

THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 183

May 1991

FORTHCOMING SOCIETY MEETINGS

Friday, Saturday 17 - 18 May 1991, Oxford
Groups and Logic

Thursday 13 June 1991, Burlington House
F.C. Kirwan, H.B. Lawson

Friday 18 October 1991, Burlington House

Friday 15 November 1991, Burlington House

LMS COUNCIL NEWS

I have been requested by the Council of the Society to inform members that the Council shares the concern of many members over the recent reduction in the funding of mathematics by SERC, and of consequences for mathematics of the Universities Funding Council's guide price arrangements. As a result of discussions at the meeting of Council on 15th March 1991, the

President has written to the Chairman of SERC and to the new Chief Executive of the Universities Funding Council to express Council's concern. Council will continue to monitor the situation closely, and will do what it can to protect the position of mathematics.

R.Y. Sharp
Council and General Secretary

LMS 1991 HONORARY MEMBER

At the Society Meeting on 15th March 1991, Professor Samuel Karlin was elected an Honorary Member of the London Mathematical Society in recognition of his many distinguished contribu-

tions to several fields of pure and applied mathematics, especially the theory of total positivity, dynamic optimisation and mathematical genetics.

INVITED LECTURES SERIES

The Society's Invited Lectures series consists of meetings at which a single speaker gives a course of about ten expository lectures, examining some subject in depth, over a five day period (Monday to Friday) during a University vacation. The meetings are residential and open to all interested. It is intended that the texts of the lectures given in the series shall be published. In addition to full expenses, the lecturer is offered a fee of £1000 for giving the course and a further fee of £1500 on delivery of the text in a form suitable for publication. The series was inaugurated at Cambridge in March 1990 with lectures by Professor R. Melrose. The second meeting was held at Southampton

last month when the lecturer was Professor J.E. Marsden.

For the 1993 meeting, proposals are now invited from any member who, in addition to suggesting a topic and lecturer, would be prepared to organize the meeting at the member's own institution or a suitable conference centre. Enquiries about this series should be sent to the Meetings and Membership Secretary, A.R. Pears, Department of Mathematics, King's College London, Strand, London WC2R 2LS (telephone: 071-873-2852) to whom proposals should be sent no later than 31 August 1991.

PROGRAMME AND CONFERENCE FUND

Members are reminded that the Society's Programme and Conference Fund is used to provide financial support for visitors to the UK and for conferences. The fund is administered by the Society's Programme Committee and information about the proposals it is willing to consider was given in the January 1991 issue (No. 179) of

the Newsletter. The Meetings and Membership Secretary, A.R. Pears, Department of Mathematics, King's College London, Strand, London WC2R 2LS, telephone 071-873-2852, will be pleased to discuss proposals informally with potential applicants and to give advice on submission of an application to the Society.

1991 HARDY LECTURE TOUR

Professor H.B. Lawson, the Society's 1991 Hardy Lecturer, will give lectures at the following places.

Monday	20 May	Bath
Wednesday	22 May	Warwick
Friday	24 May	Manchester
Monday	27 May	Dublin
Wednesday	29 May	Liverpool
Friday	31 May	Bangor
Monday	3 June	Oxford
Wednesday	5 June	Cambridge
Friday	7 June	Edinburgh Mathematical Society, Edinburgh
Monday	10 June	Durham
Tuesday	11 June	York
Thursday	13 June	London Mathematical Society, London

A notice giving more information is enclosed with this Newsletter.

A.R.Pears
Meetings and Membership Secretary

LONDON MATHEMATICAL SOCIETY NOTICE OF GENERAL MEETING

There will be a General Meeting of the Society on Thursday 13th June 1991 at 3.30p.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,1 and to substitute that printed below.

The new By-Law II,1, if accepted, would increase the annual subscription of individual members for 1991-92 by £2.00 from the level at which it has been held for three years, and would increase the prices per volume of the **Bulletin**, the **Journal** and the **Proceedings** to individual members for 1991-92 by £1.00.

Text of the proposed By-Law II,1

The annual subscription to the Society of Ordinary Members for the 1991-92 session shall be £12.00. The prices of the Society's periodicals to Ordinary Members shall be: **Proceedings** £12.00 per volume, **Journal** £12.00 per volume, **Bulletin** £12.00 per volume.

