

THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 170

March 1990

FORTHCOMING SOCIETY MEETINGS

Friday 16 March 1990, Burlington House

C.J. Bushnell, J. Saxl

Friday, Saturday, 18-19 May 1990, Sheffield

Two-day meeting on Functional Analysis

Friday 15 June 1990, Burlington House

L.E. Fraenkel, H.K. Moffatt

Friday 19 October 1990, Burlington House

Friday 16 November 1990, Burlington House

BRITISH MATHEMATICAL COLLOQUIUM

The 42nd British Mathematical Colloquium will be held at the University of East Anglia, Norwich from 3 to 5 April 1990. You are reminded that the closing date for applications is 19 March, 1990.

Further details may be obtained from Dr G. Everest, School of Mathematics, University of East Anglia, Norwich, Norfolk NR4 7TJ. Telephone 0603 56161 ext. 2845.

MATHEMATICAL WHO'S WHERE 1990/1

This booklet gives the names of over 2000 mathematicians working at Universities and similar institutions in the United Kingdom. Copies are available price £1.50 or US\$3.00 post free from I.M. James Mathematical Institute, 24-29 St Giles, Oxford OX1 3LB: cheques should be made payable to "I.M. James".

The LMS Council has agreed to distribute a free copy to each LMS member with an address in the area covered by the directory, as one of the privileges of membership, and it is enclosed with this mailing of the Newsletter.

WILLIAM L. FERRAR

Dr W. L. Ferrar who was elected a member of the London Mathematical Society on 11th May 1922, died on 22nd January 1990 at the age of 96. He served on the London Mathematical Society

Council from 1932-42, was Secretary and Proceedings Editor from 1933-38 and Vice-President in 1938-39.

SYMPLECTIC GEOMETRY

A conference and workshop on Symplectic Geometry will be held at the Nonlinear Systems Laboratory from 30th July to 25th August 1990. The speakers who have accepted to participate are: S. Donaldson, Y. Eliashberg, A. Givental, N. Hitchin, D. McDuff, J. Milnor, P. Rabinowitz, C. Viterbo, J.G. Wolfson and E. Zehnder.

To attend, write to Alison Solman, Nonlinear Systems Laboratory, Mathematics Institute, University of Warwick, Coventry CV4 7EL, or e-mail ajs@math.warwick.ac.uk by 1st June. Partial support for the meeting has been awarded by SERC. Limited support for UK participants will be available, provided by the London Mathematical Society.

LONDON MATHEMATICAL SOCIETY - EDUCATION COMMITTEE

At the October 1989 meeting of Council it was decided to form a new Education Committee to cover the areas formerly dealt with by its predecessor and the Popular Lectures Committee. Its terms of reference were set out as follows.

"The Education Committee acts on behalf of Council to promote activities in the area of mathematical education and the popularisation of mathematics. It disburses grants within a budget allocated by Council. It keeps members of the Society informed of developments in mathematical education which may affect university and polytechnic mathematics departments. It reports annually to Council on further action which should be taken by the Society, and assists the President in making representations on behalf of the Society to government or other agencies."

Grant Applications

Activities currently envisaged for promotion and support include popular lectures, exhibitions, master classes, mathematical competitions and similar joint ventures between higher education institutions and schools, the development and dissemination of curriculum initiatives in higher education, and liaison between the Society and other bodies concerned with mathematical education. The committee would welcome any request for grants, which should be sent to Dr J.W. Bruce, Secretary Education Committee, Department of Mathematics and Statistics, The University, Newcastle Upon Tyne, NE1 7RU. Applications received on or before the 15th April 1990 will be considered at the April meeting of the committee.

BRITISH CONGRESS OF MATHEMATICS EDUCATION

The first British Congress of Mathematics Education will take place at the University of Loughborough from 13th to 16th July 1991. The primary purpose of the Congress will be to provide a broad forum for developments in Mathematics Education. The Congress will also serve as a useful preparation for the United Kingdom participation in the International Congress of Mathematics Education in Quebec in 1992.

The Joint Mathematical Council, who are sponsoring the Congress, would like to hear from individuals or groups who would like to contribute

to the BCME, and the nature of their possible contributions. Details of cost and timing will be available later, but the total conference charge is unlikely to exceed £130. Possible contributors are asked to write to: Bob Cory (BCME), Dorset County Council, Eastern Area Education Office, Portman House, Richmond Hill, Bournemouth BH2 6ER.

The Congress will receive financial support from the Education Committee of the London Mathematical Society.

SUPERMATHS MAILING LIST

A list of electronic mail addresses of those interested in "super" mathematics is being compiled. If you would like to be included on this list, please send (preferably by e-mail) your name and e-mail address, together with your postal address (and phone number and fax numbers if you wish these to be included) to udah039@uk.ac.kcl.cc.oak

(=Dr Alice Rogers, Department of Mathematics, King's College, London WC2R 2LS). All those on the list will be sent an updated version approximately every two months. People who do not have access to e-mail can also be included, and (costs permitting) will be sent a hard copy of the list once or twice a year.

