THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

FORTHCOMING SOCIETY MEETINGS

Tuesday 11 March 2003 – Manchester
Northern Regional Meeting
Geometric Representation and Invariant Theory
Wednesday 14 May 2003 – Coventry
Midlands Regional Meeting
Uncertainty Modelling
Friday 20 June 2003 – London
J.C. Rickard, M.J. Taylor

COUNCIL DIARY
17 January 2003

The January Council meeting was the first since the AGM, and Peter Goddard took the Chair as President for the first time.

The President reported on the annual meeting between the Council for the Mathematical Sciences and EPSRC, which had taken place on 13 December. John O'Reilly had reported on an increase to EPSRC funds of 10% per annum for each of the next three years. In particular, all programme budgets would receive a 5% uplift, and there would be a headline allocation to new programmes, which would include genomics, bio-sciences and e-science. Norman Biggs informed Council of a round table meeting of mathematicians, e-scientists and funders, being set up by the Computer Science committee for 18 March, which will discuss ways in which mathematicians may contribute in these areas and benefit from the many funding opportunities which are arising for them. At the meeting with EPSRC Norman had pointed out the contributions which had already been made by mathematicians in these areas through the MathFIT programme, and had suggested that it should be extended and broadened. But EPSRC had displayed some reluctance, pointing out that more funding put into programme initiatives meant less for responsive mode proposals.

In discussion of the new scheme for Collaborative Training Awards (previously known as Knowledge Transfer Accounts), the CMS had expressed concern that funding mechanisms sometimes resulted in Mathematics and Statistics being at the mercy of short-term political decisions by universities and their leaders. John O'Reilly had pointed out that the formal responsibilities of EPSRC did not cover the well-being of individual disciplines in the universities, that being the role of HEFCE. Nonetheless, O'Reilly had made it clear at the meeting that mathematics is still viewed as the jewel in EPSRC's crown.

There has been further discussion with EPSRC of the planned International Review of UK Mathematics Research. Martin Taylor has now been appointed as Chair, and Nigel Hitchin as nominee of the LMS on the Steering Committee. The Society continues to be concerned about the short timescale for which EPSRC is pushing, but EPSRC insists that the quality of the review will not be compromised by the need for speed.

Council discussed plans for its upcoming Retreat. This will take place over a weekend in March in Cambridge; LMS retreats now take place biennially, after the installation of a new President, and provide a valuable opportunity for discussion of policy and long term planning. This Retreat will focus on issues threatening the future of the UK mathematics base.

Finance Committee reported on its meeting in early January. First quarter accounts supported the Society's recent decision to move its UK equities, following the advice of its investment managers (members of Council have a legal responsibility towards the Society's assets, and are obliged to take professional advice). But Council continues to keep a careful watch on the success of its investment strategy. It has now formed an Investment Subcommittee of the Finance Committee, whose members were carefully chosen for their range of practical experience and relevant academic expertise, together with their understanding of the Society and the community it serves, and have agreed to help us evaluate the professional advice the Society receives from its investment managers.

In the current investment climate, money is tighter than it has been in recent years. The recent financial difficulties of subscription agents RoweCom put further pressure on the Society's finances. So the Society must be cautious over-committing expenditure, and the Programme Committee, for example, may need to review its practices in order to be more selective in its funding of mathematical activities than it has needed to be in recent years. But the Society is certainly prepared to spend money where it feels there is a very strong need, and this meeting committed an extra £15,000 to the Education Committee as pump-priming money to support its new action plan to boost the study of mathematics, considering it to be money very well spent.

Sarah Rees

LMS MONOGRAPHS MOVE TO PRINCETON

We are pleased to announce that from this year Princeton University Press (PUP) will be taking over the publication of the LMS Monographs series.

PUP has a long history of publishing in mathematics and in the last few years has significantly expanded its publishing in this area. The Press has published an increasing number of books, has more staff dedicated to mathematics and has established a European office in Woodstock, Oxfordshire.

Publishing in the LMS Monographs will provide our authors with first class production standards, affordable pricing and effective worldwide marketing. An additional benefit is that Princeton University Press will bring an 'international' feel to the series and enable us to build on its existing success and to raise its profile in the long term. The combination of the Press's experience together with the lasting value and quality of the LMS Monographs series is a partnership that promises to be very fruitful.

Books in the series currently published with Oxford University Press, or already in the pipeline, will continue to be available from OUP. All new books will be published with PUP.

We invite prospective authors to contact the Series Editors, Brian Davies (e.brian.davies@kcl.ac.uk) and Peter Neumann (neumann@queens.ox.ac.uk), or David Ireland at Princeton University Press (direland@pupress.co.uk). If you have a general enquiry about which of the four LMS series is most suitable for a particular book proposal, please contact Susan Hezlet (hezlet@lms.ac.uk).

We look forward to a long and productive partnership with this series.

Susan Hezlet
David Ireland

DR MARTIN B. POWELL

Dr Martin Beynon Powell, who was elected a member of the London Mathematical Society on 17 March 1978, died on 28 October 2002, aged 63. Dr Powell was a Fellow and Tutor in Mathematics at St Peter's College, Oxford from 1966-2002. He was formerly a Scholar and Junior Research Fellow at Wadham College and Junior Proctor from1977-78.

PROFESSOR DONALD C. SPENCER

Professor Donald C. Spencer, who was elected a member of the London Mathematical Society on 20 April 1939, died on 23 November 2001, aged 91.

LMS PROGRAMME AND CONFERENCE FUND

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

Date/Venue	Title	Organizer/e-mail
18 March 2003 INI, Cambridge	Sir George Gabriel Stokes Centenary Meeting	J. Kingman, J.P. Dougherty director@newton.cam.ac.uk jpd2@damtp.cam.ac.uk
7-10 April 2003 Southampton	British Applied Mathematics Colloquium 2003 (BAMC)	C. Howls c.j.howls@maths.soton.ac.uk
11-12 April 2003 Leeds	Groups and Model Theory	J.K. Truss pmtjkt@leeds.ac.uk
30-31 May 2003 St Andrews	Combinatorial and Computational Group Theory	J.M. Howie jmh@st-and.ac.uk
30 May - 1 June 2003 Sheffield	Groups and Semigroups in Analysis: A conference to mark the retirement of J.S. Pym	D. Strauss d.strauss@hull.ac.uk
29 June - 4 July 2003 Bangor	19th British Combinatorial Conference	P. Rowlinson p.rowlinson@stirling.ac.uk
19 September 2003 UCL	65th Birthdays of Professors S.N. Brown and M.E. O'Neill	F.T. Smith frank@math.ucl.ac.uk
8-10 September 2003 Manchester	18th British Topology Meeting	N. Ray nige@ma.man.ac.uk
15 - 16 September 2003 Napier	Solar Radiation and Daylight – Mathematical Models	T. Muneer t.muneer@napier.ac.uk
5-8 April 2004 Belfast	56th British Mathematical Colloquium & The Irish Mathematical Society 17th Annual Meeting (Joint Meeting)	M. Mathieu m.m@qub.ac.uk
19 - 21 July 2004 Cardiff	Titchmarsh-Weyl m-function: A conference dedicated to the 80th birthday of Professor W.N. Everitt	B.M. Brown, W.D. Evans malcolm@cs.cf.ac.uk

EPSRC/LMS SHORT INSTRUCTIONAL COURSES
Professor Alan Camina

The Society has appointed Alan Camina, Honorary Professor in the School of Mathematics at the University of East Anglia, to be the Short-Course Facilitator, in succession to Alan Pears. The appointment reflects a new contract with the EPSRC for the provision of short courses for postgraduate students for a further three-year period.

