# THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 204

**April 1993** 

## FORTHCOMING SOCIETY MEETINGS

Thursday, Friday 13-14 May 1993, Cambridge Numerical Analysis and Dynamical Systems Friday 18 June 1993, Burlington House R.W.K. Odoni, W. Feit Friday 15 October 1993, Burlington House Friday 19 November 1993, Burlington House

### **READING ONE-DAY COMBINATORICS COLLOQUIUM**

There will be a One-Day Combinatorics Colloquium in the Mathematics Department at Reading University on Wednesday 19th May 1993. The first lecture will start at about 10 am and the last will finish at about 5.30 pm. The following have agreed to speak: Ms P. Haxell (Cambridge), Dr Bill Jackson (Goldsmiths' College), Dr H.D. Macpherson (Queen Mary & Westfield College), Dr C.J.H. McDiarmid (Oxford), Dr O. Pretzel (Imperial College), Dr E. Spence (Glasgow), Dr P. Wild (Royal Holloway & Bedford New College). Two further speakers have yet to be arranged. All those interested are welcome to attend. The colloquium is receiving financial support from the London Mathematical Society.

### UNIVERSITY OF WALES CENTENARY HONORARY DEGREES

The University of Wales will celebrate the one hundredth anniversary of its foundation on 30th November 1993. To mark the occasion a ceremony will be held at St David's Hall, Cardiff, during which the honorary degree of Doctor of Science will be awarded to Vaughan Jones in recognition of his outstanding contributions to mathematics.

#### ONE-DAY CONFERENCE IN STATISTICAL MECHANICS STATMECH-9

This one-day conference to be held at King's College, London, on 27th May, will be similar in format to previous meetings of the series and will consist of short contributed talks, of about 20 minutes duration, together with three invited lectures, which this year will be given by O. Penrose (Heriot-Watt), A. Kossakowski (Torun) and P. Grassberger (Wuppertal). There is no charge for this meeting. The deadline for those wishing to contribute a talk is 20th April (title only required). For further details contact: D.A. Lavis, Mathematics Department, King's College, Strand, London WC2R 2LS, Tel: 071-873-2240/2217, Email: maths@uk.ac. kcl.cc.oak.

### LIST OF MEMBERS OF THE LMS EDITORIAL BOARD - 1993

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.

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Professor T.J. Lyons	Department of Mathematics, University of Edinburgh, The King's Building, Mayfield Road, Edinburgh EH9 3JZ.	Analysis, Probability	
Dr P.E. Newstead	Department of Pure Mathematics, University of Liverpool, PO Box 147, Liverpool L69 3BX.	Algebraic Geometry	
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Professor R.S. Ward	of Department of Mathematical Sciences, University of Durham, South Road, Durham DH1 3LE.	Mathematical Physics	

D.A. Brannan **Publications Secretary** 

# LONDON MATHEMATICAL SOCIETY

# **TWO DAY MEETING**

THURSDAY - FRIDAY 13 - 14 MAY 1993 UNIVERSITY OF CAMBRIDGE

# Numerical Analysis and Dynamical Systems

Thursday

- 2.00 Opening Session
- 2.10 C. Foias (Bloomington, Indiana) : "Interpolation theory and the localization of the global attractor"
- 3.10 Tea
- 3.45 C. Grebogi (College Park, Maryland): "Shadowing in chaotic systems"
- 4.45 Break
- 5.00 D. Watkins (Seattle, Washington): "A numerical analyst's view of isospectral flows"

Friday

- 10.15 R.D. Skeel (Urbana-Champaign, Illinois): "Symplectic integration with multiple time steps and variable step size"
  11.15 Coffee
- 12.00 C.M. Elliott (Sussex): "Dynamical phase transitions and parabolic equations"
- 1.00 Lunch
- 2.30 E. Doedel (Caltech): "On algorithms and software for bifurcation problems"
- 3.30 Meeting closes

The lectures will be held at the Mill Lane Lecture Rooms, (opposite DPMMS) Cambridge.

## All interested are very welcome

A dinner will be held at The University Centre on the evening of Thursday 13 May at 8.00pm. The cost of the dinner will be £18.50 per person, inclusive of wine. Those wishing to attend should inform A. Iserles, DAMTP, Silver Street Cambridge CB3 9EW, enclosing a cheque payable to "University of Cambridge", to arrive by 7 May.

Enquiries may be addressed to A. Iserles, DAMTP, Silver Street, Cambridge, CB3 9EW (email A.Iserles@uk.ac.cam.amtp) or A. Spence, School of Mathematical Sciences, University of Bath, Claverton Down, Bath BA2 7AY (email as @uk.ac.bath.maths).