R.Y.Sharp
Council and General Secretary

LMS MAY MEETING

Friday - Saturday 17th - 18th May 1991

UNIVERSITY OF OXFORD

Groups and Logic

Friday 17th May

- 2.35 pm Opening Session
- 2.45 pm Dr A. Lubotzky (Jerusalem) 'Discrete subgroups of Lie groups applied to Combinatorics and Computer Science'
- 3.45 pm Tea
- 4.30 pm Professor R.I. Grigorchuk (Moscow) 'Splitting homomorphisms and quadratic equations in groups'
- 5.30 pm Break
- 5.45 pm Professor G. Higman, FRS (Oxford): short contribution
- 6.15 pm Professor E.I. Zel'manov (Novosibirsk & Oxford) 'On the Burnside Problem'

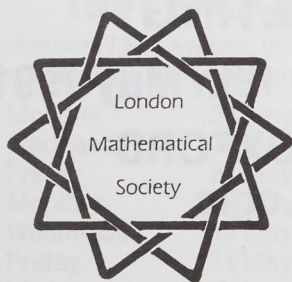
Saturday 18th May

- 9.30 am Professor J. Denev (Leuven) 'On Igusa's local zeta function'
- 10.30 am Coffee
- 11.15 am Professor A.V. Borovik (Omsk & University of California, Irvine) 'Interactions between finite groups and groups of finite Morley rank'
- 12.15 pm Professor B.H. Neumann, FRS (Canberra): short contribution
- 12.45 pm Meeting closes

The lectures will be held at the Mathematical Institute, 24-29 St Giles, Oxford OX1 3LB.

A dinner will be held at Christ Church on the evening of Friday 17th May at 8.30 pm. The cost of the dinner will be £22 per person, inclusive of sherry and wine. Those wishing to attend should inform Miss Brenda Willoughby, Mathematical Institute, 24-29 St Giles, Oxford OX1 2LB enclosing a cheque payable to "University of Oxford Mathematical Institute", to arrive by 10th May 1991.

THE LOGO COMPETITION



The panel of judges of the Society's Logo Competition has awarded the first prize of £100 to Professor E.C. Lance (Leeds). His winning entry appears opposite. I am told that the construction depends on the fact that 3 and 10 are relatively prime - verification is left as an exercise for the reader. The panel was impressed by the thought and effort that had gone into the production of all the entries and awarded a second prize of £50 to Ms E. Shiels (Warwick). The Society's Council will be considering the adoption by the Society of the winning entry or a variant using a different type-face.

S.M. Oakes
Administrator

BABBAGE-FARADAY BICENTENARY CONFERENCE

The Newcomen Society, the British Society for the History of Science and the British Society for the History of Mathematics are organizing a conference to discuss the lives and works of Charles Babbage and Michael Faraday, the bicentenary of whose births falls in 1991.

On 5th and 6th July papers on Babbage will be presented by I. Grattan-Guinness, M. Campbell-Kelly, M.B. Hall, D.R. Carling, J.V. Connolly, M. Wilkes, C.J.D. Roberts, D. Swade, A. Bromley, O.I.

Franken and M.T. Wright. On 6th and 7th July papers on Faraday will be presented by G. Cantor, H.J. Fisher, B. Gee, D. Gooding, W. Hackmann, F.A.J.L. James, R. Tweney, G. Gooday and I. Morus.

For further information and registration write to Dr J.M. Wheeler, 131 Richmond Road, Cambridge CB4 3PS. The conference is being supported by the London Mathematical Society.

THE UK TeX USERS GROUP

The characteristics of TeX (both its charms and its vices) need little introduction to mathematicians these days: love it or hate it, you will certainly be aware that it is a de facto standard for the production of high quality technical documents and also underlies LaTeX, the widely used document preparation system. The Users Group was founded in 1989 to be a focus for TeX-related activities in the United Kingdom.

The term "TeX" is interpreted very widely, to cover not just the TeX program itself but also many other related pieces of software, etc. Of particular interest to mathematicians is the new LaTeX style file, `amstex.sty`, which gives access to the wealth of sophisticated mathematical typesetting capabilities previously available only to users of `AmSTeX`.

Amongst the activities planned for 1991 is a visit, on May 30th, to Cheltenham, home of many parts of the British printing industry, including Linotype

and Chelgraph. This is a joint meeting with The British Computer Society.

Also organised are training days, the next one being at Royal Holloway & Bedford New College on July 24th. It is planned that the day will support two main threads. One of these will tackle the intricacies of LaTeX tables and float placement, while the other will cover some more basic aspects of TeX: namely, how to read and write external files, and how to put these facilities to productive use.

For further details and membership forms, please contact The Treasurer, Peter Abbott, The UK TeX Users Group, Information Services, Aston University, Aston Triangle, Birmingham B4 7ET, Tel: (021) 359 5492, e-mail: abbottp@uk.ac.aston, or The Secretary, Chris Rowley, Department of Pure Mathematics, Open University, e-mail: ca_rowley@uk.ac.open.acs.vax.

FELLOWSHIP OF THE ROYAL SOCIETY

Amongst those elected to Fellowship of the Royal Society at a meeting held on 14th March 1991 were Professor Nigel James Hitchin (Professor of Mathematics in the University of Warwick), Professor Andrew Michael Soward (Professor of Applied Mathematics in the University of Newcastle-upon-Tyne), Professor Leslie Gabriel

Valiant (Gordon McKay Professor of Computer Science and Applied Mathematics in the Division of Applied Sciences in the University of Harvard, USA) and Professor Kenneth Walters (Professor of Applied Mathematics in the University College of Wales, Aberystwyth).

