THE LONDON MATHEMATICAL SOCIETY

NEWSLETTER

No. 319 October 2003

Forthcoming Society Meetings

2003

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South West and South Wales Regional Meeting
Nonlinear Dynamics
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London
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(Naylor Lecture)
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2004

Friday 20 February
London
D. Schleicher
S.M. Rees
(Mary Cartwright Lecture)

Wednesday 12 May
Nottingham
Midlands Regional Meeting

LMS 2003 ELECTIONS AND OFFICERS

The ballot papers for the November elections to Council and Nominating Committee are being circulated with this copy of the *Newsletter*. Nine candidates for Members-at-Large of Council were proposed by the Nominating Committee. C.J. Budd was nominated directly by J.R. Blake, seconded by J. Kyle, P. Bishop and G.R Robinson, in accordance with By-Law II.2.

Peter Goddard has resigned as President and the current President-Designate Frances Kirwan is nominated as the next President. Chris Lance has come to the end of his term of office as Publications Secretary and Jim Howie is nominated to replace him.

Please note that completed ballot papers must be returned by **13 November 2003**.

Norman Biggs
General Secretary

ANNUAL DINNER

The Annual Dinner will be held after the Annual General Meeting on Friday 21 November at 7.30 pm at The Montague on the Gardens Hotel, 15 Montague Street, London WC1. The cost is £32.00 per person and members may book places for guests. The booking form, enclosed with this *Newsletter*, should be returned together with payment to the London Mathematical Society office by **Monday 17 November.**

SUBSCRIPTIONS AND PERIODICALS

The annual subscription to the London Mathematical Society for the 2003-04 session shall be: Ordinary Members £30.00; Reciprocity Members £15.00; Associate Members £7.50. The prices of the Society's periodicals to Ordinary, Reciprocity and Associate Members for the 2003-04 session shall be: *Proceedings* £60; *Journal* £60.00; *Bulletin* £30.00 and *Nonlinearity* £42.00. *Journal of Computation and Mathematics* remains free.

ANNUAL SUBSCRIPTION

The LMS annual subscription, including payment for publications, for the session November 2003 - October 2004 is due on 1 November 2003. Together with this *Newsletter* is a renewal form to be completed and returned with your remittance in the enclosed envelope.

No action is required if you are already paying by direct debit, and do not wish to change your choice of publications. Fully complete and return the form if you are paying

by direct debit but wish to change your choice of publications or add/delete a subscription to the European Mathematical Society. Bank accounts of members paying by direct debit will be debited with the appropriate amount on **15 January 2004**. Other members should either enclose a cheque (£ sterling or US$) with their form or, if they have a UK bank account and wish to take advantage of this convenient form of payment, request a direct debit mandate. Although the facility to pay by credit card is open to all members of the Society, it is our preference that members continue to pay by direct debit.

PUBLICATIONS PRICING POLICY

The London Mathematical Society has a pricing structure for its journals that allows individual members to purchase them at a substantial discount. These discounted prices are intended for personal use only and the journals should be kept among your personal belongings and not deposited, even temporarily, in a library, common room or other public area. Issues of the journals should be accessible to other mathematicians or students only with your permission, given individually in each instance.

INTERNATIONAL REVIEW OF MATHEMATICS Report 7

Over the summer we have been busy in putting together the details of the International Panel's visit in December. The overall structure of the visit is as follows, although some of the details may still change.

The Panel members arrive in the afternoon of Monday 1 December. That evening there will be briefings on the Research Councils and on the RAE.

Tuesday starts with another briefing, on the various ways in which the learned and professional societies support research, but most of the day will be spent on preparation for the visits to venues. The Panel divides into four sub-Panels, which travel to their first venues late on Tuesday afternoon.

At each venue there will be a working dinner on Tuesday evening. Then on Wednesday the morning will be taken up with short presentations covering the very best research. The programme for these is being proposed by the various host departments associated with each venue.

LMS Newsletter

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At a buffet lunch and during informal discussions in the afternoon each sub-Panel will have the opportunity to talk to young research workers, but by 4.00 pm the visitors have to leave for the next venue, where this cycle repeats itself.

Then, on Thursday evening the whole Panel re-convenes in London, for a briefing on the Royal Society's support for research in mathematics and statistics.

Friday starts with another briefing, on the role of research institutes in UK Mathematics, and a users' forum showing how industry and commerce link to the mathematics research base. Then the Panel works on its report in earnest. This process continues right through until late on Saturday afternoon, by which time the main elements of the report should be complete and the Panel can then give a presentation of the main points to the Steering Group, sponsors and other key groups.

Work has also started on a document to be sent to the Panel before they visit us. This 'data document' is intended to contain all the background information on the people in mathematics and statistics, the funding processes, and organization and policies at a national level. It will also contain a number of 'landscape documents' describing the most significant recent research in the various branches of our discipline.

Please monitor the website (www.cms.ac.uk/irm) for the latest developments; you can email comments to me at irmsissec@lms.ac.uk.

Stephen Huggett
Scientific Secretary to the Review

LONDON MATHEMATICAL SOCIETY
Annual General Meeting

Friday 21 November 2003
University College London

3.15 – 3.30	**Annual General Meeting**
3.30 – 4.30	**Professor L.C.G. Rogers (Cambridge)**
4.30 – 5.00	**Tea**
5.00 – 6.00	**Professor M.H.A. Davis (Imperial College)**
	2002 Naylor Prize Lecture

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

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

RESEARCH NETWORKS IN MATHEMATICS

This call by the EPSRC Mathematics Programme aims to establish a number of high quality interdisciplinary research Networks. These Networks will engage the mathematics research community (including statistics and operational research) with other disciplines, to promote the transfer of knowledge and encourage collaborative activity. Networks must involve researchers from other disciplines, for example life scientists, engineers and computer scientists, as well as mathematicians, statisticians and/or operational researchers from both academe and industry.

Networks are welcomed in any area of research where there are challenges that require the application of novel mathematics. Potential subjects for research Networks include:

- Supply Chain Management;
- Portfolio Choice for Financial Services and Industry;
- Mathematics for Genomics;
- Mathematics for Drug Design and Delivery.

Networks that address research challenges identified by the Industrial Mathematical and System Engineering Faraday Partnership in its industrial roadmap 'Mathematics, Giving Industry the Edge' are particularly encouraged (see www.smithinst.ac.uk/news/RoadmapLaunch).

Proposals can be submitted at any time and will be assessed against the usual criteria for research Networks. The normal EPSRC peer review processes will be used. In addition to quality, additional criteria that will be used in assessing Network proposals will include: the added value of the collaborative links formed by the Network and the synergy between individuals associated with the proposal, the effectiveness of the dissemination activities and the extent to which the new collaborations will lead to the application of novel mathematics in other fields. Selection of proposals will be dependent on the quality and merit of the proposed activity and on the funding available in competition with other proposals.

For further information see the EPSRC website (www.epsrc.ac.uk) or contact: Dr Rachel Woolley, Associate Programme Manager (Mathematics) at EPSRC (tel: 01793 44 4183; e-mail: rachel.woolley@epsrc.ac.uk).

