THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 292 April 2001

FORTHCOMING SOCIETY MEETINGS

Friday 22 June - London
Hardy Lecture - P. Diaconis
Friday 6 July - Manchester
Northern Regional Meeting
Wednesday 12 September - Bristol
South Western Regional Meeting

LMS RETREAT

The Council Retreat took place over a long weekend, 16 - 18 February, at the Isle of Thorns Conference Centre in Sussex. Now becoming a biennial fixture, the retreat is an opportunity for Council to spend a longer time reflecting on substantial policy issues than normal meetings permit. This is the third such retreat your correspondent has attended. The previous two retreats led to the move to De Morgan House, a major reorganisation of the Society's administrative operations, and the formation of the Council for the Mathematical Sciences. It is not clear whether any single thing as major will come from the discussions at this retreat, although we explored many areas of Society policy, and identified issues which will in due cause be fleshed out into firm proposals for subsequent ratification at a Council meeting.

The meeting began on Friday evening with a paper presented by John Cremona on the direction of future developments in the Society, prepared in consultation with the new members of Council. It was appropriate to begin with such an overarching theme, and this informed our subsequent discussions on other topics. It is generally agreed that our natural community is a wider one than it has been at other times in the Society's history. We are no longer exclusively concerned with 'pure' mathematics, as a glance at the range of mathematical activity supported by the LMS makes clear (and indeed, the Charter makes no reference to 'pure' or 'applied'). However we have a clear identity as a learned society, conscious of the importance of mathematics in its own right. We discussed ways in which we can advance the interests of our widening body of members. What can the Society do to support local high-quality colloquia across the country? This was felt to be an area where LMS funding could be very effective (although some thought there was a danger of supporting activities which were going to happen anyway). Should the LMS set up or facilitate a national competition for undergraduates, along the lines of the American Putnam competition? There already are international competitions for undergraduates, although most departments don't seem to be aware of these. The appropriateness of

these for undergraduates across a wide range of UK universities, not just the top few, was discussed. We also discussed our relations with the theoretical Computer Science community. For some years this has been an important part of LMS activity, through our Computer Science Committee and the joint LMS/EPSRC MathFIT programme. We need to keep track with developments in computer science, and this will be raised at the May Council meeting. The international competitiveness of UK PhD training was discussed - in some areas it is felt that the 4 year submission limit places us at a considerable disadvantage - and we wondered whether it was time for LMS, in concert with sister organisations, to instigate an assessment of the provision by international standards.

The main working day was Saturday, which began with a discussion of External Relations, led by Executive Secretary, Ben Garling. The main proposal, which emerged from a meeting of the Council for the Mathematical Sciences (representing IMA, LMS and RSS), was for a unit for the promotion of mathematics which could provide a main point of information and contact for external bodies and the media. Other sciences have such units, some of them major undertakings. Ben had prepared a list of some 30 organisations with which we have important links. We noted one organisation with which we do not have links is the ILT, and that in view of the ILT's position it would be appropriate to rectify this.

The lengthiest document presented at the retreat was a paper on the medium-term prospects of the Society's publications portfolio, prepared by Susan Hezlet, the Society's Publisher, and presented by Chris Lance, the Publications Secretary. Our publications generate a substantial part of the Society's income, and recent developments in publication (including the advent of electronic journals) and the continued pressure on University libraries means that we cannot take this income for granted. The LMS entered the field of electronic publication with the LMS *Journal of Computation and Mathematics* three years ago, but this, like other e-journals, has taken time to establish and has been quite costly to set up. The standing of the LMS journals was also discussed - the internationalisation of publication means that the LMS journals may no longer necessarily be seen as the natural place for UK mathematicians to publish their best work, as they were for Hardy and Littlewood. Overall the prospect for publications is healthy, and future ventures which should benefit the Society and the community at large were touched on - although commercial sensitivities make it hard to say more, we are hopeful for some exciting developments in the near future.

Not so long ago, elections for Council were rarely contested and it was possible in practice for Council to arrange that chairs of important society committees could be members of Council if that was felt appropriate. Now that we have a Nominating Committee, the situation has quite rightly changed, and for the last two years all elections for members-at-large on Council have been contested. In consequence, some formal mechanism for linking the various parts of the Society's organisation is needed. A detailed paper was presented by John Pym (who is to be credited with bringing more democracy into the Society's elections). At the moment selected committee chairs attend Council for one or two meetings a year; it is likely that we may invite one or two of these to attend all meetings in cases where (like the Education Committee) the committee's activity is closely tied to Council policy.

On two other issues we had an external contribution. Steve Reid, the President of the IMA, and Professor of Mechanical Engineering at UMIST, was invited to give a presentation on Mathematics and Engineering. In a revealing talk he targeted three areas where more mathematical input in engineering was needed. One was the mathematical training of engineering students (and other scientists),

where UK provision is felt to lag behind that in other countries. Another was at research level, where engineers would benefit from better interaction with mathematicians. At a more specific level, the need for more mathematical input into solid mechanics in the UK was identified. At the instigation of the EPSRC Mathematics Programme, the IMA and LMS are organising a meeting to explore connectivity between the two disciplines. We discussed other ways in which we could contribute to cross-discipline interaction at a time when awareness was at its highest. Supporting short courses aimed at engineers was one idea raised. Collaboration between mathematicians and engineers, at an individual level, could be supported by suitable application or extension of the small grants schemes operated by LMS Programme Committee. It was noted that, although EPSRC are keen to support interdisciplinary research, the refereeing process could disadvantage such grant applications - a research proposal in engineering which contained a substantial mathematical component could be considered too rarefied by an engineer but too naive by a mathematician.

