3.45 LMS business (see page 6)

3.45 – 4.45 A.C. Rice (Randolph-Macon College)

The Life and Legacy of Augustus De Morgan (1806-1871)

4.45 – 5.15 Tea

5.15 – 6.15 Yu. Manin (Northwestern University, Evanston)

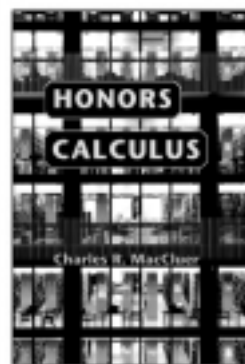
will give the Hardy Lecture on

Continued fractions, non-commutative boundaries and Einstein equations

There are 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; email: grants@lms.ac.uk).

A reception will be held at De Morgan House at 6:30, with a dinner afterwards. For further information contact Susan Oakes (oakes@lms.ac.uk).

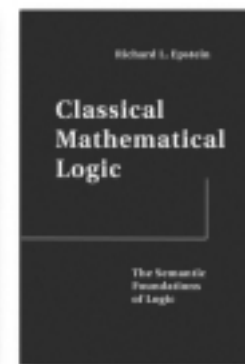
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NEWS FROM THE IMU

International Commission for the History of Mathematics

The International Commission for the History of Mathematics (ICHM) continues to pursue its dual aims of encouraging the study of the history of mathematics and of promoting a high level of historically and mathematically sophisticated scholarship in the field internationally. Among its ongoing projects are:

- 1) The publication of *Historia Mathematica*, the official journal of the ICHM. *Historia* appears four times annually and publishes roughly 525 pages of original research in the history of mathematics from all times and cultures. From 2003 to the present, it has been edited by Craig Fraser (Canada) and Benno van Dalen (Germany). It is published by Elsevier Science and is available electronically to subscribers of IDEAL.
- 2) The compilation of a database of information on historians of mathematics around the world. It is the ICHM's hope that a reasonably complete database of historians of mathematics will be available in 2006.

In 2005, the ICHM awarded the fifth Kenneth O. May Medal, a prize given every four years to the historian or historians of mathematics whose work best exemplifies the high scholarly and intellectual contributions to the field that May worked so hard to achieve. It was awarded to Henk Bos (The Netherlands) for his ground-breaking work on the history of seventeenth-century mathematics.

The ICHM also participated prominently in the International Congress for the History of Science (<http://2005bj.ihns.ac.cn/>) held in Beijing, China in July 2005. In addition to these symposia, the ICHM also held its quadrennial general business meeting on 25 July at the China Museum of Science and Technology.

Finally, the ICHM co-sponsored a special session in the history of mathematics at the annual joint meetings of the American Mathematical Society held in San Antonio, Texas, in January 2006. Full accounts of all of the ICHM's activities may be found on its website at www.math.uu.nl/ichm.

Karen Hunger Parshall
Chair ICHM

ICMI Studies: Recent and Future Activities

Since the mid-80s, the International Commission on Mathematical Instruction (ICMI) has found it important to involve itself directly in the identification and investigation of issues or topics of particular significance to the theory or practice of contemporary mathematics education, and to invest efforts in mounting specific studies on these themes. This has resulted in a most successful set of activities of the Commission, the *ICMI Study Programme* (www.mathunion.org/ICMI/ICMIstudies_org.html).

Each ICMI Study addresses an issue or topic of particular significance in contemporary mathematics education, and is conducted by an international team of leading scholars and practitioners in that domain. The Study is built around an international conference gathering both experts and newcomers to the field, and is directed towards the preparation of a published volume which aims to offer a coherent, state-of-the art representation of the domain of the Study.

These Study volumes appear in the New ICMI Study Series (NISS www.springeronline.com/series/6351), published by Springer under the general editorship of the President and Secretary-General of ICMI.

The Study Volume resulting from the 13th ICMI Study (*Mathematics Education in Different Cultural Traditions: A Comparative Study of East-Asia and the West*) has recently appeared (NISS, vol. 9). The next two volumes in the series (resulting from the 14th ICMI

Study on *Applications and Modelling in Mathematics Education*, and the 15th ICMI Study on *The Professional Education and Development of Teachers of Mathematics*) will be published respectively in 2006 and 2007.

Two study conferences will take place in 2006: ICMI Study 16 on *Challenging Mathematics In and Beyond the Classroom* and Study 17 on *Digital Technologies and Mathematics Teaching and Learning: Rethinking the Terrain*.

The ICMI Executive Committee has recently launched two new Studies: the 18th Study, on *Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education*, organized jointly with the International Association for Statistical Education (IASE), and Study 19 on *The Role of Mathematical Reasoning and Proving in Mathematics Education*. The corresponding study conferences will take place in 2008 and 2009.

Bernard R. Hodgson
Secretary-General of ICMI
bhodgson@mat.ulaval.ca

The above items are taken from the 16th issue of the IMU electronic newsletter IMU-Net (see www.mathunion.org/Publications/Newsletter).

ICM 2006 Cultural activities

The Life of Numbers exhibition aims to illustrate through manuscripts, books and other objects the life history of the mathematical element best known by the general public: Numbers exhibition at the Biblioteca Nacional de España, June-September 2006.

The ICM through History is an exhibition reviewing the history of the 24 times the International Congress of Mathematicians has taken place since the first was held in Zürich in 1897. The exhibition will be displayed at the Congress site.

The exhibition *Experiencing Mathematics!* has its origins in the activities organized in

2000 by the International Mathematical Union on the occasion of the World Year of Mathematics. It has been sponsored by UNESCO and planned by the Centre Science of Orléans (France). See: www.MathEx.org. Centro Cultural Conde Duque, Madrid, August-October 2006.

Archimedes' Works: the ICM 2006 edition. A facsimile edition of one work by Archimedes (translated with commentary).

To commemorate an event as important as the ICM and as a tribute to Benoit Mandelbrot, an exhibition *Fractal Art: Beauty and Mathematics* is prepared at the Centro Cultural Conde Duque and at the Congress site. It will exhibit high quality works by the most important fractal artists in the world.

Treasury of Mathematics: El Escorial and its Library. Guided visits to El Escorial Monastery and its Library. Departure from ICM 2006 venue (Palacio Municipal de Congresos) on 24, 25, 26, 27 & 29 August at 10.00h. Duration: approximately 4 hours.

Demoscene: Mathematics in Movement consists in making computer programs in Assembly or in languages of high potential and graphic efficiency, always generated in real time, occupying a minimum of space in the computer memory, usually about 64 K. Location: Centro Cultural Conde Duque and Congress site.