An international workshop on Higher Order Algebra, Logic and Term Rewriting will be held from 23rd to 24th September 1993 at CWI, Amsterdam. Higher order methods are being increasingly applied in functional and logic programming languages, as well as in specification and verification of programs. The algebra and model theory of higher order languages, computational logic techniques including resolution and term rewriting, and specification and verification case studies using higher order techniques are particularly vigorous areas of research at present. This workshop aims to provide an overview of current areas of research, and to suggest new research directions. The scope of the workshop includes higher order aspects of: algebra and model theory; term rewriting; specification and verification languages; computational logics; programming languages and constructs; system implementations.

It is intended that the conference proceedings will be published. Three copies of an extended abstract (up to 4 pages) of papers to be submitted should be sent to the programme committee chairman, B. Möller, to arrive not later than 15th June 1993. A complete draft of the paper for the participants' edition of the workshop proceedings should be submitted by 9th September 1993. Complete drafts will be externally refereed for the final conference proceedings. Authors will be notified of the acceptance of their complete papers for the Proceedings volume by 31st December 1993. The final version of the paper must be submitted before 31st March 1994.

The programme committee consists of J. Heering (Amsterdam), K. Meinke (Swansea) and B. Möller. All corresondence to Professor Dr B. Möller (HOA '93), Institut für Mathematik, Universität Augsburg, Universitätsstr. 2, W-8900 Augsburg, Germany, email: moeller@uniaugsburg.de, fax: +49 821 598 2200. The conference deadlines are: 15th June extended abstract, 31st July notification of acceptance (abstract), 9th September complete drafts, 31st December notification of acceptance (complete draft), 31st March 1994 final draft.

#### LONGSTANDING MEMBERS

The following is a list of mathematicians who had completed fifty years or more of membership of the London Mathematical Society at the end of March 1993.

	our on one montere				
1921	Burkill, J.C.	1932	Lord, R.D.	1937	Scott, D.B.
1924	Oppenheim, A.	1932	Potter, H.S.A.	1938	Derry, D.
1925	Synge, J.L.	1932	Walker, A.G.	1938	Love, E.R.
1928	Cartwright, M.L.	1933	Cossar, J.	1938	Smithies, F.
1929	Chowla, S.S.	1933	Coxeter, H.S.M.	1939	Harmer, F.E.
1929	Edge, W.L.	1933	Young, L.C.	1939	Spencer, D.C.
1929	Verblunsky, S.	1934	Burnett, D.	1940	Barrett, W.
1929	Wright, E.M.	1934	Chandrasekhar, S.	1940	Fuchs, W.H.J.
1930	Offord, A.C.	1934	Erdös, P.	1940	Good, I.J.
1930	Wilson, A.H.	1934	Meyler, D.S.	1940	Kendall, D.G.
1931	McCrea, W.H.	1935	Howlett, J.	1940	Willmore, T.J.
1931	Shah, S.M.	1936	Neumann, B.H.	1942	Edmonds, S.M.
1931	Todd, J.A.	1936	Taussky, O.	1942	Goddard, L.S.
1932	Jeffreys, B.	1937	Pitt, H.R.	1943	Dyson, F.J.

### FELLOWSHIP OF THE ROYAL SOCIETY

Amongst those elected to Fellowship of the Royal Society at a meeting held on 11 March 1993 were Professor David George Crighton (Professor of Applied Mathematics, Cambridge University), Professor Ludwig Edward Fraenkel (Professor of Mathematics, Bath University), Dr David Rodney (Roger) Heath-Brown (Reader in Pure Mathematics, Oxford University) and Professor Angus John Macintyre (Professor of Mathematical Logic, Oxford University).

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Currently the "ANNALES DE L'INSTITUT FOURIER" is one of the leading European mathematical journals. It publishes original research papers in all branches of Mathematics in French and English languages. At the present time most of its publications are in the following fields : Partial differential equations – Dynamical systems – Foliations – Harmonic analysis – Algebraic geometry – Theory of singularities – Number theory. Publication delay is about one year, and often shorter; TEX files are welcome.