INVITED LECTURES

Professor Melrose's LMS Invited Lectures on "Spectral and Inverse Spectral Theory of the Dirichlet Problem in a Planar Domain" will take place at 9.30am and 11.00am daily from Monday

26th until Friday 30th March, inclusive, in Room A of the Arts School, Bene't Street, Cambridge. All interested are welcome.

THE 1990 COLLINGWOOD LECTURE

The Department of Mathematical Sciences of the University of Durham holds an annual lecture on the History and Philosophy of Mathematics, in memory of Sir Edward Collingwood, FRS. The 1990 lecture will be given by Professor J.D. Barrow

of the University of Sussex, whose title will be "Why is the Universe Mathematical?" The lecture will take place at 3.15 p.m. on Tuesday, 13th March in the Scarbrough Lecture Theatre, Science Laboratories, University of Durham.

LONDON MATHEMATICAL SOCIETY

C.J. Bushnell (King's College London)

**p-adic Linear Groups:
Representation Theory and Arithmetic**

J. Saxl (Cambridge)

**Maximal Subgroups of Simple Groups
and their Automorphism Groups**

**Friday 16th March 1990
at 3.30 p.m.**

**The meeting is at the Geological Society,
Burlington House, Piccadilly, London W1**

**All interested are very welcome
Tea will be served at 4.30 pm**

LIST OF MEMBERS OF THE LMS EDITORIAL BOARD - 1990

Authors wishing to submit a paper for publication in the **Bulletin**, the **Journal** or the **Proceedings** should send two copies to the member of the Editorial Board whose mathematical interests are judged to be closest to its subject.

Dr R.C. Baker	Department of Mathematics, Royal Holloway & Bedford New College, Egham, Surrey TW20 0EX	Elementary and Analytic Theory of Numbers
Dr B. Bollobas	DPM&S, 16 Mill Lane, Cambridge CB2 1SB	Combinatorial Theory
Dr S. Brenner	DAMTP, University of Liverpool, PO Box 147, Liverpool L69 3BX	Algebras and Representation Theory
Professor R. Brown	School of Mathematics and Computer Science, University College of North Wales, Bangor, Gwynedd LL57 1UT.	Topology
Professor H.G. Dales	School of Mathematics, University of Leeds, Leeds LS2 9JT	Functional Analysis
Dr S. Donkin	School of Mathematical Sciences, Queen Mary & Westfield College, Mile End Road, London E1 4NS	Algebra
Professor D.E. Edmunds	Mathematics Division, University of Sussex, Falmer, Brighton BN1 9QH.	Differential Equations and Related Areas in Analysis
Dr K.J. Falconer	School of Mathematics, University of Bristol, University Walk, Bristol BS8 1TW.	Geometry and Convexity
Dr C.M. Goldie	DPM&MS, 16 Mill Lane, Cambridge CB2 1SB.	Probability
Dr R.G. Haydon	Brasenose College, Oxford OX1 4AJ	Functional Analysis
Dr D.R. Heath-Brown	Magdalen College, Oxford OX1 4AU	Elementary and Analytic Number Theory
Professor N.J. Hitchin	Mathematics Institute, University of Warwick, Coventry CV4 7AL.	Differential Geometry and Global Analysis
Professor W.A. Hodges	School of Mathematical Sciences, Queen Mary & Westfield College, Mile End Road, London E1 4NS.	Set Theory and Logic
Professor J.R. Hubbard	Department of Mathematics, University of Aberdeen, Dunbar Street, Aberdeen AB9 2TY	Topology
Dr M.W. Liebeck	Department of Mathematics, Imperial College, 180 Queen's Gate, London SW7 2BZ.	Group Theory and Combinatorics
Professor N.G. Lloyd	Department of Mathematics, University College of Wales, Penglais, Aberystwyth, Dyfed SY23 3BZ.	Nonlinear Analysis and Differential Equations
Professor T.J. Lyons	Department of Mathematics, University of Edinburgh, The King's Building, Mayfield Road, Edinburgh EH9 3JZ	Analysis, Probability and Potential Theory
Professor R. Milner, FRS	Department of Computer Science, University of Edinburgh, The King's Building, Mayfield Road, Edinburgh EH9 3JZ.	Theory of Computing
Professor R.W.K. Odoni	Department of Mathematics, University of Exeter, North Park Road, Exeter EX4 4QE	Number Theory and Representation Theory
Dr P.E. Newstead	Department of Pure Mathematics, University of Liverpool, P.O. Box 147, Liverpool L69 3BX.	Algebraic Geometry
Dr S.J. Pride	Department of Mathematics, University of Glasgow, University Gardens, Glasgow G12 8QW.	Algebra
Dr P.J. Rippon	Faculty of Mathematics, The Open University, Walton Hall, Milton Keynes MK7 6AA	Potential Theory and Complex Analysis
Professor J.T. Stafford	Department of Mathematics, University of Michigan, Ann Arbor, MI 48109-1003, U.S.A.	Ring Theory
Professor J.B. Twomey	Department of Mathematics, University College, Cork, Ireland.	Complex Analysis and Fourier Analysis
Professor C.T.C. Wall	Department of Pure Mathematics, University of Liverpool, PO Box 147, Liverpool L69 3BX	Topology, Geometry, and Algebra
Professor P. Walters	Mathematics Institute, University of Warwick, Coventry CV4 7AL.	Ergodic Theory and Dynamical Systems

D.A.Brannan
Publications Secretary

MATHEMATICS IN THE SCIENCE MUSEUM LIBRARY, LONDON

The Science Museum Library has always collected the best of contemporary literature over the whole field of science and technology, including mathematics. Emphasis has been on the academic/professional, but as part of the Science Museum we have also collected more popular material, and in particular history and biography. The Library was founded more than a century ago and the collections are the richest for the mid-19th to mid-20th centuries, though important earlier literature has been actively collected. Over the last decade acquisitions of contemporary literature have been reduced, and increasing emphasis placed on historical aspects; in particular the Library can no longer claim research status in current mathematics.

