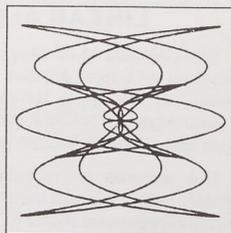


# THE LONDON MATHEMATICAL SOCIETY NEWSLETTER



No. 129

May 1986

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**Advertising:** Susan Oakes, LMS Office, Burlington House, Piccadilly, London W1V 0NL. Tel: 01-437 5377.

The *Newsletter* is published monthly, except in August and September. Items for inclusion (with the exception of advertising material) should be sent to the Editor, to arrive before the tenth day of the month prior to publication. Advertisements, and general enquiries about the Society, should be addressed to Susan Oakes at the LMS Office.

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## Forthcoming Meetings

Friday 16 May 1986, Burlington House

(J. A. Green, D. Segal)

Friday 20 June 1986, Burlington House

(J. D. Murray, M. A. R. Koehl)

Friday 17 October 1986, Burlington House

(Meeting on Quasi-Crystals)

Friday 21 November 1986, Royal Society

(The President, J. R. Hubbuck)

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## BRITISH SOCIETY FOR THE HISTORY OF MATHEMATICS

The next meeting of the British Society for the History of Mathematics will be a joint meeting with the Royal Institution Centre for the History of Science and Technology. It will take place at the Royal Institution, 21 Albemarle Street, London W1, on Friday, 20 June 1986.

The speakers will include:- C. Blondel (La Villette, Paris) — *Ampère's experiments: from home made "bricolage" to theoretical engravings*; I. Grattan-Guinness (Middlesex

Polytechnic) — *Lines of mathematical thought in the Electrodynamics of Ampère*; F. James (Royal Institution) — *Faraday and electrochemistry: his quantitative approach*; P. Harman (Lancaster) — *Maxwell on Faraday: the mathematisation of field theory*.

Further information may be obtained from the Secretary, Dr C. R. Fletcher, Department of Pure Mathematics, University College of Wales, Aberystwyth, Dyfed.

## LINEAR ALGEBRA AND REPRESENTATION THEORY

From 26 May to 28 May, 1986 there will be a meeting on Linear Algebra and Representation theory at the State University of Ghent. The Linear Algebra lectures will be on matrix theory with special emphasis on generalized inverses.

The lectures on representation theory will mainly treat representation of algebras and integral representations of groups.

The invited speakers are: D. Robinson (Brigham Young Univ., Provo), T. Laffey (University of Dublin), P. Dowbor (University of Torun), G. N. de Olivera (Univ. of Coimbra), R. Sandling (Univ. of Manchester), L. Lebrun (Univ. of Antwerp):

The meeting is organised by the Seminar of Algebra and Functional analysis of the State University of Ghent. It is supported by NFWO. One day will be one of the annual NFWO -- algebra meetings, hence participants from Belgian universities will have travel expenses refunded.

Everybody interested in the meetings can contact: R. Puystjens, Seminarie voor Algebra en Functionaal analyse, Galglaan 2, 9000 Gent, Belgium for more information.

In the beginning of May a detailed program will appear.

## FONDAZIONE C.I.M.E.

The subject of the First 1986 C.I.M.E. Session is *Inverse Problems*.

This Session will take place under the scientific direction of Prof. Giorgio Talenti (Università di Firenze), at Villa "La Quercata", Montecatini Terme (Pistoia), Italy, from 28 May to 5 June, 1986.

The course consists of:

- Inverse Eigenvalue Problems* 6 lectures by Prof. Victor Barcilon (University of Chicago).
- Regularization Methods for Linear Inverse Problems* 6 lectures by Prof. Mario Bertero (Università di Genova).
- Tomography* 6 lectures by Prof. Alberto F. Grunbaum (University of California, Berkeley).
- Numerical Treatment of Ill-posed Problems* 6 lectures by Prof. Frank Natterer (Univ. Münster).

The subject of the Second 1986 C.I.M.E. Session is *Mathematical Economics*.

This Session will take place under the scientific direction of Professor Antonio Ambrosetti (Università di Venezia), Franco Gori (Università di Firenze), Roberto Lucchetti (Università di Milano) at Villa "La Quercata" Montecatini Terme (Pistoia), Italy, from 25 June to 3 July 1986.

The course consists of:

- Variational Problems arising from Mathematical Economics* 6 lectures by Prof. Ivar Ekeland (Ceremade, Univ. Paris IX).
- Differentiability Techniques in the Theory of General Economic Equilibrium*. 6 lectures by Prof. Andreu Mas-Colell (Harvard University).

c) *Dynamical General Equilibrium Models* 6 lectures by Prof. Jose A. Scheinkman (University of Chicago).

d) *Topics in Noncooperative Game Theory* 6 lectures by Prof. Shmuel Zamir (Hebrew Univ. Jerusalem).

