

THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 175

September 1990

FORTHCOMING SOCIETY MEETINGS

Friday 19 October 1990, Burlington House
Integrable Nonlinear Systems
J.C. Eilbeck, A.P. Fordy, R.S. Ward, J.D. Gibbon

Friday 16 November 1990, Burlington House
Annual General Meeting
J.H. Coates, R.L. Taylor

COLLINGWOOD MEMORIAL PRIZE

This prize was established by the London Mathematical Society in memory of Sir Edward Collingwood, and is awarded annually to a student of the University of Durham obtaining First Class

Honours in Mathematics and entering a course of postgraduate study. The 1990 prize is awarded to Mr. R.A. Hall of St. Cuthbert's Society who will be a research student at the University of Durham.

ADAMS PRIZE 1989/90

The subject for the 1989/90 Adams Prize is *Differential Geometry*. The Prize is open to the competition of all persons who have at any time been admitted to a degree in the University of Cambridge and to those who on or before 31st December 1990 are Fellows of a College or University Officers in the University of Cambridge. The Prize may be awarded to one or more candidates, and the amount available for Prizes is about £4,000. Candidates for the Prize must sub-

mit an essay, which should be a self-contained contribution to some major area within the subject of the Prize (although it may embody already published work of the author). A condition of the award of the Prize is that the essay must eventually be published. Candidates for the Prize should submit three copies of their essay to the Registrar, University of Cambridge, so as to reach him not later than 31st December, 1990.

MÖBIUS DAY CONFERENCE

The German mathematician August Möbius (1790-1868) was born on 17th November 1790. To mark the bi-centenary of his birth, a one-day conference has been arranged by the University of Oxford in association with the Open University and the British Society for the History of Mathematics.

Möbius contributed widely to the science of his day. A pupil of Pfaff and Gauss, he taught astronomy at Leipzig University from 1816-1868, and his wide-ranging mathematical contributions and interests include the barycentric calculus, the Möbius net, Möbius tetrahedrons, and the Möbius band. The aim of the conference is to describe these and other topics in the context of other mathematical and historical developments.

The meeting is opened by Professor I. James, and the speakers include J. Fauvel and R. Wilson (*'Möbius and his time'*), A. Chapman (*'Astronomy in the age of Gauss and Möbius'*), J. Gray (*'Geometry and mechanics: Möbius and Plücker'*), N. Biggs (*'Topology from Möbius to Poincaré'*), and I. Stewart (*'Möbius' modern legacy'*).

The conference will be held on Saturday 17th November at The Mathematical Institute, 24-29 St Giles, Oxford. Further details from Dr Raymond Flood, Department for External Studies, Rewley House, 1 Wellington Square, Oxford OX1 2JA (0865-270372). E-mail: rfg@uk.ac.oxford.vax.

JOURNAL OF APPLIED MATHEMATICS AND STOCHASTIC ANALYSIS

In May 1987, The Society of Applied Mathematics, Modeling and Simulation launched a new international journal, now entitled the *Journal of Applied Mathematics and Stochastic Analysis*. The goal of the *Journal* is to publish a broad spectrum of research articles in areas of applied mathematics such as nonlinear analysis, approximation theory, computational mathematics, stochastic differential equations, queueing theory, modeling, operations research, simulation, theoretical computer science, and mathematical

physics. Original contributions in these and related areas are cordially invited. The principal editor of the *Journal* is J.E. Dshalalow. The advisory editors are Y.M. Berezansky, B.A. Fusaro, M.A. Krasnoselskii, V. Lakshmikantham, A.A. Martynyuk, V.M. Matrosov, M.F. Neuts, and A.V. Skorohod. Subscription inquiries and manuscripts may be submitted to the principal editor, in care of the Department of Applied Mathematics, Florida Institute of Technology, 150 W. University Blvd., Melbourne, Florida 32901, U.S.A.

