THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 251 **July 1997**

FORTHCOMING SOCIETY MEETINGS

Friday-Saturday 17-18 October 1997 - Scientific Societies Lecture Theatre, London

Numerical Analysis

Friday 21 November 1997 - Scientific Societies Lecture Theatre, London

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

LMS COUNCIL DIARY

The Council meeting on Friday 16 May was concerned with some of the aspects of our thinking at the special meeting. Many of the issues were explained by the Council and General Secretary, John Pym, in the last *Newsletter*. It is clear that that the project of finding and buying our own building is not to be taken lightly. Thus we spent some time discussing the various aspects of such a proposal. The Treasurer, Alun Morris, produced some figures as to the long term implications and Council felt that if the Society is to flourish then owning our premises is the way forward.

It was agreed that a subcommittee of Council should be set up with powers to look at buildings and offices. They would also appoint a firm of property consultants to advise us. The committee will come back to Council when it has found a building it thinks is appropriate.

The Publications Secretary, Chris Lance, gave an interesting report. The book reviews editor has resigned because of pressure of work. The Society receives roughly 300 books per annum and reviews about 50 of these. It is a time consuming activity and the growing pressure on academic staff is making life difficult. The new *LMS Journal of Computation and Mathematics* is progressing and we are all optimistic. We also agreed to pursue the idea of a new journal devoted to Applied Mathematics. The Publications Committee was asked to report back. This plan also arose out of our special meeting.

Also arising from that meeting was a desire to alter our procedure for membership, without necessarily altering the rules which would need official approval. A new form was proposed which it is hoped will meet the criticisms that have been made. One of the ideas is to make it easier for people to join and especially to enlarge the membership amongst the "new" universities in Britain.

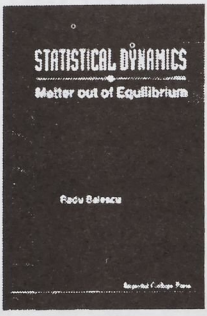
Alan Camina

LMS 1997 HONORARY MEMBER

Professor Peter D. Lax of the Courant Institute has been elected an Honorary Member of the London Mathematical Society. The citation, which will be published in the *Bulletin*, points to his transformation both of the theory of nonlinear hyperbolic systems and of the computation of solutions. He has made many other remarkable contributions, notably to the study of completely integrable systems and the Korteweg de Vries equation, to linear partial differential equations and to scattering theory. He has received numerous honours, including the US National Medal of Science and the Wolf Prize, and has been President of the American Mathematical Society.

Books from ICP Imperial College Press

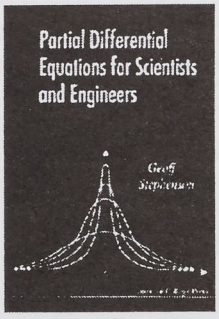
Statistical Dynamics:
Matter Out of Equilibrium:
R Balescu *(University Libre de Bruxelles)*



An invaluable book which firstly explains classical non-equilibrium statistical mechanics, from Hamiltonian dynamics, through irreversible kinetic equations to fluid mechanics. It goes on to deal with more complex systems requiring more extensive use of statistical concepts.
Readership: Students and researchers in statistical, plasma, mathematical physics and mechanics.

340pp Jun 97
1-86094-045-5 hbk £33
1-86094-046-3 pbk £16

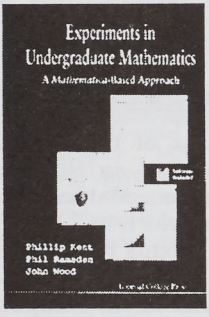
Partial Differential Equations for Scientists and Engineers:
3rd Edn:
G Stephenson *(Imperial College London)*



A self-contained unabridged republication of the third edition published by Longman in 1985. Introduces important methods used in the solution of PDEs. Written primarily for second- and final-year physics and engineering students.
Readership: Undergraduates in mathematics, science and engineering.

172pp Sep 96
1-86094-024-2 pbk £12

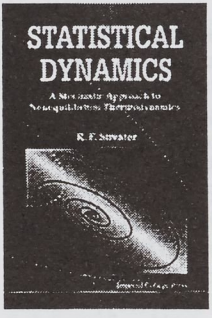
Experiments in Undergraduate Mathematics: A *Mathematica*-Based Approach:
P Kent, P Ramsden and J Wood *(Imperial College London)*



Written to help all undergraduates to master a variety of mathematical tools and concepts at the start of their university career. The approach is interactive, using experiments performed in the symbolic algebra package, *Mathematica*™.
Readership: First course in university mathematics.

340pp Sep 96
1-86094-027-7 hbk £30
1-86094-028-5 pbk £17

Statistical Dynamics:
A Stochastic Approach to Nonequilibrium Thermodynamics:
RF Streater *(King's College London)*



Deals with the question of how to construct dynamical systems obeying the first and second laws of thermodynamics: mean energy is conserved, and entropy increases with time. Developed from lectures given at King's College London for postgraduate students in mathematics and physics.
Readership: Mathematicians, physicists and chemical engineers.

288pp Sep 95
1-86094-002-1 hbk £30
1-86094-004-8 pbk £17

Imperial College Press is distributed by World Scientific.

Please order through:
World Scientific, 57 Shelton Street, London WC2H 9HE UK
Fax: 0171 836 2020 *E-mail:* sales@wspc2.demon.co.uk
Worldwide Web: http://www.wspc.com.sg

LMS PRIZES 1997

Polya Prize

JOHN HAMMERSLEY, FRS, Emeritus Reader at the University of Oxford, is awarded the Polya Prize for his contributions to the development and the application of probability theory, in particular to percolation theory, subadditivity, Monte Carlo simulation and self-avoiding walks. Throughout his career John Hammersley has shown an uncompromising brilliance and novelty that has stretched across mathematical borders and challenged established wisdoms. Few are such mathematicians who can claim to have initiated subjects that continue to grow in importance decades later, or to have had major ideas that have influenced such a range of mathematical fields. John Hammersley's mathematical results are strikingly original and technically complex, and he continues to inspire and provoke excellence in others.

Senior Whitehead Prize

The Senior Whitehead Prize is awarded to JOHN COATES, FRS, of the University of Cambridge, for his fundamental research in number theory and for his many contributions to mathematical life both in the UK and internationally. John Coates is renowned for his work on diophantine approximations, K-theory, Iwasawa theory, and elliptic curves, and for his important contributions to algebraic number theory and arithmetic algebraic geometry. An inspired teacher and expositor, he has served with distinction as a member of the Executive Committee of the International Mathematical Union and as President of the London Mathematical Society.

Junior Berwick Prize

The Junior Berwick Prize is awarded to DUGALD MACPHERSON of the University of Leeds for the following two articles: (1) *$\aleph_0$-categorical structures smoothly approximated by substructures* (Proc. London Math. Soc. (3) 59 (1989) 439-463), jointly with W.M. Kantor and M.W. Liebeck; (2) *Classification of infinite primitive Jordan permutation groups* (Proc. London Math. Soc. (3) 72 (1996) 63- 123), jointly with S.A. Adeleke. A common feature of these papers (and indeed much of Macpherson's work) is the interaction between model theory and permutation group theory. In the past fifteen years or so, deep results in model theory have been obtained by the use of highly non-trivial group theory, such as the classification of the finite simple groups. Macpherson has emerged as one of the leaders in this development and one of the main links between the group theorists and the model theorists.

Junior Whitehead Prizes

BRIAN BOWDITCH of the University of Southampton is awarded a Junior Whitehead Prize in recognition of a number of important contributions to geometric group theory and hyperbolic geometry. Several of his early papers were expository in areas where only the main ideas had been laid down and considerable clarification and greater precision were required, often calling for great ingenuity. This expository work is especially successful because Bowditch works from very little, he likes simply stated problems and he usually finds solutions involving a minimum of technical machinery. He has solved several major problems in geometric group theory, his methods are elegant and as elementary as they can be. He is a master at finding short proofs of results that others find tricky and at discovering simple, illuminating examples. His deepest work is on the asymptotic properties of word-hyperbolic groups. This work simultaneously generalises and simplifies recent work of several authors and it already has many applications. In one application, he develops a new theory of groups acting on dendrites, which yields a solution of the "cut-point conjecture". This recent work also gives a characterization word-hyperbolic groups as convergence groups.