LONDON MATHEMATICAL SOCIETY

1991 POPULAR LECTURES

Professor Ian Stewart

Four Encounters with Sierpiński's Gasket

Dr Alan Beardon

Wallpaper Patterns in Different Geometries

Monday 17th June

Lecture Theatre 2, Hicks Building,
University of Sheffield, Sheffield S3 7RH
at 7.00pm

Friday 28th June

The Great Hall, Sherfield Building
Imperial College, Exhibition Road, London SW7
at 7.30 pm

All interested are welcome

The Lectures are intended to be suitable for a general audience and no specific mathematical knowledge will be assumed. Although the talks are not primarily intended for professional mathematicians, everyone is welcome and some members may wish to apply for tickets for friends and relatives.

For the lectures at Imperial College admission is free by ticket obtainable in advance. Write to Miss S.M. Oakes, London Mathematical Society, Burlington House, Piccadilly, London W1V 0NL. A stamped-addressed envelope would be much appreciated.

Admission is free, without ticket, to the Lectures held at Sheffield.

SYMPOSIUM ON ARITHMETIC IN HONOUR OF BRYAN BIRCH (Second announcement)

To celebrate the 60th birthday of Bryan Birch, a symposium will be held in Oxford on 27th and 28th September 1991. The programme will include talks by J. Coates, B. Gross, K. Rubin, A. Scholl, J.-P. Serre and Sir H. P. F. Swinnerton-Dyer, and a celebratory meal. The meeting will be supported by the London Mathematical Society.

Limited accommodation will be available for the

night of 27th September. Further details may be obtained from Dr. N. M. Stephens, Department of Computing Mathematics, University of Wales College of Cardiff, Cardiff CF2 4YN, telephone 0222-874812, e-mail: nelson@uk.ac.cardiff.computing-maths. The organisers are A. J. Scholl and N. M. Stephens

WELCOME

The Society welcomes Miss Harvinder Lotay who has been appointed by Council to a part-time permanent post of Assistant Administrator. Miss Lotay is a Mathematics graduate of the University

of Reading. She has been giving part-time temporary assistance to the Administrator for the last few months.

READING ONE-DAY COMBINATORICS COLLOQUIUM

There will be a Combinatorics Colloquium at the Mathematics Department, University of Reading, from 10.15 - 5.15 on Wednesday 15th May, 1991. The speakers and the titles of their talks are: Dr I Anderson (University of Glasgow) Whist Tournaments, Professor P J Cameron (Queen Mary College, London) Root systems, Coxeter and Tsaranov groups, Professor G R Grimmett (University of Bristol) Strict Inequalities for Percolation and the Ising Model, Dr Y Kohayakawa (University of Cambridge) Induced subgraphs of Kneser graphs and clique dimensions, Dr J Key (University of Birmingham) Hermitian Varieties as

Codewords, Dr J Sheehan (University of Aberdeen) Graphical Decompositions, Dr D Singmaster (Polytechnic of the South Bank) Medieval Recreations in Mathematics, Professor H N K Temperley (Emeritus, Swansea) Title to be announced, Dr D R Woodall (University of Nottingham) An Introduction to the Rigidity of Frameworks, or How to tell whether your bridge will fall down. All those interested are welcome. Financial support from the London Mathematical Society, the British Combinatorics Committee, and the Department of Mathematics. The University of Reading, is gratefully acknowledged.

INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS

The 10th International Congress on Mathematical Physics will be held at the University of Leipzig, Germany from 30th July to 9th August, 1991. For further information contact G. Hofmann, Universität Leipzig, Naturwis-

enschaftlich Theoretisches Zentrum, Augustusplatz 10, Leipzig D-0-7010, Germany. Telephone: Leipzig 719 3502, fax: Leipzig 719 2499, e-mail: voigt@uni-leipzig.dbp.de.

800 YEARS OF OXFORD MATHEMATICS

A weekend conference on 800 Years of Oxford Mathematics will be held from 10.15 am Saturday 11th to 5.00 pm Sunday 12th May 1991 at the Department of Continuing Education, Rewley House, Wellington Square, Oxford. The weekend provides an opportunity for learning about how mathematical studies in Oxford have developed. It will be of much interest to students and teachers of mathematics, and accessible if you have only a moderate knowledge of mathematics or its history. The conference includes a special visit to the Museum of the History of Science, and the conference dinner will be addressed by Sir Michael Atiyah.

