

LMS NEWSLETTER

No. 88

April 1982

DATES OF SOCIETY MEETINGS

Friday, 19 March 1982, Burlington House (S. Sternberg and E. C. Zeeman).

Friday, 16 April–Saturday, 17 April 1982. Two-day meeting at Oxford.

Friday, 7 May 1982, Burlington House (N. L. Biggs and D. Williams).

Friday, 14 May–Saturday, 15 May 1982. Two-day meeting at Sheffield.

Friday, 21 May–Monday, 24 May 1982. Weekend meeting at Gregynog.

Friday, 18 June 1982, Burlington House (P. J. Cameron and R. Bieri).

Friday, 15 October 1982, Burlington House (B. Bollobás and J. F. C. Kingman).

Friday, 19 November 1982, Burlington House (K. D. Elworthy and Presidential Address).

R. A. BAILEY

A HUNDRED YEARS OF ALGEBRA

Details of the programme for this meeting appear on the front page of the *Newsletter*. An application form for the Dinner and accommodation in The Queen's College was circulated in January.

Anyone wishing to avail themselves of either option should send a completed form to Susan Oakes, at the LMS Office, Burling-

ton House, Piccadilly, London W1V 0NL, to arrive by 7 April. Additional copies of the form are available from the office (tel. 01–437 5377).

The lectures are open to anyone who is interested and there is no need to book in advance.

TWO-DAY MEETING AT SHEFFIELD

In this year of Professor D. G. Northcott's retirement it is appropriate that an LMS two-day meeting should be held in Sheffield. The dates are Friday, 14 May and Saturday, 15 May. The speakers are R. Hartshorne (Berkeley), B. Teissier (Palaiseau), D. Rees (Exeter) and D. Eisenbud (Brandeis). The talks will be held in Lecture Room 1 of the Hicks Building, Hounsfield Road, Sheffield. Full details of times and titles will appear in the May *Newsletter*.

People requiring overnight accommodation on the 14th might like to note that the Rutland Hotel (Glossop Road, Sheffield S10 2PY; telephone 0742 665215), is offering very special rates for our visitors: the fully

inclusive prices for bed and breakfast are £10 single, £13 single with bath, £20 double or twin with bath. Please book these rooms early, contacting the hotel direct and making it clear that you are attending the LMS meeting. The hotel has two star rating and is ideally placed for the University.

The dinner on Friday evening will take place in the University's Senior Common Room. The charge will be £6.50. Those wishing to attend should send a cheque for that amount (payable to University of Sheffield) to Dr. V. W. Bryant, Department of Pure Mathematics, University of Sheffield, Sheffield S3 7RH, before 2 May. Any further information about the meeting may also be obtained from Dr. Bryant.

POSTPONEMENT OF JANUARY MEETING

Unfortunately, the LMS meeting advertised for 15 January 1982 had to be postponed because of the weather conditions. The meeting has now been rescheduled, and will take place on Friday, 7 May 1982 at the *Linnean Society*, Burlington House. N. L.

Biggs will speak at 3.30 on "Cubic Graphs", and D. Williams will speak at 5.00 on "Markov-Chain Theory: Kaleidoscope and Challenge".

R. A. BAILEY

ICM 1982

The Secretary of the International Mathematical Union has written to all National Committees for Mathematics informing them of the steps being taken by the Executive Committee. The President (Professor L. Carleson, Sweden), the

Secretary (Professor J.-L. Lions, France), and Professor Lehto (Finland), plan to visit Warsaw as soon as possible. The Executive Committee will meet on 1 April 1982, and immediately after this meeting information will be sent to National Committees.

MATHEMATICAL WHO'S WHERE

A few errors have been reported, in particular, users of the Directory are asked to note that the telephone number of Heriot-Watt is 031-449-5111 and *not*

031-449-4111. A full list of corrections will be available at the BMC, where copies of the Directory will be on sale.

I. M. JAMES

SERC GRANTS AWARDED

The Mathematics Committee of SERC has recently made the following Research Grants.