ALEXANDER GRIGOR'YAN of Imperial College is awarded a Junior Whitehead Prize on the basis of his outstanding contributions to the geometric theory of partial differential equations. His research has focused on the Laplace and heat equations on non-compact Riemannian manifolds. One of his most striking results establishes a criterion for the parabolic Harnack inequality to hold in terms of the doubling volume property and Poincaré inequality, this work completing a line initiated by the celebrated results of Nash and Moser in the early 1960s. In other important work he has given minimal geometric hypotheses for stochastic completeness of a manifold, and developed a new approach to the estimation of the heat kernel on Riemannian manifolds.

DOMINIC JOYCE of the University of Oxford is awarded a Junior Whitehead Prize for his construction of a number of very elegant examples in differential geometry. His most remarkable constructions are those of families of compact Riemannian manifolds with exotic holonomies thus solving a long standing question related to Berger's 1955 classification of holonomy groups. Non-compact examples with holonomy groups G_2 and *Spin*(7) were first constructed ten years ago by R.L. Bryant. It was a landmark achievement when Joyce constructed compact examples. The methods he used are a novel mixture of the geometric and analytic. Using similar methods he has also realised G_2 holonomy on compact examples. For several decades these questions on holonomy have attracted the attention of the best differential geometers. Joyce has solved them with very elegant methods which are completely new both in concept and in technique. His examples have a rich structure and they will undoubtedly stimulate new areas of investigation in differential geometry.

J.M. Ball
President

MEETING OF THE SOCIETY

A meeting was held on Friday 23 May and Saturday 24 May 1997 at the University of Liverpool, Professor J.M. Ball, FRS, President, in the Chair. There were present about 30 members and visitors for all or part of the meeting.

Eighteen people were elected to *Ordinary Membership*: D. Burns, W.M.G. Dawson, H. Exton, R.G. Flood, W. Fortescue-Hubbard, D.R. Ireland, O.E. Jensen, I.B. Leader, J.H. Merkin, N.E. O'Sullivan, A.A. Rattansi, P.R. Redparth, J.A. Sherratt, V. Stognii, N.P. Strickland, J. Theis, P.R. Turner, H.M. Wark; seven people were elected to *Associate Membership*: J.D. Butler, A.D.M. Clow, B.C. Cosh, B. Feix, S. Perkins, A.C. Rice, G.E.L. Wellington-Spurr; and seven people were elected to *Reciprocity Membership*: H. Jarchow (SMG), A.M. Paolucci (AMS), C.B. Pierre (AMS), J. Segal (AMS), S.M. Stefanov (AMS), E.G.F. Thomas (WG), D. Werner (DMV).

Four members signed the Membership Book and were admitted to the Society. The President announced the award of the 1997 Naylor Prize to Professor F.P. Kelly, FRS.

The following lectures were given: V.V. Goryunov, 'Vassiliev type invariants of Legendrian knots'; A. Parusinski, 'The topology of real algebraic varities'; D.T. Lê, 'Rational singularities and combinatorics'; B. Teissier, 'The role of monomial maps in resolution of singularities'; A.N. Varchenko, 'Verlinde algebras and the intersection form on vanishing cycles'; D.M.Q. Mond, 'Gauss-Manin systems associated to free divisors'.

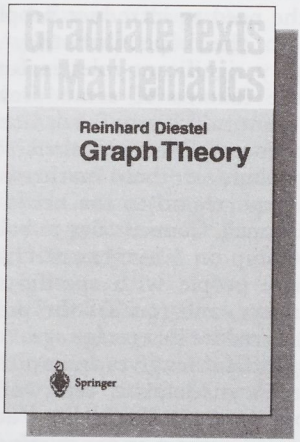
DEPARTMENTAL NEWS

Leeds University John C. Wood has been awarded a personal chair and will be Professor of Differential Geometry from 1 August 1997.

Heriot-Watt University Sergei B. Kuksin (Steklov Institute) and Jonathan A. Sherratt (Warwick) have both been appointed to chairs in the Department of Mathematics, with effect from 1 January 1998.

New from Springer

Graduate Texts in Mathematics



Volume 173
R. Diestel
Graph Theory
1997. XIV, 286 pages. 103 figures. Softcover £ 21 ISBN 0-387-98211-6

Also available as hardcover
1997. XIV, 286 pages. 103 figures. Hardcover £46.50 ISBN 0-387-98210-8

A fresh introduction to graph theory, offering a modern reassessment of the theorys main fields, methods and results. Viewed as a branch of pure mathematics, the theory of finite graphs is developed as a coherent subject in its own right. The book may be used at various different levels: it contains all the standard basic material for a first undergraduate course, complete with detailed proofs and numerous illustrations, while for a graduate course, the book offers more advanced results. For the professional mathematician the book affords an overview of graph theory as it stands today: with its typical questions and methods, its classic results, and some of those developments that have made this subject such an exciting area in recent years.

More information under:
http://www.springer-ny.com/supplements/diestel
http://www.tu-chemnitz.de/mathematik/books/graph.theory

Volume 175
W. B. R. Lickorish
An Introduction to Knot Theory
1997. Approx. 230 pages. 114 figures.
Hardcover approx. £ 38.50
ISBN 0-387-98254-X

A selection of topics which graduate students have found to be a successful introduction to the field, employing three distinct techniques: geometric topology manoeuvres, combinatorics, and algebraic topology. Each topic is developed until significant results are achieved and each chapter ends with exercises and brief accounts of the latest research. While the author describes important discoveries throughout the twentieth century, the latest discoveries such as quantum invariants of 3-manifolds as well as generalisations and applications of the Jones polynomial are also included, presented in an easily intelligible style. Basic knowledge of the fundamental group and simple homology theory is assumed, although there are numerous, excellent explanations throughout the text.

Volume 172
R. Remmert
Classical Topics in Complex Function Theory
1997. Approx. 340 pages. 19 figures. Hardcover £ 34
ISBN 0-387-98221-3

An ideal text for an advanced course, this book leads readers to experience function theory personally and to participate in the work of the creative mathematician. The author includes numerous glimpses of the function theory of several complex variables, which illustrate how autonomous this discipline has become. In addition to standard topics, Remmert elegantly interweaves compact proofs and historical comments throughout the text, and presents the material in short clear sections. The abundance of examples, exercises, and historical remarks, as well as the extensive bibliography, combine to make an invaluable source for students and teachers alike.

Please order from
Springer-Verlag London Ltd.
Fax: + 44 / 14 83 / 41 51 51
e-mail: alex@svl.co.uk
or through your bookseller

Prices subject to change without notice.
In EU countries the local VAT is effective.

Springer

Springer-Verlag, P. O. Box 31 13 40, D-10643 Berlin, Germany

Jak.4377/MNT/SFa

30 07 43

Please will all members of the Society who were born on 30 July 1943 and do not wish to have any changes made in their entry in the List of Members contact the Administrator so that they can be identified. The Administrator thanks all those members who have returned the form giving information for the 1997 List of Members and would be grateful if those who have not responded would return the form as soon as possible.

FELLOWSHIP OF THE ROYAL SOCIETY

Amongst those recently elected Fellows of the Royal Society were: C. Clark, Professor of Mathematics in the University of British Columbia, Canada; D.O. Gough, Professor of Theoretical Astrophysics in the University of Cambridge; Dr E.J. Hinch, Reader in Fluid Mechanics in the University of Cambridge; P.B. Kronheimer, Professor of Mathematics, Harvard University, USA; B.W. Silverman, Professor of Statistics in the University of Bristol; R.E. Taylor, Professor in the Stanford Linear Accelerator Centre, Stanford University, USA; N.S Trudinger, Dean of the School of Mathematical Sciences and Professor of Mathematics in the Australian National University; S.D.M. White, Director of the Max Planck Institute for Astrophysics, Garching, Germany. M.D Kruskal, David Hilbert Professor of Mathematics, Rutgers University, USA was elected a Foreign Member.

ANNUAL ELECTIONS TO COUNCIL

At the Special Meeting of Council in April (see the June *Newsletter)* the question of how to make Council elections more democratic was raised again. This is an issue Council intends to tackle during the coming year. It is not quite as straightforward as it may seem. Although there are 14 places to be filled on Council this year, no fewer than 11 of those nominated are proposed in order to undertake specific tasks. Council must ensure that the people nominated are prepared to put in the time required to do these jobs properly. Even beyond this group Council is as much a working committee as a policy-making body. Most members serve on active subcommittees or find themselves asked to take on special tasks. In making further nominations Council has in mind the need to introduce people to its work in the hope that they will come to play significant roles in future. One of the failures of some previous attempts to introduce genuine democracy was a tendency to elect members solely on the grounds of their mathematical ability without regard to the needs of a working Council. Council tries to balance its membership on a number of criteria, to nominate people with specific skills and experience, and (one of the present priorities) to reduce its average age.