UK TeX USERS GROUP

The UK TeX Users Group (<http://uk.tug.org>) has agreed to donate funds to the Society for organising one or more meetings devoted to developing and promoting the use of TeX in the UK.

The LMS is intending to organise such a meeting this autumn, at De Morgan House on Friday 20 October. If you have ideas or suggestions for such a meeting, or are interested in speaking, please contact either Jonathan Fine (J.Fine@open.ac.uk) or Charles Goldie (C.M.Goldie@sussex.ac.uk).

LMS INVITED LECTURES SERIES

The Society's Invited Lectures series consists of meetings at which a single speaker gives a course of about ten expository lectures, examining some subject in depth, over a five day period (Monday to Friday) during a University vacation. The meetings are residential and open to all interested. It is intended that the texts of the lectures given in the series shall be published. In addition to full expenses, the lecturer is offered a fee of £1,250 for giving the course and a further fee of £1,500 on delivery of the text in a form suitable for publication.

Recent lecturers in the series have been:

- F.J. Almgren (1996)
- J. Alperin (1997)
- D. Zagier (1998)
- A. Mielke (1999)
- B. Dubrovin (2000)
- T. Goodwillie (2001)
- P. van Moerbeke (2002)
- M. Fukushima (2003)
- M.W. Davis (2004)
- M.F. Singer (2006)

For the 2007 meeting, proposals are now invited from any member who, in addition to suggesting a topic and lecturer, would be prepared to organize the meeting at the member's own institution or a suitable conference centre. A grant is given to the host department to support attendance at the lectures. Enquiries about this series should be directed to the Programme Secretary at the Society (grants@lms.ac.uk). The deadline for the submission of a proposal is **Wednesday 31 May**. Programme Committee hopes to make a decision on 16 June.

ALGEBRAIC THEORY OF DIFFERENTIAL EQUATIONS

LMS Invited Lecture and ICMS Workshop

The 2006 LMS Invited Lecturers will be given by Professor Michael F. Singer (University of North Carolina, USA). During his visit to the UK in July-August he will give a lecture course *Introduction in Galois Theory of Differential and Difference Equations*. Lectures will take place in Heriot-Watt University, Edinburgh, between 31 July and 5 August. The lecture course by Professor Singer will be supported by afternoon short courses on Model Theoretical Aspects of Differential Galois Theory, D-modules, Differential Algebra, Integrable Systems, Symbolic Computations as well as tutorials and discussions. Lectures are aimed at graduate students, post-docs and researchers from complementary areas.

The ICMS International Workshop *Algebraic Theory of Differential Equations* will take place at Heriot-Watt University during the second week of the mini-programme (6-12 August). The Workshop is organized by C. Eilbeck, M. MacCallum, A. Mikhailov, M. Singer and S. Tsarev.

This full two-week mini-programme is planned to be multidisciplinary in nature, embracing Differential Algebra and Differential Galois Theory, Model Theory, the Theory of Integrable Equations and Computer Algebra applications. It is the first attempt to integrate these rather distinct branches of Mathematics, focusing on the development of the algebraic theory of differential and difference equations. We believe such an integration will be mutually fruitful and open ways for future collaborations.

For further details and information contact Alexander Mikhailov (A.V.Mikhailov@leeds.ac.uk).

K-THEORY DAY IN HONOUR OF DAN QUILLEN

There will be a special K-theory Day in Oxford on Monday May 22, to celebrate Dan Quillen's 65th birthday. The speakers will be:

- Jacek Brodzki (Southampton)
- Mathai Varghese (Adelaide)
- Joachim Cuntz (Münster)
- Eric Friedlander (Northwestern)

For further information visit the website www.maths.ox.ac.uk/notices/events. Participants interested in attending the dinner are asked to email Ulrike Tillmann (tillmann@maths.ox.ac.uk) as soon as possible.

AUTOMATED DESIGN AND OPTIMISATION TECHNIQUES USING CFD

A one-day seminar on Automated Design and Optimisation Techniques using CFD will be held on Wednesday 28 June at the Institution of Mechanical Engineers, 1 Birdcage Walk, London SW1H 9JJ.

Improved computer processor speeds have enabled automated design and optimisation techniques to become more practical, making this topic essential in today's design environment. This seminar will examine some techniques being used with a wide range of practical examples. Industrial and academic speakers will make this a fascinating and educational event for anyone involved in CFD, design and computing science.

For further information, including a downloadable brochure with details of speakers and presentations, visit www.imeche.org.uk/events/automated. Alternatively contact Danielle Wright (d_wright@imeche.org.uk).



CONFERENCE FACILITIES AT THE LMS

The Society is pleased to announce that the new conference facilities are now up and running at De Morgan House. It is pleasing that those who have used them are all agreed that an excellent job has been done in creating a suite of conference rooms on the lower ground floor which will serve the Society well for many years to come. With these new facilities and our enviable location (within easy reach of the tube network and three mainline railway stations) we are confident that De Morgan House can become a thriving conference venue.

Council's aims in agreeing this substantial project were to provide valuable and high quality facilities for hosting mathematics and related activities, and also to provide the Society with additional income through hiring the space to outside organisations.

Work began on the project in Autumn 2005. The Hardy Room has been extended to increase the capacity to 70 people in a lecture style layout, two new committee rooms (The Sylvester and Burnside Rooms) have been created and a central catering area formed. The lower ground floor is now fully integrated where in the past rooms had been separated by flights of stairs.

The project also gave the Society the opportunity to provide full disabled access to all public areas of De Morgan House by installing an external disabled lift from pavement to lower ground level, and also an internal lift for access to the Hardy Room. Other benefits of the project include the creation of a new kitchen and disabled toilet on the lower ground floor and a new glass door in the ground floor reception area to provide



additional security in the building. The Cartwright Room on the first floor remains for the dedicated use of the Society.

Now in operation, the facilities are already generating a very positive reaction from users and work is beginning in earnest on promoting and marketing De Morgan House as a conference venue. The final touches will soon be added with informative and attrac-

tive displays that mean any users who are new to the Society should leave the building knowing a bit more about mathematics, and us, than when they walked in.

The room capacities and cost for hiring are detailed below. Any enquiries should be sent to the new Conference and Buildings Officer Dominic Clark at the LMS address, email: clark@lms.ac.uk, tel: 020 7927 0800.

	Hardy Room	Sylvester Room	Burnside Room	Cayley Room
Lecture	70	n/a	n/a	n/a
Boardroom	30	12	16	10
Classroom	28	10	10	n/a
Daily rate	£350	£200	£200	£200
Discounted rate*	£150	£95	£95	£95

*charitable and academic organisations associated with the promotion of mathematics and learning

VISITS

PROFESSOR H.T. BANKS (North Carolina State University) will visit the UK from 12-26 June. Professor Banks is well known for his work in applied and computational mathematics, recently in electromagnetics and bio-tissues. During his visit he will be based at Brunel University and will also lecture at Reading (June 19), Cardiff (June 20), and Liverpool (June 23). For more information please contact John Whiteman (john.whiteman@brunel.ac.uk).