The speakers are: Robin Wilson (Open University) Signposting Oxford mathematics; John North (Groningen) Mediaeval Oxford; John Fauvel (Open University) Tudor Oxford; Willem Hackmann

(Museum of the History of Science) Oxford mathematical instruments; Sir Michael Atiyah, PRS (Cambridge) After dinner speech; Tom Whiteside, FBA (Cambridge) John Wallis; Allan Chapman (Oxford) Astronomy: Halley and friends; Keith Hannabuss (Oxford) From Baden Powell to Henry Smith; Des Machale (University College Cork); Sylvester and after; Margaret Rayner (Oxford) The twentieth century; Panel of Oxford mathematicians - Oxford mathematics today.

For more information phone Raymond Flood (0865) 270380/270360, or write to Mathematics Course Secretary, OUDCE, 1 Wellington Square, Oxford OX1 2JA. The organisers gratefully acknowledge financial support from the London Mathematical Society. The conference is arranged in association with The Open University and The British Society for the History of Mathematics.

INTERNATIONAL CENTRE FOR MATHEMATICAL SCIENCES, EDINBURGH RESEARCH PROGRAMMES AND COURSES

Call for Proposals

The ICMS Programme Committee (chaired by Professor J-L Lions) will meet in the summer to consider proposals for research programmes and courses for the years 1992/93 and beyond. Major research programmes will last from 6 months to 1 year, while minor programmes or workshops will be of shorter duration. Advanced lecture courses will last for 1-3 weeks, and could be related to the topic of a research programme. Proposals are invited for programmes and courses on any topic in the mathematical sciences, interpreted broadly; particularly welcome are proposals of an interdisciplinary nature.

Proposals should be no longer than 2 sides of A4, and should be sent to Professor J.M.Ball, Department of Mathematics, Heriot-Watt University, Edinburgh EH14 4AS. Tel. 031-451 3227 (sec. 031-4513250) Fax 031-451 3249 e-mail john@cara.ma.hw.ac.uk, from whom further information can be obtained, to arrive no later than 20th May 1991.

UNIVERSITY OF EXETER LECTURESHIP IN PURE MATHEMATICS

Applications are invited for a Lecturer in Pure Mathematics available from 1st October 1991 or, by arrangement, 1st September 1991. The person appointed will be expected to make a substantial contribution to the research effort of the Department and will undertake normal teaching duties.

Candidates should have a proven research capability in an area of Pure Mathematics. The current areas of interest of the Department are: Abelian groups, algebraic number theory, applicable geometry, combinatorics, functional analysis and the theory of rings and modules.

Salary will be on the Lecturer scale Grade A: £12,086 - £16,755 p.a., with placement according to age and experience.

Further particulars available from the Personnel Division, University of Exeter, Exeter EX4 4QJ, or by telephoning 0392 - 263100 (Ansaphone) quoting reference no. 3737. Closing date for receipt of applications **8th May 1991**.

AN EQUAL OPPORTUNITIES EMPLOYER

Discount Books from Ca

L-Functions in Arithmetic

Edited by J. COATES and M. J. TAYLOR

This volume has developed from the LMS Durham Symposium on L-functions, held in July 1989. The symposium consisted of several short courses, aimed at presenting rigorous but non-technical expositions of latest research areas, and a number of individual lectures on specific topics.

£25.00 net PB 0 521 38619 5 400 pp. 1991

Discount Price £18.75

London Mathematical Society Lecture Note Series 153

Groups St Andrews 1989

Volumes 1 and 2

Edited by C. M. CAMPBELL and

E. F. ROBERTSON

These volumes contain selected papers presented at the international conference on group theory held in St Andrews in 1989. Five leading group theorists (J. A. Green, N. D. Gupta, O. H. Kegel, A. Yu. Ol'shanskii and J. G. Thompson) gave courses whose content is reproduced here. Also included are refereed papers presented at the meeting.

Vol 1: £19.50 net PB 0 521 39849 5 249 pp. 1991

Vol 2: £19.50 net PB 0 521 40669 2 245 pp. 1991

Discount Price £14.60 each

London Mathematical Society Lecture Note Series 159 & 160

Analytic Pro-p groups

J. D. DIXON, M. P. F. DU SAUTOY, A. MANN and D. SEGAL

This book, the first on the subject, is an accessible introduction to some powerful new methods in group theory. At the same time it presents a self-contained algebraic account of the foundations and basic results in p-adic Lie groups, whilst avoiding the need for sophisticated concepts of analysis.

£15.00 net PB 0 521 39580 1 1260 pp. 1991

Discount Price £11.25

London Mathematical Society Lecture Note Series 157

Van der Corput's Method of Exponential Sums

S. W. GRAHAM and G. KOLESNIK

This is the first cohesive account of the 1- and 2-dimensional van der Corput method and its use in estimating exponential sums. The authors show how the method can be applied to problems such as upper bounds for the Riemann-Zeta function, the Dirichlet divisor problem, the distribution of square free numbers, and the Piatetski-Shapiro prime number theorem.