DAVID A. SPENCE

Professor David A. Spence, who was elected a member of the London Mathematical Society on 20 May 1988, died on 7 September 2003 aged 77. He graduated with BSc and MSc degrees from the University of New Zealand, with a PhD from the University of Cambridge and still later with a DSc from Oxford University. He was a Fellow of the Royal Aeronautical Society and of the Institute of Mathematics and its Applications. David Spence joined the Staff of the Royal Aircraft Establishment, Farnborough (now QinetiQ!) from 1952-1964, after which he moved to Oxford University, becoming a Reader in both Engineering and Mathematics. In 1981 he was appointed as a Professor of Mathematics at Imperial College, where he had special responsibilities for the Teaching of Mathematics to Engineers. He was an applied mathematician, with strong interests in aerodynamics, including turbulent flow and hypersonic flow, and in the geophysics of plate tectonics and mantle flows. In all these studies he used asymptotics to powerful effect. He retired in 1991 but remained mathematically active in 'retirement' in spite of a long illness.

LONDON MATHEMATICAL SOCIETY SOUTH WEST AND SOUTH WALES REGIONAL MEETING

Nonlinear Dynamics

University of Southampton, 24 October 2003

The South West and South Wales Regional Meeting of the London Mathematical Society will be held on Friday 24 October at the Highfield Campus of the University of Southampton. There will be a reception and dinner afterwards. Precise details will be posted on the website (see below).

3.30 - 4.30	**Marcelo Viana (IMPA, Brasil)** *Multiplying matrices*
4.30 - 5.00	**Tea/coffee**
5.00 - 6.00	**Philip Holmes (Princeton)** *Piecewise-holonomic mechanics, hybrid dynamical systems and escaping cockroaches*

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

This will be followed by a **weekend (25-26 October) Workshop on Nonlinear Dynamics and Life Sciences**. The speakers are:

- Roman Borisyuk (Plymouth) *Dynamics of neural activity, synchronisation and information processing*
- Pietro-Luciano Buono (CRM, Montreal) *Analysis of delay-differential equation models in biological science*
- Tsuyoshi Chawanya (Osaka) *Attractive structures of saddles and exotic attractors in dynamical systems with forced invariant sets*
- Tomas Gedeon (Montana) *Symmetry breaking bifurcations, normalized cuts and the neural coding problem*
- Philip Holmes (Princeton) *Optimal decisions: from neural spikes, through stochastic differential equations, to behavior*
- Tim Lewis (NYU) *Dynamics of spiking neurons connected by inhibitory and electrical coupling*
- Stefano Luzzatto (Imperial) *Stability of dynamics under various kinds of perturbations*
- David Rand (Warwick) *Uncovering design principles underlying cellular systems: clocks, regulatory nets and signals*
- Ian Stewart (Warwick) *Patterns of synchrony in networks – the groupoid formalism*
- John Terry (Loughborough) *Modelling and detection of nonlinear interactions in neural systems*
- Marcelo Viana (IMPA) *Equilibrium states*

Some financial support is available for research students at UK institutions and for participants from countries other than North America, Western Europe and Australia to attend the Workshop. For further details contact David Chillingworth (tel: 02380 593677, email: drjc@maths.soton.ac.uk). For queries about accommodation, dinner, car parking etc., contact Philip Langman (p.j.langman@maths.soton.ac.uk). The programme for the workshop, together with local arrangements and other information, is posted on the web (www.maths.soton.ac.uk/nonlineardynamics /nonlin.htm).

ICIAM 99 FUND

The Council of the London Mathematical Society continues to invite applications from UK residents to a restricted fund created by a donation from ICIAM 99 Ltd. Grants are awarded on the recommendation of an *ad hoc* committee consisting of Professor R.J. Knops (Convener), Professor J. Carr, Dr B.A. Olde Daalhuis, Professor T. Easingwood and Professor L. Thomas.

The purpose of the fund is to help support activities in the following two categories:

(i) Organisation of short workshops in the UK that continue the most promising themes that have emerged from ICIAM 99 and ICIAM 03.

(ii) Any other activity within the UK in industrial and applied mathematics that the committee deems suitable for recommendation.

There is no formal form of application, but information, to be provided in writing and signed by the applicant, should include as appropriate:

- Brief description, purpose, duration and intended location of the proposed activity.
- Names and affiliation of those principally involved.
- Itemised list of costs with supporting justification.
- For meetings, whether a registration fee is intended to be charged, and its amount.
- Other (proposed) sources of income.
- Any other relevant information.

The fund will close once its resources are exhausted and in any case no later than November 2004. Applications, which will be considered three times per year, should be mailed to the Convener (Professor R.J. Knops, Department of Mathematics, Heriot-Watt University, Edinburgh EH14 4AS) to reach him either by **1 November 2003, 1 March 2004, 1 July 2004** or **1 November 2004.**

THE FERRAN SUNYER I BALAGUER PRIZE

Each year in honour of the memory of Ferran Sunyer i Balaguer, the Institut d'Estudis Catalans awards an international mathematical research prize bearing his name. This prize was awarded for the first time in April 1993. The competition is open to all mathematicians, subject to the following conditions:

- The prize will be awarded for a mathematical monograph of an expository nature presenting the latest developments in an active area of research in Mathematics, in which the applicant has made important contributions.
- The monograph must be original, written in English, and of at least 150 pages. The monograph must not be subject to any previous copyright agreement. In exceptional cases, manuscripts in other languages may be considered.
- The prize, amounting to €10,000, is provided by the Ferran Sunyer i Balaguer Foundation. The winning monograph will be published in Birkhäuser Verlag's series *Progress in Mathematics*, subject to the usual regulations concerning copyright and authors' rights.
- The submission of a monograph implies the acceptance of all of the above conditions.
- The name of the prize-winner will be announced in Barcelona in April 2004.

Monographs should preferably be typeset in TeX. Authors should send a hard copy of the manuscript and a disk with the DVI and PS (PostScript) files, enclosing an accompanying letter, to the Ferran Sunyer i Balaguer Foundation. Submissions should be sent before **1 December 2003** to the following address: Fundació Ferran Sunyer i Balaguer, Carrer del Carme 47, E-08001 Barcelona, Spain (e-mail: ffsb@crm.es). For further information on the Ferran Sunyer i Balaguer Foundation, visit the website (www.crm.es/FerranSunyerBalaguer/ffsb.htm).

The winner of the prize will be chosen by a Scientific Committee consisting of: H. Bass (University of Michigan), A. Córdoba (Universidad Autónoma de Madrid), P. Malliavin (Université de Paris VI), J. Oesterlé (Institut de Mathématiques de Jussieu) and O. Sierra (Universitat Politècnica de Catalunya).

Previous winners include:

- Fuensanta Andreu-Vaillo, Vincent Caselles and José M. Mazón, *Parabolic Quasilinear Equations Minimizing Linear Growth Functionals* (2003).
- Alexander Lubotzky and Dan Segal, *Subgroup Growth* (2002).
- André Unterberger, *Automorphic Pseudodifferential Analysis and Higher-level Weyl Calculi* (2002).
- Martin Golubitsky and Ian Stewart, *The Symmetry Perspective* (2001).
- Juan-Pablo Ortega and Tudor Ratiu, *Hamiltonian Singular Reduction* (2000).
- Patrick Dehornoy, *Braids and Self-Distributivity* (1999).
- Juan J. Moralez-Ruiz, *Differential Galois Theory and Non-integrability of Hamiltonian Systems* (1998).

NORWEGIAN MATHEMATICAL SOCIETY

After being run from Oslo since 1918, the Norwegian Mathematical Society (NMF) recently moved its headquarters to Trondheim. Contact details are: Norsk Matematisk Forening, Institutt for matematiske

fag, NTNU, 7491 Trondheim, Norway (fax: 7359 3524; web: www.matematikkforen ingen.no). The President of the Society is Professor Kristian Seip (Trondheim University).