The programme of short courses is overseen by the Research Meetings Committee, and the Committee would like to express its thanks to the previous Facilitator, Alan Pears, who worked extremely hard to deliver an excellent series of high-quality short courses.

Alan Camina would be glad to hear from members interested in organising short courses; he can be contacted by email (a.camina@uea.ac.uk). Details of forthcoming Short Courses can be found on the LMS website (www.lms.ac.uk/activities/ research_meet_ com/index.html).

INTERNATIONAL REVIEW OF MATHEMATICS

The EPSRC has invited the Council for the Mathematical Sciences (comprising the LMS, the IMA and the RSS) and the Operational Research Society to work jointly to organize an international review of the standing, quality and potential of mathematics research in the UK. This review is the sixth in a series undertaken by EPSRC in collaboration with the relevant subject societies.

The aim of the Review is to establish an independent assessment of the quality of UK research, compared with international standards. Unlike the RAE, it addresses international comparisons at a sub-discipline level, does not seek to differentiate between institutions, and is carried out solely by a group of external (non-UK based) experts in the field.

The main part of the Review takes place during a one week visit to the UK and is undertaken by a Panel of international mathematicians of the highest standing. The Panel members are provided in advance with background material and during the week will receive further briefings, and undertake visits to universities and institutes. At least a first draft outline of the conclusions is expected before the Panel leaves at the end of the week, and its draft findings are presented to the Steering Group on the final day.

A Steering Group has been established under the chairmanship of Professor Martin Taylor to provide input to the composition and terms of reference of the Review Panel. Other members nominated by the constituent societies are: Nigel Hitchin (LMS), Tim Pedley (IMA), Bernard Silverman (RSS), Lyn Thomas (ORS). John O'Reilly, Chief Executive of EPSRC, is a member also and the EPSRC Mathematics Programme Manager attends as an observer. The LMS has agreed to lead on providing the Secretariat for the Review; a scientific secretary is currently being sought, but in the meantime Peter Cooper (LMS Executive Secretary) is supporting the Group.

Members wishing to comment on the Review should do so via Nigel Hitchin (hitchin@maths.ox.ac.uk) as the Society's representative on the Steering Group.

It is planned to report monthly through the *Newsletter* on the progress of the Review.

SMITH INQUIRY INTO POST-14 MATHEMATICS EDUCATION

The Government announced in July last year that it intended to set up a review of mathematics education, as one of its responses to Sir Gareth Roberts' report 'SET for Success' on the supply of scientists, mathematicians and engineers. After some delay the Department for Education and Skills (DfES) in October appointed Professor Adrian Smith, (Principal of Queen Mary, University of London), to chair the Inquiry. The Inquiry is expected to report by the end of June 2003. It was given the terms of reference:

'To make recommendations on changes to the curriculum, qualifications and pedagogy for those aged 14 and over in schools, colleges and higher education institutions to enable those students to acquire the mathematical knowledge and skills necessary to meet the requirements of employers and of further and higher education.'

Adrian Smith attended a meeting of the Council for the Mathematical Sciences in early January, and outlined the issues he expected his Inquiry to address. He welcomed input from the mathematical community and from those subjects that depend on mathematical education in schools. He was working closely with the Advisory Committee on Mathematical Education (ACME).

The Society's Education Committee, under the Education Secretary Brian Stewart, is working hard to feed ideas and views into the Smith Inquiry. It has drawn up its own set of key issues that it considers the Inquiry must address – copies are available from Frances Spoor (spoor@lms.ac.uk) – and is working on a more substantial submission to the Inquiry in time for the current consultation deadline of 14 March. Copies of that submission will be made available. Further details of the Smith Inquiry can be found on the web (www.mathsinquiry.org.uk).

CRYPTOGRAPHIC NUMBER THEORY

There will be a one day workshop on Cryptographic Number Theory at Royal Holloway, University of London on Friday 4 April 2003. Confirmed speakers include Igor Shparlinski (Sydney) and Pierrick Gaudry (Paris). Registration information is available from the website (http://www.isg.rhul.ac.uk/~sdg/workshop.html). For further information contact Steven Galbraith (steven.galbraith@rhul.ac.uk). This workshop is funded by the LMS/EPSRC MathFIT initiative.

SCIENTIFIC COMMITTEE OF THE BMC

At the AGM of the British Mathematical Colloquium (BMC) held in Warwick on 8 April 2002, it was agreed that a reconstituted Scientific Committee be formed. This Committee is to be "responsible for the medium and long-term development of the BMC and for strategic issues", whereas the local organisers of individual meetings of the BMC will still be responsible for their own meeting, including the finances thereof and the issuing of invitations to speakers. The Chairman of this new version of the Scientific Committee will serve for three years; the first Chairman, from April 2002 to April 2005, is H.G. Dales of Leeds (pmt6hgd@amsta.leeds.ac.uk).

The BMC is independent of the LMS, but we are very grateful that the LMS has indicated that it plans to support the BMC financially, in that it will fund a meeting of the Scientific Committee, probably in London, each autumn, and will give a grant to individual meetings of the BMC. The nominees of the LMS on the Committee at present are: Ken Brown of Glasgow, to end of 2003 (kab@maths.gla.ac.uk); John Greenlees of Sheffield, to end of 2004 (J.Greenlees@sheffield.ac.uk); Helen Robinson of Coventry, to end of 2005 (h.robinson@coventry.ac.uk). Members of the LMS are invited to send any comments on the future organisation of the BMC to the LMS nominees or to the Chairman.

Future meetings that have been arranged are as follows:

First there will be two "traditional format" meetings of the BMC. The 55th Meeting of the BMC will take place at Birmingham University from 7 - 10 April of this year; for details, see bmc2003@for.mat.bham.ac.uk.

The 56th Meeting will be in Belfast from 5 - 8 April 2004; this will be a joint meeting with the Irish Mathematical Society.

In 2005, there will be a second joint meeting with the BAMC; this will be in Liverpool from 4 - 7 April 2005. The format of this meeting will be different from the first joint meeting, in that lectures on pure and applied mathematics will take place at the same time rather than on adjacent days. Details of the arrangements are still to be determined.

The tentative plan is that there will be traditional meetings of the BMC in 2006 and 2007, and then a further joint meeting in 2008. However this is not certain, and definitely depends on agreement with the BAMC.

We would like to invite Departments of Mathematics interested in being the hosts of a BMC for one of the three years 2006, 2007, and 2008 to make informal contacts with the Chairman, Garth Dales. Clearly to be the host of a joint meeting requires cooperation with colleagues in Applied Mathematics. Also such a meeting will be larger than the either of the two separate meetings of the BMC and BAMC, and so the hosts must have facilities suitable for a large meeting.

The Scientific Committee has become aware that there are considerable disparities between the charges imposed on the BMC by different Universities for overnight accommodation and for the hire of lecture theatres, etc. Some Universities appear to regard us a respectable academic body whose intentions are consonant with the ideals of the University - and are willing to charge us in a sympathetic way. Some appear to see us as a means of making money, and devise charges that some would regard as extortionate. We would be very concerned if costs to the LMS, to individual departments of mathematics whose members attend the BMC, and to individuals who pay for themselves become excessive; this would depress attendance and act against the interests of our community. Thus we shall pay considerable attention to the likely costs when we discuss the location of future meetings of the BMC.