WARWICK ALGEBRA SYMPOSIUM 1991

The Mathematics Research Centre of Warwick University is planning an Algebra Symposium on Groups, Rings and Representations to be held from January to August 1991.

The Symposium will be led by R.W. Carter, J.A. Green, C.R. Hajarnavis, T.O. Hawkes, D.F. Holt and S.E. Stonehewer, and the following themes, among others, are expected to play a major role in the programme. (a) The modular representation theory of finite groups; (b) The representation theory of algebraic groups and related finite groups of Lie type; (c) Noetherian ring theory and its applications to representation theory; (d) The theory of soluble groups and associated techniques in representation theory; (e) The theory of various classes of infinite groups; (f) Computational group theory.

The following overseas visitors are expected to attend the Symposium for various periods: J.L. Alperin, S.A. Amitsur, H.H. Andersen, M. Auslander, M. Broué, J.J. Cannon, J.F. Carlson, E.T. Cline, P. Fong, E. Friedlander, J.I. Hall, H. Heineken, R.B. Howlett, J.E. Humphreys, B. Huppert, M. Isaacs, J.C. Jantzen, A. Joseph, G. Lusztig, G. Michler, J. Neubüser, M.F. Newman, B.

Parshall, D.S. Passman, W. Plesken, L. Puig, I. Reiten, D.J.S. Robinson, L.L. Scott, G.M. Seitz, C.C. Sims, S.D. Smith, T.A. Springer, B. Srinivasan, A. Turull, N. Vavilov, W.J. Wong, G. Zacher.

As part of the Symposium programme there will be three one week meetings on the following topics: 18th - 22nd March 1991, General group theory and computation; 8th - 12th July 1991, Group representations and algebraic groups; 15th - 19th July 1991, Ring theory and applications.

Enquiries are welcome from others interested in attending the symposium. To give guidance on the symposium programme it is hoped to specialise particularly on the subjects Soluble Groups, Infinite Groups and Computational Group Theory during February, March and April 1991 and on the subjects Modular Representation Theory, Groups of Lie Type, Noetherian Rings during May, June and July 1991. There may be some support from symposium funds for British visitors.

Enquiries about the Symposium may be sent to any of the organisers at the above address or by electronic mail to: symp@uk.ac.warwick.maths.

ELLIPTIC AND PARABOLIC PROBLEMS

The first European Conference on Elliptic and Parabolic Problems will take place from Monday 17th to Friday 21st June 1991 in Pont à Mousson (France). The topic of the conference covers the general theory of elliptic and parabolic problems but also the applications, free boundary problems, fluid mechanics, calculus of variations, homogenization, modelling and numerical analysis.

A provisional list of invited speakers includes: J. Ball (Edinburgh), A. Bensoussan (INRIA), H. Brezis (Paris 6), F. Brezzi (Pavia), J.I. Diaz (Madrid), L.C. Evans (Berkeley), L.E. Fraenkel (Bath), A. Friedman (Minneapolis), M. Giaquinta (Florence), J.K. Hale (Georgia Tech.), R. Hardt

(Rice), P. Hess (Zurich), S. Hildebrandt (Bonn), K.H. Hoffmann (Augsburg), G. Iooss (Nice), R. Kersner (Budapest), D. Kinderlehrer (Minneapolis), G.H. Knightly (Amherst), R.V. Kohn (New York), H.G. Levine (Iowa State), P.L. Lions (Paris Dauphine), J. Ockendon (Oxford), J.R. Rodrigues (Lisbon), L. Simon (Stanford), G. Talenti (Florence), L. Tartar (Carnegie Mellon).

In addition to the main lectures parallel sessions of short communications will be organized. The deadline for submitting an abstract is 1st November 1990. For any information or registration, contact C. Bandle, Mathematisches Institut der Universität, Rheinsprung 21, CH-4051 Basel, Switzerland. Tel. (61) 25 03 01.