The serials collection contains most major and many minor mathematical serials, from all periods except the most recent, and with a good coverage of foreign-language titles. About 250 specifically mathematical serials are held; while the researcher can also draw on a rich background of the general literature and the literature of such related subjects as physics and astronomy.

The books collection again comprises most major monographs, with particular 19th-20th century emphasis, but with many older works. Monograph series include full runs of *Grundlehren der mathematischen Wissenschaften*, and *Lecture Notes in Mathematics*, up to the early 1980's. Conference runs include the proceedings of the *International Congress of Mathematicians*, 1898-1974. Mathematics has attracted more than its share of 'collected works', and the Library has some 250 sets of these. (A short-title list is available.)

We hold full sets of *Zentralblatt für Mathematik* (1931-) and *Mathematical Reviews* (1940-); as well as *Bulletin Analytique/Signalétique*,

Mathématiques (1940-1975), and *Referativnyi Zhurnal, Matematika* (1953-1984) (the latter not held on site). Other major reference works include the *Encyclopädie der mathematischen Wissenschaften* (1898-1935), and the currently appearing *Encyclopaedia of mathematics*.

The Library collects the history and biography of mathematics comprehensively. Some twenty serials in this field range from Boncompagni's pioneering *Bullettino* (1868-1887) to the current *Historia Mathematica*, *Archive for the History of Exact Sciences*, *Annals of the History of Computing* etc. About eight hundred monographs in the history of mathematics are held, shelved by topic and on open access. In addition the biography and biobibliography sections contain many books relating to mathematicians; and the standard mathematical bibliographies are of course held - again all on open access.

We have few MS materials in this area, but they include the major *Babbage Archive* comprising some 1,000 pieces relating to Charles Babbage's difference and analytical engines. In addition the London Mathematical Society's *Tucker Collection* of portraits of mathematicians is deposited in the Library. (A list is available and photographic prints can be ordered.)

The Science Museum Library is freely open to the public without formality (a Reader's Ticket is needed to consult old and MS material). Almost all stock is held on site, and if not already on open access can be delivered in a few minutes. The Library is adjacent to the Imperial College central libraries, and forms part of the resources of the London Centre for the History of Science, Medicine and Technology.

Graeme Fyfe
Collections Development
Science Museum Library

We specialise in Mathematics and our catalogues cover the whole field from very elementary to very advanced and are divided into subject sections. There is also an extensive section on Physics. Catalogues are sent post-free, world-wide, on request.

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We also buy books in this field from single books to libraries and also search for wanted books, quite often we can offer them from our extensive stock.

Mathematics graduate required to join Springer-Verlag's mathematics editorial in Heidelberg.

Applicants should be under 30 years of age, native English-speaking with a good mastery of German and a working-knowledge of Russian. Some prior experience related to publishing will be useful but not essential. Applications including c.v. should be addressed to:



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Ms. Christa Voss
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LMS GRANT TO THE
MATHEMATICS RESEARCH CENTRE
UNIVERSITY OF WARWICK

BRITISH VISITORS FUND

The MRC has been given a grant of £3,000 for the year 1989/90 to help support British visitors who want to take part in the various mathematical activities which take place in Warwick. These funds are specifically for British visitors who would not get support from the SERC or their own university, for this particular visit to Warwick. Each visit to be supported must be approved by the Director of the MRC and the representative of the LMS on the MRC Advisory Board. We can offer support to people who fall into one of the following categories:

- (1) Mathematicians whose principal research area is not the main subject of the symposium or workshop but who would clearly benefit from taking part.
- (2) Young mathematicians who are developing their research interests but who have not yet really established themselves.
- (3) British graduate students.

In addition these funds can be used to help British mathematicians take part in two-day meetings, special lectures, and one-off events which occur from time to time.

Applications for these funds should be sent to the organiser of the event at Warwick, and it will then be passed on to the Director.