DR M. PAVLOV (Landau Institute for Theoretical Physics, Moscow) will be visiting the Mathematics Departments at Loughborough, Imperial College and Glasgow during the period 2-20 May. His visit is supported by an LMS Scheme 2 grant. He will give lectures at all three venues, the provisional dates being 2 May (Imperial), 5 May (Glasgow) and 8 May (Loughborough). His research area is integrable systems. For further details contact Eugene Ferapontov (E.V.Ferapontov@lboro.ac.uk).

DR B. HAAK (currently Technische Universiteit Delft, The Netherlands) will visit the UK from 1-15 May. His visit is funded by an LMS Scheme 2 grant. His visit is planned as follows:

- Oxford: 1-4 May
- Leeds: 5-8 May and 11-15 May
- Glasgow: 9-10 May

Dr Haak will give seminars at:

- Functional Analysis Seminar, University of Oxford, 2 May, contact C. Batty (charles.batty@st-johns.oxford.ac.uk)
 - Yorkshire Functional Analysis Seminar, University of Leeds, 5 May, contact M. Haase (haase@maths.leeds.ac.uk)
 - Analysis Seminar, University of Glasgow, 9 May, contact S. Pott (sp@maths.gla.ac.uk)
- For further details contact Markus Haase (haase@maths.leeds.ac.uk).

PROFESSOR T. SCHLUMPRECHT (Texas A&M University, USA) will visit the UK from 19 June to 12 July 2006, supported by an LMS Scheme 2 grant. Schlumprecht's expertise is in the geometry of Banach spaces; among his important contributions to this field is the solution of the distortion problem (jointly with Odell). During his visit, Professor Schlumprecht will speak on Embeddings into Banach spaces with finite dimensional decompositions at the following venues:

- University of Cambridge, 21 June at 2 pm in Meeting Room 12, Centre for Mathematical Sciences; contact Dr Andras Zsak (a.zsak@dpmmms.cam.ac.uk)
- London Analysis Seminar, 22nd June at 3 pm in Room 500, University College London; contact Professor David Preiss (d.preiss@ucl.ac.uk)
- Lancaster University, 30 June at 4 pm in Room B67, Fylde College; contact Dr Niels Jakob Laustsen (n.laustsen@lancaster.ac.uk)

PROFESSOR J. XIONG (University of Tennessee, USA) will be visiting the Department of Mathematics, Imperial College London from 3-17 July. During his visit he will give the following talks:

- *Some properties for superprocess under a stochastic flow*, University of Manchester, 6-7 July, host Professor Tusheng Zhang (tzhang@maths.manchester.ac.uk)
- *A central limit type theorem for particle filters*, Imperial College London, 11 July
- *Some limit theorems for a particle system of single point catalytic branching random walks*, University of Bath, 13-14 July, host Dr Peter Mörters (maspm@maths.bath.ac.uk)

His visit is partially funded by an LMS Scheme 2 grant. For further information contact Dr Dan Crisan (d.crisan@imperial.ac.uk).

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LMS PROGRAMME AND CONFERENCE FUND

Members are reminded that the Society's Programme and Conference Fund is used to provide conference grants (Scheme 1), grants to visitors to the UK (Scheme 2), grants to support joint research groups (Scheme 3), collaborative small grants (Scheme 4), international short visits (Scheme 5) and connectivity grants (Scheme 6).

For full details of all the Schemes please see the Society's website (www.lms.ac.uk/grants/index.html). Queries regarding applications can be addressed to the Programme Secretary, Stephen Huggett (tel: 01752 232710, e-mail: s.huggett@plymouth.ac.uk) or the Secretary to Programme Committee, Sylvia Daly (tel: 020 7291 9971, email: daly@lms.ac.uk, Wednesday-Friday) who will

be pleased to discuss proposals informally with potential applicants and give advice on the submission of an application.

Please note that grant applications will not be considered between June and September. The next deadline for receipt of applications is **31 May 2006** and these will be considered at a meeting on 15 June 2006. We are currently reviewing our deadlines so please check the website for details which will be announced later this year.

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
5-6 May 2006 Leeds	Ring Theory: recent progress and applications	K.A. Brown kab@maths.gla.ac.uk
22-23 May 2006 Warwick	Mathematical Aspects of Data Assimilation	A.M. Stuart stuart@maths.warwick.ac.uk
26-27 May 2006 Durham	Integrable Models, Conformal Field Theory & Related Topics	A. Taormina anne.taormina@durham.ac.uk
14-15 June 2006 Surrey	Geometry and Mechanics	T.J. Bridges, R.M. Roberts t.bridges@surrey.ac.uk m.roberts@surrey.ac.uk
21-23 June 2006 Glamorgan	17th Postgraduate Combinatorial Conference	M. Higgs mhiggs@glam.ac.uk
30 June 2006 Bristol	Applications of Linear Wave Theory (a meeting to mark the occasion of the retirement of Professor David Evans)	R. Porter richard.porter@bris.ac.uk
3-5 Jul 2006 Edinburgh	Surgery Theory Past, Present and Future (A celebration of C.T.C. Wall's 70th birthday)	A. Ranicki a.ranicki@ed.ac.uk
3-5 July 2006 St Anne's College Oxford	Workshop on Particle Approximations in Filtering and Applications	D. Crisan d.crisan@imperial.ac.uk

Date/Venue	Title	Organiser/email
10 July 2006 QMUL	Groups and Computation 2006: a Leedham-Green Fest	P.J. Cameron p.j.cameron@qmul.ac.uk
14-21 July 2006 Nottingham	Quantum Probability and Applications	V.P. Belavkin viacheslav.belavkin@nottingham.ac.uk
7-10 Aug 2006 Oxford	The Oxford Conference on Topology and Computer Science in honour of Peter Collins and Mike Reed	R.W. Knight knight@maths.ox.ac.uk
29 Aug – 2 Sept 2006 Manchester	Joint 9th International Conference on Relational Methods in Computer Science and 4th International Workshop on Applications of Kleene Algebra	R. Schmidt schmidt@cs.man.ac.uk
7-9 Sept 2006 Oxford	British Logic Colloquium 2006	A.J. Wilkie wilkie@maths.ox.ac.uk
11 Sept 2006 De Morgan House	One-day Function Theory Meeting	P.J. Rippon p.j.rippon@open.ac.uk
11-13 Sept 2006 Gregynog	21st British Topology Meeting	M.D. Crossley m.d.crossley@swansea.ac.uk
25 Nov 2006 QUB	Belfast Functional Analysis Day 2006	M. Mathieu m.m@qub.ac.uk

APPLICATIONS OF LINEAR WAVE THEORY

A one-day meeting is to be held in Bristol on Friday 30 June starting at 11:00 am to mark the occasion of the forthcoming retirement of Professor David V. Evans and to recognise the significant contribution that he has made to the subject of classical linear wave theory over nearly 40 years. The invited speakers are:

- David Abrahams (Manchester)
- Frank Leppington (Imperial)
- Maureen McIver (Loughborough)
- David Porter (Reading)
- Rod Rainey (WS Atkins)
- Fritz Ursell (Manchester)

Further details are available on the web site www.maths.bris.ac.uk/~marp/dve. The meeting is partially supported by an LMS conference grant.