Finally, we continued our ongoing discussions about relations with the IMA. Alun Morris had prepared an interesting paper highlighting the experiences of other sciences - both Physics and Chemistry (and, perhaps closer to home, Statistics) have had to cope with a multiplicity of learned societies and professional organisations within a single broad science. In the end these organisations eventually merged into a single representative body. It was invaluable to have the attendance of Professor Reid, who gave us an account of issues emerging from the IMA's recent retreat, and indicated the Institute's enthusiasm for future cooperation with the LMS. It is clear that there are many issues on which the LMS and IMA can and should work together effectively, and that (as the formation of the Council for the Mathematical Sciences has demonstrated) close collaboration enables us to speak with a common voice on matters which affect the whole mathematical community. We agreed to identify more areas in which we could both benefit from closer collaboration, and following from the previous discussion, one natural course of action would be to set up a joint working group on mathematics and engineering.

Tony Scholl

CONFERENCE IN HONOUR OF PROFESSOR D.G. LARMAN

There will be a conference, supported by an LMS scheme 1 grant, in honour of the 60th birthday of Professor D.G. Larman to be held at University College London, Department of Mathematics on 20 - 21 April 2001. There is no registration fee and all are welcome. For further information contact Keith Ball, University College London, Department of Mathematics, London, WC1E 6BT (e-mail: kmb@math.ucl.ac.uk, tel: 020 7679 2843).

BRINGING MATHEMATICIANS INTO BIOLOGY

The Human Frontier Science Program (HFSP) is an international funding agency, supported by the G7 governments, the European Union and Switzerland. The HFSP supports interdisciplinary, international collaborations in the life sciences, with an increasing focus on bringing scientists from various fields such as physics, mathematics, chemistry, computer science and engineering together with biologists to open up new approaches to understanding complex biological systems. The HFSP promotes international collaboration through collaborative research grants and post-doctoral fellowships. The next deadline for applications for fellowships is 1 September 2001. Further information can be obtained from the HFSP web site (http://www.hfsp.org).

APPLIED MATHEMATICS IN OUR CHANGING WORLD

The first SIAM-EMS Conference on 'Applied Mathematics in our Changing World' will be held in Berlin, Germany from 2 - 6 September 2001. The invited speakers are: Alfio Quarteroni (EPFL, Switzerland), Michael Waterman (USC, USA), Jon Chapman (OCIAM, Oxford, UK), Andrew Majda (CAOS, New York, USA), Michael Griebel (Bonn, Germany), Martin Grötschel (TU Berlin, Germany), Kai Nagel (ETH-Zentrum, Switzerland), Benoit B. Mandelbrot (Yale, USA), Pietro Perona (Pasadena, USA), Thomas Y. Hou (Pasadena, USA). Further information may be found on the web (http://www.zib.de/amcw01) or contact Erlinda C. Körnig or Sigrid Wacker, SIAM/EMS Conference 2001, Konrad-Zuse-Zentrum Berlin (ZIB), Takustr. 7, D-14195 Berlin-Dahlem, Germany (e-mail: amcw01@zib.de).

MASTERS DEGREES AND THE NEW QUALIFICATIONS FRAMEWORK

The QAA has now published its new 'Qualifications Framework' (see http://www.qaa.ac.uk/crntwork/nqf/nqf.htm). This affects MMath degrees, some of which (depending on the details of their structure) may need to be slightly redesigned. It also affects the MSc degree, for which the Framework sets criteria that are in line neither with present practice nor with the 1999 Bologna Declaration.

Education Committee has suggested that a small working party should be set up by the LMS and other interested organisations to consider the implications and to offer guidance to departments. We understand that it is not the QAA's intention to abolish the MMath and similar four year programmes in science and engineering, but there may still be serious problems along the way. If you are being asked by your university how your MMath or your MSc fit into the Framework, you may find it convenient to reply that you will respond when the mathematical community as a whole has decided how the Framework is to be interpreted. If you would like to be kept informed about the progress of the working party, or to make suggestions to it, please e-mail Frances Spoor at De Morgan House (spoor@lms.ac.uk).

APPLICATION OF MULTIPLE-VALUED LOGIC TO ARTIFICIAL INTELLIGENCE AND TO DATA MINING

A MathFIT (Mathematics for Information Technology, supported by EPSRC and London Mathematical Society) Workshop is being held on 27 - 28 April 2001 at the School of Computer Science, Queen's University Belfast. Registration is necessary, but there will be no charge to participants.

The application of multiple-valued logic (MVL) to (i) reasoning, and to (ii) learning, represents a slowly-burgeoning area of research work. This workshop aims at significantly strengthening these applications of MVL. We are aiming at enhancing the role of MVL in data mining and in artificial intelligence. A range of speakers will deal with theoretical aspects of MVL, and applications to reasoning (in artificial intelligence) and to learning (in data mining). Clustering and classification are at the core of many of these methods and applications. The opening morning session will consist of tutorials, aimed at PhD research students and young researchers. Participation by young researchers and PhD students is particularly encouraged. Some funding is available for the support of such participants.

Further information is available on the web (http://www.qub.ac.uk/~ivs/mvl) or contact Professor F. Murtagh, School of Computer Science, Queen's University Belfast, Belfast BT7 1NN (e-mail f.murtagh@qub.ac.uk) or Mr Ken Adams, Faculty of Informatics, Magee College, University of Ulster, Londonderry BT48 7JL (e-mail kenadams53@hotmail.com).

LONDON MATHEMATICAL SOCIETY
IN ASSOCIATION WITH THE ISAAC NEWTON INSTITUTE

Second Announcement

Spitalfields Day

Wednesday 9 May 2001
King's College London

TODAY'S PDEs

Organiser: N.S. Trudinger (ANU Canberra)

The programme will commence at 13.30 and conclude with a reception at 17.30. All lectures will take place in Room G.73 in the Franklin Wilkins Building, Waterloo Campus, Kings College, London.