Reciting difficulties gives an impression of complacency. Members will want to know how Council intends to attack the problem. Firstly it is considering the provision of more administrative support for the officers and Council so that their roles become shaping, forming and directing policy rather than executing it. Council will then be able to look at ways of ensuring that there is genuine competition in elections. One possibility would be to have a search committee (on the lines of the AMS system) which would look for a range of candidates who could play active parts in a policy-making Council. Members of the Society are invited to contribute their own suggestions.

This year the elections must be run in the way the present By-Laws prescribe. Accordingly Council has made nominations for the vacancies which arise in November, and these are listed on the opposite page. Members of the Society may make other nominations using the form provided (or a similar one). Nominations must be received by the Council and General Secretary (Professor John S. Pym, School of Mathematics & Statistics, The University of Sheffield, Sheffield S3 7RH) before noon on **1 September 1997**.

COUNCIL ELECTIONS 1997

The following nominations have been made by Council for the posts which become vacant at the Annual General Meeting in November 1997.

President

J M Ball (Oxford)

Vice-Presidents (two vacancies)

K A Brown (Glasgow)
A J Macintyre (Oxford)

Treasurer

A O Morris (Aberystwyth)

Council and General Secretary

J S Pym (Sheffield)

Meetings and Membership Secretary

D J H Garling (Cambridge)

Publications Secretary

E C Lance (Leeds)

Librarian

J A Erdos (King's, London)

Members-at-Large (six vacancies)

* C A Hobbs (Oxford Brookes) (2)
* M A H MacCallum (Queen Mary Westfield) (2)
U Martin (St Andrews) (1)
P T Saunders (King's, London) (1)
* I A Stewart (Leicester) (2)
* M J Taylor (UMIST) (1)

Notes on the Nominations

1. Except for K A Brown, the officers nominated are those serving in 1997. Officers are elected for one year at a time; the President and Vice Presidents cannot serve for more than two consecutive years, and the others for more than 10 years.
2. Members-at-Large of Council are nominated to serve for either one or two years; the number is given after the name. They may then be eligible for re-election, but cannot serve for more than 6 consecutive years. Those marked with an asterisk are not on the 96/97 Council.
3. U Martin chairs the Computer Science Committee and P T Saunders the Education Committee. Council regards these major administrative roles as comparable with those of officers, and they are therefore nominated for one-year terms.
4. M J Taylor has been selected by Council as President-Designate. As he is expected to become President in November 1998, he is nominated to serve for only one year.
5. The following were elected to Council for two-year terms in 1997, and so have one year to serve: R J Archbold, A G Chetwynd, F C Kirwan, E G Rees, A J Scholl and J F Toland.

NOMINATION FORM

We, the undersigned members of the London Mathematical Society, nominate

(block letters) .....

for election as a Member at Large of Council/ ..... (or state Office) in the 1997 elections of the Society.

Nominator (signature and printed name) .....

Seconder (signature and printed name) .....

I confirm that I am willing to stand for election as indicated above.

Nominee's signature .....

New titles from the Pitman Advanced Mathematics Series

Pitman Research Notes

369 **Integral Transforms, Reproducing Kernels and their Applications**
S Saitoh
An essentially self-contained presentation of the theory of reproducing kernels in connection with integral transforms in the framework of Hilbert spaces.
296 pp 0 582 31758 4

368 **Elliptic Boundary Value Problems with Indefinite Weights:**
Variational Formulations of the Principal Eigenvalue and Applications
Fethi Belgacem
Presents a unified approach to the methodologies dealing with eigenvalue problems involving indefinite weights. The principal eigenvalue for such problems is characterized for various boundary conditions. Such characterizations are used, in particular, to formulate criteria for the persistence and extinction of populations, and applications of the formulations obtained can be quite extensive.
256 pp 0 582 31597 2

367 **Integral Expansions Related to Mehler-Fock Type Transforms**
B N Mandal and Nanigopal Mandal
Concerned with some new types of integral expansions which are related to Mehler-Fock type transforms. Integral expansions of some simple functions are also obtained as illustrations.
144 pp 0 582 30816 X

366 **Complex Analysis and Geometry**
V Ancona, E Ballico, R M Miro-Roig and A Silva
Based on two conferences held recently in Trento, Italy, sponsored by the Centro Internazionale per la Ricerca Matematica (CIRM), this book contains 13 research papers and 2 survey papers on complex analysis and complex algebraic geometry.
200 pp 0 582 29276 X

365 **Topological and Variational Methods for Nonlinear Boundary Value Problems:**
20th Seminar in Partial Differential Equations
Pavel Drábek
Many important results have been obtained by the use of nonlinear functional analysis based on topological and variational methods. The survey papers presented in this volume represent the current state of the art in the subject.
168 pp 0 582 30921 2

Pitman Monographs and Surveys

87 **Introduction to the Theory of Distributions**
J Campos Ferreira
Translated by J Sousa Pinto and R F Hoskins
The object of this book is to facilitate the introduction to the theory of distributions based on an original point of view developed by the Portuguese mathematician José Sebastião e Silva. This theory (given for the first time in English translation) is developed from four axioms and uses methods of great simplicity, making it accessible to engineers and physicists, and pre-supposing little more than a knowledge of classical calculus.
176 pp 0 582 31144 6

86 **Generalized Analytic Functions in Fractional Spaces**
N Bliev
Translated by H Begehr and R Radok
A study of the foundations of the general theory of generalized analytic functions in fractional spaces. The employment of fractional spaces and embedding theorems support applications of the theory of generalized analytic functions. The results obtained are applicable to the theory of singular integral equations, boundary value problems for elliptic differential equations, functions of a complex variable, as well as the theory of plates and shells.
160 pp 0 582 28861 4

85 **Generalized Cauchy-Riemann Systems with a Singular Point**
Z D Usmanov
A theory of generalized Cauchy-Riemann systems with polar singularities of order not less than one is presented and its application to the study of infinitesimal bendings of surfaces having positive curvature and an isolated flat point is given. It contains results of investigations obtained recently by the author and his collaborators.
232 pp 0 582 29280 8

To receive information on these titles and order your copy of the 1997 catalogue, please contact:
Samantha Eardley
Addison Wesley Longman
Edinburgh Gate,
Harlow
Essex, CM20 2JE, UK
samantha.eardley@awl.co.uk

Addison Wesley Longman

all the information you need on-line HTTP://www.awl-he.com

BOOK REVIEW

Mathematics Masterclasses: Stretching the Imagination edited by Michael Sewell, Oxford University Press, 1997, 0-19-851493-X (pb) £14.95, 0-19-851494-8 (hb) £35, pp 233.

Following the series of Royal Institution Christmas Lectures given by Christopher Zeeman in 1978, Sir George Porter, who was at that time the Director of The Royal Institution, initiated a programme of Mathematics Masterclasses, the first of which was held in London in 1981. The word "masterclass" had long been used in the context of music and seemed highly appropriate, given that mathematics and music have much in common. In particular, they are two areas of human endeavour where exceptional talent often manifests itself at an early age.

There is now a whole network of Royal Institution Mathematics Masterclasses extending from South-West England to the Highlands and Islands of Scotland, each series relying on a team of local enthusiasts. Yet many able pupils never have the chance to attend a masterclass. This is just one reason why the book under review is to be warmly welcomed. It is the first time that material used in a series of masterclasses has been reproduced in book form and thereby made available to a much larger audience.

Professor Sewell has organised the Berkshire masterclasses since 1991. As with many other series held elsewhere, the target audience is able youngsters aged 11-13. Many people believe that students in this age group, who often display almost boundless enthusiasm, do not get enough to stretch them mathematically. The book fully lives up to the second part of its title and will provide many hours of pleasure for inquisitive youngsters (as well as for other older readers!).

The book encapsulates all the good features of masterclasses. The subject matter is extremely varied. Despite calculus being "off-limits", we are introduced to a huge amount of interesting mathematics. It is part of the fascination of our subject that areas of active research rely on concepts accessible to quite young children. I believe mathematicians have an excellent product to sell. We should be out there as often as possible spreading the gospel and this book will help us. As well as variety of material, we have variety in the presenters (school teachers, university mathematicians, meteorologists) and in the styles of presentation (ranging from a gentle stroll to the "theorem-proof" format).