<div align="right">H.G. Dales, Leeds</div>

GROUPS AND SEMIGROUPS IN ANALYSIS

A conference on Groups and Semigroups in Analysis, in honour of J.S. Pym on the occasion of his retirement, will take place at the University of Sheffield from 30 May – 1 June 2003. The (tentative) list of invited speakers is:

- G.R. Allan (Cambridge, England)
- J.W. Baker (Sheffield, England)
- H.G. Dales (Leeds, England)
- M. Filali (Oulu, Finland)
- F. Ghahramani (Manitoba, Canada)
- N. Hindman (Howard Univ., USA)
- K.-H. Hofmann (Darmstadt, Germany)
- A.T. Lau (Alberta, Canada)
- J.D. Lawson (Baton Rouge, USA)
- P. Milnes (Western Ontario, Canada)
- M. Mislove (Tulane Univ., USA)
- W. Moran (Flinders University, Australia)
- I. Namioka (Univ. of Washington, USA)
- M. Neufang (Carleton University, Canada).
- I. Protasov (Kiev, Ukraine)
- D. Strauss (Hull, England)
- A. Ulger (Koch Univ., Istanbul)
- T. West (Trinity College, Dublin)
- G. Willis (Newcastle, Australia)
- Y. Zelenuk (Lvov, Ukraine)

Accommodation at preferential rates ranging from £35 to £65 per person per night (depending on availability), at hotels close to the department, can be arranged through the Sheffield University Pure Mathematics Departmental Secretary, Miss Judith Allott, provided she is given sufficient notice. There is a registration fee of £25, payable on arrival, which is waived for research students and participants from the Ukraine, Turkey or third world countries. For further details visit the conference website (www.math.uwo.ca/~milnes/ JSPMay03.htm) or contact Dona Strauss (D.Strauss@hull.ac.uk). The organisers (A.T. Lau, P. Milesn, R.Y. Sharp and D. Strauss) gratefully acknowledge the financial support of the London Mathematical Society.

LOUGHBOROUGH UNIVERSITY
POSTGRADUATE OPEN DAY

The Department of Mathematical Sciences of Loughborough University is holding an Open Day for all prospective MSc, MPhil and PhD students on Wednesday 19 March. Areas of possible supervision at Loughborough include various aspects of Nonlinear Waves (existence of solutions, interaction of waves with structures, trapped modes, environmental fluid mechanics, asymptotic analysis, stability), Integrable Systems, Inverse Problems, Spectral Theory, Mathematical Biology, Hamiltonian Dynamical Systems, Materials Modelling, General Relativity, Algebraic Systems Theory, Analytical and Computational Number Theory, Differential Geometry, Stochastic Analysis and Mathematical Education. Taught MSc courses are also available in Industrial Mathematical Modelling.

Details can be found on the web (www.lboro.ac.uk/departments/ma/pginfo/openday.html). All enquiries should be addressed to Dr E.V. Ferapontov, Department of Mathematical Sciences, Loughborough University, Loughborough LE11 3TU (tel: 01509 223309, email: E.V.Ferapontov@lboro.ac.uk).

COMBINATORIAL AND COMPUTATIONAL GROUP THEORY CONFERENCE

A conference on Combinatorial and Computational Group Theory on the occasion of Edmund F. Robertson's 60th birthday is being held from 30 - 31 May 2003 (Friday and Saturday) at St Andrews. The provisional list of speakers is:

A.J. Duncan (Newcastle)
D.F. Holt (Warwick)
J. Howie (Heriot Watt, Edinburgh)
T.C. Hurley (Galway)
D.L. Johnson (Nottingham)
J.D.P. Meldrum (Edinburgh)
P.M. Neumann (Oxford)
W. Nickel (Darmstadt)
G. Pfeiffer (Galway)
G.C. Smith (Bath)
R.M. Thomas (Leicester)
J. Wiegold (Cardiff)

If you would like to attend this meeting, or receive further information about it, please contact one of the organisers: Nik Ruskuc (nik@mcs.st-and.ac.uk) and John Howie (jmh@st-and.ac.uk). There is a small number of free slots for short contributed talks. Please let us know if you would like to give one of these. Financial support may be available for research students who would like to attend the meeting. The meeting is supported by an LMS conference grant.

COMPLEX FLUIDS

A two-day meeting on Complex Fluids will be held at the School of Mathematical Sciences, University of the West of England, Bristol from 16-17 June 2003. The meeting will cover aspects of the fluid dynamics of complex fluids, including non-Newtonian fluids, superfluids, stratified interfacial flows and related numerical methods:

Invited speakers are:
- Carlo Barenghi (University of Newcastle upon Tyne)
- Eirian Jones (University of Plymouth)
- Tim Phillips (University of Wales, Aberystwyth)
- Brian Straughan (University of Durham)

The meeting will start at 2.00 pm on 16 June and finish at 1.00 pm on 17 June. All participants are invited to give a poster presentation of their work. The format will include one hour presentations from each of the invited speakers, and two poster sessions with discussions. The aim of the meeting is to inform the academic community of the diverse range of activity within complex fluids research, and to stimulate future areas of research and collaboration. The presentations from the four invited speakers together with summaries of all poster presentations will be published on the website.

The registration fee is £10. This will cover miscellaneous expenses such as tea and coffee breaks. For further details and to register your interest visit the web (www.cems.uwe.ac.uk/~klhender/complexfluids) or email Dr Karen Henderson (Karen.Hendereson@uwe.ac.uk).

HOLGATE LECTURES 2002/03

In 1997 the London Mathematical Society extended its provision of lectures at a popular level. The Holgate lectures (called Holgate Lectures 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 15-18 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. The current list of lecturers with the titles of their talks is:

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 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.

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.

Dr N.D. Gilbert: The Turing Test; Only connect; Numbers and codes.

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.

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 web page (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, e-mail: spoor@lms.ac.uk).

VISIT OF MR S. ZARBALIEV

Mr Sakhavat Zarbaliev, a research fellow at the International Institute for Earthquake Forecast Theory and Mathematical Geophysics (Moscow), will visit the Department of Statistics at the University of Leeds during March 2003. The visit is supported by an LMS Scheme 5 grant. Mr Zarbaliev is a former student of Professor Ya. Sinai and Dr L. Bogachev, and his research involves application of probabilistic methods to statistics of growing combinatorial objects. For further information contact Dr Leonid Bogachev (bogachev@maths.leeds.ac.uk).

VISIT OF PROFESSOR T.A. SLAMAN

Professor Theodore Slaman (University of California at Berkeley) will visit the UK from 1 - 10 April, supported by an LMS Scheme 2 grant. He will give lectures at the University of Leeds, Oxford University and at BMC 2003 at Birmingham University. For further information contact Professor Barry Cooper, School of Mathematics, University of Leeds, Leeds LS2 9JT (s.b.cooper@leeds.ac.uk).

LMS DURHAM SYMPOSIA

The LMS Research Meetings Committee is responsible for the planning of the LMS Durham Symposia, which have been running successfully each July/August since 1974, with over 70 symposia to date, in a wide range of mathematical disciplines. In 2003 there will be three Durham Symposia:

- 4 – 14 July: Geometry and Cohomology in Group Theory
  organisers: M.R. Bridson, P.H. Kropholler (p.h.kropholler@qmul.ac.uk)*, I.J. Leary
- 14 – 18 July: New Developments and Applications in Rapid Fluid Flows
  organisers: J.S.B. Gajjar (gajjar@maths.man.ac.uk)*, P. Hall, F.T. Smith
- 25 July – 4 August: Markov Chains – Algorithms, Applications and Theory
  organisers: L.A. Goldberg, W.S. Kendall, A. Stuart (stuart@maths.warwick.ac.uk)* .

Further information may be obtained from the organisers marked * at the email addresses shown.

