

# THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 250

June 1997

## FORTHCOMING SOCIETY MEETINGS

*Friday 20 June 1997 - Linnean Society, London*

J.P. May (Hardy Lecture), D. Quillen

*Friday-Saturday 17-18 October 1997 - Scientific Societies Lecture*

*Theatre, London*

Numerical Analysis

*Friday 21 November 1997 - Scientific Societies Lecture Theatre, London*

F.P. Kelly (Naylor Prize), M.R. Jerrum

## THE FUTURE OF THE LONDON MATHEMATICAL SOCIETY

An informal Special Meeting of the Council of the Society was held on Friday and Saturday 18 and 19 April to discuss the future development of the Society. This account of the meeting is to inform members of the ideas being considered and to invite contributions which will add to Council's continuing debates on the matter.

### The Present Position

The Society's present position is healthy, as the following brief facts show. There are over 1400 members based in the UK, and a further 800 in other countries. In very round figures, its assets amount to £8m, and its annual income, which arises largely from profits on publications and interest on investments, is around £0.8m. Since the LMS is a registered charity, there are constraints on the way this money can be used or even held in reserve but the Society has been expanding its activities (for example, its expenditure on research grants and conferences is likely to increase this year from around £75k to £160k). Quite often its services have turned out to generate income. For example, the Russian translation journals taken over only three years ago are almost certain to produce significant surpluses next year.

In view of this rosy picture one may ask why Council is concerned about the Society's future. The positive aspect of this question is that Council would like to use the Society's resources to benefit UK mathematics and is looking for new ideas. But there are also potential problems. Present prosperity is undoubtedly based on the voluntary service of the Society's members for over a hundred years, but mainly in the last 40 or so. The most active members are drawn from the community of UK mathematicians working in universities who are engaged in research. A majority - about 70% - are principally involved with pure mathematics, but almost a third have active interests in applications of mathematics. The current academic climate in the country suggests that the size of this group may be under threat: by the criterion of being included in the Research Assessment Exercise, the number of research active pure mathematicians fell significantly between the 1992 and 1996 exercises to 476. Also pressures on academics by their home universities are growing so that they may be increasingly unwilling to take on substantial extra jobs for the Society. On the publications front, it is not clear whether there will be an electronic revolution or

simply an evolution, but there will undoubtedly be changes in this area which is both one of the Society's main activities and one of its main sources of income. Council decided that it should spend some time considering the direction in which the Society should develop in the next decade or so.

### **Premises**

The Society exists in order to foster the extension and propagation of mathematical knowledge. In order that these activities can be carried out effectively, Council must ensure that the basic organisation of the Society is adequate to the task. At present, in spite of the scale of the Society's activities, it manages with a staff consisting of a full-time administrator, a part-time assistant administrator and a secretarial assistant. (This in itself is a testimony to the amount the Society relies on the work of its volunteers and on the enthusiasm and efficiency of its current employees.) These staff are based in rented premises in central London which comprise just one room together with a little storage space. It is impossible to see how this can continue under any future scenario. There was almost total agreement at the meeting that the way forward was to purchase a building which would be at least large enough to cater for the Society's foreseeable needs. There is a case for buying something even larger to allow for further expansion; in the interim the rent derived from letting the excess might be sufficient to cover the building's running expenses. Various locations were mentioned. London was considered the most appropriate as the city most easily accessible from all parts of the UK. The Society does not hold enough central meetings to justify including a lecture theatre in its building, but the occasional need for such a facility does suggest proximity to a London college would be desirable. Prices vary considerably with location even within London, but the overall cost, including refurbishment, of a building may be around £1.5m. The expenditure of such a sum would not restrict the extension of the Society's mathematical activities, and the

extra space would accommodate the infrastructure needed to sustain present and future developments. Over the next few months Council will carry out more detailed investigations of the possibilities.

### **Administration**

The level of commitment the Society demands of its officers has increased over the last two decades. For example, the role of the Publications Secretary is now comparable with that of the managing director of a small (or perhaps medium-sized) publishing company, as the Society is involved with 5 periodicals, 4 translation journals, and 4 book series - and other things. The kind of people the Society wishes to recruit as officers will be expected to contribute substantially to their departments' research profiles; these departments will want their staffs to carry their fair share of the administrative burden; and booming student/staff ratios mean that teaching and examining take more time. The Society too is expanding its activities and so its requirements of members. The processing of applications for the Society's research grants is now a major job. Chairing the Computer Science and Education Committees (for example) involves considerable commitment. The Editors-in-Chief of the main periodicals have major tasks. Most people at the meeting considered that departments would be increasingly reluctant to allow members of their staffs to be effectively seconded to the LMS for a day or more a week.

The medium term solution proposed was to transfer as much as possible of the administration to a central office, so that academics were left only with the professional aspects of their present LMS duties. Included in this plan would be the centralisation of much of the editorial work for our main periodicals; papers would be submitted to an LMS office which, after consulting editorial advisers about referees, would handle the rest of the correspondence and paperwork. This situation cannot be achieved at once; it depends crucially on acquiring suitable premises.

About the interim period there was no

# LONDON MATHEMATICAL SOCIETY

**FRIDAY 20 JUNE 1997**

D. Quillen (Oxford)  
will speak at 3.30 pm on

**Module theory over nonunital rings**

J.P. May (Chicago)  
will give the 1997 Hardy Lecture at 5.00 pm

**Stable algebraic topology and  
stable topological algebra**

Tea will be served at 4.30 pm

The meeting will be held at the  
Linnean Society, Burlington House,  
Piccadilly, London W1

All interested are very welcome

consensus. Many considered that there were no real problems at present so that plans for action in a few years were adequate. Others felt that there were already unhealthy signs (all the present Secretaries and the Treasurer are over 55, whereas there were two people at the meeting who had become Secretaries of the Society when they were under 30) and foresaw difficulty in recruiting if anyone dropped out in the next year or two. Providing the two joint Editors-in-Chief of one of the LMS's main periodicals represented a considerable cost in terms of time and energy for a department. Possible ways of partially recompensing departments were discussed, one being to offer a 'research grant' which could be used to support an editor's research. Others felt that putting restraints on the way departments used compensatory funds was undesirable. In any case, the Council would have to ensure that any payments made fell within the Charity Commission's rules.

Concern was expressed that centralisation could lead to control of the Society passing from mathematicians to administrators, and that the latter would not have the necessary commitment to the ideals of the Society. One possibility floated was to appoint as administrators mathematicians on secondment for fixed periods from their departments - their contracts could even include the requirement to undertake research whilst working for the LMS - or mathematicians in the last years of their careers.

