FORTHCOMING SOCIETY MEETINGS

Friday-Saturday 10-11 May 1996, University of Glasgow
Joint Meeting with the Edinburgh Mathematical Society
Algebra
K.R. Goodearl, G. Levitt, A. Lubotzky, C. Maclachlan, J.-E. Pin, J. Rickard

Friday 21 June 1996, Linnean Society, London
C.J. Bushnell, R.L. Taylor

Friday 18 October 1996, Linnean Society, London
Cayley-Sylvester Centenary Meeting on Invariant Theory
W.P. Barth, C. de Concini, F.C. Kirwan, R. Howe

Friday 15 November 1996, Linnean Society, London
Annual General Meeting
E. Witten, N.J. Hitchin (Presidential Address)

LMS COUNCIL DIARY

Council met on Friday 15 March. Once again we discussed the response of Gillian Shephard to the concerns expressed in the report "Tackling the Mathematics Problem". The Council agreed that we should keep pushing the Minister in the direction of our recommendations. It was felt that we have managed to push mathematics up the political agenda. One disturbing thought was the report that between 20%-30% of primary school teachers lack the necessary skills to teach Keystage 2 mathematics!

The President brought to our attention a paper entitled "Ethical Guidelines" produced by the AMS. We are not always certain that we wish to follow the lead given by our American cousins but Council thought there was enough of value to make further investigation worthwhile. So a small working group is to consider the issues. Many of these concern the duties and responsibilities of editors, referees and authors. Later in the meeting one member suggested that it was "difficult to get things completely right"; the response was "that doesn't mean you shouldn't try". It seems very good advice to potential authors.

The Durham Symposia Committee is keen to expand its instructional conference activities. Up to now it has been putting on one per year, it is hoped that next year there will be two and the aim is to run three a year. This is a good idea and Council was happy with this. A problem has been created by the new policy which EPSRC has implemented of only having one round of bidding per year for funding of conferences. This makes the timing very difficult.

After the main meeting there was a "Strategic Planning Meeting". The idea is that we can consider more long term issues. Unfortunately I cannot reveal what was discussed but it will all be made public soon. This is just to whet your appetite for the forthcoming announcement.

There were also a number of 'grey issues' which kept arising. One is how much data can we make available on the WWW. This is particularly a problem when it comes to a new issue of "Who's Where". In the end, Council decided that there was already enough information available for those who were already adept at using the internet and we should only produce the paper version.

Alan Camina

VISITS OF DR SERGEI BOLOTIN AND DR SERGEI KUKSIN

Dr Sergei Bolotin, of the Moscow State University, will be visiting Cambridge from 15 - 30 May 1996. Bolotin is an expert in the use of variational methods in Hamiltonian Dynamics and will be at DAMTP to discuss the geometry of Hamiltonian systems on tori. He will give a seminar on 21 May.

Dr Sergei Kuksin, of the Steklov Institute in Moscow, will visit Cambridge from 4 - 14 June 1996. Based at DAMTP, he will be discussing problems arising in the study of infinite dimensional Hamiltonian Systems. He will give a seminar on "Doubly-periodic solutions of quasilinear Cauche-Riemann equations" on 5 June.

Both visits are supported by the LMS fSU visitor scheme. For further details contact Dr R.S. MacKay at DAMTP (e-mail: R.S.MacKay@damtp.cam.ac.uk, tel: 01223-339733; fax 01223-337918).

VISIT OF PROFESSOR M.M. POSTNIKOV

Professor M.M. Postnikov (Steklov Institute, Moscow) will be visiting the UK with Royal Society support, 5 May - 5 July 1996. He will be based at Bangor, and will also be giving seminars at Oxford on Monday, 13 May; at Aberdeen, 23 May; at Edinburgh, 24 May; and Sheffield, 12 June. For further information contact Professor R. Brown (Bangor), Dr W. Sutherland (Oxford), Professor J. Hubbuck (Aberdeen), Professor A. Ranicki (Edinburgh), Dr J. Greenlees (Sheffield). Professor Postnikov was awarded the Lenin Prize in 1967 for his work on homotopy theory.

PROGRAMME AND CONFERENCE FUND

Members are reminded that the Society's Programme and Conference Fund is used to provide conference grants, grants to visitors to the UK (Scheme 2), grants to support joint research groups (Scheme 3), collaborative small grants (Scheme 4) and grants for visits from or to the former Soviet Union (fSU Scheme). The fund is administered by the Society's Programme Committee. Information about the various schemes was given in the January 1996 Newsletter (No. 234), and is also given in the Society's electronic archive at http://www.qmw.ac.uk/~lms/lms.html. The Meetings and Membership Secretary, Dr D.J.H. Garling, will be pleased to discuss proposals informally with potential applicants and to give advice on submission of an application to the Society. He can be reached at: Department of Pure Mathematics and Mathematical Statistics, 16 Mill Lane, Cambridge CB2 1SB; tel: 01223 337978, e-mail: d.j.h.garling@pmms.cam.ac.uk.

There is a deadline of **31 May 1996** for conference grant applications, and for Scheme 3 and Scheme 4 grant applications; these applications will be considered in June. There are no deadlines for Scheme 2 and fSU Scheme grant applications, but these should be made two to three months before the proposed visits, to allow for consideration by Programme Committee and subsequent publicity in the Newsletter.