POP MATHS ROADSHOW

The Pop Maths Roadshow, organized jointly by the Royal Society Mathematical Instruction Subcommittee and the Joint Mathematical Council, was launched at the University of Leeds on Saturday 16 September 1989. Subsequently it has been touring the country and will continue until October 1990. A list follows of venues for the next three months and local coordinators: 7-16 March, Glasgow (G. McKaig, St Andrew's College of Education, Duntocher Road, Bearsden, Glasgow G61 4QA, 041 943 1424); 20-29 March, Elgin (W. Richardson, Elgin Academy, Morriston Road, Elgin, Morayshire IV30 2ND, 0343 543485); 1-15

April, Edinburgh (D. Monk, Department of Mathematics, University of Edinburgh, The King's Buildings, Mayfield Road, Edinburgh EH9 3JZ, 031 677 1081 Ext. 2827 or 2958); 16 April - 3 May, Aberdeen (SATRO North Scotland, University of Aberdeen, Marshall College, Broad Street, Aberdeen AB9 1AS, 0224 273161); 4-20 May, Liverpool (I. Porteous, Department of Pure Mathematics, University of Liverpool, PO Box 147, Liverpool L69 3BX, 051 794 2000 Ext. 4066); 21 May - 7 June, Sevenoaks (R. Buckland, VISTA, Sevenoaks School, Sevenoaks, Kent TN13 1HU, 0732 455133).

POP MATHS SPECIAL SALE

Pop Maths goods have been produced for sale, associated with the Roadshow (see preceding article). These include a souvenir brochure, various T-shirts, posters, postcards and

mathematical games. There are some special discount packs. Further information can be obtained from Daphne Kerslake, 4 Castle Close, Henbury, Bristol BS10 7QU, telephone: 0272 506218.

MATHEMATICAL PHYSICS GROUP

The Annual Reviews Meeting of the Mathematical Physics Group of the Institute of Physics will be held in room 1B22 in the Strand Building, King's College, London on Tuesday 17th April 1990 beginning at 1.30pm. There will be 4 one hour talks on *Recent developments in neural*

networks by J.G. Taylor (Kings), *Chaos in the solar system* by C. Murray (QMC), *News from LEP* by G. Myatt (Oxford) and (subject to confirmation) *Non-perturbative results on random surfaces*. For further details, please contact Dr K.P. Tod, Mathematical Institute, St. Giles, Oxford, OX1 3LB.

PROOF THEORY

A Summer School and Conference on Proof Theory will be held at the University of Leeds from 24th July to 2nd August 1990.

This meeting, funded principally by the "Logic for Information Technology" initiative of the UK Science and Engineering Research Council, is intended to foster closer collaborative links between mathematical logicians and computer scientists interested in the general Proof Theory area. Cross-fertilisation between logic and computer science is already giving rise to exciting new developments in this field; thus a fairly broad spectrum of topics will be covered, ranging from the pure mathematical - logical aspects through to the more computationally motivated ones.

The first half of the meeting will consist mainly of Summer School lecture courses on such topics as *Basic Proof Theory and Cut Elimination*, *Proof Theory and Ordinal Analysis*, *Linear Logic*, *Type Theory and Calculus of Constructions*, *Proofs and Programs*. The second half will be an International Conference with invited lectures.

Provisional acceptances of invitations have already been received from: W. Buchholz (Munich), T. Coquand (INRIA), S. Feferman (Stan-

ford), J.-Y. Girard (Paris), R. Harper (Carnegie-Mellon), D. Howe (Cornell), G.E. Mints (Tallinn), W. Pohlers (Munster), H. Schwichtenberg (Munich) and L. Wallen (Oxford). Others will be invited as the programme develops.

The meeting will take place, and participants housed, at Bodington Hall - one of Leeds University's halls of residence situated in pleasant surroundings on the outskirts of the city. Leeds is well served by road, rail and air connections from London.

The cost of participation, including full board, will be approximately **UK£300** for academic participants, or **UK£500** for industrial participants. There will be up to 30 fully funded places for registered SERC research students. Numbers will be limited to a total of around 100 participants.

Those wishing to attend should write to **Dr Stan Wainer, School of Mathematics, Leeds University, Leeds LS2 9JT, UK**, marking the envelope "Proof Theory 1990".

Organising Committee: P. Aczel (Manchester), H. Simmons (Aberdeen - Logic for IT Coordinator), S. Wainer (Leeds).

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CATALOGUE

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JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE

The JSPS Fellowship for Research in Japan was established in 1959 to promote international co-operation and mutual understanding in scientific research, and is operated under a Japanese government subsidy. The programme presupposes existing contact between scientists in Japan and their fellow scientists overseas, a condition considered auspicious for future scientific cooperation and exchange.

The JSPS sponsors three types of Research Fellowship Programmes for the invitation of foreign researchers by Japanese scientists. Type I Short-Term Programme: to invite senior scientists for discussion and observation, as well as attending

seminars and giving lectures, etc. Duration 14 - 90 days. Type II Long-Term Programme (Senior): to invite senior scientists for cooperative research work with scientists at Japanese Universities or research institutes. Duration 6 - 10 months. Type III Long-Term Programme (Junior): to invite postdoctoral researchers for cooperative research work at Japanese Universities or research institutes. Duration 6 - 12 months.

Enquiries should be addressed to: Head, Exchange of Persons Division, Japan Society for the Promotion of Science, Yamato Bldg, 5-4-2 Kojimachi, Chiyoda-ku, Tokyo 102, Japan.

HUYGENS' PRINCIPLE 1690-1990 THEORY AND APPLICATIONS

This international symposium will be held in Scheveningen, The Hague from 19th to 22nd November 1990. The purpose of the symposium is to present modern developments in mathematical methods in the theory of wave propagation; physical aspects of scattering and diffraction of waves; computational modelling; applications. The scientific programme will consist of lectures given by invited speakers and poster presentations.