CELEBRATION OF BRYAN BIRCH'S 75TH BIRTHDAY

The Heilbronn Institute for Mathematical Research, Bristol, is organising a celebratory meeting on 15-16 September 2006. The speakers will be

- Manjul Bhargava (Princeton)
- Kevin Buzzard (Imperial)
- John Cremona (Nottingham)
- Gerhard Frey (Essen)
- Tony Scholl (Cambridge)
- William Stein (San Diego)
- Peter Swinnerton-Dyer (Cambridge)
- Don Zagier (Bonn)

Further details about attendance and the celebratory dinner can be obtained by contacting Cathy.Badley@bristol.ac.uk.

ANDREI TYURIN

A memorial celebration

Andrei Tyurin was a regular visitor to Warwick between 1990 and his untimely death in 2002, and was a key participant in Warwick and UK mathematical activities. For many of us, it is still hard to believe that he is no longer with us. This meeting, on Wednesday 12 July at the Mathematics Institute, Warwick, will celebrate his career and lasting influence. The programme is as follows:

- Nick Shepherd-Barron (DPMMS, Cambridge) *Some moduli spaces in algebraic geometry*
- Fedya Bogomolov (Courant Institute) *On algebraic hyperbolicity of surfaces*
- Simon Donaldson (Imperial College) *The scalar curvature of toric surfaces*
- Yuri Manin (Max Planck Institute and Northwestern University) *Quantum tori with real multiplication: algebraic models*

Email mrc@maths.warwick.ac.uk if you are interested in attending. UK participants needing help with small-scale travel expenses should also let us know (no promises). There will be a wine party in the common room followed by dinner. For further details visit the website www.maths.warwick.ac.uk/research/2005_2006/tyurin_prog.html.

MATHEMATICS OF DATA ASSIMILATION

A meeting on Mathematics of Data Assimilation will be held from 22-24 May at Warwick University organised by Amos Lawless, Sarah Dance, Nancy Nichols (Reading) and Andrew Stuart (Warwick). The provisional programme is as follows:

Monday 23 May

- Alan O'Neill (Data Assimilation Research Centre, Reading) *Data Assimilation: a vital tool in the environmental sciences*
- Nancy Nichols (Mathematics, Reading)
- Chris Jones (Mathematics, UNC)

- Mike Cullen (Met Office) *Data assimilation for systems with multiple timescales*
- Lenny Smith (Statistics, LSE)
- Myles Allen (Physics, Oxford) *Data Assimilation using synthetic analogue*

Tuesday 23 May

- Amit Apte (Mathematics, UNC)
- Jochen Voss (Mathematics, Warwick)
- Ian Roulstone (Mathematics & Statistics, Surrey) *Hamiltonian methods and data assimilation*
- Dan Cornford (Neural Computing Research Group, Aston) *Variational Bayesian data assimilation*
- Terry Lyons (Mathematics, Oxford)
- Sarah Dance (Mathematics, Reading)
- Peter van Leeuwen (Marine & Atmospheric Research Centre, Utrecht) *Nonlinear data-assimilation in large – scale ocean models: can we get SIR to work?*
- Mike Fisher (ECMWF)

Wednesday 24 May

- Andy Lawrence (ECMWF) *Data assimilation of targeted observations*
- Maëlle Nodet (Johns Hopkins University, Department of Earth and Planetary Sciences) *Variational assimilation of Lagrangian data in oceanography*
- Amos Lawless (Data Assimilation Research Centre, Reading)
- Andrew Lorenc (Data Assimilation, Met Office) *4D-Var and the Butterfly Effect. Statistical 4D-Var for a wide range of scales*

There are limited spaces for those who would like to attend the meeting; PhD students are encouraged to attend. Registration is £20 plus £15 pounds for the three buffet lunches. Email the Mathematics Research Centre (mrc@maths.warwick.ac.uk) if you wish to attend the meeting. Visit the website www.maths.warwick.ac.uk/miraw/miraw_days.html for further details.

Funded by Centre for Scientific Computing (Warwick), MIR@W (Warwick), London Mathematical Society and US Office of Naval Research.

DYNAMICAL CHAOS AND NON-EQUILIBRIUM STATISTICAL MECHANICS

The Institute for Mathematical Sciences (Singapore) is organizing a programme on Dynamical Chaos and Non-equilibrium Statistical Mechanics: From Rigorous Results to Applications in Nano-systems. The programme will take place from 1 August – 30 September 2006 in Singapore.


This two-month programme will bring together leading international scientists in the field of mathematics, theoretical, computational, and experimental physics, and local experts from Departments of Physics, Mathematics, Computational Science, Material Science, Mechanical Engineering, Electrical and Computer Engineering, DSO labs, Temasek Labs, and A*Star Institutes.

The programme participants will review recent developments of dynamical chaos theory and non-equilibrium statistical mechanics

and its applications to quantum systems and, in particular, to nanosystems. The participants will discuss basic scientific topics for the understanding of the fundamental laws of physics as well as applications to nano and quantum systems. The programme will provide a platform for the participants, in particular the mathematicians and physicists, to dialogue and collaborate in the fast developing field of nano science and technology. The following areas will be the core issues of the programme.

- Non-equilibrium statistical physics.
- Directed and anomalous transport in nano-systems


For further information and registration visit www.ims.nus.edu.sg/Programs/chaos. For general enquiries email imssec@nus.edu.sg. For enquiries on scientific aspects of the programme email Baowen.Li@nus.edu.sg.



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 Leonard M. Wapner
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 — Piergiorgio Odifreddi, Columbia University, author of *The Mathematical Cosmos: The 39 Greatest Problems of the Last 100 Years*



GROUPS AND GEOMETRIES

There will be a day of postgraduate level lectures on *Groups and Geometries* at the University of Birmingham on 22 May.