The twelve chapters are independent of each other. Certain items (e.g. complex numbers and the logistic map) occur in more than one chapter but this helps to highlight interconnections between different areas of mathematics. As well as exposition, we are given the worksheets used by the students (together with solutions!) plus some references and suggestions for further reading. The layout is user-friendly with lots of diagrams and photographs (including various dinosaurs at the University of Reading).

The topics covered in the 12 chapters include: Chaos; Turing Machines; Probability; Weather; Ecology; Fluid Mechanics; Balloons and Bubbles; Mechanics of Dinosaurs; Pythagorean Number Triples; Water Waves. I particularly enjoyed "Plato, Polyhedra and Weather Forecasting". Here we meet plane tessellations, Platonic solids and Archimedean solids. The cast includes ET (the equilateral triangle) and the dodo (dodecahedron) which indicate the light touch of the author, Andy White of the Meteorological Office.

For results of sheer beauty, turn to "Square Roots and Seventeengons" by Frances Kirwan. Here the cast includes ruler and compass constructions, cartesian geometry, irrationality of $\sqrt{2}$, complex numbers, constructible numbers, the wonderful result of Gauss involving Fermat primes and the method of constructing a regular 17-gon. Great stuff!

In summary, this book can be strongly recommended to all teachers of mathe-

matics as a resource which clearly shows the relevance, elegance and fun of their subject. As a result, many more youngsters should become aware of the excitement and joy of mathematics.

A.C. McBride

VISIT OF PROFESSOR V. I. LEVENSHTEIN

Professor Vladimir Levenshtein, of the Keldysh Institute for Applied Mathematics, Russian Academy of Sciences, will be visiting the UK from 4 - 26 July. From 6 - 12 July he will be participating in the British Combinatorial Conference at Queen Mary and Westfield College, London, where he will be talking on "Equivalence of Delsarte's bounds for codes and designs in symmetric association schemes", and from 13 - 18 July he will be participating in the Fourth International Symposium on Communications Theory and Applications, Charlotte Mason College, Ambleside, Lake District, and talking on "New bounds on aperiodic crosscorrelation of binary codes". From 19 - 26 July he will be visiting the University of Sussex. Further information about Professor Levenshtein's visit can be obtained from L.H.Soicher@qmw.ac.uk. This visit is supported by the LMS fSU Visitor Scheme.

VISIT OF PROFESSOR E.K. SKLYANIN

Professor E.K. Sklyanin of the Steklov Mathematical Institute, St. Petersburg, is visiting the Department of Applied Mathematical Studies of the University of Leeds for a period of one year, starting June 1997 , with the support of an EPSRC Visiting Fellowship Grant. His main research interests are in applications of quantum groups to classical and quantum integrability, algebraic origins of integrability, integrable 2D quantum field theories and exactly solvable models of statistical physics and the method of separation of variables in classical and quantum mechanics. During his stay in Leeds he will present a course of lectures on one of the topics of his interest. For further details contact Dr F.W. Nijhoff, Department of Applied Mathematical Studies, University of Leeds, Leeds LS2 9JT, e-mail: frank@amsta.leeds.ac.uk, tel. 0113-2335120.

DIOPHANTINE GEOMETRY AND DIFFERENTIAL EQUATIONS

A meeting in celebration of Professor Sir Peter Swinnerton-Dyer's 70th birthday will be held from Monday 22nd to Tuesday 23rd September 1997 at the Newton Institute, Cambridge. A number of Peter Swinnerton-Dyer's former students and other collaborators are organising an event to celebrate his 70th birthday, honouring his mathematical achievements over many years, and his many contributions to Higher Education in the UK. There will be a celebratory dinner (spouses and friends welcome) on Monday evening, in Trinity College, to which family and friends of Sir Peter's have also been invited. Speakers include: Jean-Louis Colliot-Thelene (Orsay), Miles Reid (Warwick), Karl Rubin (Ohio State, subject to confirmation), Richard Taylor (Harvard), Don Zagier (Max Planck Inst.), Noel Lloyd (Aberystwyth), Colin Sparrow (Cambridge)

The mathematical part of the meeting is supported by the Newton Institute, Trinity College and the LMS. There are limited funds available to assist junior mathematicians wishing to attend the meeting. There will be a charge for dinner on Monday evening. Accommodation may be reserved via the Institute for the Monday night. Further information, including a detailed programme, is available on the Institute's web pages (http://www.newton.cam.ac.uk). For further information, contact Tracey Hibbit (t.hibbit@newton.cam.ac.uk, tel: 01223-335999) or Colin Sparrow (c.sparrow@ newton.cam.ac.uk).

SCHWEIZERISCHE MATHEMATISCHE GESELLSCHAFT

The Society has recently made a Reciprocity Agreement with the Swiss Mathematical Society. The following information has been supplied by its President.

The official name of our society is 'Schweizerische Mathematische Gesellschaft/Sociéte Mathématique Suisse' (SMG/SMS). Its aim is to promote and spread mathematical sciences and their applications. The Society has currently about 500 members. Its board consists of the President, Vice-President and Secretary. They are elected for two years. The next election is in October.

Individuals as well as corporate body can apply for membership. New members must be proposed by two people who are already members; this must then be approved by the Board of the Society. Applications for Reciprocity Membership should be sent to the President (Institut für Mathematik der Universität Zürich, Winterhurestr. 190, CH-8057 Zürich) who will take care of it. Members pay an annual fee which is currently SFr.50 for individuals. Reciprocity members pay one half of this. After retirement and 25 years of membership, there is no fee anymore.

SMG/SMS publishes two journals. The best-known is certainly the research journal *Commentarii Mathematici Helvetici,* 1 volume (4 issues) per year. The current price for members of SMG/SMS is SFr.237 p.a. (plus postage). The other journal is *Elemente der Mathematik*; 1 volume (4 issues) per year. It is of particular interest for teachers and for people not directly in, but with close contacts to, mathematics. The current price is SFr.44 (plus postage). Both journals are substantially subsidized by the 'Schweizerische Akademie der Naturwissenschaften' of which SMG/SMS is an independent member, and by the 'Stiftung zur Förderung der mathematischen Wissenschaften in der Schweiz'.

Two important meetings are organzied each year. The first one, called 'Journées', gained considerable international recognition. Traditionally, it takes place in early June (3 days) and is devoted to a single topic, or a group of related topics. The other one is in October (2 days), presents a few invited high-level lectures and provides a forum for new PhD students to present their work.

J. Jarchow
President

THEOREM PROVING

A short course entitled *An Introduction to Theorem Proving using "Isabelle"* will be held at the Department of Engineering, University of Cambridge, 9-11 September 1997. The course is intended for both academic and industrial researchers in the fields of computer science and logic. Participants must have experience with X workstation environments and should also be familiar with elementary logic. Experience with a functional programming language such as ML would be helpful, though not essential. The fee for the course will be £375; this discount rate is available to full-time students and faculty of higher education institutes, provided payment is made by their institute. The Course Tutors will be Dr L. Paulson (Cambridge) and Dr S. Kalvala (Warwick). For further details and a registration form, please contact: Clarie Derbyshire, Programme Administrator, University of Cambridge Programme for Industry, 1 Trumpington Street, Cambridge CB2 1QA; tel: 01223 302233; fax: 01223 301122; e-mail: cpi@hermes.cam.ac.uk.

BIOGRAPHER OF R.L. MOORE

An American Foundation requires a biographer to undertake research on the life of the influential mathematician and teacher R.L. Moore, and is prepared to consider proposals to finance the project, including expenses and stipend. A Trustee of the Foundation, Harry Lucas, will be in London in July and can be contacted by telephone on 0171 930 2345.

CAMBR

25% Off LMS Books For LMS Members

Geometric Applications of Fourier Series and Spherical Harmonics

H. Groemer

The first comprehensive exposition of the application of spherical harmonics to prove geometric results such as geometric inequalities, uniqueness results for projections, and stability.

£40.00 HB 0 521 47318 7 343 pp. 1996
Encyclopedia of Mathematics and its Applications 61

Theory of Algebraic Integers

Richard Dedekind

Dedekin's memoir 'Sur la Theorie des Nombres Entiers Algebriques proved to be the genesis of algebraic number theory. This translation gives the historical background.

£14.95 PB 0 521 56518 9 166 pp. 1996
Cambridge Mathematical Library

The Descriptive Set Theory of Polish Group Actions

H. Becker and A. Kechris

Deals with research in the foundations of the theory of Polish groups and the associated orbit equivalence relations.

£21.95 PB 0 521 57605 9 152 pp. 1996
London Mathematical Society Lecture Note Series 232

A Pathway Into Number Theory

TEXTBOOK

Second Edition

R. P. Burn

Now in its second edition, this book consists of a sequence of exercises that will lead undergraduates from quite simple number work to the point where they can prove algebraically the classical results of elementary number theory for themselves.