The most recent symposia have been:

2002   Representations of Finite Groups and Related Algebras (K. Erdmann, J.C. Rickard, G.R. Robinson)
2002   Computational Methods for Wave Propagation in Direct Scattering (M. Ainsworth, P.J. Davies, D.B. Duncan, P.A. Martin, B.P. Rynne)
2002   Astrophysical Fluid Mechanics (D.W. Hughes, C.A. Jones, A.M. Soward, N.O. Weiss)
2001   Combustion Theory (J. Brindley, J.W. Dold, V. Galaktionov, A.C. McIntosh)
2001   Groups, Geometry and Combinatorics (A. Ivanov, M. Liebeck, J. Saxl)
2001   Special Structures in Differential Geometry (N.J. Hitchin, S.M. Salamon, A.F. Swann)

Detailed proposals for symposia are made at least two years ahead. For each symposium an application is made to EPSRC for a substantial research grant, to cover the subsistence costs of all invited participants, and some travel. Considerable assistance is available in preparing the scientific and financial case for the proposals, and in the running of the symposium itself. More information about Durham Symposia is available on the LMS website (www.lms.ac.uk/activities/research_meet_com/) or the Durham website (www.maths.dur.ac.uk/events/meetings/LMS/).

The LMS Research Meetings Committee welcomes ideas for symposia for 2005 and later, from potential organisers and others, who should contact the Chairman of the Committee, Professor A.J. Scholl (a.j.scholl@dpmms.cam.ac.uk). Proposals for 2005 should be made as soon as possible, and need to be received in final form no later than **1 May 2003**.

CHAOTIC DYNAMICS AND TRANSPORT IN CLASSICAL AND QUANTUM SYSTEMS

A NATO Advanced Study Institute Summer School on Chaotic Dynamics and Transport in Classical and Quantum Systems will be held at Cargese from 18-30 August 2003. The organisers are: P. Collet (Ecole Polytechnique, Paris), M. Courbage (Université Paris 7), S. Métens (Université Paris 7), A. Neishtadt (Space Research Institute, Moscow), G. Zaslavsky (Courant Institute and Physics Department, New York University).

The main goal of the school is to develop the mutual interaction between Physics and Mathematics concerning the statistical properties of classical and quantum dynamical systems. Various experimental and numerical observations have shown new phenomena of chaotic and anomalous transport, fractal structures, chaos in physics accelerators and in cooled atoms inside atom-optics billiards, space-time chaos, fluctuations far from equilibrium, quantum decoherence, etc. New theoretical methods have been developed in order to model and to understand these phenomena (volume preserving and ergodic dynamical systems, non-equilibrium statistical dynamics, fractional kinetics, coupled maps, space-time entropy, quantum dissipative processes etc). The goal of the school is to gather a team of specialists from several horizons lecturing and discussing on the achievements, perspectives and open problems (both fundamental and applied). The school, aimed at postdoctoral level scientists, not excluding PhD students and senior scientists, will provide lectures and lecture series devoted to the following topics:

- Statistical properties of dynamics and ergodic theory
- Chaos in smooth and Hamiltonian dynamical systems
- Anomalous transport, fluctuations and strange kinetics
- Quantum chaos and quantum decoherence
- Lagrangian turbulence and fluid flows
- Particle accelerators and solar systems.

The goals of the school are: presentation of new achievements in the above subjects, favouring contacts between young and senior scientists. Lecturers and participants are expected to stay for the entire duration of the school.

For further information contact: M. Courbage, Laboratoire de Physique Théorique de la Matière Condensée, Université de Paris 7, Denis Diderot, Case Postale 7020, 2 Place Jussieu, 75231 Paris Cedex 05, France (fax: 33 1 46 33 94 01) or visit the website (www.ccr.jussieu.fr /lptmc/Cargese/CargeseMainPage.htm).

THE LONGEST-SERVING MEMBER

The Society's longest-serving member is Sir Edward Wright having been elected on 12 December 1929. He is a Senior Berwick Prize winner and the author of some 140 papers. Apart from a gap during the war, he published steadily from 1930 until 1981. His doctoral supervisor at Oxford was G.H. Hardy with whom he later wrote "Introduction to the Theory of Numbers". He worked initially in Analytic Number Theory, in particular, generalisations of Waring's Problem. He is interested in many different strands of analysis, being one of the first to work on Difference-Differential Equations. His work on the Lambert W function (which had also intrigued Euler) seems of current interest. He later applied analytic methods to Graph Theory, obtaining some powerful asymptotic results.

In a forthcoming article, Professor George Andrews (*Partitions: at the interface of q-series and modular forms,* Ramanujan Journal, Rankin memorial issue) discusses a sequence of three papers by E.M. Wright. He comments " The point I wish to make is that Wright's third paper on partitions into powers IS UNIQUE in the history of the subject. Its starting point and fundamental philosophy are different from anything that has come before or since." (See

E.M. Wright, *Asymptotic partition formulae, III. Partitions into k^{th} powers.* Acta Math. **63** (1934) 143-191.)

His working life was full and long. He supported himself from the age of 14 and finally retired as Vice-Chancellor of the University of Aberdeen at the age of 70. He had been elected to the Chair of Mathematics at that university at the early age of 29.

He was born on 13 February 1906 in a village just outside Leeds. Initially the family was highly prosperous. His father owned a soap factory making "Wright's Washall Soap". Unfortunately, when he was three years old, his father's business collapsed. His parents separated and he and his mother moved south. She was a skilled musician and music teacher who obtained jobs at boarding schools where she could, for a reduction in salary, have her young son living with her. At the age of 14 he became independent by working as a 'pupil teacher' at a small preparatory school in Woking. His duties included playing football with the pupils and teaching them French! He was well educated in classics and modern languages but, until the age of 14 had not come across any mathematics except arithmetic. He was introduced to algebra and became hooked on mathematics from then onward.

When he was 16 he was working as a teacher of French at a school in London, taking evening classes in physics at Woolwich and teaching himself mathematics. A school inspection took place. The inspector reported that Edward Wright was far too young for the post he was occupying. He was immediately sacked. He then got a teaching job at Chard Grammar School in Somerset. Since he had no access to laboratory facilities he gave up on experimental physics but re-doubled his efforts in teaching himself mathematics. At that time it was possible to take a University of London Degree as an external candidate, that is, without any requirements to attend courses. Working on his own in Chard he taught himself for a BSc in Mathematics, achieving First Class Honours. One of the other teachers was a graduate from Cambridge who said: "Oh, a London degree is only equivalent to entrance scholarship standard for Oxford and Cambridge". Nettled by this, he investigated Oxford and Cambridge and found only one college in either university which had a scholarship open to someone over the age of 19. This was Jesus College, Oxford, which had one scholarship not restricted to age or subject. He competed for the scholarship and won it.

His period at Oxford was happy and fruitful. He met his future wife Phyllis, and became a research student of G.H. Hardy. He obtained the first ever JRF awarded by Christ Church (at that time known, somewhat strangely, as a research lectureship).

At Hardy's urging he spent a year in Germany at Göttingen. This was just before Hitler came to power and Göttingen was still one of the major mathematical centres in the world. He was well treated in Germany but came home convinced that another war was inevitable. At that time Churchill and his supporters, who urged re-armament, were in a small minority, and decried as 'warmongers'. Lord Cherwell (subsequently scientific advisor to Churchill) was a Professor of Physics at Oxford and had rooms in Christ Church. Because of their shared political views on the dangers of appeasement, Edward Wright became friendly with both Cherwell and R.V. Jones. Arising from these connections, during the war years, he was seconded from his chair in Aberdeen to work in Scientific Intelligence at MI6 headquarters in London.