L. Fox (Oxford): University consortium for industrial numerical analysis.

T. J. Pedley (Cambridge): VF for S. C. R. Dennis.

J. B. McLeod (Oxford): VF for P. C. Fife.

B. Bollobás (Cambridge): VF for L. Tzafiriri.

A. I. Mees (Cambridge): VF for L. O. Chua.

T. J. Pedley (Cambridge): Fluid flow into a side branch.

R. Wait (Liverpool): Petrou-Galerkin methods for two dimensional flow calculations.

D. E. Evans (Warwick): VF for G. A. Elliott.

J. R. Whiteman (Brunel): Theory and application of finite element techniques for elastic-plastic fracture.

T. S. Blyth (St Andrews): VF for B. M. Schein.

J. D. S. Jones (Warwick): VF for M. E. Mahowald.

J. T. Stuart (Imperial): VF for R. C. Di Prima.

D. F. Parker (Nottingham): VF for G. W. Bluman.

K. W. Gruenberg (Q.M.C.): VF for P. Schupp.

J. D. Murray (Oxford): VF for A. T. Winfree.

J. D. Murray (Oxford): VF for L. A. Segel.

N. Riley (East Anglia): VF for D. R. Kassoy.

I. G. Evans (Aberystwyth): Bayesian approach to acceptance sampling.

J. A. Johnson (East Anglia): Mathematical modelling of the shelf break circulation.

J. E. Walsh (Manchester): VF for C. Vanloan.

S. S. Wainer (Leeds): VF for R. I. Soare.

M. J. Collins (Oxford): VF for R. M. Solomon.

F. C. Piper (Westfield): VF for T. G. Ostrom.

J. M. Ball (Heriot-Watt): Non linear systems of partial differential equations.

H. G. Dales (Leeds): VF for Y. Dormar.

D. R. Hughes (Westfield): VF for N. K. M. Singhi.

R. J. Knops and K. J. Brown (Heriot-Watt): VF for P. W. Bates.

B. D. Sleeman (Dundee): VF for K. Soni.

POLISH MATHEMATICAL APPEAL

As reported in the last *Newsletter*, a book fund has been established (under the auspices of the Society) to help Polish mathematics maintain its standards at a time of dire financial hardship. A first list of desiderata has now been received from the Mathematics Institute of the Polish Academy of Sciences and the Institute's Librarian has asked that words of appreciation be conveyed to the British mathematical community for this initiative. The Poles

write that such aid will be "extremely valuable and constitutes perhaps the only chance for mathematical survival".

Members are kindly requested to send donations. Cheques should be made payable to "Polish Mathematical Book Fund" and sent to: Dr Adam Ostaszewski, Department of Statistical and Mathematical Sciences, London School of Economics, Houghton Street, London WC2A 2AE.

THE EMERGENCE OF BIOLOGICAL ORDER

The Weizmann Institute Foundation of London has arranged the Weizmann Lecture on Wednesday, 21 April 1982 at 5.30 p.m. at The Midland Hotel, Peter Street, Manchester M60 2DS. The title of the Lecture is *Theories for the Emergence of Biological Order in space, time and aspect*, and it will be delivered by Lee A. Segel, Professor of Applied Mathematics at the Weizmann Institute.

Living beings are islands of order and regularity in a chaotic sea. The dynamic character of living organisations distinguishes them from non-living ordered domains such as crystals. Dynamic regularities depend on delicate balances between various competing forces. Understanding of how such balances come into being and how they are controlled would provide us with answers to profound questions concerning the nature of life.

The interaction of even a very few factors can yield phenomena of great complexity. For this reason the study of biological organisation has provided fertile ground for mathematical analysis. Great strides have been made, particularly during the last decade, in the theoretical understanding of biological patterns. In this lecture Professor

Segel will review some of the major findings, concentrating on studies that he has carried out with various colleagues.

A central feature of applied mathematical work is the discernment of similar formal structures underlying phenomena that seem very different from one another. The lecture will discuss how basic ideas of structure formation, similar to those that are responsible for some of the morphogenetic patterns in slime mould, may also provide some answers to a central problem in ecology, the nature of biological diversity. As an example, it will be shown how certain interactions between predators and their prey can explain the emergence of, say, prey of just a few specific colours from the total colour spectrum that is theoretically available.

The whole lecture can be regarded as a case study in applied mathematics—the application of mathematical ideas to the elucidation of phenomena in another field, in this instance biology.

Admission is by ticket only, available from The Weizmann Institute Foundation, 11 Rodmarton Street London W1H 3FW, telephone 01-486 3954.

LMS COMMITTEES AND REPRESENTATIVES

GENERAL PURPOSES COMMITTEE: President (Convenor), Treasurer, Council Secretary, Meetings Secretary, Publications Secretary.