(See www.kcl.ac.uk/about/maa/waterloo.html)

Speakers:

13.30 - 14.20	**L. C. Evans** (Berkeley, California) *A model for compression moulding*
14.20 - 15.10	**C. M. Dafermos** (Brown and Oxford) *Progress in hyperbolic conservation laws*
15.10 - 15.40	Tea
15.40 - 16.30	**A. Grigoryan** (Imperial) *Heat equation on Riemannian manifolds*
16.30 - 17.20	**N. S. Trudinger** (ANU Canberra) *Monge-Ampere equations and related topics*

For catering purposes, please advise Maureen Clark at the Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH (email: m.clark@newton.cam.ac.uk) by **2 May 2001** if you intend to come.

AMS - SMF MEETING

The American Mathematical Society and the Société Mathématique de France are holding the First Joint International AMS-SMF Meeting in Lyon at the École Normale Supérieure from 17 - 20 July 2001. The Plenary Speakers are:

- Sun-Yung A. Chang (Princeton University)
- Jean-Pierre Demaily (Université de Grenoble)
- Persi Diaconis (Stanford University)
- Robert Gardner (University of Massachusetts, Amherst)
- Claude Le Bris (ENPC, Marne la Vallée)
- Yves Meyer (École Normale Supérieure, Cachan)
- Michèle Vergne (École Polytechnique)

The Special Sessions are:

- Mathematical Fluid Dynamics
- Probability
- Logic and Interaction: the Rules of Logic and the Logic of Rules
- PDE and Geometry
- Fractal Geometry, Number Theory and Dynamical Systems
- Gauge Theory
- Additive Number Theory
- Geometric Structures in Dynamics
- Geometry and Representation Theory of Algebraic Groups
- Commutative Algebra and its Interactions with Algebraic Geometry
- Geometric Group Theory
- Dynamics of Nonlinear Waves
- Mathematical Methods in Financial Modelling
- Differential Geometric Methods in Mathematical Physics
- History of Mathematics
- Model Theory
- Geometric Methods in Low Dimensional Topology

For further information and registration write to Unité de Mathématiques Pures et Appliquées, École Normale Supérieure de Lyon, 46 Allée d'Italie, F-69364 Lyon Cedex 07, France (fax: 0033 4 72 72 84 80, e-mail: smf-ams@umpa.ens-lyon.fr, web: http://www.umpa.ens-lyon.fr/~smf-ams/)

SYMPOSIUM IN HONOUR OF SIR JOHN KINGMAN

Sir John Kingman FRS, former president of the LMS, will shortly be moving from Bristol to take up the post of Director of the Isaac Newton Institute. A symposium in his honour will be held on the afternoon of Wednesday 16 May, in the School of Mathematics in Bristol. Attendance at the meeting is free of charge.

The meeting will focus on topics of current interest in probability and related fields where Kingman's own work has been particularly influential. The programme will probably include three invited speakers, two of whom will be David Williams and Wilfrid Kendall.

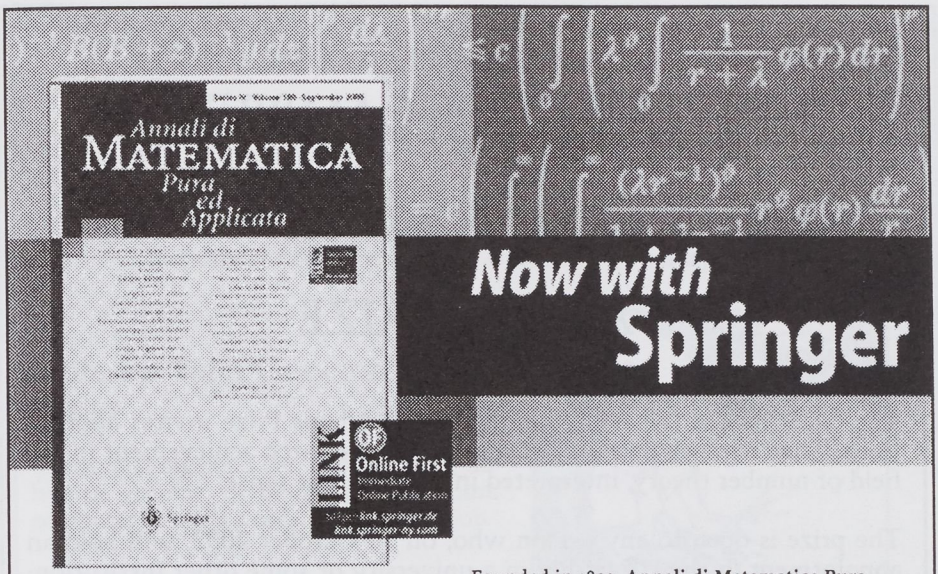
Further information on the meeting will be available on the web in due course (http://www.stats.bris.ac.uk/~peter/jfck.html) or you can contact Professor P. Green, Department of Mathematics, University of Bristol, Bristol BS8 1TW (tel: 0117 928 7967, fax: 0117 928 7999, e-mail: P.J. Green@bristol.ac.uk).

YORK OPERATOR THEORY DAY

A one-day meeting on Operator Theory with approximately six 30-minute and 45-minute talks will take place at the University of York, Vanbrugh College, Room V/123, on 20 April. Speakers include:

- Oscar Blasco (Universitat de Valencia, Spain)
- Gordon Blower (University of Lancaster)
- Carsten Michels (University of Leeds)
- Nikolai Nikolskii (Université Bordeaux I, France)

The meeting is supported by the LMS. For more information, contact sp23@york.ac.uk or visit the website (http://www-users.york.ac.uk/~spe1/meeting/shtml).