His many honours include a plethora of honorary degrees. He is a Fellow of the Royal Society of Edinburgh and one of its prizewinners. He is the longest-serving Honorary Fellow of Jesus College, Oxford (having been elected at the same time as Harold Wilson) - but, at 97, not the oldest!

Sir Edward's son John is Professor of Mathematics at the University of Reading. I thank John Wright for great help in the preparation of this article.

<div align="right">Alan Pears</div>

PHOTOGRAPH OF SIR EDWARD

BOOK REVIEW

Flatterland: like Flatland, only more so by Ian Stewart, Perseus Publishing, Cambridge, MA (2002), US$14.00, xi + 301 pp.

This well-written and amusing monograph is a super-sequel of Edwin A. Abbott's classical popularization of mathematics and science, Flatland, originally published in 1884, and in my opinion the best and most comprehensive 'up-date' yet. Note that reprints of the classical literary gem have survived several major wars as well as the rise and/or fall of several empires! Surprisingly, Abbott (1838-1926) was Headmaster of the City of London School and not even a mathematician or physicist! Indeed, his brilliant entrance into the science-fiction world of many dimensions was by the vigorous use of analogy. In other words, if Mathematics is the Queen of the Sciences then Virtual Mathematics is the Queen of Science Fiction.

As with the classic, the book under review is replete with numerous very human characters, leading the reader into ever deeper geometry, topology, cosmology and quantum theory of space, time, and matter. For example, one transitions from the classical 'A. Square' (a very conservative lawyer) to include a far more modern and complex 'Space Hopper'. The main protagonist is the charming young feminist Victoria Line (great-great-granddaughter of A. Square), whose name is familiar to every Londoner. While Vikki was in her home cellar, she found, by accident, the original manuscript of Flatland and began reading it with great enlightenment. When her parents find this out, they undertake to burn it, but not before she scans it into her computer. Still, her parents are disgusted that she would want to read about a 'Romance of Many Dimensions'. She thinks, 'Oh, Mum, if only you knew some of the books I've read ...'. Soon after, Vikki has a visitation by the Space Hopper (a tamed horned sphere homeomorphic to A. Square's guide, the Sphere), who whisks her away on a wild, mind-stretching voyage of the Mathiverse (Mathematical Universe) without so much as a 'goodbye' to her family. There follows a hectic trip to many exotic places of the Wonderland genre: Spaceland (Euclidean space of various dimensions), Fractal Forest, Quadratic City, Topologica (meeting Moobius the Cow) and the Projective Plain(!). About one-third of the book is devoted to helping Vikki better understand abstract geometry and the structure of matter in the Universe.

In the process of going from 2-space toward infinite dimensional spaces and their applications to physics, one is introduced to basic ideas of Newton, Maxwell, Cayley, Sylvester, Penrose and Hawking, among many others. Even the four basic forces of nature are discussed well in a simple, but intelligent way. In places, the visionary story reads like a cross between Finnegans Wake and Alice in Wonderland. On page 190, one must ask: How many coolarms are in the charge of the Light Brigade?

Much effort is spent in the book on penetrating questions. Such as (1) What are geometry and topology and how are they related? (2) What ideas unite the strange worlds of abstraction we call 'space' and 'time'? Obviously a far more sophisticated reader is needed than was required for the classical Flatland in spite of the sequel's wry humour, puns and novel word-play.

Perhaps the geometry of Cyberspace must wait for its appearance in an appropriate Flattestland! On the other hand, we may find that such a Flattestland is nothing much but a Flatterland or even a Flatland. This valuable book, which I highly recommend, deserves to be translated into other languages. If London were to disappear (by Black Magic) one could begin to reconstruct it from the humble Lines and Squares described in this book. I believe London is now ready for an Abbott Square or, perhaps, an Abbott Hall!

<div align="right">

Albert A. Mullin

Madison, AL 35758 USA

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MEETING OF UK-IRISH SECTION OF SIAM

The yearly meeting of the UKIE Section of SIAM was held at the University of Bath on 10 January, Professors D. Parker (President) and I. Graham (Vice-President) acting as Chairmen. There were five speakers on a variety of subjects:

Dr Helen Byrne (Nottingham) had as her subject "Multiphase models of solid tumour growth", and described the way in which both normal and cancerous cells respond to mechanical effects. Thus, multiphase models can provide a mathematical framework, not least for tumour encapsulation and for tumour invasion. Numerical examples were provided.

Professor Doug Arnold (Minnesota) spoke on the subject of "Differential complexes in numerical analysis", emphasising the design and analysis of numerical methods for partial differential equations. The design of stable discretization hinges on capturing subtle aspects of the structure of the differential system in the discretization. Thus a unifying understanding was presented for a variety of numerical methods, including applications to electromagnetism. A current unsolved problem concerns gravitational wave emission from colliding black holes.

Professor John Toland (Bath) had the topic of "Global real-analytic bifurcation theory and its use in Stokes'-wave theory". In the case of bifurcation from a simple eigenvalue when the operators involved are real-analytic, there are important generic properties that can be inferred. Applications to bifurcations of water waves was in the background of the analysis.

Professor John Billingham (Birmingham) discussed the "Mathematical modelling of solid oxide fuel cells", giving mathematical descriptions of a variety of systems in plane and tubular fuel cells. Such systems generate electricity directly from the fuel and thus have a high potential for a power generation that is relatively pollution free. Attention was given also to combustion and travelling waves in tubular fuel cells.

Professor P. Toint (Namur) spoke on "The filter idea and its application to nonlinear equations and nonlinear least squares", starting with the case of general constrained programming, describing work of Fletcher, Leyffer and Gould, and extending the ideas to the case of nonlinear equations. The Filtrane algorithm is the result of this developing activity.

The local organisation was in the capable and efficient hands of Professor Ivan Graham and Mrs Ann Linfield, while the general organisation of the meeting was provided by Dr Alison Ramage, Secretary of the UKIE Section of SIAM. Their work was much appreciated.

<div align="right">Trevor Stuart</div>

TWO MATHEMATICS DIGITIZATION PROJECTS

While the mathematics community gears up to digitize the whole of the mathematics literature, it's a good idea to look at two projects already up and running. These are the Jahrbuch Project at Göttingen and the Cellule MathDoc group based at Grenoble.

The *Jahrbuch über die Fortschritte der Mathematik* was the first comprehensive journal of reviews of matematical literature. It was founded in 1868 and appeared until 1942. The project has as its centrepiece the goal of making the entire Jahrbuch electronically available. Much has already been done. If you go to the EMIS homepage (www.emis.de) and click on the Jahrbuch project, you can use the search facility, for instance, by author. I typed in 'Hardy, G.H.' and got a list of 314 titles, starting in 1899. From there, it's not hard to access the Jahrbuch review for the titles selected.

For some publications, including *Mathematische Annalen, Mathematische Zeitschrift, Journal de Mathématiques Pures et Appliqués*, the project provides direct access to facsimiles of the articles themselves. This is a fascinating site, a window into both the past and the future of mathematics.

Cellule MathDoc has recently opened a website, www.numdam.org. From this page you can search by author, title or keyword summaries of the articles in the *Annales de l'Institut Fourier* and the *Journées Équations aux dérivées partielles*. Again, you can summon the articles themselves to your computer screen. This service is entirely free if your institution subscribes to the journals and, in any case, free for the *Annales* for articles up to 1996. Cellule MathDoc intends, in time and subject to publishers'permission, to make all French mathematical journals available in this way.