VISIT OF PROFESSOR V.I. VASYUNIN

Professor Vasily I. Vasyunin of the Steklov Institute St. Petersburg will be visiting the UK at the end of May 1996. His visit will be supported by a Scheme 2 London Mathematical Society grant. He will lecture at the NBFAS meeting in Edinburgh on Tuesday 28th May on "After de Branges' proof of the Bieberbach conjecture" and "Beurling's description of shift-invariant subspaces and the Riemann hypothesis". He will then lecture in Lancaster. For further information contact Dr G. Blower (Lancaster).

LONDON MATHEMATICAL SOCIETY
and
EDINBURGH MATHEMATICAL SOCIETY

Joint Two-Day Meeting
Friday–Saturday 10-11 May 1996
University of Glasgow

ALGEBRA

Friday

2.30-3.30	J.-E. Pin (Paris) *Automata, finite semigroups and the Hall topology for the free group*
3.30-4.00	Coffee
4.00-4.10	LMS meeting
4.10-5.10	C. Maclachlan (Aberdeen) *Bianchi groups and quadratic forms*
5.20-6.20	A. Lubotzky (Jerusalem) *Subgroup growth: the gap problem*

Saturday

9.15-10.15	K.R. Goodearl (California) *Some geometric aspects of quantum coordinate rings*
10.15-10.50	Coffee
10.50-11.50	J. Rickard (Bristol) *Infinite-dimensional representations of finite groups*
12.00-1.00	G. Levitt (Toulouse) *Elements of finite order in GL(n,Z) and the dynamics of free group automorphisms*

Lectures will be held in the Mathematics Department, University Gardens, University of Glasgow

A dinner will held at the Creme de la Creme Indian Restaurant (both Indian and traditional buffet) at 7.00 pm on the Friday evening, at a cost of £10.00 per head, not including drinks. Those wishing to attend should inform the Secretary, Edinburgh Mathematical Society, Room 4618, James Clerk Maxwell Building, Mayfield Road, Edinburgh EH9 3JZ, as soon as possible, enclosing a cheque payable to "The Edinburgh Mathematical Society".

MATHEMATICAL ASSOCIATION PRESIDENT

Dr Tony Gardiner (Birmingham) is to be the next President of the Mathematical Association - for the year 1997-8. He would welcome any comments from LMS members who have had recent first hand experience of dealing with the MA, or its branches, or its journals, which might suggest possible improvements in the way the MA serves the community of mathematics teachers.

GREGYNOG COLLOQUIUM

The 1996 University of Wales Pure Mathematics Colloquium will be held at Gregynog on 20 - 22 May. Invited speakers include George A. Elliott (Copenhagen), Gordon James (Imperial College), Gunter Malle (Heidelberg), Nigel Ray (Manchester), Heinz Siedentop (Oslo) and Peter Swinnerton-Dyer (Cambridge). Further information may be obtained from Vass Mavron (Aberystwyth). The meeting is supported by the London Mathematical Society and by the University of Wales Collaborative fund.

Cardiff and Oslo are two of the partners in the European network in Partial Differential Equations and Quantum Mechanics whilst Swansea and Copenhagen are two of the partners in the network in Operator Algebras and Applications. Both of these networks will be supported by the EU 4th Programme in the Training and Mobility of Researchers. Further information may be obtained from Desmond Evans (Cardiff) and David Evans (Swansea) respectively.

NORTHWEST DYNAMICS SEMINAR

A one day meeting will be held on Friday 17th May at the University of Manchester. This is the first of a series of collaborative meetings between the mathematics departments of Liverpool University, Manchester University and UMIST, supported by an LMS Scheme 3 grant.

Talks will be given by Gavin Jones (Liverpool) *Iterated Blaschke products and Fuchsian groups;* Sebastian van Strien (Warwick) *Julia sets of polynomials can have positive measure: using random walks in dynamical systems;* and Michael Yakobson (Maryland) *Distortion estimates for nonhyperbolic maps.* For further information contact Dr R. Sharp, Department of Mathematics, University of Manchester, Oxford Road, Manchester M13 9PL, tel: 0161 275 5835, e-mail: sharp@ma.man.ac.uk.

ELEVENTH BRITISH TOPOLOGY MEETING

The eleventh British Topology Meeting will take place at the University of Leicester on the afternoon of Wednesday 11 September and the morning of Thursday 12 September. As usual the programme will consist of a number of 30 or 45 minute talks and offers to speak on any aspect of topology are now invited. Accommodation will be available on the night of 11 September. The meeting is being supported by the London Mathematical Society. Those who would like more details or wish to be placed on the mailing list, should write to J.R. Hunton, British Topology Meeting, Department of Mathematics and Computer Science, University Road, Leicester LE1 7RH, or send e-mail to: jrh7@mcs.le.ac.uk.

FELLOWSHIP OF THE ROYAL SOCIETY

Amongst those recently elected Fellows of the Royal Society were: N.S. Manton, Reader in Mathematical Physics, University of Cambridge; M.S. Narasimhan, Director of Mathematics, International Centre for Physics, Trieste, Italy, and Honorary Fellow of the Tata Institute of Fundamental Research, Bombay, India; M.J. Taylor, Professor of Mathematics, UMIST.