The subject of the Third 1986 C.I.M.E. Session is *Combinatorial Optimization*.

This session will take place under the scientific direction of Prof. Bruno Simeone (Università de Roma "La Sapienza") at the Centro di Cultura Scientifica A. Volta, "Villa Olmo", Como (Italy), from 25 August to 2 September, 1986.

The course consists of:

- Truth Functions and Set Functions* 6 lectures by Prof. Peter L. Hammer (Rutgers University, USA).
- Binary Group Polyhedra, Binary Matroids, and the Chinese Postman Problem*. 6 Lectures by Prof. Ellis L. Johnson (IBM Thomas J. Watson Research Center, USA).
- Algorithmic Principles and Combinatorial Structures* 6 lectures by Prof. Bernhard Korte (Universität Bonn)
- Submodular Functions, Graphs and Optimization*. 6 lectures by Prof. Eugene L. Lawler (University of California, Berkeley).

Further details may be obtained from Fondazione C.I.M.E., c/o Istituto Matematico, "U. Dini", Viale Morgagni, 67/A, I-50134 Firenze (Italy).

## INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS

The following Mathematics activities are being organised at the International Centre for Theoretical Physics this year:

- Workshop on Dynamical Systems (20 May - 6 June)
- Spinors in Physics and Geometry (11-13 September)

Workshop on Global Differential Geometry (15-19 September)

Workshop on Representation Theory of Lie Groups (10-28 November).

Further details may be obtained from Professor James Eells, International Centre for Theoretical Physics, 34100 Trieste, Italy.

# LONDON MATHEMATICAL SOCIETY

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J. A. GREEN (Warwick)

MODULAR REPRESENTATIONS

D. SEGAL (Oxford)

ALGEBRAIC DECISION PROBLEMS  
AND ARITHMETIC GROUPS

FRIDAY, 16 MAY 1986 at 3.30 p.m.

Geological Society's Meeting Room,  
Burlington House,  
Piccadilly, London W1

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

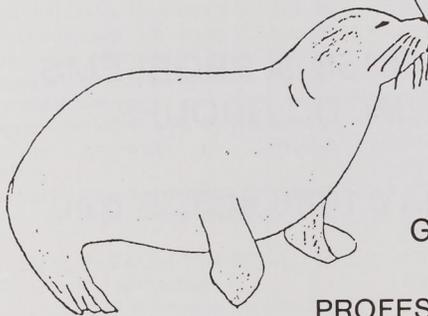
# LONDON MATHEMATICAL SOCIETY

## An Evening of Popular Lectures

Friday 27 June 1986: Rupert Beckett Lecture Theatre, Arts Building University of Leeds

Friday 4 July 1986: Great Hall, Sherfield Building, Imperial College Exhibition Road, London SW7

THE RISE AND FALL  
OF MATRICES  
PROFESSOR W LEDERMANN  
7.30 p.m.



GAMES ANIMALS  
PLAY  
PROFESSOR J MAYNARD SMITH  
9.00 p.m.

ALL INTERESTED ARE WELCOME COFFEE WILL BE SERVED AT 8.30 p.m.  
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 or relatives.

Admission to the lectures will be by ticket only. Applications for the lectures on Friday 27th June at the University of Leeds should be sent to Mrs Backhouse, School of Mathematics, University of Leeds, Leeds LS2 9JT. Applications for the lectures on Friday 4 July at Imperial College, London should be sent to Miss Susan Oakes, London Mathematical Society, Burlington House, Piccadilly, London W1V 0NL. A stamped-addressed envelope would be appreciated. There is no charge for admission.

## PROFESSOR JAMES EELLS

Professor James Eells has been appointed head of mathematics at the International Centre for Theoretical Physics (Trieste, Italy). Professor

Eells will share his time between the Centre and the University of Warwick.

## ROLLO DAVIDSON TRUST

At a meeting of the Trustees on 10 March 1986, Rollo Davidson Prizes were awarded to.

Peter Hall of the Australian National University, Canberra, for his work on continuum percolation, and to:

Jean-Francois Le Gall of the Universite Pierre and Marie Curie, Paris, for his use of local-time arguments to obtain uniqueness theorems for

stochastic differential equations, and for his work on the multiple points of brownian motion.

The first Rollo Davidson Prize was awarded in 1976, and sixteen prizes have now been awarded. The work of the trust is supported by the gift of royalties, and by individual donations. Correspondence should be addressed to its Secretary: The Bursar, Churchill College, Cambridge CB3 0DS, U.K.