LMS members are invited to become reciprocity members of NMF at half price (which currently means that you will pay less than £5 a year). Send an email to nmf@math.ntnu.no for further information. The next 'Ski and Mathematics' conference is taking place in early January at Rondablikk near Rondane National Park.

H.S.M. COXETER'S BIOGRAPHY

H.S.M. Coxeter's biography is being researched and written by Toronto writer Siobhan Roberts for publication by Penguin Canada and by Walker & Company in the United States (authorized by Coxeter and his family). Any anecdotes, insights, letters, candid photos, etc, pertaining to the life or work of Coxeter would be very appreciatively received, and given due credit, by the author. Please get in touch at robertssiobhan@hotmail.com, or by post at 525 Bloor St W, Toronto, Ontario M5S 1Y4, Canada.

WORLD DIRECTORY OF MATHEMATICIANS

The World Directory of Mathematicians has served a very useful purpose for many decades, but because of the cost of production and the lack of sales of the directory, the Executive Committee of the International Mathematical Union (IMU) has decided to discontinue publication. Therefore, the 12th Edition of the World Directory of Mathematicians will be the last edition.

In order to make the final edition available to as many people as possible, the IMU, through the American Mathematical Society (AMS), will discount the price from US$70.00 to US$35.00 per copy (no further discounts apply). This sale extends until 31 December 2003. For further information and online ordering refer to the AMS website (www.ams.org/bookstore-getitem/item=WRLDIR/12).

COMPUTERS FOR AFRICAN SCHOOLS

The University of Zimbabwe is in crisis. A lecturer's salary is now so low that it will hardly pay for the basic necessities of life, and contributions made towards a pension are now worthless. Moreover no money is available for equipment. The students are in little better condition, as it is now impossible to survive on the student grant, and with 70% unemployment the chances of supplementing the grant are negligible.

A further disaster for the Mathematics Department is that early this year someone broke in to the Computer Laboratory, smashed the computers and took away saleable components.

With the help of generous donations from the London Mathematical Society and Sir Michael Atiyah, Computers for African Schools (CFAS) has sent twenty-one computers to replace those destroyed. The consignment also includes a further eleven computers for the Tropical Resources Ecology Programme which is run from the university.

CFAS is a Bristol-based charity which has so far sent out over 1600 computers to schools in Malawi, Zambia and Zimbabwe. If you want to know more about this charity phone Andrew Gulland on 0117 924 8549, or visit its website (cfas.org.uk).

Further bad news from the university is that the Professor of Mathematics, Temba Shonhiwa, has now left. Professor A.G.R. Stuart is acting Head of Department, and we all wish him well in these very difficult times.

Andrew Gulland
Computers for African Schools

DEVELOPMENTS IN THE EPSRC MATHEMATICS PROGRAMME, 1998-2003

This article presents a general overview of some of the developments that have been introduced by the Engineering and Physical Sciences Research Council (EPSRC) into its Mathematics Programme over the last five years, and some personal comments by the EPSRC Mathematics Programme Manager during that time. A fuller version has been posted on the LMS web site.

During the last five years or so, many interesting and far-reaching developments have occurred in the EPSRC Mathematics Programme, famously acknowledged as the "jewel in the EPSRC crown." The Programme has grown considerably in visibility, and the potential for mathematics to make significant impacts in the research agendas of other disciplines and research endeavours is now widely recognised.

Budget increases. Over the period 1998 to 2002 the research grants budget grew significantly, more than doubling from £4.6 million in 1997/98 to £11 million in 2001/02. This came as a result of the recognition of the pervasiveness of mathematics and the potential for the community to interact with academic researchers in other disciplines and with other users who are likely to be able to exploit mathematical methods for the benefit of their businesses.

Interdisciplinary critical mass research. Traditionally the support of most mathematics research projects is small scale, of the order of a few thousand pounds. In order to create critical masses of interdisciplinary research collaborations that hold promise for making significant international impact, an opportunity was introduced in 2001 to support major projects in which mathematics research engages with activities in other disciplines involving several postdoctoral research workers over periods of up to five years.

Doctoral training grants. In 2000, EPSRC took the momentous decision to introduce a new way of delivering resources to support research students. Instead of issuing individual studentship awards, funds would be issued as grants much earlier in the calendar year giving universities and academic departments much greater flexibility over the deployment of funds. EPSRC decided to end the individual student nomination process that had operated well for many years in the Mathematics Programme, believing that earlier announcement of doctoral training grants and the flexibility that these offered would outweigh the advantages of operating a national student selection process. EPSRC has re-introduced a peer review process to advise on the levels of doctoral training grants and on enhanced stipends to counteract the difficulty of recruiting good students in the shortage areas of statistics and operational research.

Strategic programmes in multidisciplinary areas. One of the key messages of the EPSRC Council has been the need for greater connectivity of mathematics with other disciplines. Mathematics is not only pervasive, but also offers the prospect of addressing and contributing to the solution of difficult challenges in other research areas. That is not to imply that the benefit is in one direction. Challenges in other disciplines and in different contexts can pose new opportunities for developing new mathematical methodologies. To help catalyse multidisciplinary research collaborations, several strategic activities have been introduced. All these have been co-funded with other EPSRC programmes, other research councils or third party organisations, each of which has recognised the valuable contribution that basic mathematics research can make to their research agendas. Examples include computational engineering mathematics, mathematics for IT (or MathFIT), mathematical finance (in a partnership with The Actuarial Profession), the NERC-EPSRC programme in environmental mathematics and statistics, and in the responsive mode, mathematical biology, healthcare mathematics, and applied industrial mathematics.

Isaac Newton Institute for Mathematical Sciences. This EPSRC flagship Institute in mathematics was established in 1992 with a major grant awarded by the then Science and Engineering Research Council, with continued core funding being taken over by EPSRC, and to a smaller extent by PPARC. The programmes at the Newton Institute are widely regarded as being of very high quality. The Mathematics Programme co-funds the Institute with the EPSRC Engineering, Materials, Information & Communications Technologies, Physics and the Life Sciences Interface Programmes. The Institute has done much in recent years to improve its engagement with the different mathematics communities in the UK. An interesting development, encouraged by the EPSRC, has been the sign of closer links being developed between the Institute and the International Centre for Mathematical Sciences in Edinburgh, which holds promise for the benefit of the community and for mathematics.

The Industrial Mathematics and System Engineering Faraday Partnership managed by the Smith Institute. The Faraday Partnership is the leading mathematics organisation in the UK that facilitates interactions between industrial companies of various sizes and a wide range of academic institutions. It was established in 2001 with funding from the DTI and EPSRC. EPSRC has invested £1 million in several promising research projects, and provides additional resources to support a number of CASE studentship awards collaboratively with companies. EPSRC also contributes funds via the Faraday Partnership to the long-running annual series of Study Groups with Industry. The Partnership has produced the UK's first industrial roadmap and pathways for action for mathematics and computing which presents a vision for the application of the mathematical sciences to industrial competitiveness over the next 10 years.

Instructional courses for mathematics and statistics doctoral research students. To address the criticisms that the breadth of training that mathematics and statistics PhD students receive is more narrowly focused than those of their more mature overseas counterparts, the EPSRC has entered into productive partnerships with the LMS and the Royal Statistical Society to deliver and co-finance with universities a number of instructional courses each year for doctoral students.