Jacques-Louis Lions, Professor at College de France and Vice-President of Academie des Sciences, France, was elected a Foreign Member.

LONDON MATHEMATICAL SOCIETY

1996 POPULAR LECTURES

Birmingham - Friday 14 June
Imperial College - Tuesday 18 June
Glasgow University- Thursday 20 June

Professor Peter Hilton
### New Wine in Old Bottles

"Invented over 700 years ago, of great importance in the study of plant growth, the Fibonacci numbers continue to provide a rich source of mathematical ideas."

8 ROWS 13 ROWS 21 ROWS

Professor Michael Sewell
Bubbles and Dinosaurs

"Simple ideas in mechanics, combined with homely experiments, show how mathematical thinking can tell us about the equilibrium of bubbles and balloons, and the motion of dinosaurs."
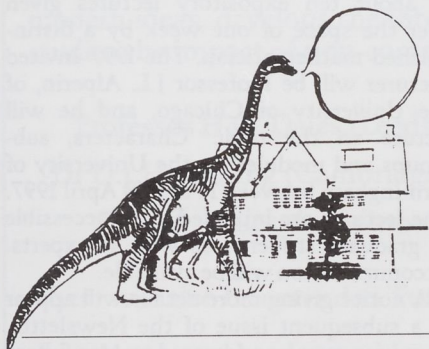
BIRMINGHAM UNIVERSITY Commences at 2.00 pm, 3.00-4.00 pm refreshments, ends at 5.00 pm. Haworth Lecture Theatre, Chemistry Building, University of Birmingham. Admission is free. Enquiries to Dr A.D. Gardiner, Department of Mathematics, University of Birmingham B15 2TT.

IMPERIAL COLLEGE LONDON Commences at 7.30 pm, 8.30 pm refreshments, ends at 10.00 pm. The Mechanical Engineering Building, Lecture Theatre Room 220, Imperial College, South Kensington, London SW7. Admission free, with ticket in advance. Apply by Friday 14 June to Miss S.M. Oakes, London Mathematical Society, Burlington House, Piccadilly, London W1V 0NL. A stamped addressed envelope would be appreciated.

GLASGOW UNIVERSITY Commences at 2.00 pm, 3.00 pm refreshments, ends at 4.30 pm. Western Infirmary Lecture Theatre, University Place, University of Glasgow. Admission is free. Enquires to Dr P. Heywood, Department of Mathematics & Statistics, James Clerk Maxwell Building, The King's Buildings, Edinburgh EH9 3JZ; e-mail: philip@maths.ed.ac.uk.

LONDON MATHEMATICAL SOCIETY STUDENT TEXTS
Report

I have been asked to report on developments in the LMS Student Texts series since I took over from Brian Davies as Chief Editor in 1990. The number of volumes is now 33 with 5 others expected soon. A further 20 titles are in various stages of development. The number of manuscripts I handle has steadily increased and is now on the order of 10-15 a year. Many of these are of high quality. Manuscripts originate mainly through Cambridge University Press, where Roger Astley has now largely taken over from David Tranah managing the series. High quality manuscripts are also now being obtained by Lauren Cowles in the CUP New York office. All of this points to the increasing reputation of the series.

My original editorial board consisted of Elmer Rees (Edinburgh), Mark Ronan (Birmingham/Chicago), Persi Diaconis (Harvard) and Mario Micallef (Warwick). Sebastian van Strein (Amsterdam) joined the team in 1992 and is (coincidentally!) moving to a permanent position in Warwick this March. Mark Ronan and Mario Micallef have now completed their terms and have been replaced by Donna Testerman (Warwick). The advice and help of all these members is invaluable.

The question of the exact level of the series comes up repeatedly. Although inevitably one sometimes has to stretch a point, I aim to ensure that a Text could be appreciated by a competent first year research student reading alone. I also look for material which is new, if not in content, at least in presentation. At the lower end of the spectrum, I reject manuscripts which are obviously undergraduate material while at the upper, I pass manuscripts to the Editor, Professor Cassels, for consideration for the turquoise LMS Lecture Notes. Professor Cassels, conversely, sends me material he receives more appropriate for the Texts. This system works very well and keeps manuscripts within the LMS orbit while maintaining the integrity of each series.

Work for the series is rewarding, particularly the interaction with the people at CUP, without whose efforts the Texts could not function. Not only do they obtain the greater part of the manuscripts, but after a contract has been signed, production is entirely in their hands. I strongly believe there is a place for books at this level. Although aimed at graduate students, they provide a service to a much wider mathematical community. I am glad to watch the increasing reputation of the series and look forward to receiving more likely manuscripts and proposals from Newsletter readers.

Caroline Series

1997 LMS INVITED LECTURES
Professor J.L. Alperin

The Society organises an annual series of about ten expository lectures given over the space of one week by a distinguished mathematician. The 1997 Invited Lecturer will be Professor J.L. Alperin, of the University of Chicago, and he will lecture on the topic 'Characters, subgroups and modules' at the University of Birmingham between 14 and 18 April 1997. The lectures are intended to be accessible to graduate students as well as experts. Accommodation will be available.