THE MATHEMATICS OF NONLINEAR SYSTEMS Second Announcement

As part of its Nonlinear Systems initiative, the United Kingdom Science and Engineering Research Council is sponsoring a major international conference to be held at the University of Bath on 1st to 5th July 1991. The aim is to review the importance of recent mathematical contributions to nonlinear science and to look forward to likely future developments.

The total number of conference places available

is limited and anyone wishing to attend should make enquiries as soon as possible, and in any case not later than 1st January 1991, of Professor J.F. Toland, School of Mathematical Sciences, University of Bath, Claverton Down, Bath BA2 7AY, United Kingdom. Attendance will be by invitation only. Substantial financial support is available for UK participants to cover travel, accommodation and registration costs.

LIBRARY THEFTS

Over the last few months, a large number of books, of value about £8-10,000, have been removed from the Mathematics Institute Library at the University of Warwick. All the books are stamped "Mathematics Institute, University of War-

wick" in a number of places and have MI painted in red on a white background on the back spine. If anybody has any information whatsoever that may help in tracing and recovering the books, contact Elaine Shiels 0203-523053, es@uk.ac.warwick.maths.

MULTIGRID METHODS

The third European Conference on Multigrid Methods will be held from 1st to 4th October 1990 at the Gustav-Stresemann-Institut in Bonn, West Germany. Continuing the sequence of the conferences held in 1981 and 1984, it will again bring together specialists and others with interest in the general area of multi-level methods. Themes of the conference will range from basic research to industrial applications, with special emphasis on adap-

tivity, parallel computation and applications. The invited papers and selected contributions will be published as full papers in the conference proceedings.

For further information write to Christine Harms, Conference Secretariat, GMD, PO Box 1240, D-5202 St. Augustin 1, West Germany. Telephone 49-2241-142473, fax 49-2241-142618.

LONDON MATHEMATICAL SOCIETY NOTICE OF GENERAL MEETING

There will be a General Meeting of the Society on Friday 19th October 1990 at 5.00 p.m. in the Meeting Room of the Geological Society, Burlington House, Piccadilly, London W1V 0NL, to consider a proposal by the Council of the Society to delete the existing By-Law II,3 and to substitute that printed below.

The new By-Law II,3, if accepted, would increase the annual subscription of Corporation and Institutional Members for 1990-91 to £350 from the 1989-90 level of £325.

Text of the proposed By-Law II,3

The annual subscription to the Society of Corporation and Institutional Members for the 1990-91 session shall be £350, inclusive of one volume of the **Bulletin** and two volumes of the **Journal** and of the **Proceedings**, except that those Corporation and Institutional Members who have more than one Representative shall pay an additional subscription of £10 for each Representative in excess of one.

R.Y. Sharp
Council and General Secretary

VICTORIA UNIVERSITY OF WELLINGTON New Zealand

SENIOR LECTURESHIP/LECTURESHIP IN MATHEMATICS

Applications are invited from suitably qualified persons for the above position in the Department of Mathematics. Applications in all areas of mathematics will be considered seriously, and are particularly welcome in fields relevant to modern applications of mathematics, or computational mathematics. Applicants are expected to show strong potential in both teaching and research.

Enquiries about academic aspects of the position may be directed to Professor Rob Goldblatt, Department of Mathematics, e-mail (Internet): rob@math.vuw.ac.nz.

Salary scale for Lecturers is NZ\$36,000 - NZ\$47,200 per annum; for Senior Lecturers NZ\$50,000 - NZ\$64,500 per annum.

Conditions of appointment and method of application are available from Appointments (38084), Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, or from the Appointments Administrator, Victoria University of Wellington, PO Box 600, Wellington, New Zealand (fax 04-711 700), with whom applications close on **1st October 1990**.