David Salinger
EMS Publicity Officer

VISIT OF PROFESSOR E.K. PEDERSEN

Professor Erik Kjaer Pedersen (Binghamton and Munster) will be visiting the UK in May supported by an LMS Scheme 2 grant. He will give lectures on "Smoothing loop spaces" at the following times and places:

- Tuesday 6 May, 5.00 pm, Room G4, Mathematics Building, Leicester University
- Thursday 8 May, 4.00 pm, Room 905, Dept. of Mathematics, Manchester University
- Friday 9 May, 4.30 pm, Room 4312, James Clerk Maxwell Building, King's Buildings, Edinburgh University
- Monday 12 May, 4.15 pm, Room MT 347, Meston Building, Aberdeen University

The visit is coordinated by Professor A. Ranicki (aar@maths.ed.ac.uk).

HUMAN FRONTIER SCIENCE PROGRAMME

The International Human Frontier Science Programme (HFSP) is an international non-governmental non profit association devoted to the promotion of basic research focused on the elucidation of the sophisticated and complex mechanisms of living organisms. It
- provides research grants to international joint research teams;
- provides fellowships to researchers;
- organizes and/or subsidize workshops; and
- conducts other activities necessary to achieve the objectives of the Organization.

Particular importance is attached to the concepts of "scientific merit", "internationality", especially "intercontinentality", and "interdisciplinarity", in implementing the Program activities.

The member countries are Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Luxembourg, the Netherlands, Portugal, the Republic of Ireland, Spain, Sweden, Switzerland, the United Kingdom and the USA. However, scientists from all countries may participate in the Research Grant and Fellowship programs.

The HFSP supports novel, innovative and interdisciplinary basic research focused on the complex mechanisms of living organisms; topics range from molecular and cellular approaches to systems and cognitive neuroscience. A clear emphasis is placed on novel collaborations that bring biologists together with scientists from fields such as physics, mathematics, chemistry, nanoscience, computer science and engineering to focus on problems at the frontier of the life sciences.

The Program has recently announced a call for applications for research grants in support of international collaborative projects with a strong emphasis on involving scientists from biology with colleagues from other disciplines. The next deadline for submitting letters of intent for the research grants is **2 April 2003**. Further information can be obtained at http://www.hfsp.org.

MAGDALEN COLLEGE
OXFORD

Tutorial Fellowship in Pure Mathematics

Magdalen College proposes to elect with effect from 1 October 2003 a Fellow and Tutor in Pure Mathematics. The salary will be according to age on a scale up to £42,900 per annum. Additional college allowances are available. The Fellowship is tenable with a titular University Lectureship (CUF) held in the Mathematical Institute which will be converted into a Stipendiary University post in October 2004. Application forms and further information can be obtained from the President's Secretary, Magdalen College, Oxford OX1 4AU (telephone: 01865 276101; email: carolyn.tucker@magd.ox.ac.uk.). The further particulars are also located on the College web site: http://www.magd.ox.ac.uk. Candidates should send eight copies of completed applications, including full c.v.s, and must ask three referees to send references to the President by the closing date of Friday 4 April 2003.

The College and the University are Equal Opportunities Employers.

RECORDS OF PROCEEDINGS AT MEETINGS

SOUTH WEST AND SOUTH WALES
REGIONAL ORDINARY MEETING

held on *Monday 25 November 2002* at Gregynog Hall, Newtown, Powys, within a meeting on Contemporary Aspects of Mathematical Physics. About 65 members and visitors were present for all or part of the Ordinary Meeting.

The meeting began at 2:00 pm, with Professor P. GODDARD, FRS, in the Chair.

Professor V.F.R. Jones gave a lecture on 'Skein Theory in and out of Knot Theory'.

The President, on Council's behalf, presented a certificate to the 2002 Honorary Member of the Society Professor V.F.R. Jones.

The Records of the Proceedings at the Society Meeting held on 21 June and 23 August 2002 were signed as a correct record.

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

Professor J. Lewis gave a lecture on 'Large Deviation Theory in Perspective'.

The President concluded the Ordinary Meeting of the Society and thanked the organizers of the South West and South Wales Regional Meeting, Dr Edwin Beggs, Professor David Evans and Professor Aubrey Truman.

LMS INVITED LECTURE SERIES

24 - 30 August 2003

Professor M. Fukushima (Kansai University)
Dirichlet Forms and Related Stochastic Analysis

The 2003 LMS Invited Lectures will be given at the Department of Mathematics, University of Wales, Swansea. This series is held annually: a single speaker gives a course of 10 expository lectures, examining an important topic in depth, over a five day period. In the 2003 programme in Swansea there will be two lectures by Professor Fukushima every morning. The associated afternoon sessions will consist of two invited lectures to complement the course (further details will be announced later on).

The following intimately related questions will be discussed:

• Dirichlet Forms and Function Spaces
• Trace Dirichlet Forms and Capacitary Inequalities
• Ultracontractivity of Time-changed Processes
• A Stochastic Approach to the Douglas Integral

All mathematicians interested in the topic are welcome to attend the lectures, although the total number of participants may be limited. There is a registration fee of £30. The registration fee will be waived for research students. Limited funds are available to support participants. Priority will be given to research students and mathematicians who would benefit from attending the lectures, but who would otherwise be prevented from attending by financial constraints. For further details, contact the organiser Niels Jacob (N.Jacob@swansea.ac.uk).

LMS INVITED LECTURES SERIES

The Society's Invited Lectures series consists of meetings at which a single speaker gives a course of about ten expository lectures, examining some subject in depth, over a five day

period (Monday to Friday) during a University vacation. The meetings are residential and open to all interested. It is intended that the texts of the lectures given in the series shall be published. In addition to full expenses, the lecturer is offered a fee of £1250 for giving the course and a further fee of £1500 on delivery of the text in a form suitable for publication. Recent lecturers in the series have been P.F. Baum (1995), F.J. Almgren (1996), J. Alperin (1997), D. Zagier (1998), A. Mielke (1999), B. Dubrovin (2000), T. Goodwillie (2001), P. van Moerbeke (2002).

The 2003 Invited Lectures Series will be given at the University of Wales, Swansea by M. Fukushima.

For the 2004 meeting, proposals are now invited from any member who, in addition to suggesting a topic and lecturer, would be prepared to organize the meeting at the member's own institution or a suitable conference centre. Enquiries about this series should be directed to the Executive Secretary, Mr Peter Cooper at the Society (email: cooper@lms.ac.uk). Programme Committee expects to make a decision on Friday 20 June 2003.

LONDON MATHEMATICAL SOCIETY NORTHERN REGIONAL MEETING AND WORKSHOP

Geometric Representation and Invariant Theory

University of Manchester
Meeting 11 March – Workshop 12-15 March 2003

The Northern Regional Meeting of the London Mathematical Society meeting will be held on the afternoon of Tuesday 11 March. There will be a reception and dinner afterwards.

3.00 – 4.00 **Jens Carsten Jantzen (University Aarhus)**
Representations of reductive Lie algebras
in prime characteristics

4.00 – 4.30 **Tea/coffee**

4.30 – 5.30 **Victor Ginzburg (University of Chicago)**
Representation theory of Cherednik algebras
and applications

This will be followed by a Workshop from 12 - 15 March inclusive on 'Geometric Representation and Invariant Theory'. Expected speakers include:

Jacques Alev (Reims)	George McNinch (Notre Dame)
Henning Haahr Andersen (Aarhus)	Ivan Mirkovic (UMASS)
Ivan Arzhantsev (Moscow State)	Dan Nakano (Georgia/Oxford)
Ken Brown (Glasgow)	Dmitri Panyushev (Moscow)
Ranee Brylinski (Penn State)	Patrick Polo (Paris)
Bill Crawley-Boevey (Leeds)	Claus Michael Ringel (Bielefeld)
Alexander Elashvili (Tbilisi)	Serge Skryabin (Kazan/Hamburg)
Iain Gordon (Glasgow)	Helmut Strade (Hamburg)
Ian Grojnowski (Cambridge)	Donna Testerman (EPFL, Lausanne)
Steffen Koenig (Leicester)	Michel Van den Berg (Limburgs)

The scientific organiser is Alexander Premet (University of Manchester, email: sashap@ maths.man.ac.uk). The organising committee consists of the scientific organiser and the LMS regional organisers, Mike Prest (University of Manchester, email: mprest@maths.man.ac.uk) and Ted Voronov (UMIST, email: voronov@ma.umist.ac.uk). The conference secretary is Francesca Moss (tel: 0161 275 5899, email: francesca@maths.man.ac.uk).