### **Publications**

One particular organisational problem was whether publications should be transformed into a limited company wholly owned by the LMS. There would be advantages for its directors in initiating developments or even in coping with some day-to-day problems. On the other hand, there appear to be general difficulties over the relationships between such commercial organisations and non-commercial parent bodies.

The future for journals looks particularly unpredictable. Whether, how

soon, and how suddenly, electronic publishing will take over from paper versions can only be guessed at. The Society is taking steps so that it is not left behind in the electronic revolution. The Society's *Bulletin*, *Journal* and *Proceedings* should be available in on-line versions within a year. The new electronic *The LMS Journal of Computation and Mathematics* is about to appear. On the other hand, pure mathematics traditionally has a long shelf-life, and while it is clear that printed periodicals are usable after hundreds of years, electronic journals are completely untested in this respect. The Society will certainly soon need to employ an electronics expert, probably working half-time, to oversee the electronic journal, to maintain the Society's web page, and to deal with other tasks. The Society should continue to proceed cautiously with an eye on new developments.

Among specific new developments considered was a new periodical in the area of 'rigorous' applied mathematics. This would provide an additional service for a section of the membership for which the present periodicals have little interest and should help to attract new members in this area. The meeting had in mind that new periodicals should not be too general, but aimed at a specific gap in the market as the successful *Nonlinearity* had been, and this topic was considered to have this advantage. Such a periodical could be electronic, but with a paper version, and should build on the expertise acquired with the *LMS JCM*.

The question was raised of whether the *Newsletter* reflected the Society's image as both dynamic and modern. Observing that the present version has the considerable virtue that it is read by members, the meeting accepted that changes in format should be delayed for a couple of years until more major matters had been dealt with.

### **Activities and Membership**

Throughout the meeting there were reminders that the reason for the Society's existence was mathematics, and that all other activities, however costly or

profitable, were only to assist in its main aim. Over recent years a number of developments had been seen. There had been significant increases in the variety and numbers of conferences and short courses which had been supported, and in the numbers of research grants awarded. Almost a third of the conference grants were now given to support applied areas of mathematics. Publications activities had expanded considerably. Some new ventures, such as the MathFit initiative in the area of Computer Science, had been undertaken jointly with EPSRC. The Society's voice in mathematical education had been amplified around the time of the publication of *Tackling the Mathematics Problem* and afterwards. However there was hearsay evidence that the LMS's role in these activities was not always recognised outside the Society (and perhaps not even by all its UK members).

The meeting explicitly addressed the questions of membership and activities. There is a need to broaden the base of interests of the Society, in particular by attracting more mathematicians working in applied areas and in computer science. In addition, the number of universities in the UK has risen dramatically over the last few years, and the Society should be looking for members from among their staffs. The widening range of conferences supported and such initiatives as the possible new periodical should provide opportunities for the Society here. There was a suggestion that some people were reluctant to join because of the rather old-fashioned procedure involved. There were, however, two reasons why a rapid change would be difficult. One was practical: some aspects of membership procedures are enshrined in the LMS's Charter and any change would involve a long process requiring at its final stage the approval of the Privy Council. The second was on principle: the present procedure (which allows the Society to reject members if it wishes) is designed to preserve the Society's character as a learned society. Nevertheless Council is determined to see what can be done

within the limitations of the present statutes to make joining the Society more straightforward. Attempts will then be made to recruit new members when conferences are supported or research grants awarded (though there was little support for the suggestion that membership should be necessary before an LMS research grant could be held).

The meeting considered (once again!) the question of how to make elections to Council more open. Council is very much a working committee. It relies on its members building up experience and contributing over several years, often to sub-committees and working groups as well as to Council itself. In addition, Council has tried, not always successfully, to achieve a broad spread of members both geographically and in subject area. (An example of failure was when an attempt to introduce an applied mathematician foundered because a mainly pure mathematics electorate did not vote for him.) This matter will certainly be considered further. One suggestion which appeared promising was that there should be a 'Nominating Committee' which would ensure that at least some positions were contested each year.

Among the suggestions for new departures for the Society was one for a "Research Students' BMC". This would be organised by research students for research students and would take place at about the time of the BMC. Council considered that meetings for students were very valuable, particularly in the present climate because - in addition to the clear academic benefits which were their main purpose - they provided social contact and reduced feelings of isolation. For the same reason, the short courses for research students organised by the Durham Symposia Committee should be formalised to ensure that the present pattern of two courses per year was continued.

Other suggestions were that the Society should investigate whether there were possibilities for more joint initiatives with EPSRC like the MathFit programme. The question of MSc courses

was raised. EPSRC had pulled out of funding courses without a clear connection with industry or commerce; could the Society fill the gap by financing a number of scholarships for MSc students?

Towards the end of the meeting an early question returned in a new guise. A principal problem we face in implementing initiatives is not so much funding them as finding people prepared to spend the time and energy to realize them.

### Invitation

Council's debates on the topics raised in this meeting will be continuing over months or even years. All members of the Society are invited to send comments or suggestions to me (j.pym@sheffield.ac.uk) or to any other member of Council.

J S Pym  
Council and General Secretary

## MEETING OF THE SOCIETY

A meeting was held on Friday 21 February and Saturday 22 February 1997 at the University of Oxford. About 80 members and visitors were present for all or part of the meeting.

Twenty-two people were elected to Ordinary Membership: I.A. Ali, G. Bakasoukas, B.M. Brown, Z. Brzezniak, P.A.A.B. Carvalho, A. Dawar, B.J. Everitt, S.D. Galbraith, R.D. Hirsch, A.R. Humphries, V. Kirby, N.P. Kirk, A. Kushpel, M.K. MacCallum, S. Mohseni Rajaei, E.B. Nasatyr, C.J. Pattinson, T.J. Pedley, A.D. Scott, Y.A. Sergeev, L. Tounsi and F.E. Whiteheart; nineteen people were elected to Associate Membership: R.J. Coles, D.A. Cruickshank, D. Delbourgo, D. Drivaliaris, D.K. Evans, J.D. Gilbey, S. Gwynne, A.J. Hughes, P.R. Johnson, D.H. Kochloukova, C.G. Osborne, R.J. Pefferly, O.M. Riordon, J. Sawon, R.E. Shipsey, P. Spencer, A.L. Sydenham, B. Szendroi and P.N. Tapper; and ten people were elected to Reciprocity Membership: H. Arsham, L. Baribeau, D.E. Blair, P. Constantin, A.O. Lahtinen, A.B. Mamagani, R.V.N. Melnik, S. Mittal, S.K. Naumann (all of the

American Math. Soc.) and G.I. Lehrer (Australian Math. Soc.).