£11.95 net PB 0 521 33927 8 128 pp. 1991

Discount Price £8.95

London Mathematical Society Lecture Note Series 126

Twistors In Mathematics and Physics

Edited by T. N. BAILEY and R. J. BASTON

A unique collection of review articles by top figures which cover progress in a wide range of applications. These articles explore the wealth of geometric ideas which provide the unifying themes in twistor theory using recent techniques of representation theory.

£20.00 net PB 0 521 39783 9 400 pp. 1990

Discount Price £15.00

London Mathematical Society Lecture Note Series 156

Geometry of Banach Spaces

Proceedings of the Conference held in Linz, 1989

Edited by P. F. X. MÜLLER and

W. SCHACHERMAYER

This volume is based on a conference attended by most of the leading figures in the area, and is intended to illustrate the interplay of Banach space theory with harmonic analysis, probability, complex function theory and finite dimensional convexity theory.

£19.50 net PB 0 521 40850 4 250 pp. 1990

Discount Price £14.60

London Mathematical Society Lecture Note Series 158

Cambridge

Lectures on Block Theory

BURKHARD KÜLSHAMMER

This self-contained introduction begins with the classical structure theory of finite dimensional algebras, and leads up to Puig's main result on the structure of the so called nilpotent blocks, which he discusses in the final chapter. All the proofs in the text are given clearly and in full detail, and suggestions for further reading are also included.

£10.95 net PB 0 521 40565 3 128 pp. 1991

Discount Price £8.20

London Mathematical Society Lecture Note Series 161

An Introduction to General Relativity

L. P. HUGHSTON and K. P. TOD

This textbook provides an introduction to general relativity for mathematics undergraduates or graduate physicists. There are exercises attached to each chapter, some of which extend the development given in the text.

£25.00 net HB 0 521 32705 9 192pp. 1991

£8.95 net PB 0 521 33943 X

Discount Price £18.75 HB and £6.70 PB

London Mathematical Society Student Texts 5

Representations of Finite Groups of Lie Type

F. DIGNE and J. MICHEL

This book is based on a graduate course taught at the University of Paris. The authors aim to treat the basic theory of representations of finite groups of Lie type, such as linear, unitary, orthogonal and symplectic groups. They emphasise the Curtis–Alvis duality map and Mackey's theorem and the results that can be deduced from it. They also discuss Deligne–Lusztig induction.

£27.50 net HB 0 521 40117 8 166 pp. 1991

£9.95 net PB 0 521 40648 X

Discount Price £20.60 HB and £7.50 PB

London Mathematical Society Student Texts 21

DISCOUNT ORDER FORM

LMS members are entitled to a 25% discount on all Cambridge/LMS publications. To order please send this form to Susan Chadwick at the address below.

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	CAMPBELL 2	PB 0 521 40669 2	£14.60
	COATES	PB 0 521 38619 5	£18.75
	DIGNE	HB 0 521 40117 8	£20.60
		PB 0 521 40648 X	£7.50
	DIXON	PB 0 521 39580 1	£11.25
	GRAHAM	PB 0 521 33927 8	£8.95
	HUGHSTON	HB 0 521 32705 9	£18.75
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NATIONAL UNIVERSITY OF SINGAPORE

DEPARTMENT OF MATHEMATICS



Applications are invited for teaching appointments at the Lecturer or Senior Lecturer level from candidates who are able to teach in one or more of the following areas:

Pure Mathematics
Applied Mathematics
Operational Research
Statistics

Candidates should possess a PhD degree in Mathematics and have a strong commitment to teaching and research.

Gross annual emoluments range as follows:

Lecturer	S\$50,390 - 64,200
Senior Lecturer	S\$58,680 - 100,310
(STG£1.00 = S\$3.12 approximately)	

The commencing salary will depend on the candidate's qualifications, experience and the level of appointment offered.

Leave and medical benefits will be provided. Depending on the type of contract offered, other benefits may include: provident fund benefits or an end-of-contract gratuity, a settling-in-allowance of S\$1,000 or S\$2,000, subsidised housing at nominal rentals ranging from S\$100 to S\$216 p.m., education allowance for up to three children subject to a maximum of S\$10,000 per annum per child, passage assistance and baggage allowance for the transportation of personal effects to Singapore. Staff members may undertake consultation work, subject to the approval of the University, and retain consultation fees up to a maximum of 60% of their gross annual emoluments in a calendar year.

The Department of Mathematics is a department in the Faculty of Science. There are eight faculties in the National University of Singapore with a current student enrolment of some 15,000. All departments are well-equipped with a wide range of facilities for teaching and research.