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Leicester University

CHAIR OF MATHEMATICS

Applications are invited for the Chair of Mathematics within the Department of Mathematics available from 1st January 1991 or such other date as may be agreed. By this appointment the University wishes to foster research links between the Department of Mathematics and other departments, applicants with research interests in any area of Mathematics are encouraged to apply. It is expected that the successful candidate will provide academic leadership for the Department, which runs a successful undergraduate programme, and be prepared to act as Head of Department. Two lectureships will be made available to the Department following the appointment. The Department will occupy new purpose-built accommodation from August 1990.

Salary will be negotiated within the Professorial Range, current minimum £27,013.

Further particulars may be obtained from the Staffing Office (Academic Appointments), University of Leicester, University Road, Leicester, LE1 7RH, telephone (0533) 522439. U.K. candidates should submit sixteen copies of their application. (Overseas candidates may submit one copy). The University fax number is (0533) 522200.

Closing date for applications: **12th October 1990**.

RECENT LMS PUBLICATIONS

The Ergodic Theory of Discrete Groups.

P.J. Nicholls.

Over the last ten years there has been a great resurgence of interest in this field, due in large measure to the pioneering work of Dennis Sullivan. The ergodic theory of discrete groups has become a substantial field of mathematical research in its own right. This book provides a rigorous introduction from first principles to some of the major aspects of the modern theory and it can be used as a graduate textbook.

The particular focus of the book is on the remarkable measure supported on the limit set of a discrete group that was first developed by S.J. Patterson for Fuchsian groups, and later extended and refined by Sullivan. The original papers on the construction and application of this measure comprise a body of literature which is broad in power and scope. However, these papers were not written for the novice. This book provides an introduction for the novice and will take him or her to the cutting edge of research.

LMS Lecture Note Series No. 143

LMS members discount price £14.63.

Introduction to Uniform Spaces. I.M. James.

This book is based on a course taught to an audience of undergraduate and graduate students at Oxford, and can be viewed as a bridge between the study of metric spaces and general topological spaces.

About half the book is devoted to relatively little-known results, much of which is published here for the first time. The author sketches a theory of uniform transformation groups, leading to the theory of uniform spaces over a base and hence to the theory of uniform covering spaces. Readers interested in general topology will find much to interest them here.

LMS Lecture Note Series No. 144

LMS members discount price £10.46

Homological Questions in Local Algebra.

Jan R. Strooker.

This book aims to present an account of a number of conjectures arising in commutative algebra from the work of Serre and Alexander & Buchsbaum. The approach is via Hochster's 'Big Cohen-Macaulay Modules', though the complementary viewpoint of Peskine & Szpiro, using homology, as exemplified by Foxby is not neglected. Contributions of the author and his collaborators which *inter alia* allow a refined version of Hochster's construction are also included.

Whilst being primarily a research book, the leisurely treatment will appeal to non-experts and make it a useful introduction to an active area of algebra.

LMS Lecture Note Series No. 145.

LMS members discount price £15.00.

Cohen-Macaulay Modules over Cohen-Macaulay Rings. Y. Yoshino.

The purpose of the notes is to explain in detail some topics on the intersection of commutative algebra, representation theory and singularity theory. They are based on lectures given in Tokyo, but also contain new research.

It is the first cohesive account of the area and will provide a useful synthesis of recent research for algebraists.

LMS Lecture Note Series No. 146.

LMS members discount price £11.25.

Continuous and Discrete Modules.

Edited by S.M. Mohammed and B.J. Mueller.

Continuous and discrete modules are a generalisation, essentially, of injective and perfect modules. Their advantage is that the Krull-Schmidt theorem can be applied, in part, to them.

The authors present a complete and up-to-date account of the subject, and at the same time give a unified picture of the theory. The account is essentially self-contained, with background facts being summarised in the first chapter. Historical comments are also provided.

LMS Lecture Note Series No. 147.

LMS members discount price £9.38

Aspects of Quantum Field Theory in Curved Spacetime. Stephen A. Fulling.