Some funds available to contribute in part to the expenses of members of the Society or research students who wish to attend the Society Meeting on 11 March. Requests for support should be addressed to the Programme Secretary at the Society (web: www.lms.ac.uk, email: grants@lms.ac.uk). Requests should include an estimate of expenses and a very brief *curriculum vitae*; research students should include brief letters of endorsement from their supervisors.

The workshop is supported by the London Mathematical Society and EPSRC.

For further information visit the conference website
www.ma.man.ac.uk/lmsconf

LONDON MATHEMATICAL SOCIETY MIDLANDS REGIONAL MEETING AND WORKSHOP

Uncertainty Modelling

Meeting 14 May – Workshop 15-17 May 2003

Room AS130, Armstrong-Siddeley Building,
Priory Street, University of Coventry

The Midlands Regional Meeting of the London Mathematical Society will be held on the afternoon of Wednesday 14 May. There will be a reception afterwards and a dinner in the Lanchester Restaurant at 7.00 pm.

3.30 – 4.30	**Olaf Wolkenhauer (UMIST)**
	Mathematical Modelling of Cellular Dynamics
4.30 – 5.00	**Tea/coffee**
5.00 – 6.00	**Robert Babuska (Delft)**
	Fuzzy Systems

This will be followed by a Workshop on 'Uncertainty Modelling' from 15-17 May inclusive. It is intended that there will be two strands to the workshop, one oriented to control engineering/systems theory and one towards applications in the biological domain. Both events should be of interest to mathematicians working in the field of fuzzy logic. Invited speakers who have accepted include:

R. Babuska (Delft)   D. Pearson (St. Etienne)

M. French (Southampton)   S. Townley (Exeter)
E. Ryan (Bath)   A. Zinober (Sheffield)

For further details, including opportunities to contribute to the workshop, please contact the organiser, Dr Helen Robinson (tel: 024 7688 8586, email: h.robinson@coventry.ac.uk). Coventry University is about 10 minutes' walk from the station.

Both of the above events are supported by the London Mathematical Society.

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the Society Meeting on 14 May. Requests for support may be addressed to the Programme Secretary at the Society (web: www.lms.ac.uk; email: grants@lms.ac.uk). Requests should include an estimate of expenses and a very brief *curriculum vitae*; research students should include brief letters of endorsement from their supervisors.

OXFORD UNIVERSITY

MATHEMATICAL INSTITUTE, COMPUTING LABORATORY, AND DEPARTMENT OF STATISTICS

SCHOOLS LIAISON AND ACCESS OFFICER

Academic-Related Administrative Grade 2: £21,125 - £27,339 pa

The Mathematical Sciences Departments wish to appoint a Schools Liaison and Access Officer. This newly created post is an exciting opportunity for a person with a genuine enthusiasm for the mathematical sciences. The main focus of the post will be to promote the study of mathematics at secondary school level and to encourage students from many backgrounds to study one of the mathematical sciences courses at Oxford. The post-holder will be required to promote the study of the mathematical sciences by providing popular lectures for school children and 'bridging' teaching for new undergraduates, to assist with the admissions exercise and Open Days. A high priority will be to assist in the development a new website to which school children, potential applicants, teachers and newly admitted students can turn for information.

Applicants should have a degree in the mathematical sciences, the ability to teach the subject to a wide range of audiences, and some knowledge of mathematical education and syllabuses at secondary school level. Excellent communication skills and the ability to engender enthusiasm for the subjects are paramount. The post-holder must be prepared to work flexible hours and undertake some travel.

The post is for three years in the first instance, with the possibility of renewal, subject to funding. The University provides excellent conditions and benefits, including 38 days annual leave, pension scheme, city centre location; parking may be available, subject to certain criteria.

Applications should be made in the form of a detailed curriculum vitae and a covering letter setting out how you meet the selection criteria. The application should include the names, addresses and contact details of three referees, of whom one is an existing or recent employer. Referees should be asked to send references direct to the department by the closing date. Candidates invited for interview will be asked to give a short presentation and prepare an accompanying 'hand-out'.

Further details are available from Brenda Willoughby, Administrative Assistant, Mathematical Institute, 24-29 St. Giles', Oxford OX1 3LB, email: brenda@maths.ox.ac.uk. Applications should be sent to the Administrative Assistant at the above address quoting reference BK/03/04. The closing date for applications is **10 March 2003** and interviews will be held on 24 March 2003.

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

SPACES OF KLEINIAN GROUPS AND HYPERBOLIC 3-MANIFOLDS

(3-8 August 2003)

Supported by the European Commission, Research DG, Human Potential Programme,
High-Level Scientific Conferences – HPCF-2001-00106, the NSF and the Leverhulme Trust

in association with the Newton Institute programme entitled
Spaces of Kleinian Groups and Hyperbolic 3-Manifolds (21 July - 15 August 2003)

Organisers: Caroline Series (Warwick), Yair Minsky (Stony Brook), Makoto Sakuma (Osaka).

Theme of EuroConference: This workshop will focus on spaces of Kleinian groups. From the viewpoint of complex dynamics, a space of Kleinian groups is a close analogue of the Mandelbrot set; Bers' simultaneous uniformisation theorem reveals these spaces as an extension of Teichmüller theory; while from the 3-dimensional viewpoint they become deformation spaces of hyperbolic 3-manifolds. Each approach contributes its individual flavour, and our aim is to bring together these diverse threads.

Specific topics to be addressed include: relationships between the analytic, combinatorial and geometric structure of hyperbolic 3-manifolds; topology of deformation spaces and the arrangement of their components; classification of hyperbolic 3-manifolds by asymptotic invariants; complex projective structures; convex hull boundaries; cone manifolds, orbifolds and knot groups; the combinatorial structure of Teichmüller spaces, mapping class groups, and spaces of curves on surfaces; and the challenge of extending recent advances from once punctured tori to higher genus. A particular focus will be the experimental computer graphics which have contributed much to the development of the subject. We anticipate that exploration of these pictures will be formative for new phases of research. The first day of the meeting will be especially focused on this theme.

Speakers include:

B. Bowditch (Southampton)	J. Holt (Chicago)	Y. Minsky (Stony Brook)
J. Brock (Chicago)	M. Kapovich (Utah)	K. Ohshika (Osaka)
K. Bromberg (Caltech)	S. Kerckhoff (Stanford)	J-P. Otal (Orléans)
R. Canary (Michigan)	S. Kojima (Tokyo Inst Tech)	M. Sakuma (Osaka)
R. Evans (Rice)	M. Lackenby (Oxford)	C. Series (Warwick)
D. Gabai (Princeton)	V. Markovic (Warwick)	J. Souto (Bonn)
U. Hamenstaedt (Bonn)	H. Masur (Chicago)	S.P. Tan (Singapore)

| C. Hodgson (Melbourne) | C. McMullen (Harvard) | M. Wolf (Rice) |
| | | S. Wolpert (Maryland) |

Location and cost: The EuroConference will take place at the Newton Institute and accommodation for participants will be provided in single study bedrooms with shared bathroom at Wolfson Court. The workshop package, costing £420, includes accommodation, breakfast and dinner from dinner on Saturday 2 August until breakfast on Saturday 9 August, and lunch and refreshments during the days that lectures take place. Numbers will be restricted to about 80 participants. Please note: lectures will take place on Sunday 3 August at Wolfson Court (Fletcher Moulton Room).

