

# **LONDON MATHEMATICAL SOCIETY**

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**PROFESSOR D. E. EDMUNDS (Sussex)**

## **SOBOLEV SPACES AND SPECTRAL THEORY**

**DR. B. J. MASON (Meteorological Office)**

The Naylor Prize Lecture in the  
Applications of Mathematics

## **THE NUMERICAL PREDICTION OF WEATHER AND CLIMATE**

**FRIDAY, 16th March, 1979, at 3.30 p.m.**

**Geological Society's Meeting Room,  
Burlington House,  
Piccadilly, London W1V 0NL**

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All interested are very welcome.  
Tea will be served at 4.30 p.m.

# LMS NEWSLETTER

No. 57

March 1979

## DATES OF SOCIETY MEETINGS

Friday, 16 March 1979, Burlington House, Naylor Lecturer—Dr B. J. Mason.  
Friday, 18 May—Saturday, 19 May 1979, Birmingham.

Friday, 15 June 1979, Burlington House Hardy Lecture.

London meetings will be held in the

Geological Society's Rooms, Burlington House, Piccadilly. Council meetings will be held in conjunction with all the above meetings except that on 18 May 1979. Council will meet in London on 11 May 1979.

D. B. SINGMASTER

## PERSONAL ITEMS

Professor G. C. Shephard has received a Carl B. Allendoerfer Award of the Mathematical Association of America for his joint expository paper (with B. Grünbaum): Tilings by regular polygons. *Math. Mag.* 50 (1977) 227–247.

Professor R. P. Boas has received a Lester R. Ford Award of the Mathematical Association of America for his expository paper: Partial sums of infinite series, and how they grow. *Amer. Math. Monthly* 84 (1977) 237–258.

## THE PROBLEMS OF LEARNED SOCIETIES

Following the publication of the Report by Dr Robert Press to the Royal Society / British Academy Committee on Learned Societies "A Survey of the Problems of Learned Societies", a one-day conference was held at Carlton House Terrace on 27 October, 1978. Over 250 officers of almost as many small (up to 3000 members) societies took part in this notable event. Under the chairmanship of Dr. B. J. Mason,

several short talks on publications, accommodation, libraries, records and finance—the principal areas of difficulty identified by Dr. Press—were followed by questions and discussion. It is hoped that this conference will encourage the smaller societies in the UK to make effective use of the advice and expertise that is available to them through the agency of the two organising bodies.

S. A. ROBERTSON

## THE INTERNATIONAL MATHEMATICAL OLYMPIAD

The correspondence course for pupils referred to under this heading in the January 1979 *Newsletter* is this session being run by Dr. D. Monk, Department of Mathematics, James Clerk Maxwell Building, The King's Buildings, Edinburgh EH9 3JZ, and not by Mr. R. C. Lyness. Requests (from within the U.K.) for a

copy of the latest issue should be sent to Dr. Monk, enclosing a stamped self-addressed foolscap envelope. The course aims to deal with various ideas which arise in Olympiad problems but which are not always covered in British school syllabuses.

## SEVENTH BRITISH COMBINATORIAL CONFERENCE

The Seventh British Combinatorial Conference, organised jointly by the British Combinatorial Committee and the Department of Pure Mathematics and Mathematical Statistics, Cambridge, will be held in Cambridge on 13–17 August, 1979. Accommodation and meals will be provided in Trinity College. The principal lecturers are N. Biggs (Royal Holloway), A. D. Gardiner (Birmingham), A. Hajnal (Budapest), D. J. Kleitman (M.I.T.), W. Mader (Berlin), V. Rödl (Prague), J. J. Seidel (Eindhoven), J. A. Thas (Ghent), C. Thomassen (Aarhus) and D. J. A. Welsh (Oxford).

In addition, there will be special sessions for contributed talks of 20 minutes each. These sessions will cover a wide range of combinatorial topics, including Graph Theory, Hypergraphs, Matroids, Combinatorial Set Theory, Finite Geometries, Designs, Enumeration, Coding Theory, Combinatorial Group Theory and Applications to Physical Sciences. Application forms and further details can be obtained from Dr. B. Bollobas, D.P.M.M.S., 16 Mill Lane, Cambridge, CB2 1SB; applications should be made by 31 May, 1979.