- Helmut Bender (Kiel) *E and F* via C**
- Peter Rowley (Manchester) *Commuting involution graphs in symmetric groups*
- Sergey Shpectorov (Birmingham) TBA
- Richard Weiss (Tufts) *Affine buildings*

All lectures will be in the Watson Building, Lecture Room A and refreshments will be in Room 221. Everybody is of course welcome. Please let Chris Parker (c.w.parker@bham.ac.uk) know if you will be attending.

TRIANGULATED CATEGORIES WORKSHOP

ICM 2006 Satellite Conference

A workshop on *Triangulated Categories* will take place at the University of Leeds from 13-19 August. The aim of this workshop is to bring together researchers from many parts of mathematics who all use triangulated methods. The event is intended to promote cross fertilization leading to new applications of triangulated categories. Moreover, it should give postgraduate students and post-docs the opportunity to learn about exciting modern developments in various areas of mathematics. Speakers will include:

- Paul Balmer (Zürich)
- Eric Friedlander (Evanston)
- Srikanth Iyengar (Lincoln)
- Bernhard Keller (Paris)
- Henning Krause (Paderborn)
- Ralf Meyer (Göttingen)
- Amnon Neeman (Canberra)
- Dmitri Orlov (Moscow)
- Jeremy Rickard (Bristol)
- Pierre Schapira (Paris)
- Stefan Schwede (Bonn)
- Amnon Yekutieli (Ben Gurion)

The organizers are Thorsten Holm, Peter Jorgensen and Raphael Rouquier. The event is

sponsored by the London Mathematical Society, the Leverhulme Trust and the University of Leeds. For further information, visit the conference website at www.maths.leeds.ac.uk/pure/algebra/TriCat06.html or contact Thorsten Holm (tholm@maths.leeds.ac.uk).

AUSTRALIAN MATHEMATICAL SOCIETY

50th Annual Meeting

The 50th Annual Meeting of the Australian Mathematical Society will take place at Macquarie University in Sydney from 25-29 September 2006. The following mathematicians have accepted invitations to be plenary speakers:

- Pascal Auscher (Université de Paris-Sud)
 - Robert Bartnik (Monash University)
 - Michael Batanin (Macquarie University)
 - Steven Evans (University of California at Berkeley)
 - Peter Forrester (University of Melbourne)
 - Andrew Hassell (Australian National University)
 - Frank de Hoog (Commonwealth Scientific and Industrial Organization)
 - Adrian Lewis (Cornell University)
 - Ngaiming Mok (University of Hong Kong)
 - Christopher Skinner (University of Michigan)
 - Terence Tao (University of California at Los Angeles)
 - Katrin Tent (Universität Bielefeld)
 - Claire Voisin (Centre National de la Recherche Scientifique)
 - Xu-Jia Wang (Australian National University)
- There will be special sessions in the following areas:

- Algebraic geometry
- Category theory
- Combinatorics and geometry
- Differential geometry
- Functional analysis
- Future impact of applications on mathematics
- Geometry and topology
- Group theory

- Harmonic analysis
- Mathematical physics
- Number theory
- Partial differential equations
- Probability and statistics
- Representation theory
- Variational analysis and optimization

For further details of the academic programme, registration and accommodation, please visit the conference website www.maths.mq.edu.au/austms06.

AN EXHIBITION OF THE WORLD'S MOST BEAUTIFUL EQUATIONS

Some thoughts about Justin Mullins's photographs following Marcus du Sautoy's article in the *March Newsletter* (pp 27-28).

I was interested in how differently I responded to the framed equations on a gallery wall as opposed to equations on the page of a mathematical textbook or on a blackboard. In the latter situation I feel a duty to try to understand every term in the equation and to work out its derivation: in the gallery, I found myself more interested in the visual shape of the equation and in the correspondence between that structure and the truth it embodies. (I might have been a better mathematician if I'd adopted more of that approach in reading mathematical texts!) Although the website justinmullins.com does its best to present the artworks as art rather than mathematics, for example by showing the images in frames, I didn't get the same feel from the website: I do feel that these pictures are best seen on the wall.

It was intriguing, to one who has always felt that equations epitomised the abstract and impersonal, that the artist seems to find personal connections with the equations: apparently he started creating these works as presents for friends, matching the equation to the recipient.

I found this personalisation, again, put some of the equations in a new light.

And there is the question of selection. Mullins clearly isn't claiming to have originated the equations. And while some artists encourage the viewer to discover the interest in found objects and items others have thrown away as worthless, these equations were clearly identified as objects of value and importance before Mullins chose them to present to us. I noticed that the piece representing my favourite branch of mathematics, group theory, was the one which I liked least: Mullins presents the table of the group of rotations of a regular pentagon, surely a rather boring group: either the group of symmetries of the equilateral triangle or the Klein 4-group would seem to me much more worthy of display. And perhaps this reaction reflects, again, my excessive concern with the literal meaning of the equation. Apart from my enjoyment of the exhibition itself (which was clearly shared by the other visitors on the day I went), I found the show more thought-provoking than I had expected.

Tony Mann
University of Greenwich



© Sidney Harris

MATHEMATICS IN VICTORIAN BRITAIN

A meeting on *Mathematics in Victorian Britain* will take place from 3-4 June at Rewley House, Oxford. The Victorian age saw a great flowering of mathematical activity in the British Isles which took place in many fields – pure and applied mathematics, logic and statistics. It involved Babbage, Cayley, De Morgan, Kelvin, Kirkman, Maxwell, Pearson, Sylvester and many others. The work of Victorian British mathematicians has had a lasting impression on subsequent mathematical development and this weekend will examine the themes, people and places involved in this period. Provisional list of speakers:

- Adrian Rice *Overview: British Mathematics, 1837-1901*
- Jeremy Gray *Those awful Brits*
- Allan Chapman *Victorian astronomy*
- Eileen Magnello *Victorian statistics*
- Alex Craik *Victorian applied mathematics*
- Robin Wilson *Victorian combinatorics*
- Doron Swade *Babbage, dumbing down, and a new technology of mathematics*
- Ivor Grattan-Guinness *Victorian logic from Whately to Russell*
- Tony Crilly *Mathematical developments in Cambridge*
- Keith Hannabuss *Victorian Oxford*
- Raymond Flood and Tony Mann *Victorian Ireland and Scotland*
- Sloan Despeaux *Victorian mathematical societies and journals*
- Karen Parshall *Victorian algebra*

This British Society for the History of Mathematics meeting is joint with Oxford University Department of Continuing Education and the Open University Centre for the History of the Mathematical Sciences. For further information contact the organiser Raymond Flood (raymond.flood@continuing-education.oxford.ac.uk).

