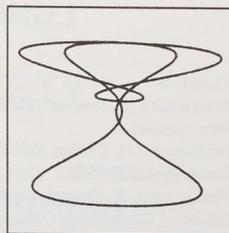


# THE LONDON MATHEMATICAL SOCIETY NEWSLETTER



**No. 140**

**May 1987**

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**Editor:** Czes Kosniowski School of Mathematics, The University, Newcastle upon Tyne, NE1 7RU. Tel: 091-232 8511 and 091-284 4209.

**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**

**8-9 May 1987, Edinburgh**

**Joint Meeting with Edinburgh Mathematical Society**

**(M. Christ, A.M. Davie, E.B. Davies, E.M. Stein, N.Th. Varopoulos)**

Friday 19 June 1987, Burlington House

Friday 16 October 1987, Burlington House

Friday 20 November 1987, Burlington House

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## **EXPERT SYSTEMS 87**

Expert Systems 87, the Seventh Annual Technical Conference of the British Computer Society Specialist Group on Expert Systems will be held at the Metropole Hotel in Brighton from 15-17 December 1987. It will be preceded by one day tutorials in the same location on Monday 14 December 1987. The conference will mainly focus on both theoretical aspects of expert systems and their practical applications and there will be a number of invited overview lectures and an exhi-

bition of both commercial and scientific software and hardware. Sessions oriented towards the business aspects of expert systems will be included.

Further details may be obtained from the Conference Secretariat, Clearway International Medical and Scientific Meetings Ltd, Conference House, 9 Pavilion Parade, Brighton BN2 1RA. Tel: (0273) 694079/695811.

# LONDON MATHEMATICAL SOCIETY

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## *Administrator*

**Miss S.M. Oakes (01) 437 5377** London Mathematical Society, Burlington House, Piccadilly, London W1V 0NL.

## ROLLO DAVIDSON TRUST

At a meeting of the Trustees on 24 March 1987, Rollo Davidson Prizes were awarded to: Yu Yao-Chi (of the Mathematics Department, Zhong Shan University, Guangzhou) and Zou Jie-Zhong (of the Research Department, Changsha Institute of Railways) for their contributions which together led to the proof of D.G. Kendall's modified version of Davidson's conjecture concerning the oscillation of  $p$ -functions (Joint Award), and to Andrew Carverhill (of the Mathematics

Department, University of North Carolina) for his work on the flows of stochastic dynamical systems and their Lyapunov exponents.

The Trust commenced its work in 1976, and eighteen prizes have now been awarded. It is supported by royalties and individual donations: correspondence should be addressed to its Secretary, The Bursar, Churchill College, Cambridge CB3 0DS, U.K.

# EDINBURGH MATHEMATICAL SOCIETY

A joint meeting with the London Mathematical Society will be held in Edinburgh on Friday and Saturday, 8-9 May 1987. The lectures will be in Lecture Theatre 3 of the Appleton Tower, University of Edinburgh, Crichton Street (just off George Square).

## PROGRAMME

### Friday, 8th May

- 3 – 4p.m. E.B. Davies (London)  
*Heat kernel bounds for Laplace-Beltrami  
operators and subelliptic operators on manifolds*
- 4 – 5p.m. Tea
- 5 – 6p.m. E.M. Stein (Princeton)  
*Harmonic analysis on nilpotent groups*
- 7.30 for 8p.m. Informal dinner at the Royal  
Society of Edinburgh  
22-24 George Street

### Saturday, 9th May

- 9 – 10a.m. M. Christ (California)  
*Particularly singular integrals and a  $\bar{\partial}$  problem*
- 10 – 11a.m. Coffee
- 10.30 – 11.30a.m. A.M. Davie (Edinburgh)  
*Fourier analysis of dynamical systems*
- 11.30 – 12noon Coffee
- 12 – 1p.m. N.Th. Varopoulos (Paris)  
*Dirichlet forms on Lie groups*

C.J. Shaddock, Honorary Secretary, Edinburgh Mathematical Society,  
Department of Mathematics, University of Edinburgh, Mayfield Road,  
Edinburgh EH9 3JZ.