A notice giving more details will appear in a subsequent issue of the Newsletter. Enquiries may be addressed to Mrs S Bennett at the School of Mathematics and Statistics, University of Birmingham (e-mail: s.d.bennett@bham.ac.uk, tel: 0121-414-6593).

ROLLO DAVIDSON TRUST

The Trustees of the Rollo Davidson Trust give notice that they have awarded Rollo Davidson Prizes for 1996 to Jean Bertoin (University of Paris VI) for his work on Lévy processes, and to Bruce Driver (University of California at San Diego) for his work on stochastic analysis on path and loop spaces.

EPSRC - LMS SHORT COURSE
on
ASPECTS OF FUNCTIONAL ANALYSIS
University of York, 15 - 21 September 1996

This course is an instructional course for postgraduate students. It is intended both for those who work in Functional Analysis and for those for whom it is a useful research tool.

The programme consists of three lecture courses, each of seven hours. Each course has a basis in classical analysis, but introduces modern ideas, develops the interaction of algebra and analysis, and studies the impact of non-commutativity.

Professor H.G. Dales (Leeds): *The structure of Banach algebras*

Dr D.J.H. Garling (Cambridge): *Dirac operators and Hardy spaces*

Dr T.A. Gillespie (Edinburgh): *Spectral theory of operators*

There will also be extended Tutorial Sessions.

Travel and accommodation charges for EPSRC students will be paid for by EPSRC. The London Mathematical Society has made a grant to this meeting, and funds are available to help support other research students.

Further details and application forms from:

Dr S.P. Eveson,
Department of Mathematics,
University of York,
Heslington, York YO1 5DD.

(Telephone: 0194 433095, e-mail: spe1@unix.york.ac.uk)

DMTCS'96: CALL FOR PAPERS

The first conference (DMTCS'96) of the Centre for Discrete Mathematics and Theoretical Computer Science will be held in Auckland, New Zealand, from 9-13 December 1996. The Centre, a joint venture involving the Computer Science and Mathematics Departments of the Universities of Auckland and Waikato, was founded in 1995 to support basic research on the interface between mathematics and computing. DMTCS'96 is the first of a planned series of conferences organised by the Centre. Original papers are solicited in all areas of Discrete Mathematics and Theoretical Computer Science, but are especially encouraged in the areas of combinatorics, complexity, computability and constructivity. Authors are invited to submit papers either in hard copy by post, or electronically by e-mail, to the address below. Electronic submissions should be in compressed PostScript format, printable in a standard Unix environment. LaTeX source of final versions of accepted papers will be required. Joint submissions to other conferences are not permitted. Authors of accepted papers are expected to present their work at the conference. The proceedings will be published by a major publishing company and will be mailed to the participants after the conference.

Submissions are due by 15 June 1996 and the address for submission is: DMTCS'96, Department of Computer Science, University of Auckland, Private Bag 92019, Auckland, New Zealand, dmtcs96@cs.auckland.ac.nz. For more information contact the secretary, Steve Reeves, at stever@waikato.ac.nz.

SHORT-TERM FELLOWSHIP PROGRAMME

The UNESCO/ICSU/TWAS Short-Term Fellowship Programme aims to promote international cooperation in the basic sciences. Specifically, it will enable scientists, particularly those from developing countries, Central Europe and Eastern Europe, to carry out short-term studies in well-established scientific centres to learn and use techniques not accessible to them in their own country. Fellowships will not be awarded to attend scientific meetings or training courses. They will be awarded to scientists wishing to spend 1-3 months in a scientific laboratory in 1997. To be eligible, a candidate must:

- be already engaged in research in the basic sciences (i.e. mathematics, physics, chemistry, biology or geology);
- return to his/her country of origin upon termination of the fellowship so that the home country may benefit from his/her broadened knowledge;
- produce evidence that the knowledge or training acquired will be beneficial to his/her scientific development.

All applications should be submitted before **15 September 1996.** Application forms and further information are available from: UNESCO/ICSU/TWAS, Short-Term Fellowship Committee, UNESCO, 1 rue Miollis, 75732 Paris Cedex 15, France; tel: (33 1) 4568 3944; fax: (33 1) 4567 2639.

THE KOUROVKA NOTEBOOK

This collection, edited by V.D. Mazurov and E.I. Khukhro, of unsolved problems in Group Theory and close areas (now about 800 problems) is published regularly, every 2-3 years, starting from 1965. Each new edition is supplemented with new problems and brief comments on the solved problems from the previous editions. The present book is the 13th revised and augmented edition (1995). The English version is now available for £8 per copy. In the UK orders (with cheque for £8 per copy, made payable to Professor E.I. Khukhro) should be sent to Professor E.I. Khukhro, 6 Llanedeyrn Close, Cardiff CF3 7ED. New problems for the next edition and comments or solutions can also be sent to the address above, or by e-mail (khukhro@cardiff.ac.uk or mazurov@maths.nsk.su).

INTERNATIONAL CONGRESS OF MATHEMATICIANS IN BERLIN 1998
A Progress Report

At its meeting in Luzern 1994 the General Assembly of the International Mathematical Union (IMU) unanimously selected Berlin as the site of the next International Congress 1998. In the following lines I would like to report what happened since and what the participants can expect from the Berlin Congress.