All academic staff have access to the following computer and telecommunication resources: an individual microcomputer (an IBM AT-compatible or Apple Macintosh); an IBM mainframe computer with 16 MIPS of computing power; an NEC SX supercomputer with 650 MFLOPS of computing power; departmental laser printers; a wide spectrum of mainframe and microcomputer software; voice-mail; BITNET to access academic institutions world-wide. The campus-wide network, which is based on the high speed optical fibre based FDDI technology, links up all the academic staff and student microcomputers, and provides access to the mainframe computer, the supercomputer and the on-line library catalogue.

Application forms and further information on terms and conditions of service may be obtained from:

The Director
Personnel Department
National University of Singapore
10 Kent Ridge Crescent
Singapore 0511

NUS Overseas Office
Singapore High Commission
(Students Department)
16 Kinnerton Street
London SW1X 8ES.U.K.
Tel: (071) 235-4562

Enquiries may also be sent through BITNET to: PERPL@NUS3090,
or through Telefax: (65) 7783948

THE UNIVERSITY OF AUCKLAND
New Zealand
FOUR LECTURESHIPS
in the
DEPARTMENT OF MATHEMATICS & STATISTICS

The following appointments are available in the Department of Mathematics & Statistics, all to be taken up as soon as possible after 1st August 1991.

Vacancy UAC-25 (1 post)

Applicants should have a proven record in teaching, research and consulting in some branch of Applied Statistics or Operations Research. Applications from candidates with expertise in industrial statistics and quality improvement or in the stochastic aspects of operations research are particularly welcome.

Vacancy UAC-26 (1 post)

Applicants should have a proven record in teaching and research in some branch of Applied or Computational Mathematics. Applications from candidates with expertise in a field that will strengthen and enhance the existing research interests of the Applied & Computational Mathematics Unit in differential equations and their numerical solutions and applications of scientific computing to physical and other problems are particularly welcome.

Vacancy UAC-27 (2 posts)

Applicants should have a proven record in teaching and research in any field of Pure Mathematics, but preference may be given to applicants whose field of interest is allied to those of existing staff.

Commencing salary will be established within the range NZ\$37,440 - NZ\$49,088 per annum.

Conditions of Appointment and Method of Application are available from Appointments, (39254), Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF; or from the Assistant Registrar (Academic Appointments), University of Auckland, Private Bag, Auckland, New Zealand, to whom applications should be forwarded by **30 June 1991**.

Please quote the relevant vacancy number in all correspondence.

The University of Auckland An Equal Employment Opportunity Employer

VISIT OF PROFESSOR V. L. POPOV

Professor V.L. Popov (Moscow) will be visiting the United Kingdom from 5th-19th May 1991. He will be lecturing at: The University College of Wales, Aberystwyth at 4 p.m. on Friday, 10th May on 'Infinite complex reflection groups' (contact, Professor A.O. Morris, 0970.6227520; University of Liverpool at 2 p.m. on Tuesday 14th May on 'Recent developments in invariant theory' (con-

tact Dr J.F. Humphreys, 051.794.4054); University of Warwick at 2 p.m. on Thursday 16th May on 'Infinite complex reflection groups' (contact Professor R.W. Carter, 0203.523567).

The visit is being supported by a Scheme 2 travel grant from the London Mathematical Society.

VISIT OF DR. E. LESAFFRE

Emmanuel Lesaffre (Leuven, Belgium) will be visiting Dr. S.M. Rudolfer (Manchester) from April 29th to May 17th, to work on problems in ordered multigroup logistic regression. He will be giving seminars at Manchester (May 1st), Reading (May 9th) and Lancaster (May 13th). His talks will be entitled "Some problems with the exclusiveness of classes in discriminant analysis", and are open to all members of the London Mathematical Society.

For further details, please contact S.M. Rudolfer (Manchester) telephone: 061-275 5912, e-mail s.m.rudolfer@manchester, J. Whittaker (Lancaster) telephone 0524-65201, e-mail joe.whittaker@uk.ac.lancs.cent1, or A. Scott (Reading) telephone 0734-875123.

Dr. Lesaffre's visit is being supported by a Scheme 2 travel grant from the London Mathematical Society.

VISIT OF PROFESSOR M. BENDERSKY

Professor Martin Bendersky, of the City University of New York, will be visiting the United Kingdom for a period during the first half of June. He will be lecturing at Oxford, Aberdeen and Manchester on "Unstable Novikov and Adams Spectral Sequences". His visit is supported by a

grant from the London Mathematical Society; all members of the Society are welcome to attend his lectures. For further details contact I.M. James, Mathematical Institute, 24-29 St. Giles', Oxford OX1 3LB.

VISIT OF PROFESSOR M. BESTVINA

Professor Mladen Bestvina will be visiting the UK in May, supported by a London Mathematical Society Scheme 2 travel grant. He will give the following afternoon lectures: 15.00 Thursday 9th May, Cambridge, 'Train tracks for surface homeomorphisms' (a proof of Thurston's theorem that "takes half an hour"); 16.30 Friday 10th May,

Queen Mary & Westfield College, London 'The boundary of negatively curved groups'; 17.00 Monday 13th May, Oxford, 'The boundary of negatively curved groups' and 14.00 Tuesday 14th May Sussex (Brighton), 'Train tracks for surface homeomorphisms'.