# 1987 HARDY LECTURE TOUR

The 1987 Hardy Lecturer, Professor M.O. Rabin (Harvard and Jerusalem), will give the following lectures:

Monday 8 June – Cardiff

*Parallel Computations in Algebra*

Wednesday 10 June – Manchester

*Control in Parallel and Distributed Computing*

Friday 12 June – Edinburgh Mathematical Society, Edinburgh

*Randomized Algorithms in Number Theory*

Monday 15 June – Cambridge

*Graph Algorithms*

Wednesday 17 June – Kent, Canterbury

*Parallel Computations in Algebra*

Friday 19 June – London Mathematical Society, London

**1987 HARDY LECTURE**

*Mathematical Aspects of Parallel Computing Structures*

Monday 22 June – Warwick

*Graph Algorithms*

Thursday 25 June – Oxford

*Parallel Computations in Algebra*

Friday 26 June – Bristol

*Randomized Algorithms in Number Theory*

An LMS poster will appear in the near future giving details of venues and times. This information will also appear in the June issue of the Newsletter.

# LONDON MATHEMATICAL SOCIETY

## An Evening of Popular Lectures

Friday 26 June 1987, Rupert Beckett Lecture Theatre,  
Arts Building, University of Leeds

Friday 3 July 1987, Great Hall, Sherfield Building,  
Imperial College, Exhibition Road, London SW7

**7.30p.m. Dr W.A. Hodges**  
**GAMES THAT SOLVE PROBLEMS**

**9.00p.m. Professor F.C. Piper**  
**CODES AND CIPHERS**

ALL INTERESTED ARE WELCOME

COFFEE WILL BE SERVED AT 8.30p.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 26 June at the University of Leeds should be sent to Mrs Backhouse, School of Mathematics, University of Leeds, Leeds LS2 9JT. Applications for lectures on Friday 3 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.

# Lecture Notes in Biomathematics

Editor: S. A. Levin

New applications and theories in mathematical biology. Include construction and testing of mathematical models simulating complex biological mechanisms and their constructive and predictive use in experimental design. 5-10 volumes per year.

Volume 67

P. H. Todd, Dundee University,  
Dundee, Great Britain

## Intrinsic Geometry of Biological Surface Growth

1986. IV, 128 pages. Soft cover  
£9.50. ISBN 3-540-16482-0

**Contents:** Introduction. - Some geometrical models in biology. - Minimum Dirichlet integral of growth rate as a metric for intrinsic shape difference. - Curvature of the Ferret brain. - References. - Appendix A: Numerical surface curvature.

Volume 68

## The Dynamics of Physiologically Structured Populations

Editors: J. A. J. Metz, O. Diekmann,  
The Netherlands

1986. XII, 511 pages. Soft cover  
£29.50. ISBN 3-540-16786-2

Volume 69

S. H. Strogatz, Harvard University,  
Cambridge, MA, USA

## The Mathematical Structure of the Human Sleep-Wake Cycle

1986. VIII, 239 pages. Soft cover  
£13.50. ISBN 3-540-17176-2

If you want some more information concerning our complete program, please have a look at our catalogue: **Springer Mathematics**.  
New edition available in June 1987.

Journal of

# Mathematical Biology

**Editorial Board:** K. P. Haderl, Tübingen; S. A. Levin, Ithaca (Managing Editors); H. T. Banks, Providence; J. D. Cowan, Chicago; J. Gani, Santa Barbara; F. C. Hoppensteadt, East Lansing; D. Ludwig, Vancouver; J. D. Murray, Oxford; T. Nagylaki, Chicago; L. A. Segel, Rehovot

ISSN 0303-6812

Title No. 285

For mathematicians and biologists working in a wide variety of fields

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- papers which yield new experimental data bearing on mathematical models.