The President presented Certificates to Dr J. Roe, winner of a 1996 Junior Whitehead Prize, and Dr D.R. Heath-Brown, winner of the 1996 Senior Berwick Prize.

The following lectures were given: M. Vaughan-Lee, 'Bounds in the restricted Burnside problem'; M. Broué, 'On finite complex reflection groups'; M. Dunwoody, 'Geometric splittings of groups'; A. Joseph, 'Harish-Chandra homomorphisms'; G. Higman, FRS, 'Buttons'; E. Zelmanov, 'Variations on the theme of Burnside'.

## 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 £1000 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) and J. Alperin (1997). The 1998 lectures will be given at the University of Exeter by D. Zagier.

For the 1999 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 Meetings and Membership Secretary, Dr D.J.H. Garling, at the Department of Pure Mathematics and Mathematical Statistics, 16 Mill Lane, Cambridge CB2 1SB (e-mail: d.j.h.garling@dpms.cam.ac.uk, tel: 01223 337978, fax: 01223 337920) to whom proposals should be sent no later than 31 August 1997.

# LONDON MATHEMATICAL SOCIETY

## Spitalfields Day

Tuesday 8 July 1997

### DIFFERENTIAL GEOMETRY

International Centre for Mathematical Sciences,  
14 India Street, Edinburgh EH3 6EZ

#### Programme

- |               |   |
|---------------|---|
| 10:30 - 11:00 | Coffee  |
| 11:00 - 12:00 | N.J. Hitchin (Cambridge)<br><i>The geometry of special Lagrangian submanifolds</i>  |
| 12:15 - 1:15  | P. Gauduchon (Paris)<br><i>Explicit hyperkähler metrics on some class of<br/>coadjoint orbits of complex semi-simple Lie groups</i> |
| 1:15 - 2:30   | Lunch   |
| 2:30 - 3:30   | S.K. Donaldson (Oxford)<br><i>Kähler geometry and symplectic geometry</i>   |
| 3:30 - 4:00   | Coffee  |
| 4:00 - 5:00   | D. McDuff (Stony Brook)<br><i>Recent advances in symplectic topology</i>  |
| 5:30 - 7:00   | Reception (Wine and cheese)   |

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Space is limited, and so the meeting is open to registered participants only. Registration is free, and will be allocated on a "first come, first served" basis up to the maximum capacity. Registration includes coffee, lunch and the reception. Please advise us if you are not intending to partake of these.

Please register with ICMS at the address above, by phone on 0131-220-1777, by fax on 0131-220-1053, or preferably by e-mail to [icms@maths.ed.ac.uk](mailto:icms@maths.ed.ac.uk).

There may be some support available for participants who cannot obtain travel expenses from their home department. Please enquire if you need this.

## FERRAN SUNYER I BALAGUER PRIZE

Each year in honour of the memory of Ferran Sunyer i Balaguer, the Institut d'Estudis Catalans awards an international mathematical research prize bearing his name. The fifth Ferran Sunyer i Balaguer Prize was awarded to A. Böttcher and Y.I. Karlovich for their monograph entitled *Carleson curves, Muchenhaupt weights and Toeplitz operators*. The monograph will be published in Birkhäuser Verlag's series *Progress in Mathematics*. The Institut d'Estudis Catalans has announced the next competition. The competition is open to all mathematicians subject to the following conditions.

- The prize will be awarded for a mathematical monograph of an expository nature presenting the latest developments in an active research area in Mathematics in which the applicant has made important contributions.
- The monograph must be original, written in English, and of at least 150 pages; in exceptional cases, manuscripts in other languages may be considered.
- The prize, amounting to 1.800.000 pta, is provided by the Ferran Sunyer i Balaguer Foundation; the winning monograph will be published in Birkhäuser Verlag's series *Progress in Mathematics*.
- The winner of the prize will be proposed by a Scientific Committee consisting of Professor F. Hirzebruch, Professor P. Malliavin, Professor J. Oesterlé, Professor J.S. Morales and Professor A. Weinstein.
- Monographs must be preferably typeset in TeX; authors should send, before 5 December 1997, a hard copy and two disks with the DVI and PS files together with the submission letter to the following address: Institut d'Estudis Catalans, Apartat 50, 08193 Bellaterra, Spain (e-mail: [crm@crm.es](mailto:crm@crm.es)).
- The name of the prize-winner will be announced in Barcelona in April 1998.
- The submission of a monograph implies

the acceptance of all of the above conditions.

For further information on the Ferran Sunyer i Balaguer Foundation, see the World Wide Web (<http://crm.es/info/ffsb.htm>).

## A CELEBRATION OF WILLIAM BURNSIDE (1852-1927)

William Burnside's *Theory of Groups of Finite Order* - the first book in English on group theory - was published in 1897. To mark the centenary the British Society for the History of Mathematics is holding a meeting at the Royal Naval College, Greenwich, where Burnside was Professor of Mathematics from 1885 until 1919. The meeting, supported by the LMS, will be held on Saturday 25th October 1997, from 10 am till 5 pm. The following speakers have accepted invitations: Walter Feit (Yale), Mike Newman (Canberra), June Barrow-Green (Open University), Martin Everett (Greenwich), Walter Ledermann (Sussex), Tony Mann (Greenwich), Peter Neumann (Oxford). The fee for the meeting will be £12 (students and unwaged £6). A three-course lunch with wine is available for an additional £15.

Please note that for security reasons it is necessary to register in advance for this meeting. The Royal Naval College is a short distance from Central London and is easy to reach by car or public transport: if you are coming by car we also need to know in advance the number and model. The closing date for registration is Friday 10th October 1997. Further details are available from Tony Mann, School of Computing and Mathematical Sciences, The University of Greenwich, Wellington Street, London SE18 6PF (e-mail: [a.mann@gre.ac.uk](mailto:a.mann@gre.ac.uk); tel: 0181 331 8709; fax: 0181 331 8665).

### LMS WWW SERVER

The London Mathematical Society  
WWW pages have moved.