Postdoctoral fellowships in mathematics. In the late nineteen nineties, the EPSRC was convinced of the desirability of giving the most able young researchers the opportunities of support through the award of personal postdoctoral fellowships in mathematics and theoretical physics. The Mathematics Programme typically supports about 8-10 each year. EPSRC also enables the Institut des Hautes Etudes Scientifiques (IHES) in Paris to offer annually two postdoctoral fellowships, named in honour of the eminent British mathematician William Hodge for tenure in the stimulating and creative environment of IHES.

Mathematics Strategic Advisory Team. The remit of the SAT is to advise the EPSRC and the programme manager on the strategic aspects of the Mathematics Programme, to help develop the business case, and to offer commentary on new research opportunities – some peripheral to core mathematics – but where the contribution of new mathematics is crucial. The SAT is chaired by the EPSRC Chief Executive, and the membership contains individuals whose research interests are broad.

Relations with the mathematical societies. Relationships between the EPSRC and mathematical societies have steadily grown during the last five years. Annual meetings of the EPSRC Chief Executive and the Mathematics Programme management team are held with the Council for the Mathematical Societies and representatives of the Operational Research Society. These meetings have proved invaluable to the EPSRC in communicating the key high level messages of relevance to the mathematics community and for the Societies to raise with EPSRC the concerns of the communities they represent.

Public awareness activities. The EPSRC has given some attention to increasing the wider appeal of mathematics. To coincide with the International Year of Mathematics 2000, the EPSRC financed a series of twelve posters produced by the Isaac Newton Institute on trains in the London Underground and the publication of an attractively written and designed brochure, Cutting Edge Mathematics, superbly written by science writer Nina Morgan. The EPSRC has also supported individuals and groups who are doing an excellent job of communicating the excitement and relevance of mathematics to school children and the wider public. One example is a series of workshops staged for school children by Bath University to show how mathematics and science can be entertaining and relevant.

International review of UK mathematics. The EPSRC has conducted a series of international reviews to cover the remit of its portfolio. Mathematics is the sixth in the present series. A review steering group has been formed under the chair of Martin Taylor (UMIST) with the Chief Executive of EPSRC and representatives of the Mathematical Societies. The steering group has appointed an international review group chaired by Jean-Pierre Bourguignon, Director of the Institut des Hautes Etudes Scientifiques, Paris. The review group is expected to complete its report at the end of 2003.

Conclusions and personal remarks

During the five years that I have been associated with the EPSRC Mathematics Programme, I have greatly enjoyed the interactions with the mathematics community and with others who have been keen to encourage the development of the community. Amazingly during that period I met both The Queen and the Duke of Edinburgh and saw the Princess Royal at the 2002 International Mathematics Olympiad in Glasgow. Of course, there is never enough money to support all the many excellent research projects submitted to EPSRC, and some of the hardest decisions that I had to make were to decide which projects should be funded in the light of peer review advice and available funding. Nevertheless, the Programme enjoys a high profile within the EPSRC and increasingly at national levels. Long may this continue. I firmly believe that the research supported by the EPSRC Mathematics Programme is mainly world class quality. This is now being more widely recognised. It will be, of course, for the international review to confirm this and to identify areas that are weaker and others that need strengthening for strategic reasons. I have visited many academic departments, spoken to many groups (one whose session with me finished after 11 pm still etched indelibly on my mind!), met interesting and enthusiastic people, and struggled to understand their mathematics. One of the pleasures of working for a research council is the opportunity to catalyse interactions between different research communities and individual researchers who would not otherwise interact in the course of their professional lives. I have greatly valued and appreciated the good relations established with the mathematical societies, and I like to think that the initial meetings of EPSRC staff with the presidents and executive secretaries of the mathematical societies helped to generate the discussions that led to the eventual creation of the Council for the Mathematical Societies.

The last five years have been marked by many innovative developments by EPSRC, an increased visibility for the EPSRC Mathematics Programme, and an increase in new funding opportunities and directions. The mathematics research community must continue to engage with those in other disciplines, not only as a means of advancing their research challenges but also to stimulate and explore exciting new research directions in mathematics. This will require researchers to look outside the silos of their own discipline to engage in dialogue with colleagues in other disciplines (perhaps even within their own institutions!), to take time to learn their research language and culture, and to take risks in forming new collaborations and new lines of research.

I remain optimistic about the future of mathematics in the UK. There is now a growing recognition at many levels in national life – not just by mathematicians – of the importance of mathematics and its many contributions to a modern knowledge-based economy. The academic community should seize the opportunity to communicate the excitement and relevance of mathematics to others outside the discipline – school children, opinion formers and the wider public.

Alasdair Rose

VISIT OF PROFESSOR J.K. BROOKS

Professor J.K. Brooks of the University of Florida (Gainesville), the distinguished expert on Measure Theory, will visit London, Reading and Oxford in October on a visit sponsored by the LMS under its Scheme 2 grant. He will lecture on *Equicontinuity: Applications to C*-algebras and stochastic integration*. His first lecture will be in London on Monday 20 October at 4.30 pm in the Seminar Room, School of Mathematical Sciences, Queen Mary College. He will lecture in Reading on Wednesday 22 October at 2.30 pm in Room 314, Mathematics Department, Whiteknights Campus, University of Reading. On Tuesday 28 October he will lecture in Oxford at 5.00 pm in the Functional Analysis Seminar, Mathematical Institute. For further information on Professor Brooks' visit, please contact Professor Wright (j.d.m.wright@rdg.ac.uk) or the local organisers in London and Oxford, respectively, Professor Chu (c.chu@qmul.ac.uk) and Professor Batty (charles.batty@st-johns.oxford.ac.uk).

NBFAS

A meeting of the North British Functional Analysis Seminar (NBFAS) will be held in room C4 of the Mathematics Building at the University of Nottingham, on Saturday 1 November, from 2.00 pm - 5.30 pm. The main speaker will be Professor Jerome Kaminker of IUPUI, Indianapolis, USA. The meeting is supported financially by the LMS and all are welcome to attend. For further information, please contact Dr Michael Dritschel, Newcastle University (M.A.Dritschel@ncl.ac.uk).

© Sidney Harris

RECORDS OF PROCEEDINGS AT MEETINGS

ORDINARY MEETING

held on *Tuesday 22 July 2003*, jointly with the Edinburgh Mathematical Society, as part of the International Centre for Mathematical Sciences 'Hodge Centenary Meeting', held at the University of Edinburgh. Over 100 members and visitors were present for all or part of the meeting.

The meeting was opened at 2.00 pm by the Edinburgh Mathematical Society President, Professor A. GILLESPIE, who chaired a business meeting of that Society. The President, Professor P. GODDARD, FRS, then assumed the Chair. Five people were elected to Ordinary Membership of the London Mathematical Society: M. Carr, M. de Visscher, D.J. Hoyt, M.E. Jimenez Contreras and J. Virtanen; five people were elected to Associate Membership: C.A. Hoenselaers, E. Katirtzoglou, A.A. Miller, M. Pistoriu and M.J. Thompson; and one person was elected to Reciprocity Membership: J.C. Goodwin (Australian Math. Soc.).

The Records of the Proceedings of the Society Meetings held on 11 March and 14 May 2003 were signed as a correct record.

The President announced the award of the Joint LMS-IMA David Crighton Medal for 2003 to Professor J.M. Ball, FRS.

Professor Goddard introduced a lecture given by Sir Michael Atiyah, FRS, on 'Sir William Hodge – The Man and the Mathematician'.

Professor Gillespie introduced a lecture given by Sir Roger Penrose, FRS, on 'Mathematical Experiences as a Cambridge Research Student under William Hodge'.