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The following selection of articles from recent issues reflects the **Journal of Mathematical Biology's** range and scope:

*S. J. Merrill:* Stochastic models of tumor growth and the probability of elimination by cytotoxic cells. - *H. Aagaard-Hansen, G. F. Veo:* A stochastic discrete generation birth, continuous death population growth model and its approximate solution. - *M. Weiss:* A note on the role of generalized inverse Gaussian distributions of circulatory transit times in pharmacokinetics. - *S. Ellner:* Asymptotic behavior of some stochastic difference equation population models. - *O. Diekmann, H. J. A. M. Heijmans, H. R. Thieme:* On the stability of the cell size distribution. - *A. Hunding:* Bifurcations of nonlinear reaction-diffusion systems in oblate spheroids. - *W. L. Keith, R. H. Rand:* 1:1 and 2:1 phase entrainment in a system of two coupled limit cycle oscillators. - *W. Strittmatter, J. Honerkamp:* Fibrillation of a cardiac region and the tachycardia mode of a two oscillator system. - *V. Comincioli, A. Torelli, C. Poggessi, C. Reggiani:* A four-state cross bridge model for muscle contraction. Mathematical study and validation. - *H. R. Gregorius:* Convergence of genotypic frequencies for differential selfing and positive assortative mating at a biallelic locus. - *J. B. Keller:* Genetic variability due to geographic inhomogeneity.

Subscription information (valid for all countries outside North America): 1987, Vol. 25 (6 issues): £197.00 plus carriage charges. To enter your subscription, or to request sample copies use the enclosed order form.

**Springer**



# Biomathematics

Managing Editor: S. A. Levin

Volume 15

L. D. DeAngelis, W. M. Post,  
C. C. Travis, Oak Ridge, TN, USA

## Positive Feedback in Natural Systems

1986. 90 figures. XII, 290 pages.  
Hard cover £45.50  
ISBN 3-540-15942-8

**Contents:** Introduction. - The Mathematics of Positive Feedback. - Physical Systems. - Evolutionary Processes. - Organisms Physiology and Behavior. - Resource Utilization by Organisms. - Social Behavior. - Mutualistic and Competitive Systems. - Age-Structured Populations. - Spatially Heterogeneous Systems: Islands and Patchy Regions. - Spatially Heterogeneous Ecosystems: Pattern Formation. - Disease and Pest Outbreaks. - The Ecosystem and Succession. Much of the treatment in this book is descriptive, but mathematical models are used throughout. A new aspect is the use of techniques from M-matrix theory to determine from algebraic inequalities whether certain models of positive feedback systems are stable or unstable. Both researchers and students in ecology, evolutionary biology and environmental sciences will profit from this book new insights into the behavior of a wide variety of natural systems.

Volume 16

## Complexity, Language, and Life: Mathematical Approaches

**Editors:** J. L. Casti, Laxenburg, Austria; A. Karlqvist, Stockholm, Sweden  
1986. XIII, 281 pages. Hard cover £42.50. ISBN 3-540-16180-5

**Contents:** Allowing, forbidding, but not requiring: a mathematic for a human world. - A theory of stars in complex systems. - Pictures as complex systems. - A survey of replicator equations. - Darwinian evolution in ecosystems: a survey of some ideas and difficulties together with some possible solutions. - On system complexity: identification, measurement, and management. - On information and complexity. - Organs and tools: a common theory of morphogenesis. - The language of life. - Universal principles of measurement and language functions in evolving systems.

This book explores the interconnections and interrelations between system complexity and biological systems as language-like systems. The topics are considered in selected articles from the perspective of internationally known specialists in areas such as symbolic processing, pattern recognition and natural languages.

Volume 17

## Mathematical Ecology

**An Introduction**  
**Editors:** T. G. Hallam, University of Tennessee, Knoxville, TN;  
S. A. Levin, Cornell University, Ithaca, NY, USA  
1986. 84 figures. XII, 457 pages.  
Hard cover £55.50  
ISBN 3-540-13631-2

**Contents:** Introduction. - Physiological and Behavioral Ecology. - Population Ecology. - Communities and Ecosystems. - Applied Mathematical Ecology.

Devoted to the fundamental principles of mathematical ecology, this book presents an introduction to both theoretical and applied ecology. Theoretical developments in physiological, population, community, and ecosystem ecology that have a sound mathematical basis form the book's nucleus. Classical deterministic and stochastic theories of population and communities in homogeneous and heterogeneous environments are presented. A novel modelling approach employing an integration of biological and chemical science is proposed for the study of ecosystems. Resource management and population biology of infectious diseases are also explored.