## MEETINGS IN AUSTRALIA

August 9-15, 1987 *International Conference on Abelian Groups*, Perth, Western Australia. Details may be obtained from the Organizer, Dr. P. Schultz, Department of Mathematics, University of Western Australia, Nedlands, W.A. 6009, Australia.

August 17-20, 1987 *International Conference on Rings, Modules and Radicals*, Hobart, Tasmania. Details may be obtained from the Organizer, Dr. B. J. Gardner, Mathematics Department, The University of Tasmania, G.P.O. Box 252C, Hobart, Tas. 7001, Australia.

## INTUITIVE AND RECREATIONAL MATHEMATICS

The Eugene Strens conference on Intuitive and Recreational Mathematics and its History will be held at the University of Calgary, from 27 July to 2 August 1986. Invited speakers (and some topics) include:

Elwyn Berlekamp (My favorite combinatorial games); H.S.M. Coxeter (Frieze patterns); P. Erdős; Aviezer Fraenkel; Martin Gardner; Sol Golomb (Polyominoes); Ron Graham; Branko Grunbaum (Escher); Heiko Harborth (Matchsticks in the plane); Hendrik Lenstra; Willy Moser; Angela Newing (Henry Ernest Dudeney); Roger Penrose; John Rigby (Fun with tessellations); Doris Schattschneider (Escher as a closet mathematician); John Selfridge; David Singmaster (The utility of recreational mathematics); John Wilker (Tiling 3-space with circles).

There will be displays, both amateur and commercial, of books, games, puzzles and films.

The Strens Collection of books and manuscripts on intuitive and recreational mathematics and its history was in part presented by the Strens family and in part purchased by Richard Guy in 1983. It has been installed as a Special Collection in The University of Calgary Library.

Eugene Strens was an engineer, amateur mathematician and friend of the artist, Maurits Escher. He lived in Breda in The Netherlands and devoted much of his life to the lighter side of mathematics. He assembled a collection of 2000 items, most of them books, but some journals, newspaper clippings and manuscripts of his own compilation.

Further details may be obtained from: Madeleine Aldridge, Conference Co-ordinator, Faculty of Continuing Education, The University of Calgary, 2500 University Drive N.W., Calgary, Alberta, CANADA, T2N 1N4. Telephone (403) 220-5051.

## WORKSHOP ON DIFFERENTIAL GEOMETRY

A two-day meeting on Differential Geometry will be held on 22 and 23 May 1986 at the Department of Mathematics, University of Southampton, with financial support from the London Mathematical Society and the Contact Group in Differential Geometry of the Belgian National Science Foundation. Speakers include P. Lecompte (Liège), M. Cohen (Bruxelles), L.

Verstraelen (Leuven), S. K. Donaldson (Oxford), A. West (Leeds) and T. J. Willmore (Durham). The meeting is being organised by L. Vanhecke (Leuven) and S. A. Robertson (Southampton). All enquiries should be sent to S. A. Robertson, Department of Mathematics, University of Southampton, Southampton SO9 5NH. Tel: 0703-559122 Ext. 3612.

## SEVENTIETH BIRTHDAY OF ALI FROHLICH

A meetings and a lunch will be held at Cambridge University on 27 and 28 June 1986 to celebrate the 70th birthday of Ali Fröhlich.

The meeting will be supported by the L.M.S. and will take the form of three lectures on Friday afternoon and two lecturers on Saturday morning, all the lectures will take place in Lecture Room A in the Arts School of Cambridge University (Ben'et St.) The lecture times are:

2.00 (Friday) M. J. Taylor, *Hopf orders, complex multiplication and the Galois module structure of rings of integers.*

3.15 C. J. Bushnell, *Gauss sums and the local Langlands conjectures.*

4.15 Tea

5.00 J. C. Coates,  *$\mathbb{Z}$  adic representations and Iwasawa theory.*

9.15 (Saturday) Sir H. P. F. Swinnerton-Dyer, *Intersection of two quadrics and Châtelet surfaces*

10.45 J. P. Serre, *Galois representations, modular forms and Fermat equations.*

The celebration lunch will be held at Robinson College, Grange Road, at 12.15 following the last of the Saturday morning lectures. There will be the option of overnight accommodation on the Friday for those who wish.

The charges involved are as follows: there will be a registration fee of £5 for participation in the meeting; bed and breakfast at Robinson College will cost £15.20; and the price of the celebration lunch will be £6. Robinson College are also prepared to offer Friday lunch (cost £5) and Friday dinner (cost £7).