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ADAMS PRIZE

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 number theory, interpreted in the broadest sense.

The prize is open to any person who, on 30 October 2002, will hold an appointment in the UK, either in a university or 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 £12,000; 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 some major area of research in number theory.

Applications (seven copies), comprising a CV, a list of publications, the work or works (published or unpublished) to be considered, and a brief summary of the most significant new results of these works 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 e-mailed to: faculty@maths.cam.ac.uk).

The deadline for receipt of applications is 31 October 2001.

LONDON MATHEMATICAL SOCIETY

POPULAR LECTURES 2001

Strathclyde University - Thursday 14th June
Leeds University - Friday 22nd June
Institute of Education, London University - Tuesday 3rd July

Professor Peter Cameron
Codes

'From catching out a liar, to sequencing the human genome, or designing a quantum computer - there's a code that does the job.'

Professor Chris Budd
Simulating the world

'How maths helps us to:
drive a supersonic racing car,
make dinosaurs live again,
or leave the solar system,
without moving from our desks.'

STRATHCLYDE Commences at 2.00 pm, refreshments at 3.00 pm, ends at 4.30 pm. Admission is free. Enquiries to Professor A. McBride or Dr A. Ramage, Department of Mathematics, Strathclyde University, Livingstone Tower, 26 Richmond Street, Glasgow G1 1XH (tel: 0141 548 3647/3801, e-mails: a.c.mcbride@strath.ac.uk, a.ramage@strath.ac.uk).

LEEDS Commences at 6.30 pm, refreshments at 7.30 pm, ends at 9.00 pm. Admission is free. Enquires to Dr R.B.J.T Allenby, School of Mathematics, University of Leeds, Leeds LS2 9JT (tel: 0113 233 5122, e-mail: pmt6ra@leeds.ac.uk).

LONDON Commences at 7.00 pm, refreshments at 8.00 pm, ends at 9.30 pm. Admission is free, with ticket. Apply by June 29th to Miss S. M. Oakes, London Mathematical Society, 57-58 Russell Square, London WC1B 4HS (e-mail: taylor@lms.ac.uk). A stamped addressed envelope would be appreciated.

MATHGATE UPDATE

In the recent article about MathGate that appeared in the February edition of the LMS *Newsletter* the classification system used by MathGate - MSC2000 - was mentioned. This classification system is a revision of the 1991 version. Mistakenly it was said that MSC1991was developed by Chris Eilbeck of Heriot Watt University. MSC1991 was developed by Mathematical Reviews and Zentralblatt MATH and was revised by them to form MSC2000. Chris Eilbeck was responsible for creating a hypertext version of MSC1991, which is still available on the Heriot Watt University Mathematics Department website.

MathGate users are now able to browse the catalogue for resources according to mathematical subject areas. At the top level these subject areas are General, Algebra, Analysis, Applications to Science and Engineering, Computer and Information Sciences, Education, Geometry and Topology, History and Foundations, Operations Research and Mathematical Programming, and Probability and Statistics. By choosing one of these users are then taken to a list of sub-headings which equate to the top-level headings of MSC2000.

MathGate currently has over 400 records in its database and is adding to this amount regularly. If you know of an electronic mathematics resource that is not in the MathGate catalogue please let MathGate know. MathGate is also looking for people to help build the catalogue. If you know of an appropriate person once again please contact MathGate.

Internet Mathematician and the Virtual Training Suite (VTS)

MathGate has been working on a mathematics version of the VTS tutorials called the Internet Mathematician. This tutorial will be available free from the VTS website and from the MathGate website from 8 May. The aim of the tutorials is to assist researchers, lecturers and students of mathematics in making better use of the Internet.

Secondary Homepages Update

Since the last MathGate article was written for the LMS February *Newsletter* secondary homepages have been added at LMS, Sussex, Durham and Exeter. If you wish to create a secondary homepage for your institution please contact MathGate or visit the Projects section of the MathGate website.

MathGate Contact Details

Greig Fratus, MathGate Manager (tel: +44 (0)121 414 2758, e-mail: mathgate @bham.ac. uk, web: http://www.mathgate.ac.uk/).

URLs

- MathGate (http://www.mathgate.ac.uk/)
- AMS Mathematical Reviews Database (http://www.ams.org/mr-database)
- Zentralblatt MATH (http://www.emis.de/ZMATH/)
- MSC2000 (http://www.ams.org/msc/)
- MSC1991 (http://www.ma.hw.ac.uk/~chris/MR/MR.html)
- Virtual Training Suite (http://www.vts.rdn.ac.uk/)
- Math-Net Secondary Homepages (http://www.math-net.de/navigator/)

UK Secondary Homepages

The following secondary homepages have been created by UK universities since the writing of the previous MathGate article:

- LMS (http://www.lms.ac.uk/math-net/)
- University of Sussex (http://www.maths.sussex.ac.uk/math-net/)
- University of Durham (http://maths.dur.ac.uk/math-net/)
- University of Exeter (http://www.maths.ex.ac.uk/math-net/)

RECORDS OF PROCEEDINGS AT MEETINGS

ORDINARY MEETING

held on Saturday 10 February 2001 at the Mathematical Institute, Oxford. About 35 members and visitors were present for all or part of the meeting.

The meeting began at 3:30 pm, with Professor J.T. STUART, FRS, in the Chair. Thirteen people were elected to Ordinary Membership: F.P.A. Coolen, P. Coolen-Schrijner, J.H.B. Deane, F. Fahr, J.M. Figueroa-O'farill, Y. Fuertes, J. Kaplunov, M. Marletta, P.L. Marshall, R.J. Munro, S. Pott, R. Twarock, M. Weiss; one person was elected to Associate Membership: N. Fountoulakis; and one person was elected to Reciprocity Membership: A. Jung (Deutsche Math.-Verein.)