The theory of quantum fields on curved spacetime has attracted great attention since the discovery, by Stephen Hawking, of black-hole evaporation. This book provides, for mathematicians, an introduction to this field of physics in a language and from a viewpoint which such a reader should find congenial. Physicists should also gain from reading this book a sound grasp of various aspects of the theory, some of which have not been particularly emphasised in the existing review literature. The style is pedagogic rather than formal; some knowledge of general relativity and differential geometry is assumed, but the author does supply background material on function analysis and quantum field theory as required.

LMS Student Text Series No. 17.

LMS members discount price £22.50 hard cover, £8.21 paperback.

Braids and Coverings, Selected Topics.

Vagn Lundsgaard Hansen.

This book is based on a graduate course taught by the author at the University of Maryland, USA. The lecture notes have been revised and augmented by examples. The work falls into two strands. The first two chapters develop the elementary theory of Artin Braid groups both geometrically and via homotopy theory, and discusses the link between knot theory and the combinatorics of braid groups through Markov's Theorem. The final two chapters give a detailed investigation of polynomial covering maps, which may be viewed as a homomorphism of the fundamental group of the base space into the Artin braid group on n strings.

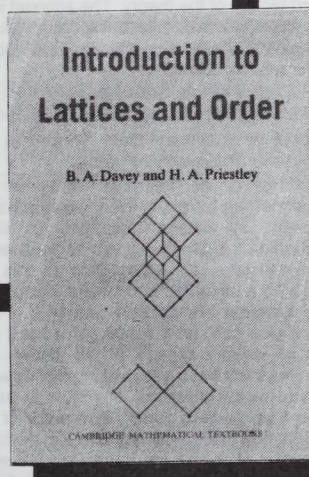
LMS Student Text Series No. 18

LMS members discount price £20.63 hard cover, £8.21 paperback.

These books have recently been published and are available from Cambridge University Press, Customer Services, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU. Payment should be sent with your order quoting LMS account number 089 4900 001.

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0 19 853296 2, 264 pp., illus., Clarendon Press, May 1990 £35.00

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Oxford Mathematical Monographs

0 19 853565 1, 228 pp., illus., Clarendon Press, December 1989 £25.00

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0 19 853939 8, 236 pp., illus., paperback, Clarendon Press, February 1990 £17.50

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T. S. Blyth

This textbook aims to develop the basic properties of modules and show their importance in the theory of linear algebra. It provides a self-contained course with numerous exercises enabling readers to test their understanding. This new edition takes account of readers' comments on the original work.

0 19 853293 8, 368 pp., illus., Clarendon Press, May 1990 £40.00

0 19 853389 6, paperback, May 1990 £15.00

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RECENT SERC AWARDS

Research Grants

Ball, F.G., Sansom, M.S.P., Nottingham. *Statistical inference for ion channel gating mechanisms.*

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Evans, D.E., University College Swansea. *Operator algebras and applications.*

Evans, D.V., Bristol. *Approximate and exact mathematical models for wave-boom interaction problems.*

Green, M.B., Queen Mary & Westfield College. *Algebraic and geometrical structure of relativistic string theories.*

Hall, P., Exeter. *Instability and transition in compressible fluid flows.*

Higgins, P.J., Durham. *Conformal field theory, LMS Durham Research Symposium.*

Higgins, P.J., Durham. *Applications of categories in computer science, LMS Durham Research Symposium.*

Kropholler, P.H., Queen Mary & Westfield College. *Quality groups.*

Macintyre, A.J., Wilkie, A.J., Oxford. *Fragments of bounded arithmetic: model theory, proof theory and number theory.*

Maclachlan, C., Aberdeen. *Arithmetic Kleinian groups and hyperbolic 3-orbifolds.*

Morton, H.R., Liverpool. *Quantum invariants of links and 3-manifolds.*

Murray, J.D., Oxford. *Centre for mathematical biology.*

Percival, K., Vivaldi, F.M., Queen Mary & Westfield College. *Modular smooth of critical functions.*