The new address is  
<http://www.lms.ac.uk/>

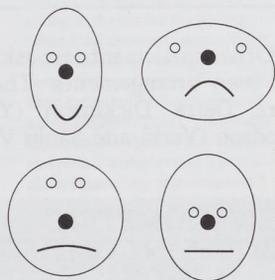
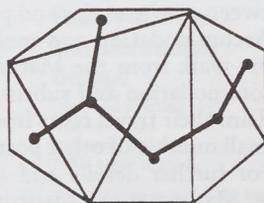
# LONDON MATHEMATICAL SOCIETY

## 1997 POPULAR LECTURES

Edinburgh University - Tuesday 17 June  
Birmingham University - Monday 23 June  
Imperial College - Friday 4 July

Professor Mike Atkinson  
**Staying ahead of the Opposition**

"Counting votes, partitioning a polygon into triangles, walking in a city whose roads only run North-South or East-West are all activities linked by the ubiquitous Catalan numbers."



Professor John Kent  
**How to Study Random Shapes**

"Developed during the past 10-15 years, the new subject of shape analysis provides us with methods of comparing and averaging geometric objects, without regard for their location, size and orientation."

**EDINBURGH UNIVERSITY** Commences at 2.00 pm, 3.00-3.30 pm refreshments, ends at 4.30 pm. Lecture Theatre 4, Appleton Tower, George Square, Edinburgh. Admission is free. Enquiries to Dr P. Heywood, Department of Mathematics & Statistics, Edinburgh University, James Clerk Maxwell Building, The King's Buildings, Edinburgh EH9 3JZ (e-mail: philip@maths.ed.ac.uk).

**BIRMINGHAM UNIVERSITY** Commences at 3.00 pm, 4.00-4.30 pm refreshments, ends at 5.30 pm. Haworth Lecture Theatre, Chemistry Building, University of Birmingham. Admission is free. Enquiries to Dr A.D. Gardiner, Department of Mathematics, University of Birmingham, Birmingham B15 2TT (tel: 0121 414 6580).

**IMPERIAL COLLEGE LONDON** Commences at 7.30 pm, 8.30-9.00 pm refreshments, ends at 10.00 pm. Great Hall, Sherfield Building, 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.

**LMS - EPSRC  
INSTRUCTIONAL CONFERENCE  
on INTEGRABLE SYSTEMS  
14th - 19th September 1997**

**Mathematical Institute  
University of Oxford**

**Lecturers: N.J. Hitchin, G.B. Segal, R.S. Ward**

The course is intended for postgraduate students in the initial stages of their work. The emphasis will be geometric and the lectures will explain some of the connections between the modern theory of integrable systems and other branches of mathematics, and also their central role in recent interactions between mathematics and physics.

Accommodation and meals will be provided at Wadham College, Oxford (a short walk from the Mathematical Institute). Funds are available to meet the accommodation and subsistence costs for EPSRC-supported students (who can reclaim their travel costs from the EPSRC). Limited funds are available to support a small number of other postgraduate students.

For further details and application form, write to: Dr N.M.J. Woodhouse, The Mathematical Institute, 24-29 St Giles', Oxford OX1 3LB or e-mail: [nwoodh@maths.ox.ac.uk](mailto:nwoodh@maths.ox.ac.uk).

**NUMBER THEORY AND  
DYNAMICAL SYSTEMS**

A five-day conference on Number Theory and Dynamical Systems supported by the LMS will be held at the University of York starting at 9.30 am on Sunday 31st August and ending on Thursday 4th September. Although very different, number theory and dynamical systems have a surprising amount in common and this will be reflected in the talks. Those who have provisionally agreed to speak include V. Bernik, S. Bullett, S.G. Dani, G. Everest, P. Glendinning, M. Mendes France, S. J. Patterson, J. Stark, M. Skriganov, R. Tijdeman, A. Van der Poorten, F. Vivaldi and M. Yuri. Anybody who is interested is welcome to attend and should contact Detta Dickinson (Department of Mathematics, University of York, Heslington, York YO1 5DD) preferably by e-mail ([hd3@york.ac.uk](mailto:hd3@york.ac.uk)). Funds are very limited but it might be possible to help those (such as research students and postdocs) who are unable to get other financial

assistance. Other participants are asked to make their own arrangements. The organisers are Detta Dickinson (York), Maurice Dodson (York) and Sanju Velani (Imperial).

**NEW GEOMETRIC  
TECHNIQUES IN COMPUTER  
VISION**

A Discussion Meeting on 'New Geometric Techniques in Computer Vision', organized by Dr Roberto Cipolla, Dr Joan Lasenby, Professor Christopher Longuet-Higgins and Dr Andrew Zisserman, will be held at The Royal Society on Wednesday 23 and Thursday 24 July 1997. All interested in the subject are welcome to attend the meeting. Those wishing to attend should complete an application form obtainable from The Royal Society (reference DM09/CJE), 6 Carlton House Terrace, London SW1 (tel: 0171-839 5561 extension 2575; www address: <http://www.royalsoc.ac.uk/rs/>). Applications must be received by 14 July 1997.

# Now available as softcover editions

Springer-Verlag has decided to reprint five successful volumes from the EMS-series in order to make them accessible to student readers.

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V.I. Arnold, I.U. Bronshtein,  
V.Z. Grines, Yu.S. Il'yashenko

## Ordinary Differential Equations and Smooth Dynamical Systems

1988. 3rd printing 1997.  
VIII, 233 pages, 25 figures.  
Softcover DM 78  
ISBN 3-540-61220-3

**From the reviews:** "The reading is very easy and pleasant for the non-mathematician, which is really noteworthy. What is particularly pleasant is the fact that the authors are quite successful in giving to the reader the feeling behind the demonstrations which are sketched. Another point to notice is the existence of an annotated extended bibliography and a very complete index. This really enhances the value of this book and puts it at the level of a particularly interesting reference tool."  
*Journal de Physique*

V.I. Arnold, V.V. Kozlov,  
A.I. Neishtadt

## Mathematical Aspects of Classical and Celestial Mechanics

2 ed. 1993. 2nd printing 1997.  
XIV, 291 pages., 81 figures.  
Softcover DM 78  
ISBN 3-540-61224-6

**From the reviews:** "The examples are especially helpful; if a particular topic seems difficult, a later example frequently tames it. The writing is refreshingly direct, never degenerating into a vocabulary lesson for its own sake."  
*American Mathematical Monthly*

I.R. Shafarevich

## Basic Notions of Algebra

1990. 2nd printing 1997.  
V, 258 pages. 45 figures.  
Softcover DM 78  
ISBN 3-540-61221-1

**From the reviews:** "Shafarevich's book - which reads as comfortably as an extended essay - breathes life into the skeleton and will be of interest to many classes of readers; certainly beginning postgraduate students would gain a most valuable perspective from it but... both the adventurous undergraduate and the established professional mathematician will find a lot to enjoy..."  
*Math. Gazette*

S. Lang

## Survey of Diophantine Geometry

1st ed 1991. Corr. 2nd printing 1997. XIII, 298 pages.  
Softcover DM 78  
ISBN 3-540-61223-8

**From the reviews:** "This author is one of the best guides a reader can hope for. The book is full of beautiful results, open questions, stimulating conjectures and suggestions where to look for future developments. The style of the book is clear. Ideas are well explained, and the author helps the reader to pass by several technicalities.