A lecture was given by K.W. Morton on 'Evolution Operators and Numerical Modelling of Hyperbolic Equations'.

After tea, nine people signed the book and were admitted to the Society.

The Mary Cartwright Lecture was given by C.S. Morawetz on 'Mathematics and Flying Aeroplanes'.

In the evening a dinner was held at St Hugh's College.

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An excellent classroom text and self-study guide.

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"...This book is an enlightening invitation to number theory by way of the RSA cryptosystem."
–Gary Walsh, *Mathematics of Computation*

NATIONAL MEDALS OF SCIENCE

On 13 November 2000, President Clinton announced the names of twelve individuals to receive the National Medal of Science, the United States' highest honour for achievements in research in science and engineering. Among those honoured were two mathematicians, John G. Thompson, an LMS member since 1979, and Karen K. Uhlenbeck.

Since 1995 the following mathematical scientists have received the medal: Felix E. Browder, Ronald Coifman, Leo P. Kadanoff, Richard Karp, Cathleen S. Morawetz, Louis Nirenberg, Stephen Smale and S.T. Yau.

DOMAIN DECOMPOSITION METHODS IN FLUID MECHANICS

A 3-day LMS Workshop on Domain Decomposition Methods in Fluid Mechanics will be held at the University of Greenwich - Maritime Greenwich Campus from 5 - 7 September 2001. The organisers are Dr C-H. Lai, Professor M. Cross, Professor K.A. Pericleous, Professor A.K. Parrott. The workshop intends to bring graduate students, researchers and industrialists to a 3-day meeting at Greenwich in order to disseminate the state-of-the-art domain decomposition methods applied to various engineering problems related to fluid mechanics. The workshop may be served as a short intense course for graduate students who will be exposed to review and overview lectures and current research interests and results.

Invited speakers:

- Dr C. Bailey (University of Greenwich),
- Professor X.-C. Cai (University of Colorada, Boulder),
- Professor M. Garbey (Université de Lyon 1),
- Professor I.G. Graham (University of Bath),
- Professor G. Lube (Universität Göttingen),
- Professor F. Nataf (École Polytechnique)

Some scholarships, covering accommodation and meals, are available to graduate students with priority given to those participants from UK mathematics departments. Further information about the workshop may be found on the web (http://cms1.gre.ac.uk/conferences) or contact Dr Lai, School of Computing and Mathematical Sciences, University of Greenwich, London SE10 9LS (tel: 020 8331 8712 fax: 020 8331 8655 e-mail: C.H.Lai@gre.ac.uk).

ALL IRELAND ALGEBRA DAYS 2001

An 'All Ireland Algebra Days 2001' will be held at Queen's University Belfast from 16 - 19 May 2001. As a joint venture of the National University of Ireland at Cork, Dublin and Galway and Queen's University Belfast this international conference will focus on interrelations between the various subdisciplines of Algebra rather than highly specialised techniques. This is reflected in the choice of the main speakers, whose lectures will concentrate on interfaces and cross-fertilisation within Algebra and other parts of Mathematics. Eight one-hour talks will be given by

- Professor Pere Ara (Barcelona),
- Professor Ken Brown (Glasgow),
- Professor Alberto Facchini (Padova),
- Professor Robert Guralnick (University of Southern California, LA),
- Professor Consuelo Martinez (Oviedo),
- Professor Federico Menegazzo (Padova),
- Professor Peter Neumann (Oxford),
- Professor Manuel Saorin (Murcia).

There will be a number of contributed 30 minute talks by the participants. The meeting is organised by Professors Tom Laffey (Dublin), Des MacHale (Cork), and Martin Newell (Galway) and Dr Martin Mathieu (Belfast; chair). The organisers gratefully acknowledge the support by the London Mathematical Society and the Irish Mathematical Society. Full details and a registration form are available from the website (http://www.qub.ac.uk/aiad 2001).

Financial Mathematics

at King's College London - MSc and PhD programmes

KING'S College LONDON *Founded* 1829

King's College is a multi-faculty institution with over 16,000 students. The Department of Mathematics has an international reputation for teaching and research. A graduate programme in Financial Mathematics has now been initiated with the appointments of Professor Lane P. Hughston, Dr. Giulia Iori and Dr. Mihail Zervos to established posts in the Department. Applications are invited for the MSc in Financial Mathematics, which is being offered both on a full-time and a part-time basis. Some places are also available for research students who would like to pursue a PhD in this subject.

Financial Mathematics is a flourishing area of modern science. Since the pioneering days of Black, Scholes and Merton, the subject has developed into a substantial body of knowledge and its numerous applications have become vital to the functioning of the world's financial institutions. As a consequence, a solid command of the principles and techniques of quantitative finance is essential for a responsible approach to trading, asset management and risk control of complicated financial positions.

The Financial Mathematics MSc programme covers mainstream mathematical finance and its applications. The curriculum includes, for example, derivatives pricing and hedging, asset price dynamics, risk analysis and extreme events, interest rate and foreign exchange processes, credit and inflation linked products, real options, energy derivatives, stochastic optimisation and control, and investment decision making, as well as other mathematical subjects of relevance to practical financial modelling. The programme is run by the Financial Mathematics group in the Department of Mathematics at King's College London, and builds on the group's close links with financial institutions in the City of London and elsewhere throughout the world.