£15.95 PB 0 521 57540 0 278 pp. 1996

Eigenspaces of Gra

Dragos Cvetkovic, Peter R

Describes how the spectral th exploiting properties of the e

£45.00 HB 0 521 573521
Encyclopedia of Mathematics an

Quasicrystals and G

Marjorie Senechal

This book brings together fo of contemporary research in

£19.95 PB 0 521 575419

Low Rank Represent Groups

Cheryl E. Praeger and Leon

Concerned with ways of repr associated graphs. It gives a representations of the sporad

£24.95 PB 0 521 567378
Australian Mathematical Society

A Mathematical Intr

P. Wojtaszczyk

This book presents in detail s with compact support.

£40.00 HB 0 521 570204
£13.95 PB 0 521 578949
London Mathematical Society St

Cambridge books are available from good bookshops, alternatively phone UK + 44 (0)1223 325 58 or fax UK +44 (0)1223 325152. For further information, please email Giulia Williams on sien Worldwide Web server http://www.cup.cam.ac.uk

CAMB UNIVERS
The Edinburgh Building C

BRIDGE

bers

Graphs

ter Rowlinson and Slobodan Simic

ctrl theory of finite graphs can be strengthened by
f the eigenspaces of adjacency matrices.

3521 272 pp. 1997

atrs and its Applications 66

nd Geometry

Now in Paperback

ther for the first time the many strands
rch in quasicrystal geometry.

5419 304 pp. 1996

esentations and Graphs for Sporadic

d Leonard H. Soicher

of epresenting sporadic simple groups and their
ives a classification of all low rank permutation
sporadic groups.

7378 160 pp. 1996

Society Lecture Series 8

l Introduction to Wavelets

detail spline wavelets, Meyer's wavelets and wavelets

02C4 280 pp. 1997
8949

ciety Student Texts 37

32588 to order direct using your credit card,
nscience@cup.cam.ac.uk or browse our
uk

ORDER FORM

To order please send this form to Richard Knott at the address below, 'phone 01223 325916 or fax 01223 315052.

Qty	Author	ISBN	Price
		Total	

☐ I enclose a sterling cheque/eurocheque (payable to Cambridge University Press)

☐ Please debit my credit card (Access/Mastercard/VISA/Amex)* **Please delete as applicable*

Card no. _____

Expiry Date _____

Signature _____

Name of cardholder _____

Address _____

_____

_____

_____

Please return coupon to
FREEPOST, The Edinburgh Building, Cambridge CB2 1BR
E-mail: science@cup.cam.ac.uk

MBRIDGE
ERSITY PRESS
ding, Cambridge CB2 2RU

PROGRAMME AND CONFERENCE FUND

The Society's Programme and Conference Fund is used to give financial support to various mathematical activities in the UK. Grants are made under five main headings, which are set out in summary form below.

Type of Grant	General Purpose	Amount	Deadlines
Conference Grant	Support of conferences within the UK. The grant may be either a substantial contribution to a small meeting or a small contribution to a large meeting	Up to £2500	31 January, 31 May and 31 August.
Scheme 2	Support for a foreign visitor who will give lectures at three places in the UK	Return travel to UK up to a maximum of £500	At least three months before the visit
Scheme 3	Support of incidental costs for collaborative work by research groups from three (or more) different places	Travel or other costs up to £1000 for one year	31 January, 31 May and 31 August
Scheme 4	Support of travel and subsistence costs incurred by a UK member or their collaborator in carrying out joint research.	Up to £300	31 January, 31 May and 31 August
fSU Scheme	Support of visits to UK by fSU mathematicians and support of visits to fSU by UK mathematicians	Basic travel and living expenses up to £1000	At least three months before the visit

Only Society members are eligible for Scheme 4 grants. Otherwise, any mathematician working in the UK is eligible for a grant; applications from non-members must be countersigned by a Society member. Applications for conference grants must be submitted on the appropriate form, available either from the Society's Office (lms@lms.ac.uk), or from the Society's ftp archive which can be reached via ftp ftp.qmw.ac.uk. In all other cases, applications should be made by letter, including (as appropriate) the academic case, details of participants and activities, places to be visited, the proposed timetable and a budget of estimated costs. Applications should be sent to the Administrator, Miss Susan Oakes, at Burlington House, Piccadilly, London W1V 0NL (tel: 0171 437 5377; e-mail: lms@lms.ac.uk; fax: 0171 439 4629). Further information and advice can be obtained from her or from the Meetings and Membership Secretary, Dr D.J.H. Garling, Department of Pure Mathematics and Mathematical Statistics, 16 Mill Lane, Cambridge CB2 1SB (e-mail d.j.h.garling@pmms.cam.ac.uk; fax 01223 337920; tel: 01223 337978). The information is on the Society's home page on the World Wide Web at http://www.lms.ac.uk.

Conference Topic	Applicant	Grant
Extracting Physical Properties of PDEs using Functional Analysis	M V Bartuccelli	£1350.00
Scottish Algebra Day	T H Lenagan	£1044.00
James Joseph Sylvester Centenary Commemoration	A Rice	£750.00

Foliations, Hyperbolic Geometry and Automatic Groups - A Meeting in Honour of D Epstein	C P Rourke	£2030.00
Complex Analysis Meeting	A Beardon K Carne S Velani	£2000.00
London-Sussex-Southampton Topology Seminar & Geometric Group Theory Workshop	M J Dunwoody	£1250.00
63rd Peripatetic Seminar on Sheaves and Logic	R Brown	£800.00
Statmech 13	A C C Coolen	£1000.00
NF 60th Anniversary Workshop	T E Forster	£850.00
Asymptotic and Numerical Methods in Wave Propagation with Applications	R H Tew I D Abrahams J R Ockendon	£625.00
30th European Study Group with Industry and Weekly Wokshops	H Ockendon	£2000.00
Mathematical Statistical Mechanics and Related Fields	T C Dorlas	£2000.00
Research in Progress, BSHM Meeting	S Russ	£1970.00
2-dimensional Integrable Models, Conformal Field Theory and Related Topics	P Bowcock	£320.00
Symmetry Methods for Differential and Difference Equations	C J Budd	£742.00
BAMC 98 - 40th BTMC	A D Rawlins	£2500.00
One Day Combinatorics Colloquium	A J W Hilton	£350.00
A Celebration of William Burnside, BSHM Meeting	P M Neumann	£508.00

Scheme 2

Applicant	Visitor	Places to Visit	Grant
J Hunton	T Kashiwabara	Aberdeen, Leicester, Cambridge	£442.69
I McGillivray	M Demuth	Swansea, Bristol, Cardiff	£250.00
J Roe	F Quinn	Cambridge, Edinburgh, Oxford	£425.00
A Grigor'yan	V Maz'ya	Imperial, King's, Bath	£400.00
V A Liskevich	Y A Semenov	Cardiff, King's, Bristol	£500.00
M S Joshi	E Mooers	Cambridge, King's, Bristol	£500.00
A Ranicki	W Browder	Cambridge, Oxford, Edinburgh	£275.00
Y V Kurylev	L Paivarinta	Manchester, Leeds, Loughborough	£300.00
I McGillivray	E M Ouhabaz	Oxford, Bristol, King's	£165.00
B Zegarlinski	H Narnhofer	London, Nottingham	£450.00

Scheme 3

Applicant	Institution	Topic	Grant
H D Macpherson	Leeds	Algebraic Model Theory	£1000.00
J P C Greenlees	Sheffield	Transpenine Topology Triangle	£1000.00

Scheme 4

Applicant	Institution	Collaborator	Institution	Grant
P A Clarkson	Kent	G J Reid	Vancouver	£300.00
A Movchan	Bath	G W Milton	Utah	£300.00
M Kelbert	Swansea	A Grigor'yan	London	£300.00
N J Ford	Chester	K Frischmuth	Rostock	£300.00
P Rowlinson	Stirling	D Cvetkovic, S Simic	Belgrade	£300.00