*Mededelingen  
van het wiskundig  
genootschap*

V.V. Gorbatsevich,  
A.L. Onishchik,  
E.B. Vinberg

## Foundations of Lie Theory and Lie Transformation Groups

1993. 2nd printing 1997.  
VII, 235 pages.  
Softcover DM 78  
ISBN 3-540-61222-X

**From the reviews:** "... the book must be of great help for a researcher who already has some idea of Lie theory, wants to employ it in his everyday research and/or teaching, and needs a source for customary reference on the subject. From my viewpoint, the volume is perfectly fit to serve as such a source, ..."

*The New Zealand Mathematical  
Society Newsletter*

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# Springer

# LONDON MATHEMATICAL SOCIETY 1997 HARDY LECTURES

In June, the 1997 Hardy Lecturer, Professor Peter May, will give a series of lectures in London.

Day	Topic/Time/Location	Contact Person
Monday 2 June	<i>Some equivariant algebraic topology and nonequivariant applications</i> 2.30 pm The Hicks Building, University of <b>Sheffield</b>	Professor J.P.C. Greenlees
Tuesday 3 June	<i>Operads in algebra, topology, and physics</i> 4.30 pm University of <b>Leeds</b>	Dr H.D. Macpherson
Wednesday 4 June	<i>Brave new algebra in stable homotopy theory</i> 2.30 pm Room 2.10, Mathematics Department, University of <b>Manchester</b>	Professor N. Ray
Thursday 5 June	<i>Some equivariant algebraic topology and non-equivariant applications</i> 4.00 pm Room S5, School of Mathematics, University of Wales, <b>Bangor</b>	Professor R. Brown
Friday 6 June	<i>Operads in algebra, topology and physics</i> 2.30 pm Video Network, University of <b>Wales</b>	Professor R. Brown
Monday 9 June	<i>Operads in algebra, topology, and physics</i> 12 noon Salmon Theatre, Hamilton Building, Trinity College, <b>Dublin</b>	Professor D.J. Simms

All interested are welcome to attend any of the meetings addressed by the Hardy Lecturer. General enquiries about Professor May's visit may be directed to the LMSA.

## VISIT OF PROFESSOR V. STEPANOV

Professor V. Stepanov of the Far-Eastern Branch of the Russian Academy of Sciences Khabarovsk, has been awarded a London Mathematical Society fSU grant to visit the United Kingdom from 1 to 15 July 1997. He is a leading authority on weighted inequalities and integral

operators. He will be based at Sussex but will visit Birmingham and Cardiff. For further information please contact Professor D.E. Edmunds, School of Mathematical Sciences, University of Sussex, Falmer, Brighton BN1 9QH (e-mail: d.e.edmunds@sussex.ac.uk).

# MATHEMATICAL SOCIETY LECTURE TOUR

te: May (Chicago) will give the following lectures:

Day	Topic/Time/Location	Contact Person
Tuesday 10 June	<i>Brave new algebra in stable homotopy theory</i> 4.00 pm Room 3b, Department of Mathematics, University of <b>Glasgow</b>	Dr A.J. Baker
Thursday 12 June	<i>Derived categories in algebra and topology</i> 4.00 pm New King's 1 (Old Aberdeen Campus), University of <b>Aberdeen</b>	Dr E.B. Nasatyr
Friday 13 June	<i>Operads in algebra, topology, and physics</i> 4.00 pm Lecture Room C, James Clerk Maxwell Building, University of <b>Edinburgh</b>	Professor A.A. Ranicki
Monday 16 June	<i>Operads in algebra, topology, and physics</i> 4 pm Room 521, Strand Building, King's College, <b>London</b>	Dr W.J. Harvey
Wednesday 18 June	<i>Topological Hochschild and cyclic homology and algebraic K-theory</i> 4.30 pm Winstanley Room, Trinity College, <b>Cambridge</b>	Dr C.B. Thomas
Friday 20 June	<i>Stable algebraic topology and stable topological algebra</i> <b>LMS Hardy Lecture</b> 5pm Burlington House, Linnean Society, <b>London</b>	Dr D.J.H. Garling

lecturer, but it is advisable to check the time and venue with the department concerned.  
LMS Administrator, Susan Oakes (e-mail: [lms@lms.ac.uk](mailto:lms@lms.ac.uk), tel: 0171 437 5377).

## VISIT OF PROFESSOR E. MOOERS

Professor Edith Moers of the University of California, Los Angeles will be visiting the UK in June with support from the LMS visiting speaker scheme. Her talks will be on the subject of her work on traces for heat kernels on manifolds with conic singularities. She will speak at Bristol on 17

June at 4 pm, King's College on 19 June at 3 pm and at DPMMS, Cambridge on 23 June. For further information and confirmation, contact I. McGillivray ([I.McGillivray@Bristol.ac.uk](mailto:I.McGillivray@Bristol.ac.uk)), Y. Safarov ([ysafarov@mth.kcl.ac.uk](mailto:ysafarov@mth.kcl.ac.uk)) and M. Joshi ([joshi@dpmms.cam.ac.uk](mailto:joshi@dpmms.cam.ac.uk)) respectively.

## BOOK REVIEW

**Goodbye, Descartes** (The End of Logic and the Search for a New Cosmology of the Mind) by Keith Devlin, Wiley, 1997, ISBN 0-471-14216-2, Hardback, 301 pp, £17.99.

I shall declare my interest in this book at the onset. I studied mathematics as a chemistry undergraduate but have since become a social scientist whose ontological bias leans towards nominalism and an interpretivist epistemology. This book was thus rather appealing, as my interest in mathematics has been maintained not least through attending the LMS's Popular Lectures. However, Plato's belief that there is an ultimate truth, and the notion of searching for unifying laws of truth which can explain man's behaviour is at variance with my underlying subjectivist's beliefs.