The MSc is based on lecture courses and a project, and requires two years of part-time study or one year of full-time study. Applications are currently being considered for admission in September 2001. The part-time programme is compatible with the needs of those already employed in the financial sector. Candidates choose eight lecture courses in consultation with their course advisor. The present programme includes the following core courses and options:

Introduction to Derivatives Pricing
Applied Probability and Stochastics
Stochastic Analysis *Advanced Statistics*
Financial Markets *Exotic Derivatives*
Numerical Methods for Differential Equations
Interest Rate and Foreign Exchange Dynamics
Portfolio Risk Management

Further course options are available such as Neural Networks, Linear Systems and Control Theory, and the Spectral Theory of Markov Chains. Each candidate also undertakes a project to study an area of finance in greater depth.

The fees are £9,200 for the full-time MSc programme beginning in September 2001, and £4,800 per year for the part-time MSc programme beginning in September 2001. An entry requirement for the MSc is a first or upper second class degree in a mathematical discipline.

A PhD degree in financial mathematics or a related area of applied probability is an asset that is highly valued by employers in the financial sector. Applications from prospective PhD students are currently being solicited. A limited amount of funding may be available for highly qualified candidates. Early application is advised.

For further information and application forms, for both the MSc and PhD programmes, see :
www.mth.kcl.ac.uk/research/finmath/
Alternatively, please contact :

The Postgraduate Secretary,
Department of Mathematics,
King's College London,
Strand, London WC2R 2LS.
E-mail: pg.maths@kcl.ac.uk
Tel: +44 (0)20 7848 2107
Fax: +44 (0)20 7848 2017

Isaac Newton Institute for Mathematical Sciences

EUROWORKSHOP

Supported by the European Commission, Research DG, Human Potential Programme, High-Level Scientific Conferences - HPCF-2000-00060

DISCRETE SYSTEMS AND INTEGRABILITY

Monday 3 - Friday 14 September 2001

Organisers: FW Nijhoff, J Hietarinta, PM Santini.

Theme of the EuroWorkshop: The EuroWorkshop is dedicated to the subject of the integrability of difference equations and of discrete systems. The topics include: partial difference equations, ordinary difference equations, integrable dynamical mappings, discrete Painlevé equations, quantum systems on the lattice, cellular automata, special functions and orthogonal polynomials, and applications. The purpose of the workshop is to provide a platform for presenting state-of-the-art results as well as critically to discuss open problems in the subject area.

Expected Speakers: V Adler (Institute of Mathematics, Ufa), P Clarkson (University of Kent, Canterbury), R Conte (Saclay), A Doliwa (Warsaw University), P Hydon (Surrey University), N Joshi (Adelaide University), K Kajiwara (Doshisha University), M Kruskal (Rutgers University), M Noumi (Kobe University), A Ramani (École Polytechnique, France), S Ruijsenaars (Amsterdam), J Sanders (Free University, Amsterdam), J Satsuma (University of Tokyo), A Shabat (Landau Institute), V Sokolov (Landau Institute), C Viallet (Université Paris VI).

Location and Cost: The EuroWorkshop will take place at the Newton Institute and accommodation for participants will be provided in single study bedrooms at Wolfson Court, a hall of residence adjacent to the Institute. The workshop package costs £650 which includes registration fee, accommodation, breakfast and dinner from dinner on Sunday 2 September 2001 until breakfast on Saturday 15 September 2001, and lunches and refreshments on the days that lectures take place. Participation is limited to 30 people, and applications for participation will be considered on the involvement of the applicant with the subject area.

Support: The EuroWorkshop is supported by the European Community and funding is available to support a limited number of young (under 35 years of age) researchers and overseas senior researchers who are nationals of EC Member States or of the Associated States (Iceland, Liechtenstein, Norway, Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Israel, Switzerland). Self-supporting participants of any age and nationality are welcome to apply.

Further information will be available in due course on the web (http://www.newton.cam.ac.uk/programs/ITS/itsw03.html) or information can be obtained from Professor FW Nijhoff (frank@amsta.leeds.ac.uk).

Completed application forms should be sent to Tracey Andrew, Programme and Conference Secretary via e-mail (t.andrew@newton.cam.ac.uk).

Closing date for receipt of applications is **30 April 2001.**

Forthcoming from Oxford, Forthcoming from Oxford, Forthcoming from Oxford, Fo

NEW

Banach Algebras and Automatic Continuity

H. Garth Dales, Professor of Pure Mathematics, University of Leeds

- **Definitive account of Banach algebra theory**
- **New, unpublished results and synthesis**
- **Includes many examples**
- **Interweaves many areas of mathematics**

Banach algebras combine algebraic and analytical aspects: it is the interplay of these structures that gives the subject its fascination. This volume expounds the general theory of Banach algebras, and shows how their topology is often determined by their algebraic structure: the central questions ask when homomorphisms and derivations from Banach algebras are automatically continuous, and seek canonical forms for these maps. Dales synthesizes work over the last 20 years, and gives a definitive account; there are many new and previously unpublished results. The book describes many specific classes of Banach algebras, including function algebras, group algebras, algebras of operators, C^*-algebras, and radical Banach algebras; it is a compendium of results on these examples. The subject interweaves algebra, functional analysis, and complex analysis, and has a dash of set theory and logic; the background in all these areas is fully explained.This is essential reading for anyone interested in any aspect of this vast subject.