GEOPHYSICAL FLUID DYNAMICS AND SCALAR TRANSPORT IN THE TROPICS

The Institute for Mathematical Sciences (Singapore) is organizing a programme on Geophysical Fluid Dynamics and Scalar Transport in the Tropics. The programme will take place from 27 November – 22 December 2006 in Singapore.

This one-month programme is a small effort to address the dearth of knowledge in tropical dynamics. Over two workshops interspersed by two mini-courses, an international gathering of scientists and applied mathematicians will review recent theoretical ideas on geophysical fluid dynamics (GFD) and scalar transport within the tropics and while incubating new ideas. The ideas discussed will help organize and elucidate information in datasets generated by weather or sea-state forecast and pollutant dispersion analysis in Southeast Asia. Thus, the programme will also benefit participating applied meteorologists and oceanographers who handle datasets on a day-to-day basis.

Some or all of the listed topics below will be covered. The first two topics underpin the dynamics of numerical prediction of the tropical atmosphere and oceans; the last two topics lie at the fundamentals of chemical transport and dispersion.

- Hamiltonian and Lagrangian approach to GFD
- Simplified models of tropical atmosphere
- Turbulent scalar transport
- Chaotic tracer advection

The programme will provide ample opportunities for collaborative research among local and international participants. For further information and registration visit www.ims.nus.edu.sg/Programs/geophysical/index.htm.

For general enquiries email imssec@nus.edu.sg. For enquiries on scientific aspects of the programme email Tieh-Yong Koh (kohty@ntu.edu.sg).

LMS POPULAR LECTURES 2006

This year's Popular Lectures will take place in London on 12 July and in Birmingham on 27 September.

The 2006 lecturers will be:

- Emma McCoy (Imperial College)
From magic squares to Sudoku
- John Haigh (University of Sussex)
How likely is that?

Once the details are finalised, the information will be posted on the LMS website (www.lms.ac.uk).

LMS NORTHERN REGIONAL MEETING

University of Leeds
Monday 3 July 2006

U. Haagerup
(University of Southern Denmark, Odense)
Random matrices and operator algebras

N.J. Kalton
(University of Missouri)
An application of classical Banach space theory to partial differential equations

For further details, see the website www.maths.leeds.ac.uk/pure/analysis/lms/ or contact H.G. Dales (garth@maths.leeds.ac.uk).

LONDON MATHEMATICAL SOCIETY

HARDY LECTURER 2006

The 2006 Hardy Lecturer is Professor Yu Manin (Northwestern University). During his visit to the UK in June he will give lectures at the following places:

- **Friday 16 June** – The Hardy Lecture, LMS Meeting, University College London
Continued fractions, non-commutative boundaries and Einstein equations
contact Susan Oakes (oakes@lms.ac.uk)
- **Monday 19 June** – Edinburgh University
Iterated integrals of modular forms and non-commutative modular symbols
contact Tom Lenagan (tom@maths.ed.ac.uk)
- **Tuesday 27 June** – Bristol University
Iterated integrals of modular forms and non-commutative modular symbols
contact S. Wiggins (S.Wiggins@bristol.ac.uk)

During Professor Manin's stay in the UK he will be based at Imperial College London. Contact Richard Thomas (richard.thomas@imperial.ac.uk) for further information.

The names given are the local organisers, from whom further information can be obtained. For general enquiries contact Stephen Huggett, LMS Programme Secretary.

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES
**STOCHASTIC COMPUTATION FOR THE
ANALYSIS OF ECOLOGICAL AND
EPIDEMIOLOGICAL DATA**

20–24 November 2006

in association with the Newton Institute programme entitled
Stochastic Computation in the Biological Sciences (23 October – 15 December 2006)

Workshop organisers: Steve Brooks (Cambridge)

Theme of workshop: Epidemiological and Ecological data pose similar methodological problems for statisticians. Both areas require the analysis of large yet sparse datasets often with both individual and environmental time-varying explanatory factors. In both cases effective management is the key goal as well as developing understanding as to the processes underpinning the observed dynamics.

The workshop aims to explore the cutting-edge of scientific developments in these fields and to discuss the statistical methodologies required to underpin future advances. In particular, we will highlight the computational and statistical challenges involved in modelling animal population and disease dynamics at the individual level and draw in expertise from a range of disciplines to help guide future (scientific and statistical) developments.

Speakers: Elja Arjas, Frank Ball, Eric Renshaw, Arnaldo Frigessi, James Wood, Bryan Grenfell, Chris Gilligan, Steve Buckland and Denis Mollison.

Location and cost: The workshop will take place at the Newton Institute and accommodation for participants will be provided in single study bedrooms with en suite bathroom at New Hall. The workshop package, costing £560, includes accommodation and breakfast from Sunday 19 November to breakfast on Saturday 25 November, and lunch and refreshments during the days that lectures take place. Participants who wish to attend but do not require the workshop package will be charged a registration fee of £135. 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/SCB/scbw03.html. Completed application forms should be sent to Tracey Andrew, Programme and Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email (t.andrew@newton.cam.ac.uk).

Closing date for the receipt of applications is **14 July 2006**.

**UNIVERSITY OF CAMBRIDGE
FACULTY OF MATHEMATICS**

ADAMS PRIZE

Statistics

The Chairman of the Adjudicators for the Adams Prize invites applications. The Prize will be awarded this year for research achievement in the field of Statistics, interpreted in the broadest sense.

The prize is open to any person who, on 31 October 2006, will hold an appointment in the UK, either in a university or in some other institution; and who is under 40 (in exceptional circumstances the Adjudicators may relax this age limit). The value of the prize is expected to be approximately £13,000; of which one third is awarded to the prize-winner on announcement of the prize, one third is provided to the prize-winner's institution (for research expenses of the prize-winner) and one third is awarded to the prize-winner on acceptance for publication in an internationally recognised journal of a substantial (normally at least 25 printed pages) original article, of which the prize-winner is an author, surveying a significant part of the winner's field.

Applications (seven copies), comprising a CV, a list of publications, the work or works (published or unpublished) to be considered, and a brief non-technical summary of the most significant new results of these works (designed for mathematicians not working in the subject area) should be sent to:

**The Secretary of the Adams Prize Adjudicators,
Faculty Office, Centre for Mathematical Sciences,
Wilberforce Road, Cambridge CB3 0WA**

(enquiries may be emailed to: faculty@maths.cam.ac.uk)

The deadline for receipt of applications is 31 October 2006.