A look back Germany hosted the International Congress once before, at the beginning of the century. The third ICM, after Zurich 1897 and Paris 1900, took place at Heidelberg 1904 with about 300 participants under the chairmanship of Heinrich Weber. The first attempt to invite the mathematical community again to Germany was undertaken in the sixties. Professor Hirzebruch who was President of the German Mathematical Society at that time was authorized to prepare an application for the 1966 Congress. After the candidacy of Moscow this was no longer pursued. The idea to organize the International Congress in Berlin was first advanced at the opening session of the 1987 Annual Meeting of the German Mathematical Society in Berlin. Under the sceptical eyes of the politicians present, the mathematicians pronounced their wish to hold the Congress in both parts of the divided city, with free travel for all participants. Probably a utopia under the given circumstances, but the enthusiasm carried on until, after the political changes, this utopia became reality. We feel very honoured that Professor Friedrich Hirzebruch has agreed to again take an active part as honorary president of the Organizing Committee which is presided by Professor Martin Grotschel of the Technical University of Berlin.

Scientific Program The scientific program and, in particular, the selection of invited speakers (about 150) lies in the hands of the Programme Committee, appointed by IMU. Professor Phillip A. Griffiths of Princeton serves as chairman of this committee. The Congress itself is scheduled to last from August 18 to 27, 1998. The opening day which is traditionally dedicated to the presentation of the Fields Medals will be held at the International Congress Center (which seats up to 5000 people). For the remaining days we will move to the Technical University situated in the centre of town.

Fellowship Programmes For some time now IMU has supported participants from countries with difficult financial situation, and we will do our best to contribute to this program. We hope to be able to grant 100 - 150 fellowships covering accommodation in Berlin while IMU will provide for travel money. The details of this programme will be announced in time by the IMU secretariat. In addition, we intend to also support mathematicians from the former socialist countries.

Public Events The International Congress offers a unique opportunity to acquaint a wide audience with the problems, the achievements and the beauty of mathematics. Hence we intend to organize a number of popular events for the general public. Several ideas are under discussion at this moment, including evening lectures, an exhibition of mathematics in the arts and art in mathematics, films and videos, and a series on mathematics and music.

Accommodation and Social Programme Like any big city, Berlin naturally offers accommodations of any category. Since we know from own experience that mathematicians usually do not belong to the highest paid people, we are trying to reserve a large number of moderately priced "Pensionen" (old-fashioned comfortable small hotels) and private rooms. As for the social program there should be something for everybody, from concerts to jazz clubs, from museums to boat trips on some of the hundreds of lakes surrounding Berlin.

Conferences around ICM 98 An additional attraction, especially for overseas participants, are conferences scheduled right before or after the Congress. So far,

more than 20 proposals for such meetings have been advanced. Of course, these meetings need not take place in Germany, a number of them have already been set up in several neighbouring countries. For information on the current status (or if you want to organize a meeting yourself) please contact the coordinator Professor Gerhard Frey, Department of Mathematics, University of Essen, Universitatsstr. 2, D-45141 Essen, tel: (49) 201-3206457, e-mail: frey@exp-math.uni-essen.de. All conferences around ICM 98 will be announced in the official programme.

Information about ICM 98 Whatever you want to know about the Berlin Congress, you find it in the World Wide Web under the address http://elib.zib-berlin.de/icm98. There the current information is constantly brought up to date. You can read up on the IMU, on the past Fields medal winners, the mathematics sections of the scientific program, the conferences around ICM, and about the historical and political background of the city of Berlin. And last but not least you may pre-register for ICM 98 following the easy instructions. Several hundred mathematicians from around the world have already used this opportunity.

We, the Organizing Committee, and all mathematicians from Germany extend a hearty welcome to you. We will do our best to make your trip an experience long to remember - Auf Wiedersehen in Berlin 1998!

Professor Dr. Martin Aigner

SECANTS MEETING

The next meeting of the South of England Algebraic Number Theory Seminar (SECANTS) will be held on 1 June 1996 at the Mathematical Institute, Oxford. The speakers will be: 11.00-11.30, H. Rose "Conjectures concerning classes of curves of rank one and two"; 11.30-12.00, M. Young "Calculating L-series of elliptic curves over real number fields"; 13.30-14.30, J. Cremona "Classical invariant theory and elliptic curves"; 14.30-15.00, N. Smart "Even more on invariants and elliptic curves"; 15.15-16.15, F. Vivaldi "Algebraic Dynamics". Funding is available from an LMS Scheme 3 grant to help people (mainly postgraduates) travel to the meeting. There is a WWW site for SECANTS (http: www.ukc.ac.uk/IMS/maths/secants/meetings.html).

ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL

World Wide Web EPSRC can be contacted on the World Wide Web at the following address: http://www.epsrc.ac.uk. The Home Page has seven outlets, as follows: *What's new*: the latest news from EPSRC, for those already familiar with the organisation. *Programme areas*: advice and information relating to each of the 14 EPSRC programme areas and the postgraduate training schemes. *Publications:* all corporate publications, including Newsline, EPSRC's journal, can be accessed from here. *Research Grant Proposal Form:* an electronic proposal form can be called down. *How to contact us*: information on telephone, e-mail, fax and Helpline contacts. *An introduction to* EPSRC: an easy entry point for those new to EPSRC as an organisation. *Further information*: an e-mail request form for further details of the programmes, or other issues.