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#### ELLIPTIC AND PARABOLIC PROBLEMS

A European Conference on Elliptic and Parabolic Problems will take place from Monday 13th to Friday 17th June 1994 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, evolution problems general, calculus of variations, in homogenization, modeling and numerical analysis. A provisional list of invited speakers includes: H.A. Alt (Bonn), J. Carrillo (Madrid), D. Cioranescu (Paris 6), B. Dacorogna (Lausanne), G. Dal Maso (Trieste), G. Dziuk (Freiburg), C.M. Elliott (Sussex), A. Fascino (Florence), I. Fonseca (Carnegie Mellon), R. Glowinski (Houston), N. Kenmochi (Chiba), R.V. Kohn (New York), B. Larrouturou

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In addition to the main lectures parallel sessions of short communications will be organized. The deadline for submitting an abstract is 1 January, 1994. For any information or registration please contact C. Bandle, Mathematisches Institut der Universität, Rheinsprung 21, CH-4051 Basel, Switzerland, telephone (61) 261 03 01, fax: (61) 261 03 12.

#### HYPERBOLIC PROBLEMS - THEORY, COMPUTATIONS AND APPLICATIONS CONFERENCE

The 5th International Conference on Hyperbolic Problems - Theory, Computations and Applications will be held from 13th - 17th June 1994 at Stony Brook, New York. A workshop on Industrial Mathematics will be held on 12th June. The aim of the conference is to bring together scientists with interests in theoretical, computational and applied aspects of hyperbolic differential equations. The organising committee is A. Donato (Messina), B. Engquist (UCLA), J. Glimm, Chair (Stony Brook), B. Keyfitz (U. Houston), P. Lax (NYU), T.-P. Liu (Stanford) and D. Serre (Lyons). For further information write to Ms T. Mills, Department of Applied Mathematics & Statistics, State University of New York at Stony Brook, Stony Brook, NY 11794-3600, U.S.A., telephone (516) 632-9125, fax (516) 632-8490, email: tmills@ccmail.sunysb.edu.

#### **THE SECOND EUROPEAN CONGRESS - BUDAPEST**

The Second European Congress of Mathematics will take place in Budapest, Hungary in 1996. Beside the various mathematical programs, an equally important aim of the Congress is to give an opportunity for mathematicians to discuss important semi-mathematical topics: problems of the mathematical topics: problems of the mathematical community, aspects of teaching mathematics, relations to applications and society. Continuing the "traditions" of the Paris Congress, we plan to organize Round Tables. To make them successful, we need the support of you, our colleagues. We need your active participation, but first of all, we need your help to select the most important and most appealing themes. Therefore we ask you to send suggestions (title, description of the topic, list of potential panellists) to the Secretary of the Organizing Committee, Dr Antal Balog, Mathematical Institute, Hungarian Academy of Sciences, Budapest, PF 127, H-1364 Hungary. Of course, less elaborated ideas are welcome, too. We appreciate your co-operation in advance.

Gyula O.H. Katona Chairman of the Organizing Committee

# THE UNIVERSITY OF WAIKATO HAMILTON NEW ZEALAND

# LECTURESHIPS IN MATHEMATICS AND STATISTICS

The University of Waikato invites applications for two Lectureships in Mathematics and Statistics within the Department of Mathematics and Statistics.

The Department wish to appoint to one of these Lectureships a statistician with a strong research record in areas associated with its graduate programme in industrial statistics, but specialists in any area of statistics are encouraged to apply. The Department's statisticians collaborate closely with colleagues in the Waikato Centre for Applied Statistics and at the nearby Ruakura research establishment of the Ministry of Agriculture and Fisheries.

The other Lectureship will be in pure mathematics (including mathematical logic): preference will be given to candidates with research interests in some aspect of algebra. It is expected that the persons appointed to each of these Lectureships will have research interests that link with those of existing staff in the Department.

The current salary range for lecturers is currently NZ\$37,440.00 - NZ\$49,088.00.

Information on the conditions of appointment and details of the method of application are available from Academic Staffing, Personnel, The University of Waikato, Private Bag 3105, Hamilton, New Zealand. (Telephone (0064) 7 856 2889, Fax (0064) 7 856 0135, or email: rgtysec16@waikato.ac.nz (via Internet). Applications quoting reference number A93/5 should reach Academic Staffing, Personnel by **20 May 1993**.

Places for applicants' children may be available in the creche run by the Campus Creche Society (Inc).

Equal opportunity is University policy.

#### THOMAS JAN STIELTJES 29.12.1856 (Zwolle, The Netherlands) - 31.12.1894 (Toulouse, France)

In preparation for the centenary of T.J. Stieltjes' premature death, just after his 38th birthday, the Wiskundig Genootschap (the Dutch Mathematical Society) has organised the publication of a new edition of his Collected Papers, in two volumes, edited by G. van Dijk and to be published by Springer in June or July, 1993. In addition to the material in the first edition (Noordhoff, 1914/1918), this will contain a short biography of Stieltjes, an English translation of his important paper 'Recherches sur les fractions continues', and four new survey articles by W. Van Assche, W.A.J. Luxemburg, F. Beukers, and H.J.J. te Riele on Stieltjes' work on continued fractions and orthogonal polynomials, the Stieltjes integral, number theory, and the Riemann hypothesis, respectively.