Support: The EuroConference is supported by the European Community and funding is available to support a limited number of young (up to 35 years of age) researchers who are nationals of EC Member States or of the Associated States; also researchers of any age and the same nationalities residing outside Europe. Limited support is also available from the NSF and the Leverhulme Trust. Self-supporting participants of any age and nationality are welcome to apply.

Further information and applications forms are available from the web (www.newton.cam.ac.uk/ programs/SKG/skgw01.html). Completed application forms should be sent to Tracey Andrew, Isaac Newton Institute, 20 Clarkson Road, Cambridge CB3 0EH, or via e-mail (t.andrew@newton.cam.ac.uk). Closing date for the receipt of applications is **31 March 2003.**

ANALYSIS AND PROBABILITY ON FRACTALS

LMS/EPSRC Short Course

University of St Andrews, 30 June - 5 July 2003

Organisers: K J Falconer, L Olsen and B Stratmann

There has been a tremendous interest in fractals since the early 1980s. Much has been done of a geometric measure theoretic nature, with fractals studied as geometric entities in their own right, or used as geometrical descriptions of phenomena in the sciences. In the last few years, there has been a change in direction, with an increasing emphasis on the interaction of fractals with mathematical analysis and probability. For example, there are now several approaches to defining differential operators such as the Laplacian on fractal domains, leading to theories of linear and non-linear PDEs on fractals. Again, the interaction between fractals and conformal geometry has lead to the recent dramatic proof that the exterior boundary of Brownian motion in the plane has Hausdorff dimension 4/3. A wide range of new techniques are being introduced to enable traditional analytic problems to be addressed in the context of highly irregular sets, and these are likely to provide significant tools in future research.

This course will aim to present three contemporary areas at the interface of analysis and probability and fractal geometry, at a level that can be appreciated by research students. The topics to be covered will be of particular interest to those working in mathematical analysis, differential equations, probability and in some areas of applied mathematics or theoretical physics. The course will take place in the atmosphere of a traditional 'St Andrews Colloquium' in an environment in which mathematics and relaxation both flourish.

There will be three courses of lectures:

- **Diffusions and Heat Equations on Fractals:** Professor Martin Barlow (University of British Columbia)

- **Random Fractals:** Professor Yuval Peres (Jerusalem and Berkeley)

- **Random Planar Curves:** Professor Wendelin Werner (Paris-Sud)

There will be other related talks and tutorial back up to the courses. Further details of the programme may be found on http://www.mcs.st-and.ac.uk/~colloq/

The registration fee is £100, which for all UK-based research students includes the cost of course accommodation and meals. Participants must pay their own travel costs. EPSRC-supported students can expect that their registration fees and travel costs will be met by their departments from the EPSRC Doctoral Training Account that is paid to universities with each studentship award.

Application forms may be obtained from Isabelle Robinson (robinson@lms.ac.uk) or from the LMS website (www.lms.ac.uk/activities/research_meet_com/short_course/15_app.html).

Numbers will be limited and those interested are advised to make an early application.
The closing date for applications is **Friday 9 May 2003**.

HYDRODYNAMIC STABILITY THEORY

LMS/EPSRC Short Course

Keele University, 22-27 June 2003

Organiser: J.J. Healey

When fluids flow, there is the possibility that instability may arise. The instability might lead to turbulence, or to a new nonlinear flow, which itself can become unstable. Hydrodynamic stability is therefore of fundamental importance in almost all branches of fluid mechanics, from engineering flows to geophysical flows to physiological flows. This course introduces the mathematical methods used to study such instabilities, and describes the physical consequences of these instabilities in a variety of contexts.

The course is aimed primarily at postgraduate students working in areas of applied mathematics, but should also be of interest to engineering and physics students. A feature of the course is that physical demonstrations of fluid instabilities will be available to help students appreciate the phenomena they will be studying. The lecture courses will introduce, with minimal pre-requisites, a range of techniques, from the application of basic criteria for instability, to advanced asymptotic methods, including both linear and nonlinear analysis. The emphasis will be on gaining insight through analytical approaches, but supplemented by some numerical methods as well.

The course titles and lecturers are:

- **Shear Layer Instability:**   Jonathan Healey (Keele University)
- **Geophysical Fluid Dynamics:**   Richard Hewitt (Manchester University)
- **Pattern Formation in Fluid Flows:** Anne Juel (Manchester University)

Each course comprises five lectures; problem sheets will be provided, to be discussed with the lecturers and assistant tutors during tutorial sessions. In addition, there will be Invited Lectures given by Trevor Stuart FRS (Imperial College), Jon Chapman (Oxford University) and Peter Thomas (Warwick University).

The registration fee is £100, which for all UK-based research students includes the cost of course accommodation and meals. Participants must pay their own travel costs. EPSRC-supported students can expect that their registration fees and travel costs will be met by their departments from the EPSRC Doctoral Training Account that is paid to universities with each studentship award.

Application forms may be obtained from Isabelle Robinson (robinson@lms.ac.uk) or from the LMS website (www.lms.ac.uk/activities/research_meet_com/short_course/14_app.html).

Numbers will be limited and those interested are advised to make an early application. The closing date for applications is **Friday 18 April 2003**.

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RAYLEIGH PHOTOGRAPH

LORD RAYLEIGH
DE MORGAN MEDALLIST 1890

In his address on 13 November 1890, the President surveyed Lord Rayleigh's work, both theoretical and experimental, on electromagnetism, sound, optics and gas and fluid dynamics and concluded: "These abstracts may serve to convey some idea of the great variety of subjects in Mixed Mathematics discussed and advanced by Lord Rayleigh, and on which that distinguished reputation in these domains is founded, their recognition of which the Council of the London Mathematical Society desire to mark by the present award of the De Morgan Medal."

DIARY

MARCH 2003

19	Open Day, Loughborough University (313)

MAY 2003

30-31	Combinatorial and Computational Group Theory Conference, St Andrews University (313)
30 – 1 Jun	Groups and Semigroups in Analysis Conference, Sheffield University (313)

JUNE 2003

16-17	Complex Fluids Meeting, West of England University (313)
22-27	Hydrodynamic Stability Theory LMS/EPSRC Short Course, Keele University (313)
30 – 5 July	Analysis and Probability on Fractals LMS/EPSRC Short Course, St Andrews University (313)

JULY 2003

4-14	Geometry and Cohomology in Group Theory LMS Durham Symposia, Durham University (313)
14-18	New Developments and Applications in Rapid Fluid Flows LMS Durham Symposia, Durham University (313)
25-4 Aug	Markov Chains – Algorithms, Applications and Theory LMS Durham Symposia, Durham University (313)

AUGUST 2003

3-8	Spaces of Kleinian Groups and Hyperbolic 3-Manifolds Workshop, INI, Cambridge (313)
18-30	Chaotic Dynamics and Transport in Classical and Quantum Systems NATO ASI Summer School, Cargese, France (313)
24-30	Dirichlet Forms and Related Stochastic Analysis, M. Fukushima: LMS Invited Lectures, University of Wales, Swansea (313)

APRIL 2005

4-7	BAMC/BMC, Liverpool University