Rand, D.A., Warwick. *Nonlinear systems laboratory IV.*

Segal, G.C., Cambridge. *String field theory and Waldhausen's k-theory of spaces.*

Thomas, R.M., Manchester. *Numerical solution of differential algebraic boundary value problems.*

Wathen, A.J., Bristol. *Iterative solution techniques for finite element equation arising in fluid flow.*

Wood, D.W., Nottingham. *Algebraic geometry and statistical mechanics.*

SEVENTH INTERNATIONAL CONGRESS ON MATHEMATICAL EDUCATION First Announcement

The 7th International Congress on Mathematical Education (ICME-7) will be held in the city of Québec (Canada) from August 16th to 23rd, 1992. It will be the seventh in a series of congresses of the International Commission on Mathematical Instruction (ICMI), following those of Lyons (1969), Exeter (1972), Karlsruhe (1976), Berkeley (1980), Adelaide (1984) and Budapest (1988).

In an effort to meet the diverse needs and interests of the 3000-3500 expected participants, the program will cover all of the major areas of mathematics education at the elementary, secondary and post-secondary levels. Activities will include lectures, working groups, topic groups, workshops, short communications, posters, project presentations, and films, as well as exhibitions of textbooks, software, and other types of materials.

Themes that will be discussed during the congress are: Improving students' attitudes and motivation; Mathematics for early school leavers; Innovative assessment of students in

mathematics; Students' misconceptions and inconsistencies of thought; The impact of calculators on the elementary school curriculum; The role of geometry in general education; Probability and statistics for the future citizen; Modeling activities in the classroom; Students' difficulties in calculus; Undergraduate mathematics for different groups of students; Pre-service and in-service teacher education; Methodologies for research in mathematics education.

The Second Announcement of the congress will be published in 1991 and will contain detailed information about the programme, as well as forms for registration, accommodation and submission of short communications or posters. In order to receive it, please write to: Congrès ICME-7 Congress, Université Laval, Québec, QC Canada G1K 7P4, or communicate with the secretariat of the congress by phone: (418) 656-7592, or by fax: (418) 656-2000, or by electronic mail: ICME-7@LAVAL VM1.BITNET.

THOMAS COWLING

Professor Thomas Cowling, FRS, who was a member of the London Mathematical Society from

1945 to 1968, died in June 1990 at the age of 83.

S. O. Kochman, York University, North York, Ont.

Stable Homotopy Groups of Spheres

A Computer-Assisted Approach

1990. VIII, 330 pp. (Lecture Notes in Mathematics, Vol. 1423) Softcover £19.00
ISBN 3-540-52468-1

A central problem in algebraic topology is the calculation of the values of the stable homotopy groups of spheres π_*^S . In this book, a new method for this is developed based upon the analysis of the Atiyah-Hirzebruch spectral sequence. After the tools for this analysis are developed, these methods are applied to compute inductively the first 64 stable stems, a substantial improvement over the previously known 45. Much of this computation is algorithmic and is done by computer. As an application, an element of degree 62 of Kervaire invariant one is shown to have order two. This book will be useful to algebraic topologists and graduate students with a knowledge of basic homotopy theory and Brown-Peterson homology; for its methods, as a reference on the structure of the first 64 stable stems and for the tables depicting the behavior of the Atiyah-Hirzebruch and classical Adams spectral sequences through degree 64.

W. Lück, University of Göttingen

Transformation Groups and Algebraic K-Theory

1989. XII, 443 pp. (Lecture Notes in Mathematics, Vol. 1408. Subseries: Mathematica Gottingensis) Softcover £28.50 ISBN 3-540-51846-0

Contents: Introduction. – Geometrically defined invariants. – Algebraically defined invariants. – $R\Gamma$ -modules and geometry. – Bibliography. – Index. – Symbols.