VISIT OF PROFESSOR K.S. LAU

Professor K.S. Lau of the University of Pittsburgh will be visiting Goldsmiths' College in May and June 1991, supported by a London Mathematical Society Scheme 2 travel grant. He will give the following afternoon lectures: 15th May at Goldsmiths' College - Hausdorff dimension of the sum of Rademacher functions; 29th May at Bristol University - Fractal measures and mean quadratic

variations; 4th June at Sheffield University - Infinite Bernoulli convolutions and fractal measures.

For further details, contact Dr C.-H. Chu, Goldsmiths' College, University of London, London SE14 6NW. Telephone 081-692 7171, e-mail chu@uk.ac.lon.gold.

VISIT OF DR W. WILLINGER

Dr Walter Willinger of Bellcore (Morristown, NJ, USA) will visit the UK, supported by the London Mathematical Society Scheme 2 travel grant, from 19th May to 9th June 1991. He will visit Hull for the first 10-12 days, and divide the final week between Warwick and London. His area is in the applications of stochastic calculus to the theory of modern financial markets, especially option pricing theory. The talks so far arranged are: Hull Friday 24th May 2pm: Equivalent martingale measures and no-

arbitrage in securities markets. Warwick Tuesday 4th June 2 pm: On convergence problems in the theory of continuous trading (contact Professor Stewart Hodges, Financial Options Research Centre 0203-524118). London School of Economics Wednesday 5th June 3pm: Nonstandard methods in option pricing (contact Dr Michael Selby, Dept of Accounting 071-955-7233 to confirm). For further details contact Ekkehard Kopp, Department of Pure Mathematics University of Hull, telephone 0482-465876, e-mail E.Kopp@uk.ac.hull.

SPITALFIELDS DAY

A Spitalfields Day on 'Quantum Groups and Algebras' will be held at the Mathematics Institute, University of Warwick, on Friday 31 May 1991, with the following programme.

- | | |
|-------------|--|
| 10.00-11.00 | Coffee in Mathematics Institute Common Room |
| 11.00-11.55 | S.Donkin(QMW)
<i>'Quantum $GL(n)$'.</i> |
| 12.05-1.00 | H.R. Morton (Liverpool)
<i>'Quantum groups and knot invariants'.</i> |
| 1.00-2.00 | Buffet lunch in Mathematics Institute |
| 2.05-3.00 | H.H. Andersen (Aarhus)
<i>'Quantized enveloping algebras and modular representations'.</i> |
| 3.00-3.30 | Tea in Mathematics Institute Common Room |
| 3.30-4.25 | S.H. Majid (Cambridge)
<i>'Tannaka-Krein reconstruction of quantum groups and their generalisations'.</i> |

Everyone is welcome to attend, but those who intend to be present are asked to let Elaine Shiels know before 20th May so that arrangements can be made for lunch.

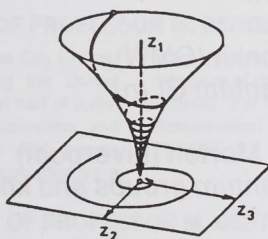
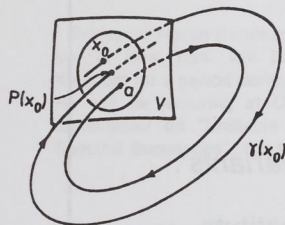
L. Perko, Northern Arizona University, Flagstaff, AZ

Differential Equations and Dynamical Systems

1991. XII, 403 pp. 177 figs. (Texts in Applied Mathematics, Vol. 7) Hardcover £28.00
ISBN 3-540-97443-1

The main purpose of the book is to introduce students to the qualitative and geometric theory of ordinary differential equations originated by Henri Poincaré at the end of the 19th century. It is also intended as a reference book for mathematicians doing research on dynamical systems.

There are several new features in this book such as the simplified proof of the Hartman-Grobman Theorem and examples illustrating the proof, map in the theory of limit cycles, an efficient method for obtaining the global phase portrait of two-dimensional systems, and the description of the behavior of a one-parameter family of limit cycles. The authors show the global qualitative theory of a nonlinear dynamical system leads to an understanding of the solution set of the nonlinear system that rivals the understanding that we have of linear flows.



Contents: Preface. – Linear Systems. – Nonlinear Systems: Local Theory. – Nonlinear Systems: Global Theory. – Nonlinear Systems: Bifurcation Theory. – Bibliography. – Index.