Participants are invited to submit poster presentations

that fit within the scope of the symposium. A one-page description of the poster should be submitted by 30th June. The proceedings of the symposium will include the full text of the lectures given by invited speakers and a selected number of extended version of poster contributions.

For further information, registration and hotel accommodation write to: Congress Bureau, University of Twente, PO Box 217, 7500 AE Enschede, The Netherlands.

ALGEBRAIC HYPERSTRUCTURES AND APPLICATIONS

The fourth international congress on Algebraic Hyperstructures and Applications is to be held from 27th to 30th June 1990 at the Democritus University of Thrace. Invited speakers are P. Corsini, J.

Mittas and D. Stratigopoulos. For further information write to Th. Vougiouklis, Democritus University of Thrace, 671 00 Xanthi, Greece.

PARTIAL DIFFERENTIAL EQUATIONS IN GEOMETRY WORKSHOP II

From Monday 2nd to Thursday 12th April, the Mathematics Institute will be holding a series of lectures, some of which will be accessible to non-specialists. Topics will include minimal and constant mean curvature surfaces, conformal deformation of metrics, Einstein metrics.

It is expected that the list of participants will

include P. Avilés, N. Hitchin, L. Lemaire, N. Kapouleas, N. Mok, U. Pinkall, N. Smale, F. Tomi, and M. Wang.

For further information contact Mario J. Micallef, Mathematics Institute, University of Warwick, Coventry CV4 7EL. Telephone (0203) 523803. E-mail mm@math.warwick.ac.uk.

PROGRAMMING AND MATHEMATICAL METHOD

An International Summer School on Programming and Mathematical Method will be held from 24th July to 5th August 1990 at Marktoberdorf near Munich. Previous experience in programming computers as well as a solid background in mathematics are prerequisites. Topics to be covered are: Functional program construction; Design of distributed systems and programs;

Mathematical method in program construction; Modular program design; and Logical design calculi.

Deadline for applications is 21st March 1990. Application forms are obtainable from the Institut für Informatik, Technische Universität München, Arcisstrasse 21, D-8000 München 2, West Germany.

UNIVERSITY OF STIRLING

DIVISION OF COMPUTING SCIENCE AND MATHEMATICS

CHAIR IN MATHEMATICS AND ITS APPLICATIONS

This new Chair is in the School of Accountancy, Business, Computing and Economics. Candidates should be mathematicians who can develop the applications of Mathematics within the School, and within the University generally. Relevant research interests include Applied Combinatorics, Operational Research and Statistics. The successful candidate will provide academic leadership to the mathematicians in the Division, and will promote new growth in Mathematics in the University. A new multi-disciplinary programme in Mathematics and its Applications is planned for Autumn 1990, to be supported by further lecturing appointments.

Stirling is a young and active University in Central Scotland, with an attractive campus. The appointment will be on the Professorial salary scale.

Applications in the form of a C.V., to include the names of 3 referees, should be sent to the University Secretary, University of Stirling, Stirling FK9 4LA, Tel 0786 73171, extension 2250, from whom further particulars are available, **by 31 March 1990.**



There is a vacancy at the MATHEMATICS INSTITUTE of the
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PROFESSOR IN ALGEBRA/GEOMETRY

to complement the existing areas of teaching and research. Applicants should be expert in a field such as Lie Groups, Algebraic Topology, Differential Topology, Algebraic Geometry.

Applications, with curriculum vitae and list of publications, should reach the Dekanat der Philosophischen Fakultät II, Universität Zürich, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland, **before March 31, 1990.**

FINITE GEOMETRIES AND DESIGNS

This conference, organised by J.W.P. Hirschfeld, D.R. Hughes and J.A. Thas, will take place at the University of Sussex Conference Centre at the Isle of Thorns, Chelwood Gate (near Haywards Heath) from 15th to 21st July 1990. Themes of the conference are finite projective spaces, designs

and their groups, algebraic coding theory, and related topics. Applications may be made to Dr J.W.P. Hirschfeld, MAPS, University of Sussex, Brighton BN1 9QH; E-mail mmfd4@uk.ac.sussex.cluster.

GROUPS IN GALWAY 1990

A conference on Group Theory (to mark the year of Professor Sean Tobin's 60 birthday) will be held at University College, Galway, Ireland on May 9th to May 12th 1990. The speakers will include M. Curzio (Naples), C.K. Gupta (Manitoba), N.D.

Gupta (Manitoba), G. Higman (Oxford), T.J. Laffey (Dublin), P.M. Neumann (Oxford).

Further information may be obtained from J.J. Ward, Department of Mathematics, University College, Galway, Ireland; e-mail: matward@cs8700.ucg.ie.