## CONFERENCE ON LOW-DIMENSIONAL TOPOLOGY

A Conference on low-dimensional topology will be held at the University College of North Wales, Bangor on 2-6 July, 1979. Topics of interest will be 3- and 4-manifolds, 2-dimensional cell complexes, knots and links, related areas of group theory, hyperbolic geometry.

Accommodation is available in single study bedrooms in a hall of residence for the nights of 1-6 July at a cost of £65 including all meals and conference fee.

Early booking is advisable. Some cheaper accommodation may be available in self-catering halls (no cooking utensils or crockery provided), and there is a variety of tourist accommodation. Some accommodation may be available for longer stays for those who wish to tour the area. For further information contact Dr. T. L. Thickstun, School of Mathematics and Computer Science, U.C.N.W., Bangor, Gwynedd LL57 2UW.

## MATRIX THEORY

The Irish Mathematical Society will hold a conference on Matrix Theory and its Applications in Dublin on 9-10 March, 1979. Further details can be obtained from

F. J. Gaines or T. J. Laffey, Mathematics Department, University College Dublin, Dublin 4.

## CHERN SYMPOSIUM

An International Symposium in Differential Geometry will be held at the University of California at Berkeley, 25-29 June, 1979, in honour of Shiing-shen Chern on the occasion of his retirement. This Symposium will review recent major developments in differential geometry and its relation to such areas as nonlinear partial differential equations, complex analysis, algebraic geometry and theoretical physics. The scientific program will consist of ten to fifteen invited one-hour lecturers. To date, the following have accepted the invitation to speak: M. F. Atiyah, R. Bott, E. Calabi,

P. A. Griffiths, F. Hirzebruch, N. H. Kuiper, J. Moser, L. Nirenberg, R. Osserman, Wu Wen-Tsun, C. N. Yang, and S. T. Yau. Participants may choose to organize their own seminars during the Symposium.

Those who plan to attend the Symposium should send their name, affiliation, address, and approximate dates of arrival and departure, clearly indicating whether they need housing information to: Ms. Nora Lee, Department of Mathematics, University of California, Berkeley, CA 94720, USA.

## CANADA-FRANCE COMBINATORIAL COLLOQUIUM

A Joint Canada-France Combinatorial Colloquium will be held at the University of Montreal on 11-16 June 1979. The conference will be concerned with combinatorics, graph theory and discrete

optimization. There are 25 invited speakers and the organisers welcome contributed papers. Further details can be obtained from M. Deza, CNRS Equipe 175 Combinatoire, 4, Place Jussieu, 75230 Paris.

## SYMPOSIUM ON FUNCTIONAL ANALYSIS: WEST AFRICA

The Second International Symposium in West Africa on Functional Analysis and its Applications will be held in Kumasi, Ghana on 15-22 August 1979. There will be a number of invited one-hour lectures.

A complete list of these and other information can be obtained from T. Owusu-Ansah, Symposium on Functional Analysis, Department of Mathematics, University of Science and Technology, Kumasi, Ghana.

## SECOND AUSTRALIAN NUMBER THEORY CONFERENCE

The second Australian Number Theory Conference will be held at Macquarie University, Sydney on 26 August-1 September 1979. Invited speakers include D. Bertrand, P. D. T. A. Elliott, P. Erdős, H. W. Lenstra Jr., K. Mahler, D. W. Masser,

W. Narkiewicz, and G. Szekeres. Further details can be obtained from J. Loxton, School of Mathematics, University of New South Wales, Kensington, NSW, 2033, Australia.



## MATHEMATICAL METHODS IN LINEAR SYSTEMS THEORY

A N.A.T.O. advanced study institute on Algebraic and Geometric Methods in Linear Systems Theory will be held on 19–30 June 1979 at Harvard University. The co-chairmen of the conference are R. Brockett (Harvard), C. I. Byrnes (Harvard) and C. Martin (Case Western Reserve). The provisional programme includes the following series of lectures: C. I. Byrnes, M. Hazewinkel and C. Martin—Linear systems and algebraic geometry; C. I. Byrnes and Y. Rouchaleau

—Systems over rings; P. Fuhrmann—Infinite dimensional systems; H. Rosenbrock—Transfer function techniques; J. C. Willems—Linear stochastic systems; M. Wonham—System design via controllability subspace techniques. Further details and information concerning financial assistance can be obtained from C. Martin, Department of Mathematics, Case Western Reserve University, Cleveland, Ohio 44106, USA.