T Ward	East Anglia	K Schmidt	Vienna	£300.00
A Borovik	UMIST	N White	Florida	£300.00
J Sivaloganathan	Bath	S J Spector	S Illinois	£300.00
C M Goldie	Sussex	Z J Jurek	Wroclaw	£300.00
J Brodzki	Exeter	P Bongaarts	Lieden	£300.00
D J Collins	QMW	E C Turner	SUNYA	£300.00
M S P Eastham		B M Brown	Cardiff	£300.00
M Marletta	Leicester	B M Brown	Cardiff	£300.00

fSU Scheme Applicant	Visitor	Institution	Places to Visit	Grant
R A Bailey P J Cameron L H Soicher	V Levenshtein	Moscow	London, Ambleside & Sussex	£1000.00
C Budd V Galakitionov	V Dorodnitsyn	Moscow	Bath, Kent & Surrey	£1000.00
Y M Suhov	F I Karpelevich	Moscow	Cambridge & London	£1000.00
J S Pym	I G Protasov	Ukraine	Sheffield	£1000.00
Z Brzezniak			Voronezh	£445.00
V P Smyshlyaev	V M Babich	St Petersburg	Bath	£1000.00
N Ray	V Buchstaber	Moscow	Sheffield & Manchester	£500.00
N Ray	V Vershinin	Novosibirsk	Sheffield & Manchester	£700.00
A E Zalesski	N Vavilov	St Petersburg	East Anglia	£1000.00
W D Evans V I Burenkov	A G Aslanyan	Moscow	Cardiff, Sussex & King's	£800.00
W D Munn	J S Ponizovskii	St Petersburg	St Andrews & Glasgow	£1000.00
G C Smith	I V Arjantsev	Moscow	Groups St Andrews, Bath	£2250.00
	G N Arjantseva	Moscow		
	A Yu Ol'Shankskii	Moscow		
	A V Tushev	Ukraine		
	L Kurachenko	Ukraine		
J F Toland	V A Solonnikov	St Petersburg	Bath & Oxford	£500.00
Y M Suhov	N D Vvedenskaya	Moscow	Cambridge	£700.00
J A Erdos	L Turowska	Ukraine	London, Swansea, Leeds & York	£1000.00
D E Edmunds	V Stepanov	Khabarovsk	Sussex, Birmingham & Cardiff	£1000.00
P M Higgins	M Volkov	Ural	St Andrews & Essex	£500.00
* J K Truss	V Kanovei	Moscow	Leeds & Birmingham	£2250.00
	S S Goncharov	Novosibirsk	Leeds, Oxford, Manchester & London	
	S S Badaev	Almaty	Leeds & Manchester	
* A J Wilkie	K Kudaibergenov	Almaty	Leeds & Oxford	
J B Fountain	M Kilp	Estonia	York & St Andrews	£1000.00
K D Elworthy	Y Daletskii	Kiev	Warwick, Imperial, Nottingham, Swansea & Hull	£1000.00
K D Elworthy	Y Veretennikov	Kiev	Warwick, Imperial & Edinburgh	£1000.00

* Joint Grant

OUP AND AMS
A WINNING COMBINATION!

Combinatorial Designs and Tournaments

Ian Anderson

This clear, readable, and up to date book has two aims. First, to present some of the basic material on block designs and orthogonal Latin squares, and, secondly, to given an account of the construction of league tables, tournaments with various balance requirements, bridge tournaments (via balanced Room squares) and whist tournaments.

Oxford Lecture Series in Mathematics and Its Applications No. 6
248 pp, 1997 0-19-850029-7 £35.00 Hardback

Graph Connections:

Relationships between Graph Theory and Other Areas of Mathematics

Edited by Lowell W. Beineke, and Robin J. Wilson

The applicability of graph theory to other areas of mathematics, from number theory, to linear algebra, knots, neural networks, and finance is the subject of this book. This is achieved through a series of expository chapters, each devoted to a different field and written by an expert in that field.

Oxford Lecture Series in Mathematics and Its Applications No. 5
302 pp 1997 0-19-851497-2 £35.00 Hardback

Applications of Combinatorial Mathematics

Edited by Chris Mitchell

Institute of Mathematics and Its Applications Conference Series
252 pp, 1997, 0-19-851192-2 £75.00 Hardback

Stable Marriage and Its Relation to Other Combinatorial Problems

Donald E. Knuth

The book uses the appealing theory of stable marriage to introduce and illustrate a variety of important concepts and techniques of computer science and mathematics: data structures, control structures, combinatorics, probability, analysis, algebra, and especially the analysis of algorithms. The topics will also interest nonspecialists.

CRM Proceedings and Lecture Notes No. 10
74 pp American Mathematical Society 1996 ,
0-8218-0603-3 £14.95 Paperback
AMS Members £11.95

Spectral Graph Theory

Fan R. K. Chung

Chung's well-written exposition not only gives the facts, but tells you what is really going on, why it is worth doing, and how it is related to familiar ideas in other areas.

CBMS Regional Conference Series No. 92
208 pp American Mathematical Society 1997
0-8218-0315-8 £20.00 Paperback
AMS Members £16.00

When ordering direct by credit card *please quote the code LMS0797.*
Please have your details with you when you dial.
Tel: +44 (0) 1536 454534 or Fax: +44 (0) 1536 454518.
For further information email:siddoc@oup.co.uk
Prices and extents are subject to change.

Oxford University Press

A NEW JOURNAL FROM DE GRUYTER

Volume 1 • 1998

Journal of Group Theory

The Journal of Group Theory is devoted to the publication of original research articles in all aspects of group theory. Articles concerning applications of group theory and articles from research areas which have a significant impact on group theory will also be considered.

Managing Editor

J. S. Wilson, Birmingham

Editorial Board

A. J. Berrick, Singapore
A. V. Borovik, Manchester
M. Broué, Paris
K. A. Brown, Glasgow
F. Buekenhout, Brussels
F. de Giovanni, Naples
R. Göbel, Essen
R. L. Griess, Jr., Ann Arbor
N. D. Gupta, Winnipeg
T. O. Hawkes, Coventry
A. A. Ivanov, London
E. I. Khukhro, Novosibirsk
L. G. Kovács, Canberra
V. D. Mazurov, Novosibirsk
F. Menegazzo, Padua
S. A. Morris, Adelaide
A. Yu. Olshanskii, Moscow
C. W. Parker, Birmingham
I. B. S. Passi, Chandigarh
R. E. Phillips, East Lansing
D. J. S. Robinson, Urbana
R. Schmidt, Kiel
Y. Segev, Beer-Sheva
A. Shalev, Jerusalem
W. J. Shi, Chongqing
S. Sidki, Brasilia
D. M. Testerman, Coventry
B. A. F. Wehrfritz, London

Subscription Information

Journal of Group Theory

• ISSN 1433-5883
1998. Volume 1 (4 issues). 24 x 17 cm. Approx. 400 pages.
Annual subscription rate: DM 298,–/approx. £ 106.00 plus postage and handling.
Single issue: DM 84,–/approx. £ 30.00 plus postage and handling.

Prices are subject to change

WALTER DE GRUYTER & CO
Genthiner Straße 13 · D–10785 Berlin
Tel. +49 (0)30 2 60 05–0
Fax +49 (0)30 2 60 05–251
Internet: http://www.deGruyter.de

W DE G de Gruyter
Berlin · New York

ISAAC NEWTON INSTITUTE FOR MATHEMATICAL SCIENCES

PROBABILISTIC GRAPHICAL MODELS

A Newton Institute EC Summer School on Probabilistic Graphical Models will be held from 1 - 5 September 1997 at the Institute. The organisers are C.M. Bishop (Aston) and J. Whittaker (Lancaster). Probabilistic graphical models provide a very general framework for representing complex probability distributions over sets of variables. A powerful feature of the graphical model viewpoint is that it unifies many of the common techniques used in pattern recognition and machine learning including neural networks, latent variable models, probabilistic expert systems, Boltzmann machines and Bayesian belief networks. Indeed, the increasing interactions between the neural computing and graphical modelling communities have resulted in a number of powerful new ideas and techniques. The conference will include several tutorial presentations on key topics as well as advanced research talks.

Provisional themes Conditional independence; Bayesian belief networks; message propagation; latent variable models; variational techniques; mean field theory; learning and estimation; model search; EM and MCMC algorithms; axiomatic approaches; causality; decision theory; neural networks; information and coding theory; scientific applications and examples.

Provisional list of speakers C.M. Bishop (Aston), A.P. Dawid (UCL), D.J.C. MacKay (Cambridge), R. Cowell (City), D. Geiger (Technion), E. George (Texas), W. Gilks (Cambridge), D. Heckerman (Microsoft), G.E. Hinton (Toronto), T. Jaakkola (UCSC), M.I. Jordan (MIT), B. Kappen (Nijmegen), M. Kearns (AT&T), S. Lauritzen (Aalborg), J. Pearl (UCLA), M.D. Perlman (Washington), M. Piccioni (Aquila), S. Russell (Berkeley), R. Shachter (Stanford), J.Q. Smith (Warwick), D. Spiegelhalter (Cambridge), M. Studeny (Prague), M. Titterington (Glasgow), J. Whittaker (Lancaster).