PUBLICATIONS COMMITTEE: Publications Secretary (Convenor), Editor and Secretary of each of the Journal, Bulletin and Proceedings; N. H. Bingham ('82-), P. M. Cohn ('79-).

FINANCE COMMITTEE: Treasurer (Convenor), President, Publications Secretary, P. R. Goodey ('81-), P. J. Higgins ('79-).

DURHAM SYMPOSIA COMMITTEE: J. R. Ringrose (Convenor) ('80-), P. M. Cohn ('76-), P. A. Samet ('82-), A. B. Tayler ('79-), C. T. C. Wall ('80-), T. J. Willmore ('73-).

EDUCATION COMMITTEE: C. A. Rogers (Convenor) ('80-), M. F. Atiyah ('75-), N. L. Biggs (Secretary) ('82-), R. F. Churchhouse ('80-), H. B. Griffiths ('75-), P. J. Higgins ('80-), J. Mason ('78-), M. E. Rayner ('76-), S. J. Taylor ('78-).

PROGRAMME COMMITTEE: President (Convenor), Meetings Secretary (Secretary), I. G. Macdonald ('81-), R. L. E. Schwarzenberger ('81-), J. T. Stuart ('80-).

BULLETIN: P. M. Neumann (Editor and Secretary) ('79-).

PROCEEDINGS: D. J. Collins (Editor) ('81-), S. J. Taylor (Secretary) ('80-).

JOURNAL: J. S. Pym (Editor) ('79-), R. Y. Sharp (Editor) ('79-).

TECHNICAL EDITORS: E. Philpott-Kent (JLMS) ('80-), A. Sharp (PLMS) ('76-), Mrs M. Bowker ('80-) (BLMS).

BOOK REVIEW EDITOR: N. H. Bingham ('81-'84).

OBITUARIES EDITOR: J. V. Armitage ('73-).

MONOGRAPHS: D. A. Edwards (Business) (Jan. '78-Dec. '82), P. M. Cohn (Jan. '80-Dec. '84).

LECTURE NOTES: I. M. James (Jan. '78-Dec. '82).

RUSSIAN MATHEMATICAL SURVEYS: K. A. Hirsch ('60-), E. J. F. Primrose ('80-).

TMMS JOINT EDITOR: L. W. Longdon ('73-).

NEWSLETTER: N. L. Biggs ('80-).

1982 SENIOR BERWICK PRIZE COMMITTEE

1982 SENIOR WHITEHEAD PRIZE COMMITTEE

1982 JUNIOR WHITEHEAD PRIZE COMMITTEE

} President (Convenor), J. F. Adams,

} I. G. Macdonald

- 1982 INSTRUCTIONAL CONFERENCE COMMITTEE: J. S. Pym.
 JOINT MATHEMATICAL COUNCIL: N. L. Biggs ('80-).
 COUNCIL FOR NATIONAL ACADEMIC AWARDS: P. A. Samet ('77-), J. V. Armitage ('81-'84).
 RS/IMA JOINT COMMITTEE ON MATHEMATICAL EDUCATION: T. J. Willmore (Jan. '80-Dec. '82).
 ADVISORY BOARD OF WARWICK MATHEMATICS RESEARCH CENTRE: D. Rees (Oct. '81-Sept. '84).
 BRITISH NATIONAL COMMITTEE FOR MATHEMATICS: D. Edmunds (Jan. '82-Dec. '87), J. F. C. Kingman (Jan. '78-Dec. '83), J. H. Williamson (Jan. '79-Dec. '84).
 BRITISH NATIONAL COMMITTEE FOR THEORETICAL AND APPLIED MECHANICS: L. E. Fraenkel (Jan. '78-Dec. '84).
 BRITISH MATHEMATICAL COLLOQUIUM: R. A. Bailey, P. M. Cohn.
 UK PERIODICALS BACKLOGS: C. T. C. Wall ('74-).
 TRUSTEES ON APPLIED PROBABILITY TRUST: G. E. H. Reuter (Proxy is P. A. P. Moran) ('71-).
 ARCHIVES: Librarian.
 PHOTOGRAPHIC ARCHIVES: J. V. Armitage ('81-), P. M. Neumann ('81-).
 COLLINGWOOD PRIZE: P. J. Higgins.
 ADVISOR ON MATHEMATICAL FILMS: D. B. Singmaster ('79-).
 EUROPEAN MATHEMATICAL COUNCIL: P. M. Cohn ('82-).
 LOCAL REPRESENTATIVES NETWORK: A. W. Goldie ('74-).
 BRITISH ASSOCIATION: P. J. Higgins ('82-).
 POPULAR LECTURES COMMITTEE: D. G. Larman (Convenor) ('81-), N. L. Biggs ('81-), P. J. Higgins ('81-), P. McMullen ('81-), J. T. Stuart ('81-).