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## MATHEMATICS, HISTORY AND THE DISTANT LEARNER

This conference will provide an opportunity to sample and discuss the audio-visual and other distance learning materials developed for the Open University's new course on *Topics in the History of Mathematics*.

What is the best way of teaching Babylonian mathematics? How much Euclidean geometry can be taught in an introductory course? How can audio-visual media be used in the most efficient way for teaching history? Is Newton unteachable? These and many other questions will be raised, and the solutions adopted by the Open University team can be examined.

This conference will be of great interest to people teaching mathematics, the history of mathematics, or working in mathematics education. If you are interested in the preparation of multi-media teaching materials in the history of mathematics or are considering making use of some of the Open University materials, this day will provide essential information. If you are simply interested in the history of mathematics, this will be an informative and rewarding day.

The conference will be held on Friday 12 June at the Open University Regional Centre, Parsifal College, 527 Finchley Road, London NW3 7BG. Cost £6.

### Conference Programme:

10.30 Coffee and registration.

11.00 Introduction: the philosophy of designing a history of mathematics course.

11.15 Problems and solutions in ancient mathematics.

12.00 Mathematics in 17th-century countries: – *Mathematical practice and society in Stuart England* (audio-cassette: Simon Schaffer). – *Mathematics and its background in 17th century Holland* (audio-cassette: Jan van Maanen and Klaas van Berkel). – *Mersenne and the birth of modern geometry* (TV programme).

1.00 Lunch

2.00 The rise of calculus: – *Newton and Leibniz* (TV programme). – *Brilliance and secrecy: the calculus community in the 1690s* (audio-cassette: Steven Engelsman).

3.00 Topics in 19th-century mathematics: – *Paris and the new mathematics* (TV programme). – *Audio-cassette montage and discussion, including contributions from Dick Tahta, Ivor Grattan-Guinness and Saunders Mac Lane*.

4.15 Tea

To register for this conference please send a cheque for £6 (payable to the Open University) to: Dr Cynthia Hay, Faculty of Mathematics, The Open University, Walton Hall, Milton Keynes MK7 6AA.

## PROTEXT IV CONFERENCE

The Fourth International Conference on Text Processing Systems will be held from 20-22 October 1987, and the six related Protext IV Short Courses will be held on 19 October 1987. All events will be held in the Boston Park Plaza Hotel and Towers, Boston, Massachusetts, USA.

The conference provides a forum for the discussion of the latest research on computer-aided generalized text processing. Keynote speakers include: John Collins (Bitstream, Cambridge), Richard Faruta (University of Maryland, College Park), Shiu Chang Loh (Chinese University, Hong Kong), Pierre MacKay (University of Washington, Seattle), Marc Nanard (CRIM, Montpellier), Luis Trabb Pardo (Imagen Corporation, Santa Clara), Xuan Wang (Peking University, Beijing).

The following one-day short courses are being held in parallel on the day before the conference begins:

**Issues in Generalized Text Processing:** Richard Faruta (University of Maryland, College Park), Shiu Chang Loh (Chinese University, Hong Kong), Pierre MacKay (University of Washington, Seattle), Marc Nanard (CRIM, Montpellier).

**T<sub>E</sub>X for Scientific Documentation:** Bart Childs (Texas A&M University, College Station) in co-operation with the T<sub>E</sub>X Users Group.

**An Introduction to SGML:** W.W. Davis Jr (Internal Revenue Service, Washington DC).

**Issues in Digital Typography:** Richard Rubinstein (Digital Equipment Corp., Hudson, MA).

**Introduction to PostScript – A Graphics Solution:** Yvonne Perry (Adobe Systems, Palo Alto, CA).

**Document Databases and Technical Publishing:** Geoffrey James (Honeywell Information Systems, Los Angeles, CA) under the auspices of and organized by the University of Massachusetts/Boston and University of California/Los Angeles Extension Programs (to be confirmed).