This instructional conference will form a component of the Newton Institute programme on Neural Networks and Machine Learning, organised by C.M. Bishop, D. Haussler, G.E. Hinton, M. Niranjan and L.G. Valiant. Further information about the programme is available via the web page (http://www.newton.cam.ac.uk/programs/nnm.html).

Location and Costs The conference will take place in the Isaac Newton Institute and accommodation for participants will be provided at Wolfson Court, adjacent to the Institute. The conference package costs £270 which includes accommodation from Sunday 31 August to Friday 5 September, together with breakfast, lunch during the days that the lectures take place and evening meals.

Applications To participate in the conference, please complete and return an application form and, for students and postdoctoral fellows, arrange for a letter of reference from a senior scientist. Limited financial support is available for participants from appropriate countries. Application forms are available from the conference web page at http://www.newton.cam.ac.uk/programs/nnmec.html. Completed forms and letters of recommendation should be sent to Heather Dawson at the Newton Institute, or by e-mail to h.dawson@newton.cam.ac.uk.

CALL FOR PROPOSALS

The Newton Institute is actively seeking new proposals for programmes for

1999 onwards, particularly from areas which have been under-represented so far. From 1999 on, there will be two six-month programmes (January to June and July to December) and three four-month programmes (January to April, May to August and September to December). By having some shorter programmes the Institute will be able to accommodate important, but less well-developed areas and also to improve the coverage of all areas of the mathematical sciences.

Please send proposals and enquiries to The Director, Professor Keith Moffatt, Isaac Newton Institute for Mathematical Sciences, 20 Clarkson Road, Cambridge CB3 0EH, UK; proposers should state whether they would prefer a four-month or six-month programme and their order of preference for the time periods above. The Institute is pleased to receive proposals at any time, but proposals for consideration at the next Scientific Steering Committee meeting (October 1997) should be received by **31st July 1997.**

Full details, submission instructions and a list of past, current and future programmes are available via the web page (http://www.newton.cam.ac.uk/callprop.html).

INTERNATIONAL CONFERENCE ON TECHNOLOGY IN MATHEMATICS TEACHING

The Third International Conference on Technology in Mathematics Teaching will bring together classroom practitioners, curriculum developers and mathematics education researchers, all of whom share a desire to improve the quality of student learning. Main lectures by distinguished speakers will be complemented by a programme of specialist short talks and workshops. There will be an exhibition of books and products by publishers, software and calculator companies. The conference will take place from 29 September to 2 October 1997 at the Campus of the University of Koblenz. The conference languages are English and German.

Conference themes:

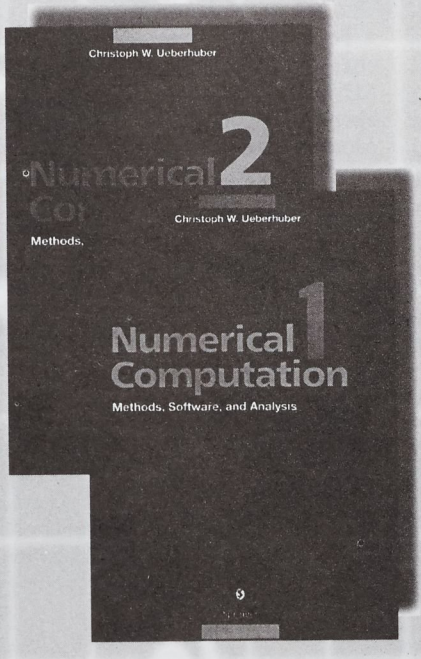
- Impact of Technology on Teaching and Learning
- Access to Education through Technology
- Technology and Assessment
- Ways Forward - Future Trends

Keynote speakers will include:

- Peter Deussen (Universität Karlsruhe) Mathematical Proofs made by Computer Programmes
- Wolfgang Dolejski, Maria Overbeck-Larisch (Fachhochschule Darmstadt) Teaching and Learning Probability and Statistics using Professional Software, Concept-Examples-Experiences
- Benno Fuchssteiner (Universität, Paderborn) Computer Algebra: Does it offer new means for doing and teaching mathematics?
- Wolfram Koepf, (Konrad-Zuse-Zentrum, Berlin) Integration in the Era of Computer Algebra
- John Searl (University of Edinburgh) The Impact of Technology on the Mathematics Education of Engineers and Scientists
- Heinz Schumann (Pädagogische Hochschule, Weingarten) Treatment of Word Problems using Computer Algebra
- Bert Waits (Ohio State University) What is the Appropriate Role, if any, of Hand-Held Computer Symbolic Algebra in the Teaching and Learning of Mathematics?
- Wei-Chi Yang (Radford University) Computer Algebra Systems, World Wide Web Technology and Mathematics Education and Research

Further information is available from: Professor Wolfgang Fraunholz, Mathematisches Institut der Universität, Rheinau 1, D-56075 Koblenz, Germany; tel. +49-261-9119651; fax +49-261-9119652; announcement and application form at http://euler.uni-koblenz.de/ictmt3/index.html.

Stress on software



C. Ueberhuber
Numerical Computation II
Methods, Software, and Analysis
1997. XVI, 496 pages. 73 figures.
Softcover £ 29.50
ISBN 3-540-62057-5

C. Ueberhuber
Numerical Computation I
Methods, Software, and Analysis
1997. XVI, 474 pages. 157 figures.
Softcover £ 29.50
ISBN 3-540-62058-3

A modern, two-volume introduction to numerical computation, which strongly emphasizes software aspects. It can serve as a textbook for courses on numerical analysis, particularly for engineers, but can also be used as a reference due to the extensive bibliography. The author is a well-known specialist in numerical analysis who was involved in the creation of the software package QUADPACK.

Please order from
Springer-Verlag London Ltd.
Fax: + 44 / 14 83 / 41 51 51
e-mail: alex@svl.co.uk
or through your bookseller

Prices subject to change without notice.
In EU countries the local VAT is effective.

Springer

Springer-Verlag, P. O. Box 31 13 40, D-10643 Berlin, Germany

Jak.4290/MNT/SF

fSU VISITORS

Three visitors to the LMS sponsored conference "Groups St Andrews 1997 in Bath" will be funded through the LMS fSU support scheme. They will arrive in Bath on 26 July and depart on 9 August. They are all from Moscow State University: Professor A. Yu. Ol'shanskii and two research students Ivan Arjantsev and Gulnara Arjantseva

In addition the Royal Society is providing individual support for the following four former Soviet visitors for the same period: Sergey Ludkovsky, Moscow, Russia; Victor Mazurov, Novosibirsk, Russia; Natalia Serdiukova, Moscow, Russia; Vitaly Sushchansky, Kiev, Ukraine. Anatoly Tushev, Dnepropetrovsk, Ukraine will visit for the same period with a grant from the Soros Foundation.

EPSRC/LMS MATHFIT PROGRAMME Update

The EPSRC/LMS MathFit programme in Mathematics for Information Technology supports research grants, visiting fellowships and instructional meetings. This notice is to update you on recent MathFit activities and to draw your attention to the revised EPSRC MathFit web page at http://www.epsrc.ac.uk:80/progs/technology/it-cs/mfitcall.htm

PhD Studentships EPSRC PhD studentships in MathFit priority areas are available under the "earmarked scheme": for more details see http://www.epsrc.ac.uk/progs/science/maths/ mathcs97.htm.

Summer Schools and Workshops 1998 The next deadline for funding applications is 10 October 1997: for details see http://www.epsrc.ac.uk :80/progs/technology/it-cs/mfitcall.htm.