P. R. GOODEY

BOOKS RECEIVED FOR REVIEW IN THE *BULLETIN*

Complimentary copies of the books listed below have been received from their publishers by the Society. Those for which the *Bulletin* is unable to publish a review will be lodged in the Society's Library at University College, London, where they are available for inspection and use by members.

- J. D. Lee, T. D. Lee: *Statistics and computer methods in BASIC*, pp 198, £11·50, £5·50 (Van Nostrand Reiland).
 K. L. McAvaney (ed.): *Combinatorial mathematics VIII, Proceedings*, Geelong, Australia, 1980, pp 359, DM 39, US \$18·20 (Lecture Notes in Mathematics, 884) (Springer-Verlag).
 S. B. Rao (ed): *Combinatorics and graph theory, Proceedings*, Calcutta, 1980, pp 500, DM 53·50, US \$24·90 (Lecture Notes in Mathematics, 885) (Springer-Verlag).
 E. Fadell, G. Fournier (eds): *Fixed point theory, Proceedings*, Sherbrooke, Quebec, 1980, pp 511, DM 53·50, US \$24·90 (Lecture Notes in Mathematics, 886) (Springer-Verlag).
 F. M. J. van Oystaeyen, A. H. M. J. Verschoren: *Non-commutative algebraic geometry, and introduction*, pp 404, DM 43·50, US \$20·30 (Lecture Notes in Mathematics, 887) (Springer-Verlag).
 M. G. de Bruin, H. van Rossum (eds): *Padé approximation and its applications*, Amsterdam, 1989, Proceedings, pp 383, DM 39, US \$18·20 (Lecture Notes in Mathematics, 888) (Springer-Verlag).
 J. Bourgain: *New classes of \mathcal{L}_p -Spaces*, pp 143, DM 18, US \$8·40 (Lecture Notes in Mathematics, 889) (Springer-Verlag).
 C. Berline, K. McAloon, J.-P. Ressayre (eds): *Model theory and Arithmetic, Proceedings*, Paris, 1979/89, pp 306, DM 34·50, US \$16·10 (Lecture Notes in Mathematics, 890) (Springer-Verlag).
 G. H. Muller, G. Takeuti, T. Tujove (eds): *Logic symposia, Hakore, 1979, Proceedings*, pp 394, DM 43, US \$20·30 (Lecture Notes in Mathematics, 891) (Springer-Verlag).
 H. Cajar: *Billingsley dimension in probability spaces*, pp 106, DM 18, US \$8·40 (Lecture Notes in Mathematics, 892) (Springer-Verlag).
 M. Aigner, D. Jungnickel (eds): *Geometries and groups*, Berlin, 1981, pp 250, DM 29, US \$13·50 (Lecture Notes in Mathematics, 893) (Springer-Verlag).
 E. Looijenga, D. Siersma, F. Takens (eds): *Geometry symposium, Utrecht, 1980, Proceedings*, pp 153, DM 21·50, US \$10·00 (Lecture Notes in Mathematics, 894) (Springer-Verlag).
 H. A. Buchdahl: *Seventeen simple lectures on general relativity theory*, pp 174, £17·75 (John Wiley).