Those wishing to attend are asked to write, by 20 May, to Professor M. J. Taylor, Department of Mathematics, U.M.I.S.T., P.O. Box 99, Manchester, M60 1QD.

THE AUSTRALIAN NATIONAL UNIVERSITY invites applications from suitably qualified women and men for appointment to the following position: POSTDOCTORAL FELLOW/RESEARCH FELLOW, DEPARTMENT OF MATHEMATICS, RESEARCH SCHOOL OF PHYSICAL SCIENCES. The Department of Mathematics (Head: Professor D. W. Robinson, FAA) carries out research in several areas, namely Operator Algebras; Semigroups and Mathematical Physics; Partial Differential Equations and Geometry; Foundations; Lie Groups and Algebraic Groups; Ordinary Differential Equations and Control Theory; Global Analysis; Group Theory. Closing date: 31 July 1986. Ref: PS. 25.3.3. Salary will be in accordance with qualifications and experience within the range: Postdoctoral Fellow Grade 1 (at a fixed point \$23,473 - \$26,889 p.a.; Research Fellow \$27,233 - \$35,777 p.a. Appointment, unless otherwise stated, will be: Research Fellow normally up to three years with the possibility of extension to maximum of five years; Postdoctoral Fellow normally two years, with the possibility of extension to maximum of three years. Grants towards travel, assistance with housing, superannuation. Maternity leave is available. The University reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants should quote the reference number when submitting applications to R. V. Dubbs Registrar, GPO Box 4, Canberra, ACT, 2601 Australia. **THE UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER.**

## New From Oxford

### Introduction to Complex Analysis

H. A. Priestley

*'Priestley says that his aims are "to be practical without being utilitarian and to be rigorous without being over-sophisticated or fussy". These are admirable aims, admirably achieved.'*

**Times Higher Education Supplement**

0 19 853247 4, 224 pp., illus., Clarendon Press, 1985

£19

0 19 853246 6, paperback

£8.50

### Atlas of Finite Groups

Maximal subgroups and ordinary characters for simple groups

J. H. Conway, R. T. Curtis, S. P. Norton, R. A. Parker, and R. A. Wilson

*'The atlas contains information that cannot be found elsewhere and collates much under a single cover. It will no doubt be an indispensable tool for those interested in the subject for many years.'* **Times Higher Education Supplement**

0 19 853199 0, 284 pp., Clarendon Press, 1985

£35

### Discrete Mathematics

Norman L. Biggs

*'I can recommend this book wholeheartedly to anyone wishing to learn the subject. It is written with humour and a lightness of touch which make it a pleasure to read.'*

**Times Higher Education Supplement**

0 19 853252 0, 496 pp., illus., Clarendon Press, 1985

£30

0 19 853266 0, paperback

£15

### An Introduction to Complex Analysis

J. B. Reade

This book aims to give an introduction to that part of mathematics which has come to be known as Analysis.

0 19 853257 1, 174 pp., Clarendon Press, June 1986

£19

0 19 853258 X, paperback

£8.50

### Hardy Classes and Operator Theory

Marvin Rosenblum and James Rovnyak

An introduction to diverse areas of modern function theory and operator theory. The choice of topics and methods renders this book a unique interdisciplinary approach to operator theory and function theory.

0 19 503591 7, 224 pp., OUP USA, 1985

£37.50

*Oxford Mathematical Monographs*

# Oxford University Press

## PROTEXT III

The *Third International Conference on Text Processing Systems*, 22-24 October, 1986, and the related short course on *Computer Aided Text Processing - An Introduction*, 20-21 October 1986 will be held in the University Industry Centre, University College, Belfield, Dublin.

The Conference Keynote Speakers are: C. Bigelow (Bigelow and Holmes, San Francisco) *Typeface transformations and deformations*; P. MacKay (University of Washington, Seattle) *Experience in design with Metafont*; R. Morris (Interleaf and University of Massachusetts, Boston) *Evolution of the Interleaf user interface*; A. Shaw (University of Washington, Seattle) *Structure editor generators for documents, programs*

and other structured data; G. Simms (Former Archbishop of Armagh) *The Book of Durrow 'The Elder Sister of the Book of Kells'*.

J. Smith (National Computing Centre, Manchester) *The use of SGML in the information market*. The Short Course lecturers are K. Holmes *Fundamentals of digital alphabet design and editing*; P. McKay *Introduction to TeX and Introduction to LaTeX*; R. Morris *Introduction to PostScript*; J. Smith *Using the SGML starter set and Expanding the SGML starter document type, definition*.

Further details may be obtained from PROTEXT III, Conference Management Services, P.O. Box 5, 51 Sandycove Road, Dun Laoghaire, Co. Dublin, Ireland.