WATER WAVES

The Nonlinear Systems Laboratory is hosting a meeting on Water Waves from 18th to 20th July 1990. It will cover theoretical computational and experimental aspects. The emphasis will be on applying ideas from dynamical systems theory. The main speakers invited are: Amick, Aston, Benjamin, Craig, Henyey, Jimenez, Jones, Kirchgässner, Kjeldsen, Longuet-Higgins, Peregrine, Saffman, Skyner, Stiassnie, Toland, Whittaker, Yuen, Zakharov and Zufiria.

are invited to present work. To attend, write to Alison Solman, Nonlinear Systems Laboratory, Mathematics Institute, University of Warwick, Coventry CV4 7EL, or e-mail ajs@math.warwick.ac.uk by 18th May. To present a poster, please submit a title and short abstract. There will be a registration fee of £15. Partial support for the meeting has been awarded by SERC. Limited support for UK participants will be available, provided by the London Mathematical Society.

There will also be poster sessions at which all

UNIVERSITY OF NOTTINGHAM DEPARTMENT OF MATHEMATICS PURE MATHEMATICS

Applications are invited for two lectureships in Pure Mathematics. Applicants may be working in any area of Pure Mathematics, but preference may be given to candidates working in Combinatorial Mathematics, Group Theory or Number Theory.

Salary within the range £10,458 - £20,469 per annum.

Prospective candidates may if they wish contact Professor D.A. Burgess (telephone 0602 484848 ext 2802, e-mail dab@maths.nott.ac.uk).

Further details and application forms, returnable not later than 15 March, from the Personnel Office, University of Nottingham, Nottingham NG7 2RD (tel 0602 484848 ext 3355).

Ref No 1307

UNIVERSITY OF EDINBURGH

Research Fellowship in Mathematics or Mathematical Physics

Applications are invited for the **WILLIAM GORDON SEGGIE BROWN** Research Fellowship in Mathematics or Mathematical Physics, tenable in the University of Edinburgh.

The Fellow will be expected to show strong potential for research in mathematics and to have a PhD degree, or to be of equivalent standing in research, and will pursue advanced study and research on a full time basis. The Fellowship will be for two years with the possibility of a further year's extension subject to satisfactory progress. The appointment will commence on 1st October 1990, or at some other mutually agreed time. The remuneration will be comparable with that of a University lecturer with similar qualifications.* The Fellow will normally be expected to join the University Superannuation Scheme.

Applications (4 copies) including a curriculum vitae, an indication of current research interests and plans, and the names of at least two referees, should be sent, not later than **Friday 2nd March 1990**, to Professor T.J. Lyons, Department of Mathematics, University of Edinburgh, King's Buildings, Mayfield Road, Edinburgh EH9 3JZ. Further particulars about the post and the department can also be obtained from Professor Lyons (telephone 031-667-1081, Ext. 2942, Fax No. 031-662-4712). **Late applications will be accepted until 30 March 1990. In this case applicants should ensure that referees write to the department directly.**

*The current ranges for the lecturer A and B scales are £10,458 - £15,370 and £16,014 - £20,469 per annum respectively, with placement according to age, qualifications and experience.

UNIVERSITY OF EDINBURGH

DEPARTMENT OF MATHEMATICS

Lectureship in Mathematics

Applications are invited for the above post, available from 1st October 1990.

The Department wishes to appoint an applied mathematician with strong research interests; ideally these would be in optimisation theory or numerical analysis. Strong candidates in other areas of applied mathematics will also be considered seriously. The successful candidate will have the opportunity to interact fruitfully with the research groups in the Department, and with other departments in the University.

Current research fields within the Department include nonlinear waves, fibre optics, optimisation (parallel implementation), dynamical systems, fluid dynamics, numerical analysis, coding and signal processing. The Professor of Applied Mathematics, D.F. Parker, has recently taken up his appointment.

Further particulars are available from Professor T.J. Lyons (Tel. 031-667-1081, Ext 2942, Telex 727442 UNIV ED, Fax 031-662-4712). Applications (7 copies, including curriculum vitae and the names and addresses of 3 referees) should be sent to Professor T.J. Lyons, Department of Mathematics, Room 5320, JCMB, The King's Buildings, Edinburgh EH9 3JZ, **by 2nd March 1990.**

Late applications will be accepted until 30 March 1990. In this case applicants should ensure that referees write to the department directly.

PLEASE QUOTE REFERENCE NUMBER 1486

DEUTSCHE MATHEMATIKER VEREINIGUNG 100TH ANNIVERSARY

The next meeting of the Deutsche Mathematiker Vereinigung at Bremen, from 16th to 22nd September 1990 celebrates the 100th birthday of DMV. There will be 17 invited plenary addresses given by the following speakers: F. Hirzebruch (Bonn), K. Kirchgassner (Stuttgart), J. Lindentrauss (Jerusalem), B. Trager (Yorktown Heights), W. Hackbusch (Kiel), H. Bender (Kiel), W. Schmid (Cambridge, USA), L. Lovasz (Budapest), U. Abresch (Munster), G.-M. Greuel (Kaiserslautern), R. Pyke (Seattle), R. Jensen (Oxford), M.-F.

Vigneras (Paris), W. Schmidt (Boulder), M. Kreck (Mainz), R.E. Tarjan (Princeton) and E. Brieskorn (Bonn).

On the occasion of the anniversary, the Council of DMV decided to create a new mathematical prize, called "Georg-Candor-Medaille", to be awarded in 1990 for the first time.