After tea, Professor P. GRIFFITHS, Institute of Advanced Studies, Princeton, introduced a lecture given by Professor F. Hirzebruch, For Mem RS, on 'Hodge Numbers, Chern Numbers, Catalan Numbers'.

Professor Goddard closed the meeting and expressed the thanks of the Society to the Edinburgh Mathematical Society, the ICMS, University of Edinburgh and the speakers for putting on such an excellent meeting.

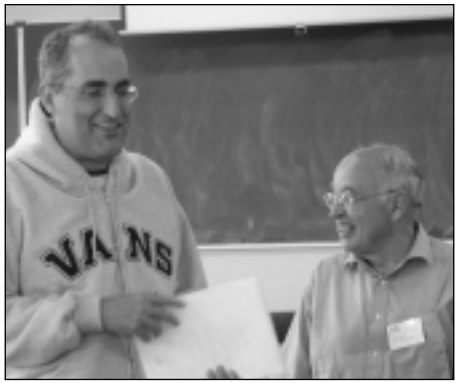
After the meeting a reception and dinner were held at the Playfair Library, University of Edinburgh.

HODGE THEORY IN A NEW CENTURY

The International Centre for Mathematical Sciences, Edinburgh, held a conference from 20-26 July, to commemorate the centenary of Sir William Hodge, the originator of Hodge theory – 'one of the landmarks in the history of mathematics in the 20th century' according to Hermann Weyl. There was a quite spectacular array of speakers, including four Fields Medallists, the world's leading experts in Hodge theory, former colleagues and students of Hodge such as Fritz Hirzebruch and Sir Roger Penrose, and members of the Hodge family.

Hodge was born in Edinburgh and spent most of his academic career in Cambridge. He pioneered the use of differential geometry (in particular Kähler geometry) and functional analysis (harmonic theory) in algebraic geometry. This was revolutionary at the time and produced deep and surprising results that have now become standard tools in geometry, and even in areas of physics and number theory. His work also led naturally to a question of whether some of his analytically defined topological invariants (the Hodge classes) of an algebraic variety could be described algebraically (as algebraic cycles). This is the famous Hodge conjecture, one of the Clay millennium prizes for which $1 million is offered.

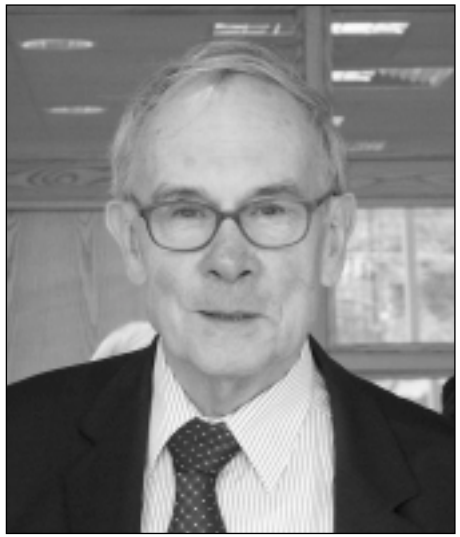
A joint meeting of the London Mathematical Society and Edinburgh Mathematical Society was held on the Tuesday of the conference. Sir Michael Atiyah gave a general talk about Hodge's life, full of photographs, family archives, funny stories and his personal reminiscences as a former student of Hodge. Professor Hirzebruch described more of the history of the mathematics around at that time and gave an interesting lecture on characteristic classes. Sir Roger Penrose, who spent a year as Hodge's student, described his very non-Hodge-like results from that year which preceded his celebrated diagramatic methods in tensorial and twistorial calculus. In the conference itself Maxim Kontsevich gave a talk about his noncommutative Hodge theory, using similar Feynman diagram methods to organise homological algebraic information, and solved the problem of defining (or renormalising) the physical theory of 'Kodaira-Spencer gravity' (at least according to those who understood it). Edward Witten gave a fascinating talk about the physics of gauge theories (which can be thought of as non-abelian Hodge theory) leading to a series of mathematical conjectures. These and David Morrison's excellent talk (with colour graphics, no less, a rarity in pure mathematics) on birational geometry and Hodge theory, illustrated the prominent role of Hodge theory in the interaction between geometry and string theory.



Edward Witten and Sir Michael Atiyah

There were talks about pure Hodge theory and the Hodge conjecture by the giants of the field: Griffiths, Beilinson, Green, Soulé, Schmid, Voisin and Bloch (in chronological order). There were also talks by Cheeger, McDuff and Donaldson illustrating how some parts of Hodge's Kähler methods can

now be extended to other settings, in particular symplectic geometry. One of Simon Donaldson's talks in fact announced an extension of these methods to almost all smooth compact 4-manifolds (those with $b_+>1$) to give an astounding structure theorem for 4-manifolds in terms of a generalisation of Lefschetz pencils. Having polished off 4-dimensional differential topology he turned to three dimensions, giving an enlightening account of Perelman's work on the Poincaré conjecture (another Clay $1 million prize) and Thurston's geometrisation conjecture, as described by Michael Singer in last month's *Newsletter*. This lead into a half-hour discussion session on the topic, in particular giving us a chance to hear Kontsevich and Witten discuss a few of the physical ideas motivating the work.



Fritz Hirzebruch

Even BBC Scotland was there, filming their 'and finally' piece for the 6 O'clock News. Interspersed with clips of lectures and interviews with Atiyah, Griffiths and Elmer Rees was 1970s BBC archive footage presumably meant to illustrate the Hodge conjecture: an Open University lecturer (complete with bad beard and flares) in front of a graph of y=x, and a young man (worse beard, couldn't see his trousers) solving the Rubik's cube in record time. We then cut back to the studio where the newsreader added 7 and 9 and wondered about a sum so hard that it was worth $1 million. The whole thing was mostly hilarious rather than patronising, describing mathematics with awe as well as the usual bemusement; most people cried with laughter as it was played back to the participants.

Jean-Pierre Bourguignon and Sir Roger Penrose

The conference also featured problem sessions for people to ask questions ('What was Beilinson talking about ?') and so most people got a good deal out of the week, as well as getting to see the most stellar collection of mathematicians outside of the ICM.

Richard Thomas
Imperial College London

HISTORY IN THE UNDER-GRADUATE MATHEMATICS CURRICULUM: WHY AND HOW?

This inclusive workshop is aimed at people currently teaching or thinking of introducing history into the undergraduate mathematics curriculum. History of mathematics uniquely allows mathematics students to acquire experience of, and confidence in, the humanities while contributing to their development as mathematicians. As external pressure increases to produce literate mathematics graduates with a wide range of transferable skills, it is now time to reflect on the role history of mathematics can play in UK higher education.

Many history of mathematics lecturers have a passionate commitment to their subject but are often isolated with little opportunity to compare notes with their counterparts in other universities. This workshop aims to bring together as many of us as possible to pool resources, share experience and think about the way ahead. Issues discussed will include styles of teaching and assessment, use of different media and resources, and how the BSHM can help to develop the subject in UK universities. Speakers are: Howard Hoare (Birmingham), Peter Ashwin (Exeter), Jay Kennedy (Manchester), Jeremy Gray (Warwick) and Bob Davies (Open).

This workshop will be held at All Souls College, Oxford, on Saturday 15 November. The registration fee (including coffee, buffet lunch, tea) is £20. To register or ask any questions about practicalities or the content of the workshop, contact Eleanor Robson, All Souls College, Oxford OX1 4AL (tel. 01865 281402, email: eleanor.robson@all-souls.ox.ac.uk). Registration deadline is **Friday 31 October**.