Inquiries for all non-technical information should be made to the Conference Organizer: Paulene McKeever, Conference Management Services, P.O. Box 5, 51 Sandycove Road, Dún Laoghaire, Co. Dublin, Ireland.

## N.B.F.A.S.

The summer meeting of N.B.F.A.S. will be held on Monday 1 June 1987 from 2.30 to 5.30p.m. and Tuesday 2 June 1987 from 10.00 to 12.30p.m. The

speakers will be T. Gamelin, M. Thomas and one other speaker. The lecture will take place in the David Hume Tower, George Square, Edinburgh.

# CAMBRIDGE

## LMS PUBLICATIONS

### Representations of Algebras

Proceedings of the Durham Symposium 1985

Edited by P. J. WEBB

In this book the latest developments in representation theory are surveyed in a series of self-contained expository articles based on lectures given at the 1985 Durham Symposium. The emphasis is on the representation type of finite-dimensional algebras.

*London Mathematical Society Lecture Note Series 116*

199 pp. 1987 0 521 31288 4 Paperback £15.00 net

### Skew Linear Groups

M. SHIRVANI and B. WEHRFRITZ

This book is concerned with subgroups of groups of the form  $GL(n, D)$  for some division ring  $D$ . In it the authors bring together many of the recent advances in the theory of skew linear groups. Topics covered in this volume include irreducibility, unipotency, locally finite-dimensional division algebras, and division algebras associated with polycyclic groups.

*London Mathematical Society Lecture Note Series 118*

253 pp. 1987 0 521 33925 1 Paperback £15.00 net

### Proceedings of Groups – St Andrews 1985

Edited by E. F. ROBERTSON and C. M. CAMPBELL

Containing selected papers from the international conference *Groups – St Andrews 1985*, this volume provides a comprehensive picture of current progress and research in group theory. Survey articles by five leading group theorists, Bachmuth, Baumslag, Neumann, Roseblade and Tits, are included in the text.

*London Mathematical Society Lecture Note Series 121*

358 pp. 1987 0 521 33854 9 Paperback £20.00 net

### Lectures on Stochastic Analysis: Diffusion Theory

D. W. STROOCK

This book is a self-contained introduction to stochastic analytic techniques with its central theme being the theory of diffusions. It will be valuable reading for advanced students in probability theory and analysis and their teachers.

*London Mathematical Society Student Texts 6*

128 pp. 1987 0 521 33366 0 Hard covers £17.50 net

0 521 33645 7 Paperback £6.50 net

LMS members are entitled to a 25% discount on these prices for LMS titles by writing, quoting author and ISBN for each book, to the Sales Accounts Department at the address below. Prepayment in sterling should accompany all orders and the LMS account number 099 5575, should be quoted in all correspondence.

# CAMBRIDGE

## A Course in Galois Theory

D. J. H. GARLING

This textbook is a detailed and thorough introduction to Galois theory for undergraduates in their second or final years. Throughout, Dr Garling presents the subject as one with many applications and over 200 exercises are included.

'This is an excellent book... It exhibits mathematics as the unified subject that it really is.'  
Ian Stewart, *The Times Higher Education Supplement*

167 pp. 1986 0 521 32077 1 Hard covers £22.50 net  
0 521 31249 3 Paperback £8.95 net

## Exponential Diophantine Equations

T. N. SHOREY and R. TIJDEMAN

In recent years the theory of exponential diophantine equations has seen rapid progress but most of the research has been scattered through the literature. This book is the first integrated presentation and so will be of interest to all number theorists.

*Cambridge Tracts in Mathematics* 87  
240 pp. 1986 0 521 26826 5 £25.00 net

## Multiple Forcing

THOMAS JECH

Professor Jech gives here a unified treatment of the various forcing methods used in set theory, and presents their important applications. Product forcing, iterated forcing and proper forcing have all proved powerful tools when studying the foundations of mathematics and this book, although based on graduate courses, includes some recent results in this field.

*Cambridge Tracts in Mathematics* 88  
136 pp. 1987 0 521 26659 9 £19.50 net

## Commutative Ring Theory

H. MATSUMURA

Translated by MILES REID

This graduate textbook covers the basic material of commutative ring theory, but it is distinguished from other introductions by the coverage of advanced topics such as Ratcliff's theorems on chains of prime ideals. Exercises are provided at the end of each section.