The publishers are prepared to offer a discount of thirty three and a third percent on the retail price of about £120 for the two volumes, for copies ordered by

members of the LMS through the Wiskundig Genootschap. Interested people should send their orders before June 1st, 1993, to David Fowler, Mathematics Department, University of Warwick, Coventry CV4 7AL, (tel: 0203 5234350) who will then co-ordinate their replies.

Events to commemorate this centenary will include the following: April 1994, in Leiden: The Stieltjes Lecture by Richard Askey (for more details, contact Professor G. van Dijk, Rijkuniversiteit Leiden, Afdeling Wiskunde en Informatica, PO Box 9512, 2300 RA Leiden, The Netherlands). Spring 1995, in Toulouse: A 3 day colloquium (for more details, contact Professor J.-B. Hiriart-Urruty, Groupe d'Historie des Mathématiques de l'Université Paul Sabatier, 31062 Toulouse, France). The University of Leiden has taken the initiative in the creation of a 'Stieltjes Institute', which will be a joint effort involving several Dutch Universities.

#### **1993 BROUWER MEMORIAL MEDAL**

The Dutch Mathematical Society "Het Wiskundig Genootschap" organises a Brouwer Memorial programme once every three years to commemorate the great Dutch mathematician L.E.J. Brouwer, 1881-1966, who is famous for his work on the Foundations of Mathematics and on Topology. Each time, the Society selects a special area of mathematics and it invites an outstanding specialist in this area to give a lecture and to receive the gold Brouwer medal

This year's "Brouwer area" is Discrete Mathematics and the Society has chosen Professor Lovász of Princeton University, U.S.A. and of the Eotvos Lorand University, Hungary as the Brouwer Lecturer and presentation of the medal will take place on 15th April, the first day of the annual Dutch Mathematical Congress.

#### SIXTH SCHRÖDINGER LECTURE

The sixth Schrödinger Lecture will be given at Imperial College on Thursday 6th May at 5.30 pm by Professor Michael Berry, FRS of Bristol University. The title is "Some Geometric Phases". For tickets please contact Dr John Vandridge-Ames of Imperial College Registry or telephone 071 589 5111 ext 3205.

#### A. EVYATAR

Professor Asriel Evyatar who was elected a member of the London Mathematical Society on 17 April 1969, died on 26 October 1992.

#### **E. LEIMANIS**

Professor Eugene Leimanis who was elected a member of the London Mathematical Society on 17 April 1952, died on 4 December 1992.

# **CAMBRIDGE** Mathematics

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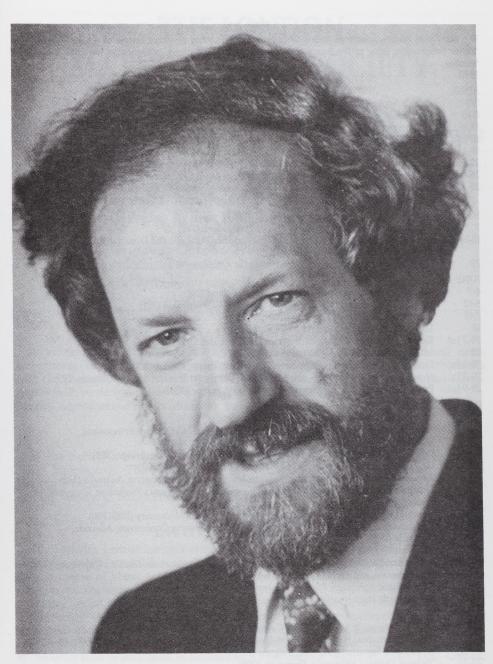