EPSRC

**Methods of Non-equilibrium
Statistical Mechanics in Turbulence**

LMS/EPSRC Short Course

University of Warwick, 10–14 July 2006

Organisers: Dr S. Nazarenko and Dr O. Zaboronski



Methods of non-equilibrium statistical mechanics play an increasingly important role in modern turbulence research. Unfortunately, the range of relevant tools and methods of non-equilibrium statistical mechanics is so wide and they are developing so fast that there is not a single text book covering the subject. The goal of this Short Course is to rectify the situation by giving an introduction to modern methods of statistical mechanics in turbulence. The Course will be given in parallel with an international workshop devoted to the same subject, and will aim to prepare graduate students and young researchers for this workshop. Three world class experts in statistical physics and turbulence have kindly agreed to teach at the School and will give the following lectures:

- Professor John Cardy (Oxford University)
Field theory and non-equilibrium statistical mechanics
- Professor Gregory Falkovich (Weizmann Institute, Israel)
Turbulence theory as part of statistical physics
- Professor Krzysztof Gawedzki (ENS Lyon)
Soluble models of turbulent transport

Lectures will be accompanied by daily example classes led by specialists in the field. To help participants to prepare for the Course, each lecturer is compiling a reading list for his own course. As soon as the lists are ready, they will be available on the Course website at: www.maths.warwick.ac.uk/%7esnazar/turb_symp/WTS.html.

The registration fee to attend is £100. The accommodation costs for all UK-based research students are covered by EPSRC. Participants must pay their own travel costs. EPSRC-supported students can expect that their registration fees and travel costs will be met by their departments from the EPSRC Doctoral Training Account. Postdocs and non-UK students will be required to pay their own subsistence costs and the registration fee (£388 in total).

Application forms may be obtained from Isabelle Robinson, Administrative Officer, London Mathematical Society (email: robinson@lms.ac.uk, tel: 020 7291 9979, fax: 020 7291 9978) or an on-line form is available on the LMS website: www.lms.ac.uk/activities/research_meet_com/short_course/30_poster.html.

Numbers will be limited and those interested are advised to make an early application. The closing date for applications is **Friday 26 May 2006**. All applicants will be contacted by the London Mathematical Society approximately one week after this deadline; we will not be able to give information about individual applications before then. Please do not send any money until we ask.

EPSRC

**Stability, Coupling Methods
and Rare Events**

LMS/EPSRC Short Course

Heriot-Watt University, Edinburgh, 4–9 September 2006

Organisers: Professor Serguei Foss and Dr Takis Konstantopoulos



This course provides an overview on three important topics in modern probability theory. The lectures will be supported by tutorial classes. The course lecturers are:

- S. Foss and T. Konstantopoulos (Heriot-Watt University)
Elements of stochastic stability
- A. Puhalskii (University of Colorado at Denver) and S. Foss (Heriot-Watt University)
Large deviations and rare events
- H. Thorisson (University of Iceland)
Coupling methods

Two guest lectures will be given by:

- S. Asmussen (University of Aarhus)
Tail asymptotics for sums of dependent heavy-tailed random variables
- I. Kontoyiannis (Athens University of Economics)
Information-theoretic ideas in Poisson approximation and concentration

The course is aimed at mathematics and statistics postgraduate students and students from closely related fields (theoretical computer science, physics, etc) who are interested in any area that requires a knowledge of asymptotic and coupling methods of probability theory. Postdocs and young researchers are also welcome to attend.

It assumes familiarity with elements of probability theory, including basic limit theorems, Markov chains and elements of stochastic processes. For further information, see: www.ma.hw.ac.uk/~takis/probcourse06.

The registration fee to attend is £100. The accommodation costs for all UK-based research students are covered by EPSRC. Participants must pay their own travel costs. EPSRC-supported students can expect that their registration fees and travel costs will be met by their departments from the EPSRC Doctoral Training Account. Postdocs and non-UK students will be required to pay their own subsistence costs and the registration fee (£400 in total).

Application forms may be obtained from Isabelle Robinson, Administrative Officer, London Mathematical Society (email: robinson@lms.ac.uk, tel: 020 7291 9979, fax: 020 7291 9978) or an on-line form is available on the LMS website: www.lms.ac.uk/activities/research_meet_com/short_course/32_poster.html.

Numbers will be limited and those interested are advised to make an early application. The closing date for applications is **Friday 7 July 2006**. All applicants will be contacted by the London Mathematical Society approximately one week after this deadline; we will not be able to give information about individual applications before then. Please do not send any money until we ask.

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES
**RECENT ADVANCES IN MONTE CARLO
BASED INFERENCE**

30 October – 3 November 2006

in association with the Newton Institute programme entitled
Stochastic Computation in the Biological Sciences (23 October – 15 December 2006)

Workshop organisers: Arnaud Doucet (Vancouver) and Paul Fearnhead (Lancaster)

Theme of workshop: Monte Carlo methods, particular Markov Chain Monte Carlo (MCMC), are now the methods of choice for making inferences about complex stochastic systems. Whilst MCMC dates back over 50 years, and there has been extensive research in Monte Carlo methods over the past 20 years, there are still many challenges that face researchers today. These include attempting to analyse the highly complicated stochastic models and large scientific data sets that are now commonplace and trying to understand the theoretical properties of some of the novel ideas that are proposed.

Currently, Monte Carlo methods are used by researchers in numerous scientific fields, including statistics, physics, engineering, genetics, econometrics, bioinformatics, and machine learning. This interdisciplinary workshop will bring together researchers from a variety of such fields to discuss current and novel Monte Carlo methodology, and to cross-fertilise ideas across these different disciplines. The workshop will have a broad focus, covering both recent advances in more established methods such as MCMC and sequential Monte Carlo, together with more recent ideas and ideas that have had little exposure within the statistics community, such as Variational methods, Population Monte Carlo, Approximate Bayesian Computing, Quasi Monte Carlo, and Indirect Inference.

Confirmed speakers: Pierre L'Ecuyer (Montreal), Zoubin Ghahramani (Cambridge), Peter Green (Bristol), Yukito Iba (ISM, Tokyo), Omiros Papaspiliopoulos (Lancaster), Tony Pettitt (Queensland), Gareth Roberts (Lancaster) and Darren Wilkinson (Newcastle).

Location and cost: The workshop will take place at the Newton Institute and accommodation for participants will be provided in single study bedrooms with en suite bathroom at New Hall. The workshop package, costing £600, includes accommodation, breakfast and dinner from dinner on Sunday 29 October to breakfast on Saturday 4 November, and lunch and refreshments during the days that lectures take place. Participants who wish to attend but do not require the workshop package will be charged a registration fee of £40. 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/SCB/scbw01.html. Completed application forms should be sent to Tracey Andrew, Programme and Conference Secretary, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH or via email (t.andrew@newton.cam.ac.uk).