LTSN MATHS, STATS & OR NETWORK SHARING OF PROJECTS PRACTICE

Much of teaching and learning in mathematics is provided using traditional lectures and assessment is examination-dominated. An area that has great potential for developing both mathematical skills and graduate skills is that of substantial project-based activities. Such activities are also highly rated by graduates and their employers. Within undergraduate BSc and Masters programmes the provision of final year projects is typically available but often constrained by the demands on resources in defining project briefs and supporting students, and by assessment issues. However, sharing of best practice in effective management, support and assessment could provide a means to minimise the staff resources required and to maximise the student learning experience and attainment of project skills.

For staff familiar with project activities the investment in staff time and required expertise is often considerable and the issues surrounding assessment have resulted in a generally patchy provision. The QAA Subject Overview noted this as the greatest weakness although a number of (un-named) Institutions have been accredited as having good provisions.

This workshop will be held on Wednesday 12 November at the Department of Mathematics, University of York. It is aimed at sharing practice for the implementation, support and assessment of final-year project-based activities. The number of participants will be restricted to 30 persons. An outcome of the day will be to establish commended practice in key areas for wider dissemination.

If you would like to register for this workshop please contact LTSN Maths, Stats & OR Network, The University of Birmingham, Edgbaston, Birmingham B15 2TT (tel: 0121 414 7095, email info@mathstore.ac.uk) or use the online form (http://ltsn.mathstore.ac.uk/workshops/projects03/regform.shtml).

Bookings should be confirmed by post with payment in advance - the cost is £35 including a buffet lunch. Cheques should be made out to the University of Birmingham.

MEETING IN HONOUR OF PROFESSOR R. WONG

City University of Hong Kong is organizing an international conference on Mathematics and its Applications from 28 – 31 May 2004. The aim of the conference is to share in the most recent developments in mathematical research, and to enhance international academic exchanges and collaboration. In addition, the conference will be dedicated to Professor Roderick Wong, Director of the Liu Bie Ju Centre for Mathematical Sciences of City University of Hong Kong, on the occasion of his 60th birthday.

Plenary speakers: S.S. Antman (Maryland University, USA), R.A. Askey (Wisconsin University, USA), J. M. Ball (Oxford University, UK), D.J. Benney (MIT, USA), M. Berry (Bristol University, UK), J. P. Bourguignon (IHES, France), A. Bressan (ISAS, Italy), P.G. Ciarlet (City University, Hong Kong), D. S. Jones (Dundee University, UK), T.T. Li (Fudan University, China), P.L. Lions (Collège de France, France), T.P. Liu (Stanford University, USA), Z.M. Ma (Peking University, China), R.M. Miura (New Jersey Technical Institute, USA), L. Nirenberg (New York University, USA), R.E. O'Malley (Washington University, USA), F.W.J. Olver (Maryland University, USA), J.M. Roquejoffre (Paul Sabatier University, France), S. Smale (Toyota Technical Institute, USA), A.C.C. Yao (Princeton University, USA).

For further information contact Maggie Mak, Executive Officer, Liu Bie Ju Centre for Mathematical Sciences, City University of Hong Kong (email: mclbj@cityu.edu.hk; tel: +852 2788 9816; fax: +852 2788-7446; website: www.cityu.edu.hk/icma2004).

GEOMETRY & ASTRONOMY Gresham College 2003/4

Professor Harold Thimbleby, Gresham Professor of Geometry (and other mathematical sciences), will give the following Public Lectures:

- 'Unplugging computers' 9 October
- 'Magic pictures' 30 October
- 'Plugging computers in!' 27 November
- 'Computer circles' 26 February
- 'The century's grand challenge for computing research' 18 March
- 'Better programming' 13 May

Professor John Barrow, FRS, Gresham Professor of Astronomy (and other physical sciences), will give the following Public Lectures:

- 'Why is the universe so big?' 21 October
- 'Did the universe have a beginning?' 27 November
- 'What are the constants of nature?' 9 December
- 'Are there other dimensions?' 22 January
- 'What is a black hole?' 19 February
- 'Is the universe simple or complicated?' 22 April

The Astronomy Lectures are delivered at 1.00 pm and the Geometry Lectures are delivered at 6.00 pm on Thursdays at Gresham College, Barnard's Inn Hall, Holborn, London EC1N 2HH. Admission to the lectures is free and without tickets. Further details can be obtained from Gresham College (tel: 020 7831 0575; fax: 020 7831 5208; e-mail: enquiries@gresham.ac.uk; web: www.gresham.ac.uk).

DE MORGAN CENTRE

Few members of the Society may be aware of the new De Morgan Centre for the Study of 19th Century Art and Society, opened last year in Wandsworth's West Hill Library, 38 West Hill, London SW18 1RZ (tel 020 8871 1144; fax: 020 8875 9357; email: info@demorgan.org.uk; web: www.demorgan.org.uk).

This commemorates William Frend De Morgan (1839-1917), the eldest son of Augustus De Morgan[1], and his wife Evelyn Pickering De Morgan (1855-1919). William became the most noted potter of the Arts and Crafts Movement, an associate of the pre-Raphaelites and of William Morris. He re-invented the glazing techniques used by medieval islamic potters and the technique of lustreware. He was awarded the Silver Medal of the Society of Arts in 1892. He was commissioned to decorate P&O liners and the Czar of Russia's yacht. His tiles and pottery can be seen at the British Museum, the Victoria & Albert Museum, Leighton House (12 Holland Park Road, Kensington), Fulham Public Library, the former Richmond Fellowship House at 8 Addison Road, Kensington, the Tabard Inn (Bedford Park, Chiswick – decorated in association with Morris), as well as in numerous other museums in London and elsewhere. In 1907, at the age of 68, he found that his pottery had failed to produce much financial reward, so he turned his hand to writing and produced seven best-selling novels. There is a memorial to him in Chelsea Old Church and a Blue Plaque on his house in 127 Old Church Street, Chelsea.

Evelyn Pickering was one of the first students at the Slade School of Art in 1873 and exhibited at the first exhibition at the Grosvenor Gallery. She married William in 1887 but continued to paint and is considered one of the most important woman painters of nineteenth century Britain. Her work is in the pre-Raphaelite style.

The De Morgan Centre is housed in an 1887 hall which has been adapted as a permanent exhibition space. The Centre is interested in knowing more about the De Morgan family and last year they held a reunion of descendents. They have enough adjacent space for a small lecture/meeting and it would be a lovely place to hold an LMS or BSHM meeting.

David Singmaster

[1] First LMS President.

HOLGATE LECTURES 2003/04

In 1997 the London Mathematical Society extended its provision of lectures at a popular level. The Holgate Lectures (so named in memory of Philip Holgate, who helped ensure the success of the Popular Lecture series) provide help for locally based groups to invite high quality lecturers to give a talk on a mathematical subject, at a level suitable for those in the 15 to 18 age group who may be considering mathematics for future study. The lectures are designed with the aim of enhancing the students' interest and awareness of mathematics and of encouraging them to appreciate the importance, excitement and beauty of mathematics. Although the lectures are usually pitched at mathematical level of the 15 to 18 year old they are by no means the only audience that has been encountered and good publicity can result in the involvement of many interested adults as well. Such was the success of this scheme that it has been enlarged and extended with five Holgate Lecturers.