Helpline EPSRC has a telephone helpline with the number (01793) 444100. This is not a switchboard but is intended to help those who have general enquiries about EPSRC. The helpline's e-mail address is: infoline@epsrc.ac.uk. Enquiries about individual programme areas should be directed to the Programme Managers. The Mathematics Programme Manager is Dr Geoff Richards, tel: (01793) 444304, fax: (01793) 444007, e-mail: geoff.richards@epsrc.ac.uk. Studentship enquiries should be directed to (01793) 444308, e-mail: claire.fairchild@epsrc.ac.uk.

The Royal Society invites applications from scientists in any subject including mathematics and engineering, for about five appointments available from 1 October 1996 to Industry Fellowships. These appointments are funded by the Society, the Engineering and Physical Sciences Research Council and the Biotechnology and Biological Sciences Research Council.

The primary objective of the scheme is to enhance communication on science and technology between those in industry and those in universities (or similar institutions of higher education) to the benefit of UK firms, higher education institutions and the individual scientist. To this end, the scheme provides opportunities (i) for academic scientists, mathematicians and engineers to work in an industrial environment and undertake a project at any stage from fundamental science to industrial innovation and (ii) for industrial scientists, mathematicians and engineers to undertake research or course-development work in an institution of higher education. The aim is to establish long-lasting personal and corporate linkages between the two sectors in the UK.

Applicants can be of any nationality and should preferably be between 30 and 50 years of age. They should hold a PhD or be of equivalent standing in their profession and hold either a substantive academic post in an institute of higher education in the UK or be employed as a scientist, mathematician or engineer in industry, an industrial research organization or a nationalized industry in the UK. The duration of awards is between six months and two years full-time equivalent. Part-time fellowships are possible. The fellows will retain their existing employment and the employer, who will be reimbursed for the salary only, will retain responsibility for superannuation, national insurance contributions, etc.

Application forms and further information are available from the Research Appointments Department, The Royal Society, 6 Carlton House Terrace, London, SW1Y 5AG (fax: 0171-930 2170). Closing date **10 May 1996.**

RENDEZVOUS SEARCH WORKSHOP

Rendezvous search is a new branch of search theory where two (or more) searchers seek to optimally find each other. It has connections with game theory and group theory. The first meeting of researchers in this field will be held at the London School of Economics, 19-23 August 1996. (It was originally planned to leave the location unspecified in the hope that the participants would find each other, but it was decided the state of the field was not sufficiently advanced to allow this.) Confirmed speakers include: A. Beck (Wisconsin), V. Baston (Southampton), S. Gal (Haifa), J. Howard (LSE), L. Thomas (Edinburgh).

The Workshop is supported by CDAM (Centre for Discrete and Applied Mathematics, London School of Economics) and by a grant from the London Mathematical Society. For further information contact Steve Alpern (e-mail: alpern@lse.ac.uk, tel: 0171-955 7620, fax: 0171-955 6877).

1996 ADAMS LECTURES

The Adams Lectures are held annually at the University of Manchester in memory of Frank Adams. The 1996 Adams Lecturer is Professor Larry Lambe of Rutgers University, New Jersey, USA, who will be in Manchester from 18-25 May. The general title of the series of three lectures is "New Computational Methods in Algebra and Topology".

These lectures will be held in the Mathematics Department, University of Manchester, at 2.00 pm on Monday 20 May, Tuesday 21 May and Wednesday 22 May. The topics which will be discussed will include the solutions of the quantum Yang-Baxter equation and other equations through symbolic computation and Hopf algebra techniques, and new techniques for explicit computations in several areas of homological algebra. Further details may be obtained from Nigel Ray (nige@ma.man.ac.uk) or Grant Walker (grant@ma.man.ac.uk). The Adams Lecturer is sponsored by KPMG Peat Marwick.

MATHEMATICS AND COMPUTING

a.m. turing

This month's column is devoted to a review of the MathPlus program, produced by Waterloo Maple. It is described by them as "the natural equation solving and graphing tool", which "has all the math you need for Mathematics, Engineering and Science, yet unlimited simplicity for any student". It is available for Macintosh & PowerMac, and for Windows & NT. Minimum space requirements are quite modest: 2MB RAM and 2MB hard disk for the Mac, and 4MB RAM and 3MB hard disk for Windows, although for serious calculations it is preferable to have a little more than the bare minimum. Installation and starting up the package were easy and problem free.

The interface is predominantly mouse driven, with principal operations available from menus. Most of these can also be selected from a nicely designed palette. Complicated formulae can either be typed in, or constructed using the palette, using the system's equation editor. This takes a little getting used to, since it does not behave exactly like a simple word-processing editor, but it seems natural enough after a while. MathPlus is fundamentally interactive and is not intended or designed for programming. However, all work is carried out in Notebooks, which can be saved after use, so it is easy to repeat similar calculations later on with different data. The statements that you (the user) type in are regarded as assumptions, and you use the program to derive valid conclusions from these assumptions, by manipulating, transforming and solving equations, applying standard functions to them, and plotting graphs.

Anyone who is already familiar with the Maple Computational Algebra system will have gathered by now that although MathPlus is produced by the same company, it is in no sense a watered down version of Maple, but a program designed from a completely different viewpoint and philosophy, so comparisons between the two are not really meaningful.