For further information write to Deutsche Mathematiker-Vereinigung, Geschäftsstelle, Albertstrasse 24, D-7800 Freiburg, West Germany.

INTERNATIONAL CONGRESS OF MATHEMATICIANS 1990

A limited supply of the Second Announcement is

available from the London Mathematical Society office.

STANISLAW K. ZAREMBA

Professor Stanislaw K. Zaremba who was elected a member of the London Mathematical

Society on 22nd May 1947, died on 14th January 1990.

COMPUTER ALGEBRA

The Research Institute for Symbolic Computation of the Johannes Kepler University of Linz, Austria, invites applications for a 2-week course in computer algebra. The course will take place near Linz during the first two weeks of July 1990. The course is intended to provide a profound mathematical background for efficient algebraic

computations as well as a hands-on-training in using the most advanced computer algebra systems available. Applications should be sent to Dr Franz Winkler, Course Director, RISC-LINZ Summer School, Johannes Kepler University, A-4040 Linz, Austria.

UNIVERSITY OF READING LECTURER IN PURE MATHEMATICS

Applications are invited for a Lectureship in the Department of Mathematics tenable for three years from 1 October 1990. The person appointed should have strong research potentiality in some area of Pure Mathematics and will be expected to play a full role in all aspects of the Department's teaching activities.

Salary scale £10458 to £15372 (Grade A)- under review - plus USS benefits.

Further particulars and application forms (2 copies) are available from the Personnel Office, University of Reading, Whiteknights, P.O. Box 217, Reading RG6 2AH.
Telephone 0734 318751.

Closing date 16 March 1990.

Please quote Ref. AC9012

A. M. Anile, University of Catania;
Y. Choquet-Bruhat, University of Paris (Eds.)

Relativistic Fluid Dynamics

Lectures given at the 1st 1987 Session of the Centro Internazionale Matematico Estivo (C.I.M.E.) held at Noto, Italy, May 25 – June 3, 1987

1989. V, 308 pp. (Lecture Notes in Mathematics, Vol. 1385) Softcover £ 19.00 ISBN 3-540-51466-X

Contents: Main lectures: B. Carter: Covariant Theory of Conductivity in Ideal Fluid or Solid Media. - D. Holm: Hamilton Techniques for Relativistic Fluid Dynamics and Stability Theory. - W. Israel: Covariant Fluid Mechanics and Thermodynamics: An Introduction. - H. Weitzner: Relativistic Plasmas. - Contributed papers: A. M. Anile, S. Pennisi: An Improved Relativistic Warm Plasma Model. - I. Müller: Relativistic Extended Thermodynamics II. - T. Ruggeri: Relativistic Extended Thermodynamics: General Assumptions and Mathematical Procedure. - D. Strottman: Relativistic Hydrodynamics and Heavy Ion Reactions. - C. van Weert: Some Problems in Relativistic Hydrodynamics.

B. Engquist, University of California, Los Angeles, CA;
M. Lusk, University of Minnesota, Minneapolis, MN;
A. Majda, Princeton University, Princeton, NJ (Eds.)

Computational Fluid Dynamics and Reacting Gas Flows

1988. XI, 346 pp. 124 figs., 2 in full color. (The IMA Volumes in Mathematics and Its Applications, Vol. 12) Hardcover £ 24.50 ISBN 3-540-96732-X

Contents: Two-frequency Rayleigh-Taylor and Richtmyer-Meshkov Instabilities. - On the Accuracy of Vortex Methods at Large Times. - Numerical Problems Connected with Weather Prediction. - Vortex Methods for the Incompressible Euler and Navier-Stokes Equations. On the Numerical Simulation of Turbulent Flows around Vehicles. - Streamline Diffusion Finite Element Methods for Incompressible and Compressible Fluid Flow. - Hyperbolicity, Change of Type, Wave Speeds and Related Matters. - Dynamics of Hot-Spot Evolution in a Reactive, Compressible Flow. - Numerical Prediction of Internal Flows. - On the Universal Role of Turbulence in the Propagation of Deflagrations and Detonations. - Numerical Modeling of the Initiation of Reacting Shock Waves. - On the Accuracy of Finite Element and Finite Difference Predictions of Non-Newtonian Slot Pressures for a Maxwell Fluid. - Flame Propagation and Growth to Detonation in Multiphase Flows. - Computations of Compressible Reactive Flows. - Computation of Flows Containing Edge Vortices. - Large Eddy Interaction with Propagating Flames.

D.D. Joseph, University of Minnesota,
Minneapolis, MN

Fluid Dynamics of Viscoelastic Liquids

1989. Approx. 700 pp. 141 figs. (Applied Mathematical Sciences, Vol. 84) Hardcover £ 45.50
ISBN 3-540-97155-6

This text develops a mathematical and physical theory which takes a proper account of the elasticity of liquids. This leads to systems of partial differential equations of composite type in which some variables are hyperbolic and others elliptic. It turns out that the vorticity is usually the key hyperbolic variable. The relevance of this type of mathematical structure for observed dynamics of viscoelastic motions is evaluated in detail. Much attention was paid to observations – most of which are not older than five years – following the attitude that experiments are the ultimate court of truth for physical theories. Readers will find their understanding of all problems involved highly enriched.