Closing date for the receipt of applications is **30 June 2006**.

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).

MAY 2006

- 1-30 Jun** Random Graphs and Large Scale Real World Networks, Singapore (343)
- 2** Gresham College Geometry Lecture, City of London School, London (343)
- 3** OWL Meeting, Warwick (346)
- 5-6** McConnell and Robson Retirals Conference, Leeds (346)
- 5-6** Operator Algebra Workshop, Belfast (347)
- 8-12** Constraints and Verification Conference, INI, Cambridge (345)
- 8-19** Combinatorics, Automata & Number Theory Conference, Liège, Belgium (339)
- 15** LMS Midlands Regional Meeting, Leicester (348)
- 16-18** Teichmüller Theory and Cluster Algebra LMS Workshop, Leicester (348)
- 19-20** Groups in Galway, Galway (346)
- 22** K-Theory Day in honour of Dan Quillen, Oxford (348)
- 22** Groups and Geometries, Birmingham (348)
- 22-24** Mathematics of Data Assimilation, Warwick (348)
- 25-31** Nonstandard Methods and Applications in Mathematics Congress, Pisa, Italy (347)
- 26** Edinburgh Mathematical Society Meeting, St Andrews (341)

JUNE 2006

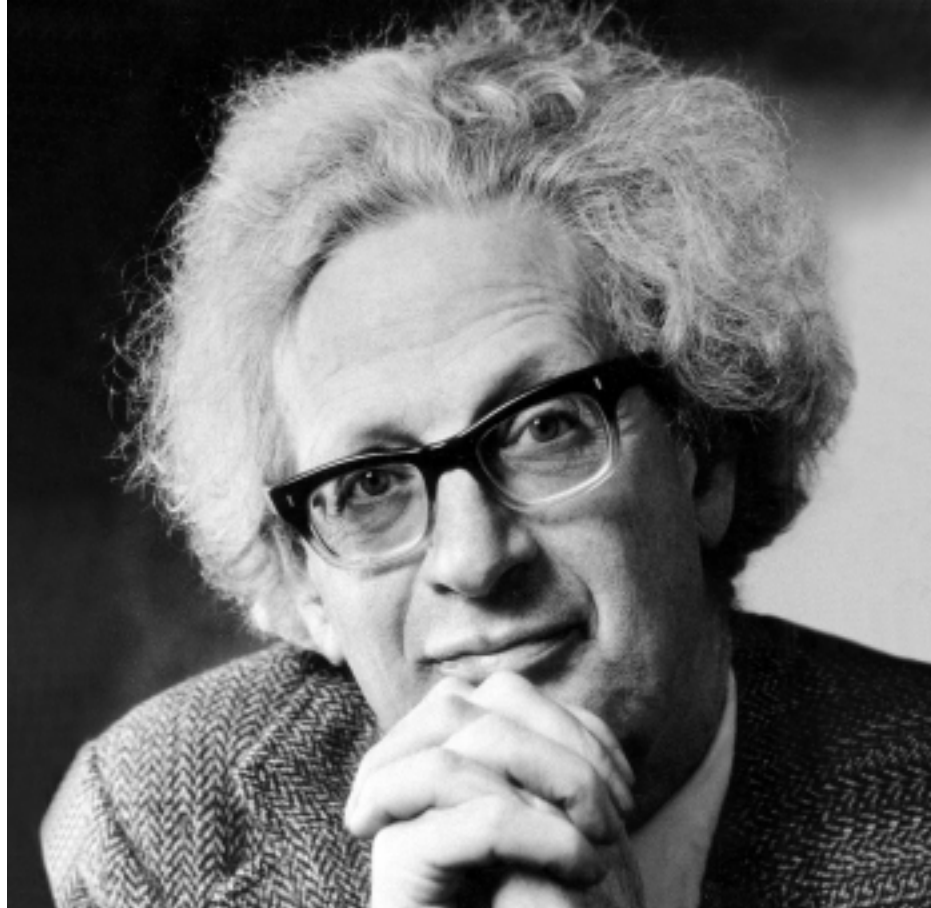
- 1-30 Jul** Algorithmic Biology, Singapore (344)
- 3-4** Mathematics in Victorian Britain, Rewley House, Oxford (348)

- 6-30** First Passage & Extreme Value Problems in Random Processes Conference, INI, Cambridge (340)
- 7-11** Nonlinear PDEs and Applications Conference, Toledo, Spain (346)
- 13-16** Mathematics of Finite Elements & Applications Conference, Brunel (336)
- 14-15** Geometry and Mechanics Conference, Surrey (347)
- 14-17** SING 2 & IMGTA, Foggia, Italy (342)
- 16** LMS Meeting, London (348)
- 19-23** Quantile Regression ICMS Workshop, Edinburgh (342)
- 19-30** Combinatorial Optimization SMS NATO Summer School, Canada (343)
- 25-2 Jul** Junior Mathematical Congress 2006, Romania (340)
- 26-30** Applied Asymptotics & Modelling ICMS Workshop, Edinburgh (342)
- 28** Automated Design and Optimisation Techniques Using CFD, London (348)
- 30** Applications of Linear Wave Theory, Bristol (348)
- 30-5 Jul** Logical Approaches to Computational Barriers, Swansea (343)

JULY 2006

- 3** LMS Northern Regional Meeting, Leeds (348)
- 3-5** Surgery, Theory Past, Present and Future Meeting, ICMS, Edinburgh (347)
- 3-7** Randomness and Complexity Workshop, Bristol (344)
- 3-7** Games and Verification Conference, INI, Cambridge (347)
- 3-13** Dynamical Systems and Statistical Mechanics LMS Durham Symposia, Durham (345)
- 10-14** Methods of Non-equilibrium Statistical Mechanics in Turbulence, LMS/EPSC Short Course, Warwick (348)
- 10-14** New Directions in Applied Probability ICMS Workshop, Edinburgh (342)
- 10-14** Mathematics for Industry Conference, Madrid (347)
- 12** LMS Popular Lectures, London (348)

ALBRECHT FRÖHLICH
DE MORGAN MEDALLIST
1992



Extract from the citation: Professor Fröhlich is awarded the De Morgan Medal for his many important contributions to algebraic number theory. His research is characterized by a prodigious flow of highly original ideas. His work includes such topics as class two nilpotent Galois groups, class groups of abelian fields, genus theory, quadratic forms and orthogonal representations, and local

Langlands theory. However, without any doubt his most important achievement is the creation of that body of knowledge now known as arithmetic Galois module theory. Fröhlich has greatly influenced the development of algebraic number theory. Special mention should be made of the help that he has consistently given to young mathematicians.