This year's lecturers and the topics they are offering are:

Professor D.S. Broomhead: The Mite's Tale - from randomness to chaos; The Gambler's Tale - randomness, chaos and order; The Mathematician's Tale-taking the rough with the smooth.

Dr H.M. Byrne: Modelling early tumour growth; Making more of experiments; Mathematics and macrophages: weapons for fighting cancer?; Using mathematics to explain experimental results.

Dr M. du Sautoy: The Music of the Primes; Why Beckham chose the number 23 shirt; Duelling with the monster; The search for the unbreakable code.

Dr H.E. Mason: Beyond the Rainbow: UV and X-ray Observations of the Sun; SOHO: The Solar and Heliospheric Observatory; Total Solar Eclipse; Waves and the Sun; The Solar Spectrum: Atoms and Ions.

(cont'd)

Dr A.B. Slomson: How to Play Games with Trees; How to Count, Probably: an introduction to combinatorics; What computers cannot do; Polynomials - both simple and quadratic.

The lecturers will not charge fees for the lectures themselves, an honorarium being provided to them by the London Mathematical Society; but the Education Committee expects local organisers to reimburse lecturers' travel expenses and subsistence costs and to cover local costs. If this is not possible without outside help, the LMS Education Committee does provide a number of small grants.

Further information may be obtained from the Society's website (www.lms.ac.uk/activities/education_com/holgate_general.html) or from the Society's Administrative Officer, Frances Spoor (tel: 020 7637 3686, fax: 020 7323 3655, email: spoor@lms.ac.uk).

BOOK REVIEW

1089 and All That - A Journey into Mathematics by David Acheson, Oxford University Press, 2002, pp 178, £12.99, ISBN 0-19-8516231.

This book is an ideal present for friends and relatives who are not mathematicians, but have enough curiosity to spend a gentle afternoon trying to find out what mathematics is about. It is also an ideal stocking filler for bright adolescents. The author gives an attractive tour of some proper mathematics from an elementary perspective.

The title of this slim but sturdy volume is a homage to Sellar and Yeatman's *1066 and All That*, which in 1964 I thought was the funniest book ever written. This genre includes Willans and Searle's Molesworth ouevre, and it is no accident that Molesworth surfaces in the book under review. Molesworth's world is a close parallel of my daily life in 1964; lessons on mostly dull subjects were given by masters who ranged from the kind through to the grotesque and psychopathic. The tragedy of Molesworth was that he did not understand that mathematics was not a subject, but rather an extension of play. When the bell rang and masters tried to teach something dull, all you had to do was to put on a studious expression, and allow break to continue in your head. On the inside you could muck around with polygons, surds, quadratics and prime numbers. Having missed the key point about what it is to be human, it is no wonder that Molesworth became bitter.

Now, one must approach books of mathematics popularization with extreme caution. They are prone to diverse faults. For example, they may sell more copies in a week than one's own books will sell in a lifetime. Success is not something easily forgiven in a colleague. Moreover, parts of this book are extremely funny. How will Acheson live this down?

There is a category of mathematical popularization (not this book) which is intellectually degenerate; this is when the author takes a phenomenon in the material world (waves, fish, planets, etc.) and pretends that because a piece of applied mathematics is effective at modelling some aspect of the phenomenon in question, then by looking at a glossy picture of the reality the reader (or more accurately the viewer) has access to the mathematics. You might as well try to experience music by looking at a picture of an orchestra. It may be true that a picture is worth a thousand words, but that merely serves to underline the tiny value of the word (the Yen of intellectual exchange).

Look at the relationship between mathematics and reality the other way (but privately). There is sense in admiring the efforts of this particular material world to model perfect mathematical reality. Acheson's *Indian Rope Trick* is a case in point. A sequence of linked rods will stand upright and stable if one end is vibrated sufficiently quickly. This is a beautiful mathematical result, and we should ruffle reality behind the ears for managing to emulate it.

Buy this book.

Geoff Smith
University of Bath

400 YEARS OF BRITISH MATHEMATICS

The Centre for the History of the Mathematical Sciences at the Open University is hosting a one-day meeting on '400 Years of British Mathematics', to celebrate the 60th birthday of Robin Wilson. The speakers are June Barrow-Green, Norman Biggs, Allan Chapman, Raymond Flood, Keith Hannabuss, Graham Jagger, Adrian Rice, Jackie Stedall and Jim Tattersall. The meeting will take place in Room CMR15, The Open University, Milton Keynes, on Tuesday 20 January 2004, from 10.00 am to 5.00 pm. There is no entry fee for this meeting, but since space may be limited, it would be appreciated if those thinking of attending would email r.j.wilson@open.ac.uk or l.scarna@open.ac.uk.

NEWS FROM THE SMAI

In 2003, the *Société de Mathématiques Appliquées et Industrielles* (SMAI) celebrates its twentieth anniversary. The Society was founded in 1983 by a group of prominent French applied mathematicians who had become aware of the specific needs of their discipline and wanted to work together for its continuing growth. The SMAI now has a membership of about 1,200, both from the academic and industrial communities.

Goals of the Society

The main goal of the Society is to aid the development of applied mathematics through research, industrial applications, teaching and the training of researchers and engineers.

The SMAI strives to raise awareness about developments in the practice of applied mathematics, and to encourage and facilitate such developments. The Society is thus intended to be an organization that all interested in applied mathematics and its uses are more than welcome to join. In particular, it provides a meeting ground for universities, research institutions and industry.

The Society also takes a strong interest in the teaching of applied mathematics in universities and engineering schools, as well as in secondary education. In addition, the SMAI works to encourage continuing education in the various fields of applied mathematics.

Structure

There are currently four specific scientific interest groups within the Society:

- The *Groupe pour l'Avancement des Méthodes Numériques de l'Ingénieur* (GAMNI) was founded in 1973 as an independent organization and integrated into the SMAI in 1983 when the Society was launched. The GAMNI is concerned with the development of numerical analysis in industry.
- The MAS group (*Modélisation Aléatoire et Statistique*) was founded in 1991. MAS promotes statistical methods and applied probability theory in a wide range of technologies or applications.
- The MODE group (*Mathématiques de l'Optimisationet de la Décision*), also founded in 1991, is dedicated to the development of applied mathematics in such domains as nonlinear analysis, optimization, discrete mathematics, operations research, mathematical modelling in economy, finance and the social sciences.
- The AFA group (*Association Française d'Approximation*) stems from an association created in 1989 that was integrated as a group into the SMAI in March 2000. Its goal is to promote the study and use of function approximation, modelling and geometric design, multi-resolution analysis, smoothing, signal analysis, image analysis, tomography and scientific visualisation.

Activities of the Society

The SMAI engages in several publishing endeavours and organizes meetings, workshops, congresses and summer schools.

Publications

Three times a year, the Society publishes a newsletter called *Matapli* which is sent to all members.

The SMAI monograph series *Mathématiques et Applications* publishes textbooks, mostly based on PhD courses (DEA) taught in universities and engineering schools. By July 2003, the series had forty one titles, published by Ellipses (Vols.1-9) and by Springer-Verlag (starting with Vol.10). The SMAI also published in 2003 three volumes of selected work of J.L. Lions.

Since 1995, the SMAI has assumed the scientific responsibility for the journal M2AN *Mathematical Modeling and Numerical Analysis*, and also in 1995 launched a new European Series in Applied and Industrial Mathematics, in short ESAIM (published by EDP Sciences), and covering four specialist journals.