*Goodbye, Descartes* is an intellectually stimulating and rewarding book to read. Devlin starts by providing the reader with an historical account of the different schools of logic and linguistics from the early Greeks through to latter day proponents such as Noam Chomsky and Marvin Minsky. Unlike many such accounts it is neither dry nor boring, indeed far from it. Each school of thought is illustrated by cunning examples in the form of seemingly simple phrases and puzzles. Moreover interesting and informative asides are included about each principle proponent such as Aristotle, Euclid, Boole and Ockham. Throughout the book Devlin draws the reader's attention to what they have read in earlier pages and builds on this. For example in Chapter 11, page 269, the reader is reminded about a puzzle proposed in Chapter 1 and an additional insight is offered based on the new material put forward in Chapter 11.

The central theme of the book is the notion that, as many management scientists would attest, man is neither rational nor can his actions and behaviours be interpreted in isolation from his surroundings. It is this need to take account

of man's culture that makes it so difficult to use mathematical theories of logic to interpret human mental processes and linguistics, and hence why, as Devlin says, artificial intelligence has not, and may never realise its full potential, especially when it comes to applying it to equivocal situations.

Devlin (p. 262) includes a fascinating quote from Stephen Toulmin's book *Cosmopolis* in which Toulmin 'likens the course of post-seventeenth-century human thought to the Greek letter omega'. The same description might equally apply to this book. Just as one feels one is near to an explanation, Devlin throws you back to square one.

Geertz (1) and Giddens (2) have argued that 'man is an animal suspended in webs of significance he himself has spun' (Geertz, 1973, p. 5). Devlin extends this argument and applies it to the laws of mathematical logic. He proposes that in order to take account of the context within which man operates a new mathematical method is needed to explain adequately human thought processes. This new method he calls 'soft mathematics' and suggests that whilst it may be as elegant and simple as Aristotle's theory of syllogism, many mathematicians will find it hard to accept as 'mathematics'.

This is a book which can indeed be read by both mathematicians and non-mathematicians. It is elegantly written and as such easy to follow, although those with no mathematical background may struggle with the mathematics. It is a thought-provoking book for both the mathematician and non-mathematician, but perhaps more so for the former than the latter. Indeed any social scientist with the slightest leaning towards an interpretivist ontology may get a little frustrated during the early chapters. These have an underlying premise that man is rational and there is only one logical and reasonable explanation for a given phrase or puzzle.

My only criticism of this otherwise ex-

cellent book lies with the use of the word 'information'. Much of the time Devlin talks about information he is referring to what this reviewer would regard as data. For example, on pages 242 and 243, he says 'Information can be a precious commodity, to be collected, guarded, duplicated, ... Information is all around us.' Surely in this context it is data, for it is data which are abundant and absolute. Information, rather, is data which have taken on meaning, and that meaning can vary depending on the human interpreting it. It is good high quality information which is in short supply. Ah, but of course whether to me it is information or data depends on my culture and hence the meaning I attach to it!

*Goodbye, Descartes* is certainly a book that one would want on one's own bookshelf not only to dip in and out of for one's own interest and reference, but also perhaps as a source of ideas with which to challenge a class of either undergraduates and postgraduates.

M.E. Seeley  
School of Management  
University of Bath

(1) Geertz, C., (1973) *The Interpretation of Cultures*. Basic Books, New York.

(2) Giddens, A., (1993) *New Rules of Sociological Method*. Polity Press, Cambridge, 2nd Edn.

### VISIT OF PROFESSOR S.P. NOVIKOV

Professor S.P. Novikov (Maryland and Moscow) will be touring the United Kingdom in June, on a visit under Scheme 2 of the Society. He will give talks at the following places and times. The names in brackets are those of the local organizers, who should be consulted for further details.

Oxford: Monday, 16th June, 5.00 pm, Mathematical Institute, University of Oxford (Dr J. Roe); Cambridge: Friday, 20th June, 3.30 pm, Seminar Room 1, DPMMS, University of Cambridge (Professor G. Segal); Edinburgh: Monday, 23rd June, 4.00 pm, Room 5215, James

Clerk Maxwell Building, University of Edinburgh (Professor A.A. Ranicki); London: Thursday, 26th June, 2.30 pm, Room 505, Department of Mathematics, University College, London (Dr F.E.A. Johnson). The talks in Oxford and Edinburgh will be on "Low-dimensional topology and conductivity in normal metals". The talks in Cambridge and London will be on "The algebraic properties of the 2-dimensional Schroedinger equation".

### NUMBER THEORY AND ARITHMETICAL GEOMETRY

A European Research Conference "Number Theory and Arithmetical Geometry: Arithmetical Applications of Modular Forms" will be held at San Feliu de Guixols, Spain, 24-29 October 1997, co-sponsored by the European Science Foundation and the Euroconferences Activity of the European Union, in association with the European Mathematical Society. The conference will focus on Galois representations and applications to diophantine problems; arithmetic of modular curves, conjectures of Birch and Swinnerton-Dyer type, the theory over function fields; applications to coding theory and cryptography. A crucial goal of the conference is to give young researchers the opportunity to learn about the state of art, interesting questions and possible future developments.

The conference is open to researchers world-wide. Participation will be limited to 100. The emphasis will be on discussion about new developments. The registration fee covers full board and lodging. Grants will be available for younger scientists, in particular those from less favoured regions in Europe. The deadline for applications is **30 June 1997**. For information and application forms, contact the Head of the EURESCO Unit: Dr Josip Hendekovic, European Science Foundation, 1 quai Lezay-Marnésia, 67080 Strasbourg Cedex, France; tel. +33 3 88 76 71 35; fax +33 3 88 36 69 87; e-mail euresco@esf.org.



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Applications from women are particularly welcome. For further information, please contact by writing: Présidence de l’Ecole polytechnique fédérale de Lausanne, CE-Ecublens, CH 1015 Lausanne, Switzerland.

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## SECANTS

The sixth meeting of SECANTS will be held on Saturday 14 June, 11.00 - 16.30, at the Mathematical Institute, Oxford. The speakers will be S. Galbraith (RHBNC), N. Howgrave-Graham (Bath), F. Lunnon (St. Patricks College) and S. Siksek (UKC). SECANTS is supported by an LMS Scheme 3 grant. For more details see <http://www.ukc.ac.uk/ims/math/secants/>.

## MATHFIT SUMMER SCHOOL

A Summer School on 'Games and Computation' will be held on 23-24 June 1997 at the Laboratory for the Foundations of Computer Science, University of Edinburgh. The speakers will be Samson Abramsky (Edinburgh University), Martin Hyland (Cambridge University), Perdita Stevens (Edinburgh University), Colin Stirling (Edin-

burgh University) and Wolfgang Thomas (Christian-Albrechts University, Kiel). A small number of grants for the Summer School are available for PhD students. Further information can be found at: <http://www.dcs.ed.ac.uk/home/cps/school.html>. The Summer School is supported by the Engineering and Physical Sciences Research Council and the London Mathematical Society.