*Cambridge Studies in Advanced Mathematics* 8  
320 pp. 1987 0 521 25916 9 £30.00 net

For further details of the whole range of Cambridge Mathematics titles, please write to Sally Seed at the address below.

**Cambridge University Press**

The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU.

## NASECODE V CONFERENCE

The Fifth International Conference on the Numerical Analysis of Semiconductor Devices and Integrated Circuits will be held on 17-19 June 1987 and the related Short Course on the Interfaces and Integration of Process, Device and Circuit Models - An Introduction will be held on 15-16 June 1987.

Both events will be held in Trinity College, Dublin, under the auspices of the Institute for Numerical Computation and Analysis and in co-operation with the Commission of the European Communities, Electron Devices Society of the IEEE of the USA and the Committee of the Technical Group on Semiconductors and Semiconductor Devices of the IECE of Japan.

This conference provides a forum for the discussion of the latest research on semiconductor process, device and integrated circuit modelling. Invited keynote speakers include: M.S. Adler (General Electric, Schenectady), J. Douglas Jr (University of Chicago), H. Elschner (TU, Dresden), G.V. Gadiyak (Academy of Sciences, Novosibirsk), P. Lloyd (AT&T Bell Laborato-

ries, Allentown), M. Sever (Mock) (Hebrew University, Jerusalem), T. Toyabe (Hitachi, Tokyo).

The Short Course consists of tutorial and survey lectures on recent advances in the interfaces and integration of semiconductor process, device and circuit models. Invited lecturers include: E. Caquot (CNET, Bagneux), K. De Meyer (KU, Leuven), F. Godfrey (GEC, Wembley), C. Greenough (RAL, Didcot), W. Haensch (Siemens, Munich), C. Lombardi (SGS-ATES, Agrate Brianza), F. Odeh (IBM, Yorktown Heights), H. Oka (Fujitsu, Atsugi), A. Poncet (CNET, Grenoble), A. Yoshii (NTT, Atsugi).

All sessions for the Short Course (June 15-16) and also the Conference (June 17-19) will be held in the Arts Building, Trinity College, Dublin.

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

## ISAAC NEWTON WEEKEND COURSE

A weekend course for non-specialists on Isaac Newton: his Life, Labours and Legacy, will be held in Rewley House, Oxford on 13-14 June 1987, to celebrate the 300th anniversary of the publication of Newton's *Principia Mathematica*. It is jointly organized by Oxford University and the Open University, and the provisional list of speakers is: Sir Hermann Bondi (Cambridge), John Roche (Oxford), Jon Pepper (London), Jan Golinski (Cambridge), John Henry (Edinburgh), P. Rat-

tansi (London), Derek Gjertsen (Liverpool), John Brooke (Lancaster), Geoffrey Cantor (Leeds), Penelope Gouk (Oxford), Maureen McNeil (Birmingham).

Further details may be obtained from Dr Michael Shortland, "Newton 1987", University of Oxford, Department for External Studies, Wellington Square, Oxford OX1 2JA.

## MATHEMATICS TEACHING CONFERENCE

The Thirteenth Undergraduate Mathematics Teaching Conference will be held at the University of Nottingham from 14 to 17 September 1987. The main themes this year will be: *Assessment of Teaching Effectiveness - Lecturing Skills in Mathematics - The History*

*of Mathematics*

For further information write to UMTC87, Shell Centre for Mathematical Education, University of Nottingham, Nottingham NG7 2RD.

## RESEARCH STUDENTSHIP

Applications are invited for the newly established Dee Studentship.

This award is restricted to students from the U.K. or European Community who wish to be candidates at the University of Cambridge for a research degree in Natural Sciences, Mathematics, Computing Sciences, Management or Economics. The award covers full fees and

maintenance at slightly above the U.K. Research Council grant level and is available from October 1987.

Details and application forms may be obtained from the Tutor for Advanced Students, Churchill College, Cambridge CB3 0DS. The closing date for applications will be 15th May 1987.