J. Berbernes, University of Colorado, Boulder, CO;
D. Eberly, University of Texas, San Antonio, TX

Mathematical Problems from Combustion Theory

1989. X, 178 pp. 14 figs.
(Applied Mathematical Sciences, Vol. 83)
Hardcover £ 24.50 ISBN 3-540-97104-1

Contents: Introduction. - Steady-State Models. - The Rigid Ignition Model. - The Complete Model for Solid Fuel. - Gaseous Ignition Models. - Conservation Systems for Reactive Gases. - References. - Index.

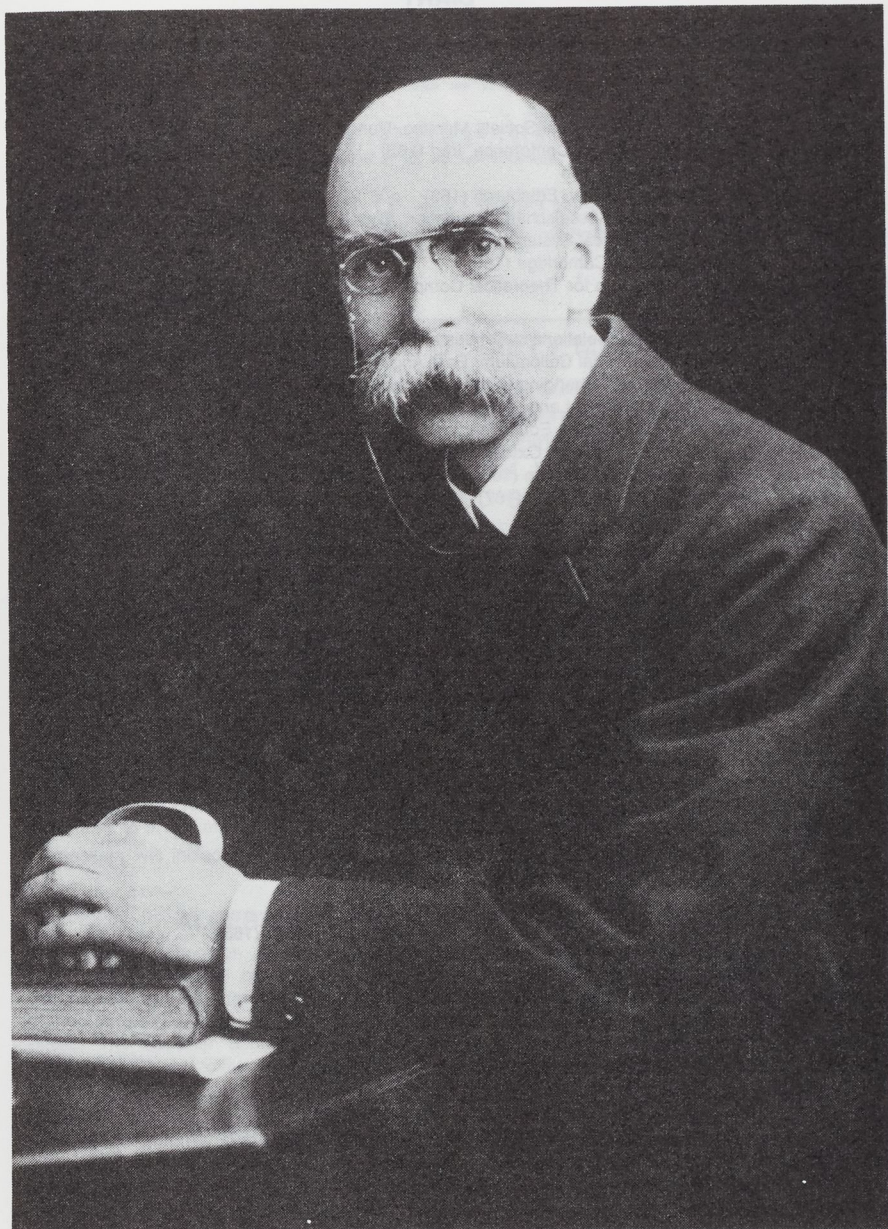
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Augustus Edward Hough Love (1863-1940) FRS graduated 2nd Wrangler from St John's Cambridge in 1885 and became a fellow there the next year. A master of spherical harmonics he discovered the existence of waves of short wave length in the Earth's crust, today called Love waves. The Royal Society awarded him its Royal Medal in 1909 and its Sylvester Medal in 1937: our Society awarded him its De Morgan Medal in 1926 and made him its 25th President, from 1912-1914.

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

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- 16 Scottish Algebra Day, Edinburgh (169)
- 18-24 Mathematische Gesellschaft Convention, West Germany (166)
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- 28-30 British Colloquium for Theoretical Computer Science, Manchester (168)

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- 9-11 New Trends in Systems Theory, Italy (162)
- 9-20 Geometry and Topology of Four-Manifolds, Canada (162)
- 11-21 Stochastic Analysis, LMS Durham Symposia (167)
- 22-1 Aug Boolean Function Complexity, LMS Durham Symposia (167)
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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 01-437 5377, fax 01-439 4629, E-mail lms@uk.ac.kcl.cc.oak.