## ROAD SAFETY STUDIES

A N.A.T.O. advanced study institute on Contingency Table Analysis Techniques for Road Safety Studies will be held at Urbino, Italy on 18–29 July 1979. Lectures will be given by D. V. Gokhale, S. Kullback, S. Lassarre, S. Oppe, L. L. Philipson and

P. P. Scott. Further details can be obtained from the Director, Dr. G. A. Fleischer, Traffic Safety Centre, University of Southern California, Los Angeles, California 90007, USA.

## FAULT TOLERANT COMPUTING

The 1979 International Symposium on Fault Tolerant Computing will be held in the Concourse Hotel, Madison, Wisconsin on 20–22 June 1979. Papers will be presented on Modelling, Software, Systems,

Circuits and Coding. Further details can be obtained from G. M. Masson, Department of Electrical Engineering, Johns Hopkins University, Baltimore, Maryland 21218, USA.

## BOOKS RECEIVED FOR REVIEW IN THE *BULLETIN*

- K-Theory, An Introduction:** Max Karoubi: pp. 308, DM.78. (Springer Verlag).  
**Theorie Der Steinschen Raume:** H. Grauert and R. Remmert: pp. 249, DM.84. (Springer Verlag).  
**Integrals and Operators: (2nd rev. ed.):** I. E. Segal and R. A. Kunze: pp. 371, DM.84. (Springer Verlag).  
**Lectures on Closed Geodesics:** W. Klingenberg: pp. 227, DM 65. (Springer Verlag).  
**Coding Theorems of Information Theory: (3rd ed.):** J. Wolfowitz: pp. 173, DM.54. (Springer Verlag).  
**Bounded Integral Operators on  $L^2$  Spaces:** P. R. Halmos and V. S. Sunder: pp. 132, DM.33. (Springer Verlag).  
**Manifolds All of Whose Geodesics are Closed:** A. L. Besse: pp. 262, DM.78. (Springer Verlag).  
**Probability Theory II: (4th ed.):** M. Loeve: pp. 413, DM.43·10. (Springer Verlag).  
**A Course in Differential Theory:** W. Klingenberg: pp. 178, DM.32·20. (Springer Verlag).  
**Algebraic Geometry:** R. Hartshorne: pp. 496, DM.53·30. (Springer Verlag).  
**A Course in Mathematical Logic:** Y. I. Manin (trans. fr Russian by N. Koblitz): pp. 286, DM.46. (Springer Verlag).  
**Combinatorics:** J. E. Graver and M. E. Watkins: pp. 351, DM.54. (Springer Verlag).  
**Introduction to Operator Theory I: Elements of Functional Analysis:** A. Brown and C. Pearcy: pp. 474, DM.54. (Springer Verlag).  
**Cyclotomic Fields:** S. Lang: pp. 253, DM.38. (Springer Verlag).  
**Introduction to College Mathematics with a Programming Language:** E. J. Lecuyer Jr.: pp. 420, DM.34·50. (Springer Verlag).  
**Basic Concepts of Algebraic Topology:** F. H. Croom: pp. 177, DM.36. (Springer Verlag).  
**Linear Algebra:** L. Smith: pp. 280, DM.27. (Springer Verlag).  
**Lecture Notes in Physics:** vols. 70, 73, 74, 77–80, 84 (Springer Verlag).  
**Lecture Notes in Mathematics:** vols. 624–685 (Springer Verlag).  
**Lecture Notes in Computer Science:** vol. 63 (Springer Verlag).  
**Statistics of Random Processes I: General Theory** (trans fr Russian): R. S. Liptser and A. N. Shirayev: pp. 394, DM.64·80. (Springer Verlag).  
**Statistics of Random Processes II: Applications:** R. S. Liptser and A. N. Shirayev: pp. 339, DM.66. (Springer Verlag).