## PROFESSOR R. SCHULTZ

Professor Reinhard Schultz of Purdue University will be coming to England as a Scheme II visitor for the week beginning June 1st. He will be lecturing in Oxford on the Monday, Manchester on the Tuesday and Cam-

bridge on the Thursday of that week. Further information can be obtained from I.M. James, Mathematical Institute, Oxford.

## PROFESSOR M. GOLDSTEIN

Professor Myron Goldstein of Arizona State University intends to visit Queen's University, Belfast for the month of June 1987. His main interest is in potential theory and approximation theory. Further de-

tails may be obtained from Dr D.H. Armitage, The Queen's University of Belfast, Belfast, BT7 1NN, Northern Ireland.

## 1987 LIST OF MEMBERS

The 1987 List of Members should accompany this Newsletter. My thanks to all members who returned their forms. As far as possible each individual member's entry contains precisely the information supplied by the member. Some alterations have, however, been necessary to achieve the consistent format agreed by Council, and others have been forced by space limita-

tions. If any member finds an error in his/her entry which is not attributable to these causes, or if there are any subsequent changes to the particulars (such as extra degrees gained, or change of address) please inform Susan Oakes, the Administrator, as soon as possible.

## COMBINATORICS, OPTIMISATION AND STATISTICS

An international conference on Combinatorics, Optimisation and Statistics will be held at Srinagar, Kashmir, India on 17-21 August 1987. Further details may

be obtained from the Conference Secretariat, Indian Management Development Institute, 351/Sector 29, AWHO, Noida 201301, India.

## FONDAZIONE C.I.M.E.

The subject of the first 1987 C.I.M.E. Session is Relativistic Fluid Dynamics. This Session, sponsored by the Consiglio Nazionale delle Ricerche and the Ministero della Pubblica Istruzione, will take place under the scientific direction of Proff. Angelo Marcello Anile (Università di Catania), Yvonne Choquet-Bruhat (Université de Paris 6) at Centro Studi Noto, Noto (Siracusa), Italy, from May 25 to June 3, 1987.

The course consists of the following:

- a) **Relativistic Media in Astrophysics.** (6 lectures in English), by Prof. B. Carter (D.A.F. Observatoire de Paris, Paris).
- b) **Global Geometric Techniques for Relativistic Fluidynamics and Stability Theory.** (6 lectures in English) by Prof. Darryl D. Holm (Los Alamos National Laboratories, Los Alamos).
- c) **Introduction to Relativistic Hydrodynamics and Kinetic Theory.** (6 lectures in English) by Prof. Werner Israel (University of Alberta, Edmonton).
- d) **Relativistic Plasmas.** (6 lectures in English) by Prof. Harold Weitzner (Courant Institute, New York).

The subject of the Second 1987 C.I.M.E. Session is Topics in Calculus of Variations. This Session, sponsored by the Consiglio Nazionale

delle Ricerche and the Ministero della Pubblica Istruzione, will take place under the scientific direction of Prof. Mariano Giaquinta (Università di Firenze) at Villa La Querceta, Montecatini Terme (Pistoia), Italy from July 20 to July 28, 1987.

The course consists of the following:

- a)  **$S^k$ -valued maps with Singularities.** (4 lectures in English) by Prof. Haim Brezis (Univ. Paris VI).
- b) **Free Boundary Problems** (6 lectures in English) by Prof. Luis A. Caffarelli (Univ. of Chicago).
- c) **Minimal Foliations on a Torus.** (4 lectures in English) by Prof. Jurgen Moser (ETH, Zurich).
- d) **Variational methods in nonlinear problems.** (4 lectures in English) by Prof. Louis Nirenberg (Courant Institute, New York).
- e) **The Einstein-Hilbert energy functional on the space of Riemannian metrics.** (6 lectures in English) by Prof. Richard Schoen (Univ. of California, San Diego)

Those who wish to attend either Session should write to the Director of the Fondazione C.I.M.E. Roberto Conti, Director, C.I.M.E., Istituto di Matematica (U. Dini), V.le Morgagni 67/A, 50134 Firenze, Italy, Tel. 055-411986.