F. Verhulst, State University of Utrecht

Nonlinear Differential Equations and Dynamical Systems

1990. IX, 227 pp. 107 figs. 2 tabs. (Universitext) Softcover £13.50 ISBN 3-540-50628-4

This text bridges the gap between elementary courses on differential equations and the research literature. Subject material from both the qualitative and the quantitative point of view is presented. Many examples illustrate the theory and the reader should be able to start doing research after studying this book.

Contents: Introduction. – Autonomous equations. – Critical points. – Periodic solutions. – Introduction to the theory of stability. – Linear equations. – Stability by linearisation. – Stability analysis by direct method. – Introduction to perturbation theory. – The Poincaré-Lindstedt method. – The method of averaging. – Relaxation oscillations. – Bifurcation theory. – Chaos. – Hamiltonian systems. – Appendices. – Answers and hints to the exercises. – References. – Index.

□ Heidelberger Platz 3, W-1000 Berlin 33, F.R. Germany □ 175 Fifth Ave., New York, NY 10010, USA
□ 8 Alexandra Rd., London SW19 7JZ, England □ 26, rue des Carmes, F-75005 Paris, France
□ 37-3, Hongo 3-chome, Bunkyo-ku, Tokyo 113, Japan □ Room 701, Mirror Tower, 61 Mody Road,
Tsimshatsui, Kowloon, Hong Kong □ Avinguda Diagonal, 468-4° C, E-08006 Barcelona, Spain





Edward Arthur Milne (1896-1950) was one of a family of 13 children. He went to Trinity College, Cambridge in 1913, where he was inspired by Chapman and Hardy. Defective eyesight kept him out of the war, and instead he worked on ballistics and sound ranging at the Anti-Aircraft Section under A.V. Hill. Eventually he became the first holder of the Rouse Ball Chair at Oxford, where he did much to revitalise the study of applied mathematics. His chief research topic was astrophysics and the structure of stellar atmospheres. He was elected an FRS in 1926 and President of the Royal Astronomical Society for 1943-5. He was the Society's 38th President, from 1937-1939.

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.

1991

MAY

- 3 Edinburgh Mathematical Society Meeting, Stirling (176)
- 3 Formal Aspects of Computing Science, London (182)
- 7-14 Number Theory Workshop, Singapore (177)
- 9 Schrodinger Lecture, London (178)
- 17-18 2-day LMS Meeting, Oxford
- 25-26 Mathematical Logic, Leeds (182)
- 27-29 Computing and Information Conference, Canada (177)
- 27-31 Godel's Theorem, Paris, France (182)

JUNE

- 1 Edinburgh Mathematical Society Meeting, St Andrews (176)
- 9-14 Fixed Point Theory and Applications Conference, Canada (177)
- 13 LMS Meeting, London
- 15-15 July Proof Theory, Fragments of Arithmetic and Complexity Workshop, Prague, Czechoslovakia (182)
- 17 London Mathematical Society Popular Lectures, Sheffield
- 23-30 Category Theory Meeting, Canada (179)
- 24-2 July Topological Methods in the Theory of Ordinary Differential Equations in Finite and Infinite Dimensions, Italy (182)
- 25-6 July Hodge Theory Summer School, France (182)
- 28 London Mathematical Society Popular Lectures, Imperial College, London
- 29-8 Jul Probabilistic Methods in Combinatorics, Durham (178)

JULY

- 1-5 The Mathematics of Nonlinear Systems, Bath (168)(175)(177)
- 1-12 Cambridge Banach Algebras Symposium, Cambridge (182)
- 1-19 Geometric Group Theory Symposium, Sussex (179)
- 7-12 Gregynog Symposium on Differential Equations, Gregynog (176)
- 8-12 British Combinatorial Conference, Surrey (165)(180)
- 8-12 Australian Mathematical Society Annual Conference, Australia (177)
- 8-14 Radicals, Hungary (172)
- 9-19 Conformal Field Theory, Durham (178)
- 13-16 British Congress of Mathematics Education, Loughborough (170)
- 15-19 Radial Basis Function Workshop, Cambridge (182)
- 16-19 Euromech Colloquium on Mathematical Models for Liquid Crystals, Strathclyde (182)
- 20-30 Application of Categories in Computer Science, Durham (178)
- 22-26 Computational and Applied Mathematics Congress, Ireland (167)(180)
- 23-4 Aug Logic and Algebra of Specifications, Germany (181)
- 29-9 Aug Algebras and Orders, Canada (179)

AUGUST

- 18-24 Canadian Number Theory Association Conference, Ontario, Canada (177)(182)

SEPTEMBER

- 16-20 Minimal Models, Lie Groups and Differential Geometry, Spain (179)
- 23 Function Theory Meeting, Lancaster (182)
- 25-27 Numerical Methods in Fluid Mechanics, Switzerland (174)
- 27-28 Symposium on Arithmetic in Honour of Bryan Birch, Oxford (178)

OCTOBER

- 18 LMS Meeting, London

NOVEMBER

- 15 LMS Meeting, London

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.