Although MathPlus is designed with a very user-friendly interface, it is not completely easy to start using it effectively without reference to the manuals. Two are provided, a tutorial guide, and a reference manual. They are generally clearly written and complete, with well-selected examples. After some initial frustration, when things I tried either didn't work or behaved unexpectedly, I became more adept at persuading it to do what I wanted. I found that the more complicated manipulations could not be done with one operation, but that terms had to be rearranged, selected parts of expressions factorised, and others expanded. In fact, one proceeds much as one would when working with pen and paper, but with the advantage that one is prevented from making silly mistakes. I then set myself the task of deriving the formula for the distance of a point from a straight line in the plane, using co-ordinate geometry and brute force algebraic manipulation. I was quite pleased, when after going through some rather horrendous looking intermediate steps, I eventually succeeded in producing the standard formula.

The graphing facilities offered by MathPlus are extensive, well-designed, and easy to use. There is a choice between standard planar graphs, using Cartesian or polar coordinates (implicitly defined functions, or functions using a parameter are also available), 3D-graphs using Cartesian, cylindrical or spherical

polar coordinates, and even graphs of complex functions, where colour is used as the fourth coordinate. It is easy to change the ranges plotted, the resolution, and so on, either by selecting parts of the graph with the mouse, or by typing in the data. You can also set a 3D graph rotating at your chosen speed and animation is possible if you have enough CPU power available. These facilities are undoubtedly one of the most attractive parts of the package, and it is easy to spend long periods of time experimenting with them. Several sample Notebooks containing interesting graphs are supplied with the program.

One feature that MathPlus does have in common with Maple is that a reasonably small kernel of operations is provided by the actual executable program, but many other facilities are written in MathPlus, in the form of function definitions and rules for transforming, expanding and simplifying expressions. This is why it is possible for the basic program to be undemanding in resources. The kernel includes arithmetic (up to 15 decimal places, with whole numbers up to 10^{10}), basic calculus operations, numerical and symbolic solution of equations (polynomials up to degree 4 can be factored using surds), vector and matrix operations, and basic graphics. A selection of Notebooks is provided by the producers, each with a self-contained collection of rules. For example, there is one with a list of definitions of Laplace transforms, thereby enabling the user to find particular integrals for linear differential equations. Some features that I have not yet experimented with include tabulating data from graphs and plotting graphs from tables, Taylor series, numerical integration, and some more advanced mathematical facilities such as Fourier transforms, Bessel functions and Chebyshev polynomials.

As mentioned above, MathPlus is not designed as a programming language. For some users, including myself, this will inevitably prove a serious limitation. For example, it is not difficult to use MathPlus to compute the eigenvectors and associated eigenvalues of a matrix, but there does not appear to be any way of writing a general function that would, for example, calculate a vector containing the eigenvalues. It would certainly be nice to be able to do that, since then one could use it as an existing boxed-up component of more complicated computations, such as the Jordan Canonical Form of a matrix. Of course functions can be defined by the user, but here one is essentially limited to one-line definitions.

All-in-all I find MathPlus an attractive and useful program, in which the non-programmability is the only serious negative feature. It should be ideal for advanced school and university students studying scientific subjects, and is equally useful at the research level.

MathPlus is available from Robinson Marshall Europe Plc, Nadella Building, Progress Close, Leofric Business Park, Coventry CV3 2TF, tel: 01203 233216, e-mail: info@rme.co.uk, at price £199 (+ VAT) for a single user, £1000 for 10 users, with a special secondary school version with unlimited site licence priced at £695.

Derek Holt
University of Warwick
(dfh@maths.warwick.ac.uk)

Each year, the Royal Statistical Society awards a number of bursaries to support school teachers wishing to undertake a postgraduate course in statistical education in the United Kingdom. The scheme will operate again in 1996. Each bursary will be worth £850 and will be available from September 1996. The bursaries are part of an increasing drive by the Society to support statistical education in schools. The Society believes that statistics as a subject is too little appreciated either by the general public or by the world of industry and commerce. Yet it has a vital role to play: first, in underpinning success in business, science and industry; second, in enabling citizens to evaluate and make valid inferences from data and information with which they come into daily contact.

It is important, therefore, that the statistical message is spread properly at an early age. Insight into the purpose and wide-ranging usefulness of the subject can be given by teachers in schools, and the Society wishes to support these teachers.

It sees these bursaries as a small but significant step in contributing to the professional development of teachers in schools. The bursaries may be used to support any appropriate course in statistical education. Courses may be part-time or full-time, for one or more years, and will normally be offered by universities or colleges of higher education. In considering applications, the committee will give weight to courses which enable teachers to improve the statistical education which they offer to students in schools. It is hoped that those teachers awarded bursaries will become active members of the Royal Statistical Society, and contribute in the future to its educational activities.

Application forms may be obtained from: The Executive Secretary, Royal Statistical Society, 12 Errol Street, London EC1Y 8LX; tel: 0171-638 8998. Closing date for applications: **30 June 1996**. Similar bursaries may be available in future years.