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EURESCO Conferences

A Programme of the European Science Foundation

Number Theory and Arithmetical Geometry

Arithmetic Aspects of Fundamental Groups

Supported by the European Commission, Research DG, as a EuroConference under TMR contract ERBFMMACT n° 98-0440

Acquafredda di Maratea (near Naples), Italy, 1 - 6 September 2001

Chairman: Anthony J. Scholl (Durham, UK)
Vice-Chairman: Michael Spiess (Nottingham, UK)

Speakers will provisionally include:

Pierre Dèbes (Lille, France)
Pierre Deligne (IAS, USA)
Ido Efrat (Beer Sheva, Israel)
Ivan Fesenko (Nottingham, UK)
Jean-Marc Fontaine (Orsay, France)
Gerhard Frey (Essen, Germany)
Sasha Goncharov (Brown, USA)
Yasutaka Ihara (RIMS, Japan)
Uwe Jannsen (Regensburg, Germany)
Pierre Lochak (ENS, France)
Makoto Matsumoto (Keio U., Tokyo, Japan)
Hiroaki Nakamura (Tokyo Metropolitan U., Japan)
Michel Raynaud (Orsay, France)
Mohamed Saidi (Durham, UK)
Alexander Schmidt (Heidelberg, Germany)
Leila Schneps (Paris VI, France)
Michael Spiess (Nottingham, UK)
Akio Tamagawa (RIMS, Japan)
Kay Wingberg (Heidelberg, Germany)
Zdzislaw Wojtkowiak (Nice, France)

Scope of the conference:

The conference will highlight recent progress in understanding arithmetic structures on algebraic fundamental groups of schemes and related topics. It will focus on number-theoretic aspects of the theory of algebraic fundamental groups of schemes, where much progress has been made in recent years.

The main themes of the meeting will be:

- Arithmetic aspects of Galois groups
- Higher class field theory and generalisations
- Algebraic fundamental groups of schemes
- Motivic Galois groups
- Galois action on fundamental groups
- Motivic structures on fundamental groups
- The anabelian programme

The conference is open to researchers world-wide, whether from industry or academia. Participation will be limited to 100. The emphasis will be on discussion about new developments. The Conference Fee covers registration, full board and lodging. Grants will be available for younger scientists, in particular those from less favoured regions in Europe. Limited funding for participants from Central and Eastern Europe is also available.

Deadline for applications: 11 May 2001

For information & application forms, contact the Head of the EURESCO Unit:
Dr J. Hendekovic, European Science Foundation, 1 quai Lezay-Marnésia, 67080 Strasbourg Cedex, France
Tel.+33 388 76 71 35 Fax.+33 388 36 69 87 E-mail: euresco@esf.org
On-line information and application on WWW at: http://www.esf.org/euresco

INAUGURATION OF THE

HULL INSTITUTE FOR MATHEMATICAL SCIENCES AND APPLICATIONS

WORKSHOP ON MATHEMATICAL FLUID DYNAMICS

FIRST ANNOUNCEMENT

Dear Colleagues,

You are cordially invited to the inauguration of the Hull Institute for Mathematical Sciences and Applications (HIMSA). The mission of the Institute is to support interdisciplinary research in mathematics and its modern applications.

The **Inauguration Ceremony of HIMSA** will take place in the Basil Reckitt Theatre, Ferens Building, Hull University at 10:30-11:30 am on 9 April 2001.

On the same day at 12:00 we will start the first meeting organised by HIMSA:

Workshop on Mathematical Fluid Dynamics
9-10 April 2001

The Chairman of the Workshop is Professor V. Yudovich (Rostov and Hull), Co-Chairmen are Professor J. Gibbon (Imperial College, London) and Professor A. Shnirelman (Tel-Aviv), who will also be speaking. Confirmed speakers also include T.J. Pedley (Cambridge), Zhukov (Rostov), S.J. Cowley (Cambridge), Lipton (NY, Deutsche Bank), A.D.D. Craik (St-Andrews), J.C. Vassilicos (London), R.R. Kerswell (Bristol), A. Iserles (Cambridge), G.R. Burton (Bath), F. Dias (Paris), S. Kozlovsky (Warwick), Mahalov (Arizona), N.J. Cutland (Hull), Z. Brzezniak (Hull), I. Strachan (Hull), V. Vladimirov (Hull).

We very much hope you can attend for one or both days and look forward for meeting you. If you are able to attend or wish to request further information, please contact Miss Lisa Woodward (tel: 01482 465885, e-mail: L.J.Woodward@maths.hull.ac.uk or v.a.vladimirov@maths.hull.ac.uk).

Steering Committee of HIMSA: Professor V. Vladimirov (Director of HIMSA, Hull), Professor N. Cutland (Head of Mathematics, Hull), Professor K. Attenborough (Hull), Professor W. Armstrong (Hull), Professor J. Goodby (Hull), Professor P. Beckett (Hull), Dr Z. Brzezniak (Hull), Dr J. Berndt (Hull), Professor T.J. Pedley, FRS (Cambridge), Professor H.K. Moffatt. FRS (Cambridge)

Professor Vladimir Vladimirov
(on behalf of the HIMSA Steering Committee)

THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

FORTHCOMING CONFERENCES

Fourth Modelling in Industrial Maintenance and Reliability
University of Salford, 9-11 April 2001

Second Wind-Over-Waves: Fundamentals, Forecasting and Applications
Cambridge, 3-5 September 2001

ECCOMAS 2001: Computational Fluid Dynamics
Swansea, 4 - 7 September 2001

Mathematical Modelling and Statistical Analysis of Infectious Diseases
Cardiff University, 11-13 September 2001

Advanced Simulation and Control for Automotive Applications
Keble College, Oxford, 24 - 26 September 2001

Eighth Cryptography and Coding
Royal Agricultural College, Cirencester, 17-19 December 2001

Computational Aeroacoustics
University of Greenwich, 9-11 April 2002

Further details from:
Pamela Bye, Conference Officer
The Institute of Mathematics and its Applications
Catherine Richards House
16 Nelson Street
Southend-on-Sea
Essex SS1 1EF.