- V. Pless: Introduction to the theory of error-correcting codes, pp 169, £17·00 (John Wiley).
- S. G. Krantz: Function theory of several complex variables, pp 437, £29·50 (John Wiley).
- I. Grattan-Guinness (ed.): From the calculus to set theory, 1630–1910—An introduction history, pp 306, £7·95 (Duckworth).
- A. H. Al-Maajil, A. Benharbit: Basic mathematics, A precalculus course for science and engineering, pp 308, £5·50 (John Wiley).
- R. Peter: Recursive functions in computer theory, pp 179, £17·50 (Ellis Horwood).
- A. Jeffrey, T. Kawahara: Asymptotic methods in nonlinear wave theory, pp 256, £18·50 (Pitman).
- G. M. Kelly: Basic concepts of enriched category theory, pp 245, £12·50 (LMS Lecture Note Series 64) (Cambridge University Press).
- H. Toutenburg: Prior information in linear models, pp 215, £16·50 (John Wiley).
- H. G. Heuser: Functional analysis, pp 408, £25·00, £9·95 (John Wiley).
- H. C. Hutchins: Examples of commutative rings, pp 175, US \$13·75 (Polygonal Publishing House).
- L. A. Hageman, D. M. Young: Applied iterative methods, pp 386, £26·20, US \$39·59 (Academic Press).
- M. M. Rao: Stochastic processes and integration, pp 467, Dfl 110, US \$55 (Martinus Nijhoff Publisher).
- D. L. Armcoast: The structure of locally compact abelian groups, pp 168. SFr. 72 (Marcel Dekker Inc.).
- H. N. V. Temperley: Graph theory and applications, pp 130, £15·00 (John Wiley).
- F. Oliveira-Pinto, B. W. Connolly: Applicable mathematics of non-physical phenomena, pp 269, £19·50, £6·00 (John Wiley).
- A. J. Dodd: The core model, pp 229, £12·55 (LMS Lecture Note Series 61) (Cambridge University Press).
- R. P. Burn: A pathway into number theory, pp 257, £18·00, £7·50 (Cambridge University Press).
- N. Straumann: Allgemeine relativitätstheorie und relativistische astrophysik, pp 418, DM 41, US \$19·10 (Lecture Notes in Physics 150) (Springer Verlag).
- L. Kavanau: Curves and symmetry, Volume 1, pp 448, US \$19·95 (Science Software Systems Inc.).
- L. Bengtsson, M. Ghil, E. Kaleen (eds): Dynamic meteorology—Data assimilation methods, pp 330, DM 44, US \$20·20 (Springer-Verlag).
- S. Burris, H. P. Sankappanavour: A course in universal algebra, pp 276, DM 72, US \$33·60 (Springer-Verlag).
- O. Forster: Lectures on Riemann surfaces, pp 254, DM 88, US \$41·00 (Springer-Verlag).
- L. R. Foulds: Optimization techniques—an introduction, pp 502, DM 84, US \$39·10 (Undergraduate Texts in Mathematics) (Springer-Verlag).
- J. Macki, A. Strauss: Introduction to optimal control theory, pp 165, DM 58, US \$27·00 (Lecture Notes in Mathematics 895) (Springer-Verlag).
- J. A. Hillman: Alexander ideals of links, pp 178, DM 21·50, US \$10·00 (Lecture Notes in Mathematics 895) (Springer-Verlag).
- B. Angeniol: Familles de cycles algébriques—Schema de Chow, pp 140, DM 18, US \$8·40 (Lecture Notes in Mathematics 896) (Springer-Verlag).
- W. Buchholz, S. Feferman, W. Pholers, W. Sieg: Iterated inductive definitions and sub-systems of analysis: recent proof theoretical studies, pp 383, DM 39, US \$18·20 (Lecture Notes in Mathematics 897) (Springer-Verlag).
- D. A. Rand, L. S. Young: Dynamical systems and turbulence, Warwick, 1980, pp 390, DM 39, US \$18·20 (Lecture Notes in Mathematics 898) (Springer-Verlag).
- P. Deligne *et al.*: Hodge cycles, motives and shimura varieties, pp 414, DM 43·50, US \$20·30 (Lecture Notes in Mathematics 900) (Springer-Verlag).
- A. Dold, B. Eckmann (eds): Séminaire Bourbaki, vol. 1980/81, Exposés 561–578, pp 299, DM 34·50, US \$16·10 (Lecture Notes in Mathematics 901) (Springer-Verlag).
- F. Dumortier, P. R. Rodrigues, R. Roussarie: Germs of diffeomorphisms in the plane, pp 197, DM 25, US \$11·70 (Lecture Notes in Mathematics 902) (Springer-Verlag).
- M. Auslander, E. Lluis: Representations of algebras, Proceedings, Puebla, Mexico, 1980, pp 371, DM 39, US \$18·20 (Lecture Notes in Mathematics 903) (Springer-Verlag).
- N. L. Alling: Real elliptic curves, pp 349, US \$36·25, Dfl. 85·00 (North Holland Publishing Co.).
- M. Eigen, R. Winkles: Laws of the game: How the principles of nature govern chance, pp 347, £14·95 (Allen Lane).