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MATHEMATICS FROM OX	<b>Products of Groups</b> BERNHARD AMBERG, SILVANA FRANCIOSI, AND FRANCESCO DE GIOVANNI This monograph gives the first detailed account of the most important results that have been found over the past 35 years about groups that are the product of two subgroups, including a special chapter on conjugacy and splitting theorems obtained by means of the cohomology of groups which has never appeared in book form before. The material presented here will be invaluable for research students and specialists in group theory.	<ul> <li>232 pages, Clarendon Press, January 1983</li> <li>0-19-853575-9 £45.00 Hardback</li> <li>A Plain T<sub>E</sub>X Primer</li> <li>MALCOLM CLARK</li> <li>MALCOLM CLARK</li> <li>This concise introduction to TeX provides the reader with the majority of tasks which he or she may wish to tackle. It explains why TeX approaches its subject in the way it does, and provides the 'context' into which it fits. With the aid of this book, scientists and researchers preparing their own books and papers will find little difficulty in adopting TeX's approach.</li> <li>490 pages, line drawings, December 1982</li> <li>0-19-853784-0 £29.50 Hardback</li> </ul>	TO ORDER YOUR COPIES SIMPLY CALL OUR 24 HOUR CREDIT CARD HOTLINE - +44(0)536 744964; fax+44(0)536 746337



Charles Terence Clegg Wall (born 1936) was educated at Marlborough College and graduated from Trinity College, Cambridge in 1960. He became Professor at Liverpool in 1965. He was elected to Fellowship of the Royal Society in 1969 and awarded their Sylvester Medal in 1988. For his work on surgery on manifolds and L-theory the London Mathematical Society awarded him its Whitehead Prize in 1976 and the Polya Prize in 1988. He was the Society's 59th President, from 1978 to 1980.

#### 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. 1993 APRIL British Applied Mathematics Colloquium, Strathclyde University (200) 5-8 8-10 Clifford Algebras in Analysis Lecture Series, Arkansas, U.S.A. (201) 15-16 Geometry and Computation Course, St Andrews (203) 18-24 Functional Analysis Spring School, Czechoslovakia (201) 19-22 Institute of Physics' Annual Congress, Brighton (203) 22-23 Mathematics in Finance - The Future, ICMS Conference, Royal Society Edinburgh (201) Mathematical Biology Study Centre/Workshop, Maine-et-Loire, France (201) 26-8 May Novel Mathematical Methods in Petroleum Science, ICMS Workshop, Royal Society 28 Edinburgh (201) MAY 7 Edinburgh Mathematical Society Meeting, Aberdeen (197) 13-14 London Mathematical Society Meeting, Numerical Analysis and Dynamical Systems, Cambridge (203) Edinburgh Mathematical Society Meeting, St Andrews (197) 29 **JUNE** 4-7 European Women in Mathematics, Warsaw, Poland (201) 6-12 Potential Theory and Analysis Spring School, Czechoslovakia (201) 7-18 Analysis, ICMS Short Course, Edinburgh (201) London Mathematical Society Meeting, London 18 20-2 Jul Real and Complex Dynamical Systems, Hillerod, Denmark (201) 25 LMS Popular Lectures, University of Leeds 28-2 Jul Integrability and Chaotic Behaviour Conference, Torun, Poland (201) 29-2 Jul Number Theoretic and Algebraic Methods in Computer Science, Moscow, Russia (197) 29-9 Jul Proof Theory and Foundations of Programming, France (203) JULY 2 LMS Popular Lectures, Imperial College London 4-11 Analytic and Geometric Aspects of Hyperbolic Space, LMS Durham Symposium, Durham University (200) Probability Theory of Spatial Disorder and Phase Transition, Cambridge (202) 4-16 5-9 14th British Combinatorial Conference, Keele University (188)(200) 5-9 Annual Meeting of the Australian Mathematical Society, Wollongong, Australia (198) 11-16 Computational Techniques in Spectral Theory and Related Topics Workshop, Gregynog, Wales (201) 11-21 Complex Dynamics, LMS Durham Symposium, Durham University (188)(200) 12-16 Combinatorial Mathematics and Combinatorial Computing Conference, Adelaide, Australia (189) 12-16 Algebraic Graph Theory, ICMS, Edinburgh (197) Vector Bundles in Algebraic Geometry, LMS Durham Symposium, Durham University (200) 22-1 Aug 26-30 Randomness and Computation Workshop, Edinburgh (197) 26-30 Classical and Axiomatic Potential Theory Workshop, France (202) 26-6 Aug Séminaire de Mathématiques Supérieures, Montreal, Canada (199) AUGUST 1-14 Groups Galway/St Andrews 1993, Galway, Ireland (201) 17-20 The Mathematical Heritage of Sir William Rowan Hamilton, Dublin, Ireland (193) 18-22 Differential Equations, Plovdiv, Bulgaria (197) 23-25 Twistor Theory Conference, Plymouth (201) 23-4 Sep Polytopes, Ontario, Canada (200)

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 WIV 0NL, to arrive before the first day of the month prior to publication. Telephone 071- 437 5377, Fax 071-439 4629, E-mail Ims@uk.ac.kcl.cc.oak.