Tel: (01702) 354020 Direct line (01702) 356110 Fax: (01702) 354111
E-mail: conferences@ima.org.uk Web: www.ima.org.uk

K. KODAIRA
HONORARY MEMBER 1979

DIARY

The diary lists Society meetings and other events publicized 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 in the Society's web site (http://www.lms.ac.uk/meetings/diary.html).

APRIL 2001

2-5 British Applied Mathematics Colloquium, Reading University (288)
2-6 Lévy Processes and Stable Law Conference, Warwick University (287)
7-9 British Topology Meeting, Edinburgh and Heriot-Watt Universities (286)
9 Alfred Goldie 80th Birthday Conference, Glasgow University (289)
9-10 Mathematical Fluid Dynamics Workshop, Hull University (292)
9-12 British Mathematical Colloquium, Glasgow University (287)
20 Group Theory Postgraduate Conference, Imperial College (288)
20 York Operator Theory Day, York University (292)
20-21 Conference in Honour of Professor D.G. Larman, University College London (292)
27-28 Application of Multiple-Valued Logic to Artificial Intelligence and to Data Mining, MathFIT Workshop, Queen's University Belfast (292)
28-29 Great Lakes Geometry Conference, Northwestern University, USA (288)

MAY 2001

4 Edinburgh Mathematical Society Meeting, Stirling University (285)
9 Today's PDEs, Spitalfields Day, King's College London (291)
6-13 Symmetry and Perturbation Theory Workshop (SPT2001), Sardinia (284)
16 Symposium in Honour of Sir John Kingman, Bristol University (292)
16-19 All Ireland Algebra Days 2001, Queen's University Belfast (292)
25-26 Groups in Galway 2001, National University of Ireland, Galway (291)
28 -1 June Harmonic Morphisms and Harmonic Maps Conference, CIRM, Luminy, France (284)

JUNE 2001

1 Edinburgh Mathematical Society Meeting, St Andrews University (285)
2-5 The Heritage of I. Schur's 1901 Dissertation, Gregynog Hall, Powys (290)
3-8 Mathematical Population Dynamics Conference, Marrakech (288)
8-10 Belgian Mathematical Society/Deutsche Mathematiker Vereinigung joint meeting, Liège University, Belgium (284)
19-22 Computational Intelligence: Methods and Applications Congress (CIMA 2001) University of Wales, Bangor (283)
19-23 Calculus of Functors, T. Goodwillie, LMS Invited Lectures, Aberdeen University (286)
22 Hardy Lecture, LMS Meeting, London (292)
25-28 Banach Algebras and Cohomology Conference, Newcastle University (288)
25-29 Variational Problems with Singularities Workshop, Isaac Newton Institute, Cambridge (290)
27-29 5th Galway Colloquium on General Topology, Hull University (291)

JULY 2001

1-6 British Combinatorial Conference, Sussex University (276)
2-6 Nonlinear Elliptic Equations and Transition Phenomena EuroConference, Isaac Newton Institute, Cambridge (290)
2-6 Singapore International Symposium on Topology and Geometry, National University of Singapore (291)
4-6 Uncertainty in Geometric Computations MathFIT Workshop, Sheffield University (287)
5-7 British Congress of Mathematics Education, Keele University (286)
5-14 Combustion Theory LMS Durham Symposium, Durham University (291)
6 Northern Regional Meeting, Manchester University (292)
9-13 Stochastic Processes and their Applications Conference, Cambridge (275)
9-13 Progress in Partial Differential Equations, ICMS Edinburgh (288)
9-13 Algebraic Graph Theory Workshop, ICMS Edinburgh (288)
9-13 Singapore-Warwick Workshop in Geometry and Topology, National University of Singapore (291)
9-20 Modern Methods in Scientific Computing and Applications Seminar, Université de Montréal, Canada (287)
15-20 Algorithms for Approximation IV Symposium, Huddersfield University (286)
16-26 Groups, Geometry and Combinatorics LMS Durham Symposium, Durham University (291)
16-27 Stochastic Partial Differential Equations Workshop, Warwick University (287)
17-20 AMS-SMF First Joint International Meeting, École Normale Supérieure, Lyon (292)
24-31 Nonlinear Evolution Equations and Dynamical Systems EuroConference, Isaac Newton Institute, Cambridge (290)
29-2 Aug Teaching of Mathematical Modelling and Applications (ICTMA 10), Tsinghua University, China (284)
30 - 9 Aug Special Structures in Differential Geometry LMS Durham Symposium, Durham University (291)

AUGUST 2001

5-18 Groups-St Andrews, Oxford University (289)
12-19 Homological Conjectures for Finite-Dimensional Algebras Summer School, Nordfjordeid, Norway (275)

SEPTEMBER 2001

1-6 Number Theory and Arithmetical Geometry EURESCO Conference, Italy (292)
2-6 Applied Mathematics in our Changing World, Berlin, Germany (292)
3-14 Discrete System and Integrability EuroWorkshop, INI, Cambridge (292)
5-7 Domain Decomposition Methods in Fluid Mechanics LMS Workshop, Greenwich University (292)
12 South Western Regional Meeting, Bristol University (292)
22-23 History of Mathematical Table Making Conference, Kellogg College, Oxford (291)
24-28 Vertical Integration in Biology Workshop, Isaac Newton Institute, Cambridge (291)

JUNE 2002

24-28 Analytic Number Theory Workshop, Max Plank Institute, Bonn (288)

APRIL 2002

7-12 Joint BMC/BAMC, Warwick University

AUGUST 2002

20-28 ICM2002, Beijing, China (272)

The Newsletter is published monthly except in August. Items and advertisements for inclusion in the Newsletter should be sent to the Editor, Susan Oakes, by e-mail, fax or post to the LMS office (addresses below), to arrive before the first day of the month prior to publication.

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