## VISIT OF PROFESSOR F.I. KARPELEVICH

Professor F.I. Karpelevich (Moscow) will be visiting the UK from 5 to 20 June with the support of an fSU Scheme grant from the London Mathematical Society. He will be speaking at Cambridge on asymptotical properties of branching random processes. For further information please contact Dr Yuri Suhov, Statistical Laboratory, DPMMS, University of Cambridge (e-mail: [yms@statslab.cam.ac.uk](mailto:yms@statslab.cam.ac.uk)).



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Informal enquiries may be addressed to Prof Nigel J Cutland, Tel 01482-465885,  
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## REFLECTIVE MODULES

A number of British Universities are offering, as part of honours mathematics degrees, mathematics-related modules which are quite different from the more familiar mathematical modules. These are modules that reflect on mathematics and on its communication, appreciation and use in society and go under various titles: Communicating Mathematics, The Nature of Mathematics and Mathematical Thinking, Mathematics Education, Mathematics in Society. Although these modules are usually taken by third year students and often involve a reflective element, they do cover a wide variety of topics.

In November 1996 the Teaching and Learning Undergraduate Mathematics Subcommittee of the Mathematical Association Teaching Committee organised a Day Conference involving lecturers who ran Reflective modules and other interested parties, including representatives of the LMS Education Committee. The lecturers described their modules and there was a discussion of the benefits coming from them and the problems associated with them.

The modules represented at the conference fall roughly into three categories, although many contain elements from all three.

(a) Mathematics Education: Mathematics Teaching (Durham), Mathematics Education (Bristol), Mathematical Curriculum Studies (Southampton).

(b) Communicating Mathematics and Mathematics in Society and in other Contexts: Communicating Mathematics (Reading), Communication Skills (Exeter), Mathematics in Society (Liverpool), Mathematics in a Humanities Degree (Westhill College of Higher Education).

(c) Reflecting on Mathematics: The Nature of Mathematics and Mathematical Thinking (Nottingham), Development of Mathematical Concepts (Warwick), Advanced Mathematical Thinking (Warwick), Problem Solving (Warwick).

The modules tend to involve a wide

variety of student-activities, including attending lectures, reading articles, papers and books, writing essays, projects - small and large - examinations, student presentations, school visits, discussions and group work.

One of the chief benefits of the modules appeared to be the resulting enthusiasm, interest and willingness to put in considerable effort on the part of the students. However, this was achieved at a price, namely, a lot of hard work and the giving of much time on the part of the lecturers. One of the questions discussed at the Conference was if and how this benefit could be obtained at a smaller price. One recommendation was the sharing of experience and material, possibly using the Internet. It was suggested that it is possible to reduce the amount of work assessed.

### Points from the Conference

Some points were made specifically with reference to one university, although they may in fact have a broader relevance.

#### Benefits

- These modules might encourage more students to become teachers.
- Students are encouraged to think about what they feel about the mathematics they are doing and to think about others' work.
- The students learn to meet deadlines.
- As a result of taking a module that involved school visits, some students have decided teaching is not the career for them.
- When the students give a 20-minute presentation on their assignment they do well and the other students are supportive.
- The students have to write a Book Review, which they started in the summer vacation before the module. This was the first time they had read a mathematics book, but they enjoyed it.
- The students' discussion involves a critical evaluation of what is and what

is not important.

- One exercise is to design a talk to give to interested sixth formers. Having spoken to an audience is an advantage at interviews.
- The module is something that interviewers can ask about.
- Students are warned that this is not a module where they can doze quietly at the back of the class with the intention of making a quick revision just before the examination; they have to play an active role!
- 'This is the first time I have been able to think about maths' - a quote from a student.

#### Some Types of Activities

- One type of examination question is to give the students A-level answers with some flawed reasoning; students find these hard.
- For the extended writing assessment the criteria are known to the students; double marking is used.
- The project is assessed, by 5 members of staff, at a poster session; however, the students also write a booklet. As examination questions were based on the project, so the booklet has to be clear to all students.
- Students have to find and retrieve information from the Internet via the World Wide Web.
- One form of Project is that students choose a problem and then they keep a diary of what they did in trying to solve it.
- Lecturers are encouraged to listen and just ask questions.

#### Some Aims

The module was set up with the aim, in part, of overcoming the students' poor use of logic (a long-standing problem), their flight from proof (they choose options with no proof, resulting in a move from pure to applied), and their lack of computer literacy (they are worse than arts students). Other aims were to teach Personal Transferable Skills, to involve the students in Self-Teaching and to remedy the present situation where employers are unhappy with our graduates.

#### Miscellaneous Points

- There should be academic rigour appropriate to a final year module.
- Results can depend on the amount of work put in by students rather than on their ability.
- Some good mathematics students come on the Problem Solving module; however, they are not always good at problem solving.

#### Some Concerns and Questions.

- There is a problem that some mathematicians feel this type of module is 'soft-centred'. Some mathematicians seek to avoid the subject of the learning of mathematics.
- A reflective module may not attract the very best undergraduates as they may fear it will pull their score down.
- When the module comes in the third year then it is too late for it to help students in their first and second years. However the students would not be ready for it in their first year - they need the experience in order to reflect on it.
- The reflective modules can improve students' approach to mathematics but the other mathematics modules may then wipe out those improvements; for example, this was noticed with the gains from the Problem Solving module.
- The knowledge and past experience of the lecturer(s) with regard to the content and philosophy of the module can often play an important role. It can cause difficulty when the module is passed from one lecturer to another.
- Other staff are generally approving of the module but do not want to be more involved; they find the examination questions interesting.
- An alternative to having one module of this kind might be to distribute components of it among other mathematics modules.
- Colleagues who said that these modules were not suitable for MMath students and lowered standards had not realised that the qualities and skills given to the students by these modules

were an essential part of the professional mathematician's make-up.

- The introduction of MMath courses should give the freedom for BSc courses to be made more appropriate for the students, lifting 'enjoyment' away from the bottom of the priority list.

The LMS Education Committee is circulating summaries of these and other reflective modules to all UK mathematics departments.