**Optimal Stopping Rules:** (3rd ed.): A. N. Shiryaev: pp. 217, DM.54. (Springer Verlag).  
**Stochastic Approximation Methods for Constrained and Unconstrained Systems:** H. J. Kushner and D. S. Clark: pp. 261, DM.26·40. (Springer Verlag).  
**Integral Transforms and Their Applications:** B. Davies: pp. 411, DM.32. (Springer Verlag).  
**Pattern Analysis:** U. Grenander: pp. 605, DM.39. (Springer Verlag).  
**Studies in the History of Mathematics and Physical Sciences: Statistical Theory Anticipated:** I. J. Bienayme: pp. 172, DM.46. (Springer Verlag).  
**A History of Numerical Analysis from 16th-19th Centuries:** H. H. Goldstine: pp. 348, DM.54. (Springer Verlag).  
**Differential- Und Integralrechnung III:** H. Grauert and I. Lieb: pp. 210, DM.19·80. (Springer Verlag).  
**Elements of Optimisation:** D. Koo: pp. 220: DM.24. (Springer Verlag).  
**Mechanizing Hypothesis Formation:** P. Hajek and T. Havranek: pp. 396, DM. 48. (Springer Verlag).  
**The Concepts and Logic of Classical Thermodynamics as a Theory of Heat Engines:** C. Truesdell and S. Bharatha: pp. 154: DM.56·30. (Springer Verlag).  
**Relativistic Theories of Materials:** A. Bressnan: pp. 290, DM.98. (Springer Verlag).  
**Differential- Und Integralrechnung II:** H. Grauert and W. Fischer: pp. 227, DM.16·80 (Springer Verlag).  
**Recursion Theoretic Hierarchies:** P. G. Hinman: pp. 480, DM.88. (Springer Verlag).

### PART TIME SECRETARY

Council wishes to appoint a secretary to assist the Meetings and Membership Secretary for about 5 hours per week. Competent typing and some familiarity with mathematics are needed. The husband or wife of a mathematician or someone who has worked in a scientific department would

be ideal. The work will be done at Dr. Singmaster's home in Clapham South. Applications should be addressed to Dr. D. B. Singmaster, Department of Mathematics, Polytechnic of the South Bank, London SE1 0AA from whom further details can be obtained.

## UNIVERSITY COLLEGE OF NORTH WALES BANGOR

Applications are invited for the post of LECTURER IN MATHEMATICS. Applicants should have research experience and publications in Pure Mathematics, preferably in an area of TOPOLOGY.

The appointment, to commence on 1 October 1979, will be to the Universities' Lecturer scale:- £3,883-£7,754 per annum.

Applications (two copies), giving details of qualifications and experience, together with the names and addresses of three referees, should be sent to the Assistant Registrar (Personnel), University College of North Wales, Bangor, Gwynedd LL57 2DG, from whom further particulars may be obtained.

Closing date for applications: 28 February 1979.



# SELECTED TOPICS IN GRAPH THEORY

edited by

**Lowell W. Beineke**

**and Robin J. Wilson**

*January/February 1979, xii + 452 pp., £21.50 0.12.086250.6*

An important feature of this book is that a uniform terminology, style and notation has been adopted throughout. While some knowledge of elementary graph theory is assumed, all the necessary definitions and theorems used in the book are described in the first chapter thereby making the book most useful for advanced courses and seminars. This book should also prove to be a valuable source of information to professional graph theorists, to newcomers in the field, and to experts in other fields of mathematics who may want to learn about specific topics.

# MULTIVARIATE APPROXIMATION

edited by

**D. C. Handscomb**

*November 1978, xiv + 354 pp., £12.50/\$25.75 0.12.323350.X*

Although both the theory and the practical applications of univariate approximation have enjoyed good coverage in books, journals and conferences, multivariate approximation has received very little specific mention, despite potentially more varied and more rewarding applications. With a view to redressing the balance the London Mathematical Society convened a research symposium at the University of Durham, from July 21 to July 30, 1977, devoted to multivariate approximation. This book contains the formal proceedings of the symposium, which brought together many of the best known people currently active in theoretical or practical aspects of multivariate approximation.

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Edited by B. E. Johnson, School of Mathematics, the University, Newcastle upon Tyne, NE1 7RU  
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