R. C. Kirby, University of California, Berkeley, CA

The Topology of 4-Manifolds

1989. VI, 108 pp. (Lecture Notes in Mathematics, Vol. 1374. Subseries: Nankai Institute of Mathematics. Tianjin, P. R. China. Vol. 6) Softcover £9.00
ISBN 3-540-51148-2

This book presents the classical theorems about simply connected smooth 4-manifolds: intersection forms and homotopy type, oriented and spin bordism, the index theorem, Wall's diffeomorphisms and h-cobordism, and Rohlin's theorem. Most of the proofs are new or are refurbishings of post proofs; all are geometric and make use of handlebody theory. There is a new proof of Rohlin's theorem using spin structures. There is an introduction to Casson handles and Freedman's work including a chapter of unpublished proofs on exotic R^4 's. The reader needs an understanding of smooth manifolds and characteristic classes in low dimensions. The book should be useful to beginning researchers in 4-manifolds.





William Henry Young (1863-1942) was called by Hardy 'one of the most profound and original of the English mathematicians of the last fifty years'. Born in London and educated at Peterhouse Cambridge, he tutored for 15 years before he married Grace Chisholm (the second of his women Wranglers) and moved with her to Göttingen, where she had earlier studied with Klein. Only now did he begin his best work, on Fourier and orthogonal series and the theory of the integral, where he came independently to some of Lebesgue's ideas. With Grace Chisholm he wrote an elementary book on geometry based on 3-dimensional considerations, which flopped in England but was translated into 4 languages. Awarded the De Morgan Medal in 1917 he was the Society's 30th President, from 1922 - 1924.

DIARY

The diary lists Society meetings and other events publicised 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.

1990

SEPTEMBER

- 3-7 Algebra and Number Theory, Turkey (172)
 3-8 Physical Interpretations of Relativity Theory, London (168)
 16-22 Deutsche Mathematiker Vereinigung 100th Anniversary, West Germany (170)
 16-22 Algebraic Methods in Computing Science, Swansea (171)
 17-21 Computer Algebra for Engineers and Scientists, Bath (172)
 24 Function Theory, Open University (173)
 24-25 British Topology, Liverpool (172)
 25-29 Structures in Mathematical Theories, Spain (166)

OCTOBER

- 19 LMS Meeting, London
 21-27 Functional Analysis, Spain (172)

NOVEMBER

- 16 LMS Meeting, London
 19-22 Huygens' Principle, Theory and Applications, The Netherlands (170)
 25-28 Mathematics and its Applications, Bahrain (172)

1991

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- 18 LMS Meeting, London

FEBRUARY

- 15 LMS Meeting, Lancaster

MARCH

- 15 LMS Meeting, London
 25-29 British Mathematical Colloquium, Bath

APRIL

- 23-26 Mathematical and Numerical Aspects of Wave Propagation Phenomena, France (172)

MAY

- 17-18 2-day LMS Meeting, Oxford

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- 14 LMS Meeting, London

JULY

- 1-5 The Mathematics of Nonlinear Systems, Bath (168)
 8-12 British Combinatorial Conference, Surrey (165)
 8-14 Radicals, Hungary (172)
 13-16 British Congress of Mathematics Education, Loughborough (170)
 22-26 Computational and Applied Mathematics Congress, Ireland (167)

SEPTEMBER

- 25-27 Numerical Methods in Fluid Mechanics, Switzerland (174)

OCTOBER

- 18 LMS Meeting, London

NOVEMBER

- 15 LMS Meeting, London

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The Newsletter is published monthly except in August. Items and advertisements for inclusion in the Newsletter should be sent to the Editor, Susan Oakes, London Mathematical Society, Burlington House, Piccadilly, London W1V 0NL, to arrive before the first day of the month prior to publication. Telephone 071-437 5377, Fax 071-439 4629, E-mail lms@uk.ac.kcl.cc.oak.