THE AUSTRALIAN NATIONAL UNIVERSITY

invites applications for

Postdoctoral Fellow or Research Fellow in Mathematics

Research School of Physical Sciences

The Department of Mathematics in the Research School (Head: Professor D. W. Robinson) has an academic staff complement of 17 and is carrying out research in the following areas: Operator Algebras and Mathematical Physics, Partial Differential Equations and Geometry, viz. Group Theory, Lie Groups and Algebraic Groups, Global Analysis, Ordinary Differential Equations and Control Theory and Foundations. Appointment will be from late 1982. Salary in accordance with qualifications and experience within the ranges: Research Fellow \$20,963–\$27,539 p.a.; Postdoctoral Fellow Grade 2 \$20,963–\$27,539 p.a.; Postdoctoral Fellow Grade 1 \$18,068–\$20,699 p.a. Current exchange rate \$A1 = \$US1.07 = UK 58p. Appointment will be: Research Fellow up to three years with the possibility of extension, after review, to five years; Postdoctoral Fellow up to two years with possibility of extension to three years. Reasonable appointment expenses are paid; superannuation; assistance with housing. The University reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants may obtain further particulars from

The Registrar,
The Australian National University,
PO Box 4,
Canberra, Australia,

with whom applications close on **30 June 1982.**

LMS LECTURE NOTE SERIES

55 Ordered Permutation Groups

A. W. M. GLASS

As a result of Arthur Cayley's work in the nineteenth century, algebraists and geometers have extensively studied permutation of sets. In the special case that the underlying set is linearly ordered, there is a natural subgroup to study, namely the natural set of permutations that preserves that order. This book makes a thorough, comprehensive examination of these groups of permutations.

0 521 24190 1

Members' price £9.38 net

60 Integrable Systems

S. P. NOVIKOV et al.

The last fifteen years have seen the creation of a new branch of mathematics: the theory of 'integrable' non-linear partial differential equations. The theory was developed at first by mathematical physicists but recently mathematicians, particularly in the Soviet Union, have been attracted to the field. This volume contains fundamental contributions, originally published in Russian Mathematical Surveys, from some leading Soviet workers.

0 521 28527 5

Members' price £9.75 net

62 Economics for Mathematicians

J. W. S. CASSELS

This is the somewhat expanded version of a series of notes for a course introducing mathematicians to some of the central ideas of traditional economics. It should be readily accessible to mathematics undergraduates in their second or third year, and of particular interest to those taking courses in mathematical economics.

0 521 28614 X

Members' price £5.62 net

64 Basic Concepts of Enriched Category Theory

MAX KELLY

This is the first connected account of enriched category theory. The theory itself can be regarded as a very wide and fruitful generalisation of classical logic and category theory. The book can in fact be used for a course in un-enriched category theory, but the student then gets the enriched theory with no extra effort.

0 521 28702 2

Members' price £9.38 net

Members' orders for LMS volumes (accompanied by the appropriate remittance) and all enquiries should be sent to: Robin Rees, Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU

CAMBRIDGE UNIVERSITY PRESS

LONDON MATHEMATICAL SOCIETY

TWO-DAY MEETING AT SHEFFIELD

14-15 MAY 1982

Friday, 14 May

- 2.45 p.m. Opening Session
3.00 p.m. **Professor R. Hartshorne** (Berkeley)
Stable Reflexive Sheaves and Curves in \mathbb{P}^3
4.00 p.m. Tea
5.00 p.m. **Professor B. Teissier** (Palaiseau)
Reduction of Ideals and Geometry
6.45 p.m. Dinner

Saturday, 15 May

- 10.00 a.m. **Professor D. Rees** (Exeter)
Reductions of Ideals
11.00 a.m. Coffee
11.45 a.m. **Professor D. Eisenbud** (Brandeis)
Free Resolutions and the Equations of Curves

Lectures are in Maths LR1 of the Hicks Building,
(Hounsfield Road), University of Sheffield

Domestic details appeared in the April *Newsletter*

Further information can be obtained from Dr. V. W. Bryant,
Department of Pure Mathematics, The University, Sheffield S3 7RH.