Workshops, Congresses, Summer Schools

Every year the Society organizes national meetings of the specialist groups, and in 2001 a generalist meeting called *SMAI 2001* which covered the scientific spectra of the various SMAI thematic groups was also organized. It has been decided that the second generalist SMAI meeting will take place in 2005.

The SMAI also organizes a summer school in scientific computing, the Centre d'Été Mathématique de Recherche Avancée en Calcul Scientifique (CEMRACS), hosted by the *Centre International de Recherches Mathématiques* (CIRM), and a SMF (Société Mathématique de France) venue located on the Marseille-Luminy campus[1].

The SMAI is involved in the award of several prizes including the *Jacques-Louis Lions Prize* in applied mathematics. The prize is a *Grand Prix* of the French Academy of Sciences. It is awarded every two years to an outstanding applied mathematician for his or her research developed in France or in relation with a French laboratory, in the fields to which Jacques-Louis Lions greatly contributed: PDEs, control theory, numerical analysis, scientific computing and its applications.

(cont'd)

THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

FORTHCOMING CONFERENCES

Cryptography and Coding IX	*Royal Agricultural College, Cirencester, 16 - 18 December 2003*
Modelling Permeable Rocks IV	*University of Southampton, 29 March - 1 April 2004*
Quantitative Modelling in the Management of Health Care IV	*University of Salford, 31 March - 2 April 2004*
Modelling in Industrial Maintenance and Reliability V	*University of Salford, 5 - 7 April 2004*
Analysing Conflict and its Resolution	*St. Catherine's College, Oxford, 28 - 30 June 2004*
Boundary Integral Methods III: Theory and Applications	*University of Reading, 14 - 18 September 2004*
Mathematics in Signal Processing VI	*Royal Agricultural College, Cirencester, 14 - 16 December 2004*
Mathematics of Flood Risk	*Venue and dates to be confirmed 2005*

CO-SPONSORED CONFERENCE

International Conference on Mathematical Modelling and Applications	*City University, London, 10 – 14 July 2005*

For further details of all these conferences visit our website on www.ima.org.uk or contact: Lucy Nye, Conference Officer, The Institute of Mathematics and its Applications, Catherine Richards House, 16 Nelson Street, Southend-on-Sea, Essex SS1 1EF.

Direct line: (01702) 356110 **Switchboard: (01702) 354020**
Email: Lucy.Nye@ima.org.uk **Fax: (01702) 354111**

Relations with other Learned Societies and International Relations

The SMAI maintains and develops relations with French and foreign learned societies. In France, the Society coordinates its efforts with societies interested in related fields: the *Société Mathématique de France* (SMF), the *Société Française de Statistique* (SFdS), *Femmes et Mathématiques*, and is actively involved in the *Commission de Réflexion sur l'Enseignement des Mathématiques* (CREM). Joint initiatives include publishing a booklet entitled *L'Explosion des Mathématiques* which promotes mathematics for a wide audience. This brochure is going to be translated into Finnish and English.

Today, research, whether theoretical or applied, is international. Thus, the SMAI is itself an institutional member of the EMS and has formed ties throughout the world with societies concerned with the development of applied mathematics, such as the AMS and SIAM in the United States, the IMA in the United Kingdom, and counterparts in Germany, Italy and Spain. These ties have led to active participation of the SMAI as a founding member of what is now ICIAM (International Council for Industrial and Applied Mathematics) which organizes the International Congress for Industrial and Applied Mathematics every four years.

Together with others the SMAI has established the ICIAM Lagrange Prize, in recognition of a life-time contribution to applied mathematics. The first Lagrange Prize was awarded to J-L. Lions at ICIAM 1999 in Edinburgh, and the second in Sydney to E. Magenes in 2003 as part of the ICIAM prize award ceremony.

For more information, please consult the SMAI website (smai.emath.fr), write to SMAI, Institut Henri Poincaré, 11 rue Pierre et Marie Curie, F-75231 Paris Cedex 05, France, or email smai-president@acm.emath.fr.

Michael Théra
President

[1] See LMS *Newsletter* No. 314 pp 22-24.

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/diary.html).

OCTOBER 2003

2 Robert Hooke Commemoration Symposium, Oxford (311)
24 LMS South West & South Wales Regional Meeting, Nonlinear Dynamics, Southampton University (319)
25-26 Nonlinear Dynamics & Life Sciences Workshop, Southampton University (318)
25 John Wallis Tercentenary Meeting, New College, Oxford (318)
27-31 Geophysical Granular & Particle-Laden Flows, Satellite Meeting, INI, Cambridge (318)

NOVEMBER 2003

1 North British Functional Analysis Seminar, Nottingham University (319)
12 Sharing of Projects Practice Workshop, York University (319)
15 Belfast Functional Analysis Day, Queen's University Belfast (315)
15 History in the Undergraduate Mathematics Curriculum Workshop, Oxford (319)
21 LMS Annual General Meeting and Naylor Lecture, London (319)
23-27 Remarkable Delta '03 Conference, Queenstown, New Zealand (314)

DECEMBER 2003

8-12 Stochastic Methods in Coagulation and Fragmentation EuroWorkshop, INI, Cambridge (314)
16-18 Cryptography and Coding IX, IMA Conference, Royal Agricultural College, Cirencester (319)

JANUARY 2004

9 UK & Republic of Ireland SIAM Section Annual Meeting, Sheffield University (316)
10-11 New Frontiers in Computational Mathematics Workshop, Manchester University (318)
20 400 Years of British Mathematics Meeting, Open University (319)
20-23 Towards a Predictive Biology Conference, INI, Cambridge (316)

FEBRUARY 2004

20 LMS Mary Cartwright Lecture, London

MARCH 2004

29-1 Apr Modelling Permeable Rocks IV, IMA Conference, Southampton University (319)
31-2 Apr Quantitative Modelling in the Management of Healthcare IV, IMA Conference, Salford University (319)

APRIL 2004

5-7 Modelling in Industrial Maintenance and Reliability V, IMA Conference, Salford University (319)
5-8 British Mathematical Colloquium, Queen's University, Belfast (315)
19-22 British Applied Mathematics Colloquium, East Anglia University

MAY 2004

28-31 Meeting in Honour of Professor Wong, City University, Hong Kong (319)

JUNE 2004

27-2 Jul Fourth European Congress of Mathematics, Stockholm (315)
28-30 Analysing Conflict and its Resolution, IMA Conference, Oxford (319)

JULY 2004

4-11 ICME10 – International Congress of Mathematical Education, Denmark (308)
12-16 IWOTA – International Workshop in Operator Theory and Its Applications, Newcastle University

SEPTEMBER 2004

1-6 Pan-African Congress of Mathematics, Tunisia (308)
14-18 Boundary Integral Methods III: Theory and Applications, IMA Conference, Reading University (319)

DECEMBER 2004

14-16 Mathematics in Signal Processing VI, IMA Conference, Cirencester (319)

APRIL 2005

4-7 BAMC/BMC, Liverpool University

AUGUST 2006

22-30 International Congress of Mathematicians 2006, Madrid, Spain

JAMES WHITBREAD LEE GLAISHER
DE MORGAN MEDALLIST
1908

Dr Glaisher received the De Morgan Medal on 12 November 1908. His first original paper, published while he was still an undergraduate, dealt with non-evaluable integrals and contained elaborate tables of the integrals computed by himself. At the time of the award of the De Morgan Medal he had published over 300 papers on a wide range of topics including definite and numerical integration, the theory of numbers, elliptic functions, particularly the development of series connected with the theta functions, differential equations (mainly the integration of ordinary linear equations in series) and astronomy.