SECOND EUROPEAN CONGRESS OF MATHEMATICS

Budapest, Hungary
July 21-27 1996

organized by the János Bolyai Mathematical Society
under the auspices of the European Mathematical Society

FINAL ANNOUNCEMENT

Scientific Programme

Plenary speakers

Noga ALON	Gérard BEN AROUS
Boris DUBROVIN	János KOLLÁR
Dusa McDUFF	Jacques LASKAR
Alexander S. MERKURJEV	Vitali MILMAN
Stefan MÜLLER	Jean-Pierre SERRE

Speakers at parallel sessions

L. Ambrosio	K. Astala	R. Benedetti
Ch. Bessenrodt	F. Béthuel	P. Bjørstad
E. Bolthausen	J. Bricmont	D. Burago
L. Caporaso	J. De Jong	U. Dierkes
I.A. Dynnikov	L.H. Eliasson	H. Hedenmalm
E. Hrushovski	J. Kaczorowski	Ch. Lescop
J. Matousek	L. Merel	R. März
T. Nowicki	A. Pastur	R. Perez-Marco
A. Platonov	J. Pöschel	L. Pyber
H.P. Schlickewei	E. Scopolla	N. Simányi
A. Shiryaev	J.P. Solovej	A. Stipsicz
G. Tardos	J.-P. Tignol	A. Veselov
E. Zuazua		

Round Tables

Communication in Mathematics *(J. Körner)*
Mathematical Games *(D. Singmaster)*
Demography of Mathematicians
Women and Mathematics *(K. Haag)*
Public Image of Mathematics *(R. Bulirsch)*
Mathematics and Eastern Europe *(D. Cioranescu)*
Mathematical Education *(J.P. Kahane).*

How to register

If received before May 15, registration fee in **Swiss Francs** is 165 F for EMS members, 200 F for non-EMS members (on site 240 F for everybody) to be paid to :

MALÉV AIR TOURS, Roosevelt tér 2, H-1051 BUDAPEST (Hungary),
tel : +361 266 7836, *fax :* +361 266 6006, *e-mail :* ecm2mat@math-inst.hu

V. VOLTERRA
Honorary Member 1907

DIARY

The diary lists Society meetings and other events publicized in previous issues of the Newsletter. For further information, refer to the figure in brackets, which is a cross reference to the LMS Newsletter number.

MAY 1996

10-11 Algebra, Joint Two-Day London Mathematical Society Meeting with the Edinburgh Mathematical Society, Glasgow University

15-16 Combinatorics Colloquium in Honour of Professor C.St.J.A. Nash-Williams, Reading University, (237)

17-18 Groups in Galway, University College Galway (237)

22-24 Semigroup Theory Workshop, Lisbon, Portugal (236)

27-28 North British Functional Analysis Seminar, Edinburgh University (237)

31 Edinburgh Mathematical Society Meeting, Aberdeen (232)

JUNE 1996

15-19 Hyperbolic Problems, Theory, Numerics and Applications Conference, Hong Kong (233)

21 London Mathematical Society Meeting, Linnean Society, London

22 Ali Fröhlich's 80th Birthday Meeting, Robinson College, Cambridge (230)(236)

24-28 Dynamics of Complex Fluids, Cavendish Labaratory, Cambridge (237)

24-4 July Partial Differential Equations and Spectral Theory, LMS Durham Symposium, Durham University (232)

25-28 Ordinary and Partial Differential Equations Conference, Dundee University (234)

25-29 Geometric Issues in the Foundations of Science Symposium, St John's College, Oxford (234)

25-29 European Consortium for Mathematics in Industry Conference, Denmark (235)

26-28 Homotopy Theory Mini-Conference, Mathematical Institute, Oxford (230)(236)

30-6 July Different Approaches to Population Dynamics Conference, Crete, Greece (235)

JULY 1996

1-5 Grid Adaptation in Computational PDEs, ICMS, Edinburgh (237)

1-12 Graph Symmetry: Algebraic Methods and Applications, Université de Montréal, Québec, Canada (233)

1-13 NATO ASI, Edinburgh (233)

8-9 Finite Model Theory, MathFit Instructional Workshop, University of Wales, Swansea (236)

8-19 Galois Representations in Arithmetic Algebraic Geometry, LMS Durham Symposium, Durham University (232)

13-20 Edinburgh Mathematical Society's St Andrews Colloquium 1996, University of St Andrews (233)

14-19 Computational Techniques in Spectral Theory and Related Topics Workshop, Gregynog Hall, University of Wales (230)

18-20 Croatian Mathematical Congress, Zagreb, Croatia (233)

18-20 Analytic and Elementary Number Theory Conference, Vienna, Austria (233)

19-21 Mathematical Models of Concurrency, Communication and Distribution, MathFit Instructional Workshop, Kent University (236)

21-25 Affine Geometry of Convex Sets Conference, Dalhousie University, Canada (232)

21-1 Aug Model Theory of Fields, LMS Durham Symposium, Durham University (232)

22-26 2nd European Congress of Mathematics, Budapest, Hungary (235)

28-3 Aug Brazilian Algebra Meeting, IMPA, Rio de Janeiro, Brazil (233)

AUGUST 1996

1-13 Nonstandard Analysis and its Applications Symposium, Edinburgh University (233)

11-17 Nonstandard Analysis and its Applications Symposium, Edinburgh University (233)