Summer Schools and Workshops 1997 Some places may still be available, with generous subsidies for research students: for details of the remaining events below, see http://www-theory.dcs.st-and. ac.uk/~um/mathfit.html

- Computational number theory, Kent, 14-16 July 1997
- New paradigms for computation on classical spaces, Birmingham, 8-10 Sept 1997

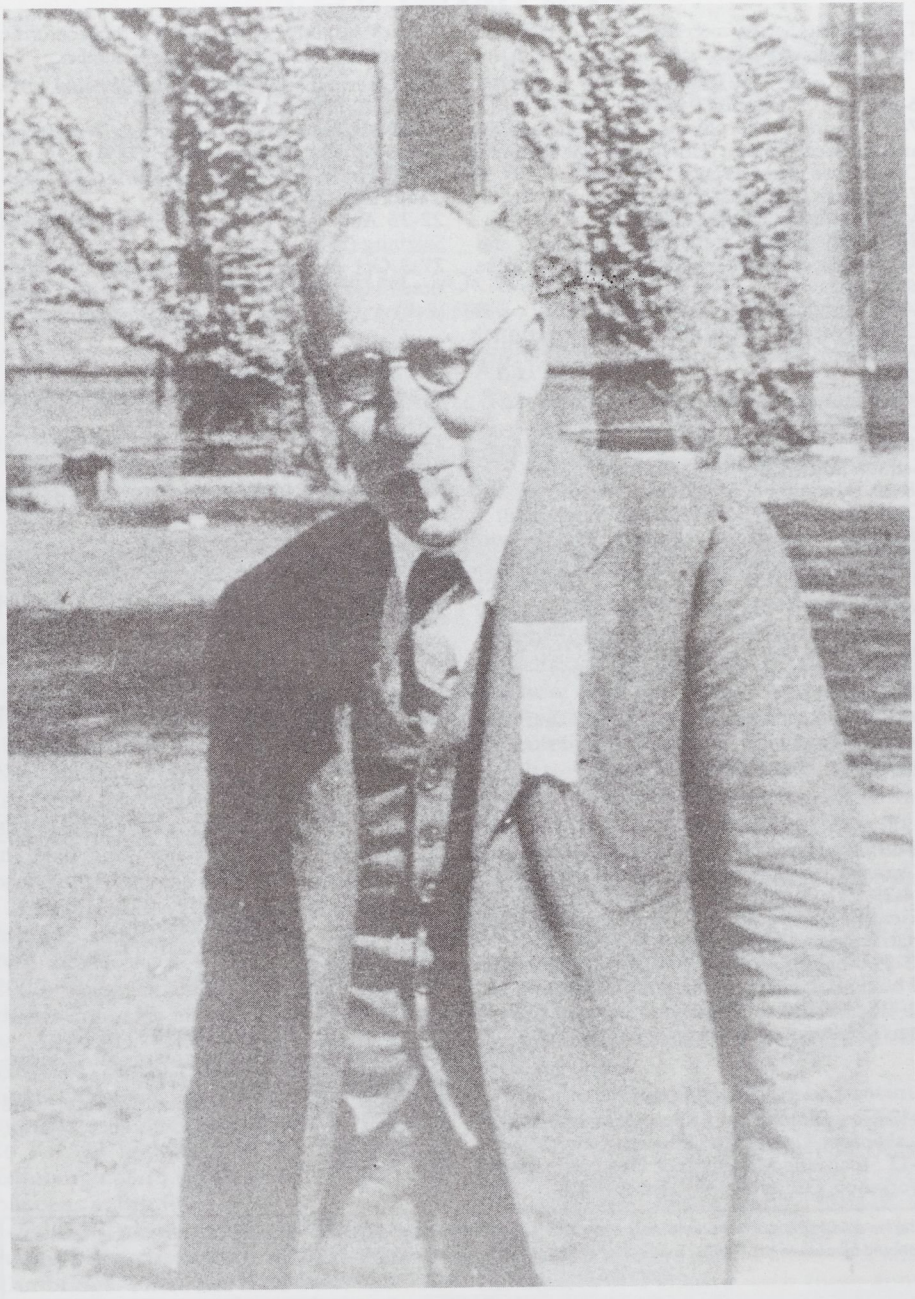
For further details contact one of the coordinators: for the EPSRC Mrs Anne Farrow (anne.farrow@epsrc.ac.uk) or Dr Dominic Semple (dominic.semple@epsrc.ac.uk) and for the LMS Professor Ursula Martin (um@dcs.st-and.ac.uk).

WARWICK SYMPOSIUM ON SYMPLECTIC GEOMETRY

The Opening Workshop of the Symposium on Symplectic Geometry will take place 1st - 12th September 1997 in the Mathematics Institute, University of Warwick. There will be several introductory lecture series as well as individual lectures on current research. Topics range from topological field theories and quantization to symplectic topology and Seiberg-Witten theory.

Invited speakers include: M. Cahen (Brussels), R. Cushman (Utrecht), E. Getzler (Northwestern), V. Ginzburg (Santa Cruz), S. Gutt (Brussels/Metz), A. Karabegov (Moscow), Y. Karshon (Jerusalem), C. Marle (Paris), T. Mrowka (MIT), K. Ono (Tokyo), L. Polterovich (Tel-Aviv), J. Rade (Lund), J.C. Sikorav (Toulouse), R. Stern (Irvine), C. Viterbo (Orsay), J. Wolf (Berkeley).

The other Workshops of the Symposium will take place on 8th - 18th December 1997, 23rd March - 3rd April 1998, and 13th - 24th July 1998. Further details can be obtained from the web page (http://www.maths.warwick.ac.uk/mrc-/1997-98/) or by writing to Peta McAllister, Mathematics Research Centre, University of Warwick, Coventry CV4 7AL or by e-mail (peta@maths.war.ac.uk



H. BOHR
Honorary Member 1930

DIARY

The diary lists Society meetings and other events publicized in previous issues of the Newsletter. For further information, refer to the figure in brackets, which is a cross reference to the LMS Newsletter number.

JULY 1997

6-13 Logic Colloquium, Leeds University (244)
7-11 Harmonic Morphisms, Harmonic Maps and Related Topics, Université de Bretagne Occidentale, Brest, France (244)
7-11 British Combinatorial Conference, Queen Mary & Westfield College (230) (245)
8-11 Mathematical Statistical Mechanics and Related Fields Conference, University College of Swansea
14-16 Computational Number Theory and Cryptography MATHFIT Instructional Workshop, University of Kent, Canterbury (247)
14-24 Pro-p Groups and Related Topics, LMS Durham Symposium (245)
18-19 London-Sussex-Southampton Topology Seminar, University of Southampton (249)
18-20 Dynamics of Mixed Phase Regions ICMS Conference, Royal Society of Edinburgh (249)
18-20 Joint Meeting of the BSHM and CSHPM, Oriel College, Oxford (249)
20-3 Aug Banach Algebras Conference, University of Tubingen, Germany (247)
23-24 New Geometric Techniques in Computer Vision, Royal Society, London (250)
26-9 Aug Groups St Andrews 1997, Bath University (244)
28-8 Aug Representation Theories and Algebraic Geometry Seminar, Université de Montréal, Canada (245)

AUGUST 1997

18-19 Complex Methods in Differential Geometry Conference, ICMS Edinburgh (248)
24-29 15th IMACS World Congress 1997 on Scientific Computation, Modelling and Applied Mathematics, Berlin, Germany (243)
25-29 Analysis and Logic Meeting, University of Mons-Hainaut, Belgium (247)
31-4 Sep Number Theory and Dynamical Systems Conference, University of York (250)

SEPTEMBER 1997

8-10 New Paradigms for Computation on Classical Spaces, University of Birmingham (249)
8-12 Stochastic Modelling of Physical Systems Workshop, Cambridge University (244)
14-19 Integrable Systems Insutructional LMS-EPSRC Conference, Oxford (250)
20-21 Mathematics in the Ancient World Conference, Kellog College, Oxford (249)
22-23 Function Theory Meeting, DPMMS, Cambridge (248)(249)
22-26 Austrian Congress of Mathematics, Salzburg (248)
27-3 Oct Algebraic Independence Instructional Conference, CIRM, Luminy, France (249)

OCTOBER 1997

17-18 Two-Day London Mathematical Society Meeting, London
24-29 Number Theory and Arithmetical Geometry Conference, Spain (250)
25 Celebration of William Burnside Meeting, Royal Naval College, London (250)

NOVEMBER 1997

21 London Mathematical Society, Annual General Meeting, London

DECEMBER 1997

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

FEBRUARY 1998

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

APRIL 1998

6-9 British Mathematical Colloquium, Manchester University

AUGUST 1998

18-28 International Congress of Mathematicians, Berlin, Germany (238) (242)
30-5 Sep Algebraic Number Theory and Diophantine Analysis Conference, Graz, Austria (249)

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

The London Mathematical Society, Burlington House, Piccadilly, London W1V 0NL
Tel: 0171-437 5377, fax: 0171-439 4629, e-mail: lms@lms.ac.uk.
World Wide Web: http://www.lms.ac.uk/

The London Mathematical Society is registered with the Charity Commissioners.

Printed by Armstrong Press Ltd, Southampton 01703 333132