Keith Austin  
University of Sheffield

### J. J. SYLVESTER CENTENARY

The February Newsletter announced various lectures to commemorate the 100th anniversary of the death of James Joseph Sylvester in March. The British Society for the History of Mathematics made a contribution of a different kind by organising a memorial ceremony at Sylvester's grave in the Jewish Cemetery in Dalston, North London. About a hundred people were present. Representatives of various aspects of Sylvester's life and career made short speeches. Wilfrid Hodges spoke on behalf of the London Mathematical Society, using the following text prepared by the BSHM:

"I celebrate the memory of James Joseph Sylvester on behalf of The London Mathematical Society, which he joined within a few months of its foundation in 1865 and thereafter supported vigorously. His proof of Newton's Rule for the imaginary roots of equations was the first mathematical paper published by the Society, and he succeeded Augustus De Morgan in 1866 as the second President of the Society. The London Mathematical Society honours his memory."

Other speakers included Paul Cohn (on behalf of University College London), Peter Goddard (on behalf of St John's College Cambridge) and Ioan James (on behalf of the Royal Society). Karen Parshall, who is writing a biography of Sylvester, spoke on behalf of the University of Virginia, where Sylvester worked for a few months.

### THE FIFTH ADAMS LECTURES

The Adams Memorial Lectures are held annually in the Department of Mathematics at Manchester University, honouring the memory of J Frank Adams, who was Fielden Professor of Pure Mathematics between 1964 and 1971. The Lectures are sponsored by KPMG, the International firm of Accountants.

The Fifth Adams Lecturer is Professor Doug Ravenel, of the University of Rochester. His first lecture is meant to appeal to a general audience with interests in fractal geometry and computer graphics, and will take place in Room 2.17 of the Mathematics Building, Oxford Road, at 11.00 am on Thursday 5 June. It is entitled "Fractal images and iterated function systems", and will be illustrated by Professor Ravenel's own graphics display. There will be coffee and biscuits available in the Brian Hartley Room on floor 6 beforehand, and all interested persons are welcome to attend.

Professor Ravenel will then give a series of three, more specialised, lectures in the area of "Telescopes and loop spaces of spheres". These will take place in Room 2.10 of the Mathematics Building, at 2.00 pm on Thursday 5 June, and at 11.00 am and 2.00 pm on Friday 6 June. Everyone interested is again welcome.

The Adams lectures will follow the visit of the 1997 Hardy Lecturer, Professor Peter May (University of Chicago), on Wednesday 4 June, and will coincide with the visits of Professor Victor Buchstaber (State University of Moscow) and Professor Vladimir Vershinin (University of Novosibirsk); all these three are sponsored by the London Mathematical Society. Further information is available from Nigel Ray ([nige@ma.man.ac.uk](mailto:nige@ma.man.ac.uk)).

### DAVID BURNETT

Professor David Burnett, who was elected a member of the London Mathematical Society on 15 March 1934, died on 26 July 1996.



**A. SOMMERFIELD**  
Honorary Member 1924

## 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.

### JUNE 1997

**2-20** Advanced School on Mathematical Models of Systems Involving Phase Changes, ICMS, Edinburgh (246)

**2-28** Dirichlet Forms and their Applications in Geometry and Stochastics Euroconference, Crete, Greece (246)

**6** Edinburgh Mathematical Society Meeting, St Andrews (241)

**6-7** Using Functional Analysis to Extract Physical Properties of Nonlinear PDEs Meeting, University of Surrey (249)

**16** Symmetric Chaos in Dynamical Systems Meeting, University of Surrey (249)

**19** STATMECH-13, King's College London (249)

**20** LMS Meeting, London

**23-4 July** Confinement, Duality and Non-Perturbative Aspects of QCD Workshop, Isaac Newton Institute, Cambridge (245)

**26-28** Joint International Meeting in South Africa, University of Pretoria, South Africa (244)

**29-5 July** Nonlinear Dispersive Waves: Theory and Applications Euroconference, Crete, Greece (246)

**30-1 July** Boundary Integral Methods Conference, Leeds University (242)

**30-4 July** Analysis in Ambleside - Limit Algebras Workshop, University College of St Martins, Ambleside (248)

### JULY 1997

**6-13** Logic Colloquium, Leeds University (244)

**7-11** Harmonic Morphisms, Harmonic Maps and Related Topics, Université de Bretagne Occidentale, Brest, France (244)

**7-11** British Combinatorial Conference, Queen Mary & Westfield College (230) (245)

**8-11** Mathematical Statistical Mechanics and Related Fields Conference, University College of Swansea

**14-16** Computational Number Theory and Cryptography MATHFIT Instructional Workshop, University of Kent, Canterbury (247)

**14-24** Pro-p Groups and Related Topics, LMS Durham Symposium (245)

**18-19** London-Sussex-Southampton Topology Seminar, University of Southampton (249)

**18-20** Dynamics of Mixed Phase Regions ICMS Conference, Royal Society of Edinburgh (249)

**18-20** Joint Meeting of the BSHM and CSHPM, Oriol College, Oxford (249)

**20-3 Aug** Banach Algebras Conference, University of Tübingen, Germany (247)

**26-9 Aug** Groups St Andrews 1997, Bath University (244)

**28-8 Aug** Representation Theories and Algebraic Geometry Seminar, Université de Montréal, Canada (245)

### AUGUST 1997

**18-19** Complex Methods in Differential Geometry Conference, ICMS Edinburgh (248)

**24-29** 15th IMACS World Congress 1997 on Scientific Computation, Modelling and Applied Mathematics, Berlin, Germany (243)

**25-29** Analysis and Logic Meeting, University of Mons-Hainaut, Belgium (247)

### SEPTEMBER 1997

**8-10** New Paradigms for Computation on Classical Spaces, University of Birmingham (249)

**8-12** Stochastic Modelling of Physical Systems Workshop, Cambridge University (244)

**20-21** Mathematics in the Ancient World Conference, Kellog College, Oxford (249)

**22-23** Function Theory Meeting, Cambridge (249)

**22-23** Function Theory Meeting, DPMMS, Cambridge (248)

**22-26** Austrian Congress of Mathematics, Salzburg (248)

**27 - 3 Oct** Algebraic Independence Instructional Conference, CIRM, Luminy, France (249)

### OCTOBER 1997

**17-18** Two-Day London Mathematical Society Meeting, London

### NOVEMBER 1997

**21** London Mathematical Society, Annual General Meeting, London

### DECEMBER 1997

**13-17** European Women in Mathematics 8th General Meeting, ICTP, Trieste, Italy (244)

### FEBRUARY 1998

**9-13** Hyperbolic Problems Theory, Numerics, Application Conference, ETH Zurich, Switzerland (246)

### APRIL 1998

**6-9** British Mathematical Colloquium, Manchester University

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

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