LMS NEWSLETTER

No. 87 *March 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.

Friday, 19 November 1982, Burlington House.

R. A. BAILEY

COUNCIL NEWS

The LMS Council met on 15 January 1982, when the following matters were among those under discussion.

1. It was reported that an order had been placed for a Silicon Office system and the associated software needed to carry out the functions required by the Society.

2. On the recommendation of the Popular Lectures Committee, Council approved the proposal to hold two lectures on 9 July 1982.

3. The Meetings and Membership Secretary reported that adverse weather conditions had resulted in the journey of one of the speakers becoming extremely difficult, and that the lectures planned for that day had been cancelled. The Society's Administrative Assistant had contacted Mathematics Departments informing them of the cancellation. It was agreed that both talks should be given at an additional meeting on 7 May 1982.

4. Council approved a suggestion from the Editors of the *Monographs* that a board of Associate (unpaid) Editors should be formed. Its members would be based in European countries and would assist in obtaining suitable manuscripts for the series.

5. It was agreed that Professor J. S. Pym would succeed Professor S. A. Robertson as Publications Secretary from 1 January 1983.

6. There was considerable discussion about the forthcoming ICM in Warsaw. It was felt that more information was needed before the Society could offer advice to members, and it was agreed that the President would seek such information. Council also agreed that, in view of the present abnormal circumstances, it will not be appropriate for the Society to send a delegation to Warsaw as had originally been envisaged. The possibility that the Congress might be cancelled at a late stage, after individuals had incurred financial obligations, was mentioned, and it was agreed to seek the advice of the British National Committee for Mathematics about this. The plan to make a sum of money available to the BNCM to support individuals going to the ICM was approved.

7. Council agreed that Professor P. M. Cohn should succeed Professor I. M. James as the Society's representative on the European Mathematical Council.

8. A revised version of the Society's comments on *Whither Mathematics?* was approved for circulation to Local Representatives.

9. Council agreed that the President should reply favourably to a letter from Dr. A. Ostaszewski concerning the establishment of a book fund to assist Polish mathematicians. (Further details appear below.)

N. L. BIGGS

VISIT OF PROFESSOR STERNBERG

Professor S. Sternberg (Harvard) will be visiting this country to address the Society's Ordinary Meeting on 19 March. During his stay here he will also visit the Universities of Southampton, Warwick and Liverpool. The provisional programme for his lectures is as follows.

Date	*Time*	*Place*	*Title*
Monday 22 March	Afternoon	Southampton	To be announced
Tuesday 23 March	Afternoon	Warwick	To be announced
Wednesday 24 March	2.30 p.m.	Liverpool	"On the Role of Symplectic Geometry in Physics"

Members who wish to attend any of these lectures are advised to confirm the details in advance by contacting the relevant one of the following people: D. Chillingworth (Southampton) 0703 559122 ext. 676; Prof. E. C. Zeeman (Warwick) 0203 24011; The Secretary of the Pure Mathematics Department (Liverpool) 051 709 6022 ext. 3080.

R. A. BAILEY

JOURNAL OF APPLIED PROBABILITY

LMS members are entitled to a discount of 15% on Volume 19A of the JAP to be published by the Applied Probability Trust in July 1982. Entitled *Essays in Statistical Science*, this 450-page book is a Festschrift in honour of Professor P. A. P. Moran, an editor of JAP since 1964. Its contents reflect his wide research interests in many mathematical fields; further details, including a list of contributors, are given in the announcement in Volume 18, Nos. 2, 3 and 4.

The reduced prices for LMS members are as follows:

£12·75 (US $30·60; $A 26·35) up to 31 July 1982; £15·30 (US $36·55; $A 31·45) thereafter.

Remittances should be payable to "Applied Probability" and should be sent to Executive Editor, Applied Probability, Dept. of Probability and Statistics, The University, Sheffield S3 7RH, England, and *not to the LMS*.

POLISH MATHEMATICAL APPEAL

I am establishing a book fund (under the auspices of the Society) in order to help Polish mathematics maintain its standards of excellence at a time of extreme financial stricture, when hard currency resources are inadequate. The aim of the fund is to provide mathematical books and, possibly, journals where an exchange facility cannot be arranged; books requested via the Mathematical Institute of the Polish Academy of Sciences will be bought as funds allow, and preferential rates will be sought from Western publishers.

Members are kindly invited to make donations towards this appeal. Cheques should be made payable to "Polish Mathematical Book Fund" and sent to: Dr. Adam Ostaszewski, Department of Statistical & Mathematical Sciences, London School of Economics, London WC2A 2AE. Reports on the state of the fund and its activity will be published from time to time in the *Newsletter*, and it will be audited by the LMS Treasurer.

A. OSTASZEWSKI

WEEK-END MEETING AT GREGYNOG

The week-end meeting at Gregynog, 21–24 May 1982, will be on Analytic Number Theory. At present the list of speakers who have accepted invitations is Dr. R. C. Baker, Professor D. Bertrand, Dr. D. R. Heath-Brown, Professor H. Iwaniec, Professor J. Pintz, Professor K. F. Roth, FRS, and Professor R. C. Vaughan.

In addition it is intended to arrange splinter group sessions on arrival at Gregynog. The inclusive charge for accommodation is £50.

Application forms may be obtained from Professor D. A. Burgess, Mathematics Department, The University, Nottingham NG7 2RD.

VISITORS TO IHES

The following mathematicians are expected to visit IHES for various periods, beginning in the first half of 1982. Full details may be obtained from: IHES, 91440 Bures-sur-Yvette, France. A list of visitors staying for the whole of the current session appears in the November *Newsletter*.

Assaduam, A.	Virginia
Bakelman, I.	Texas
Baum, P.	Brown Univ.
Block, S.	Princeton
Bott, R.	Harvard
Brin, M.	Maryland
Chen, Zhihua	Peking
Chern, S. S.	Berkeley
Chu, T.	Taiwan
Devinatz, A.	Evanston
Faltings, G.	Münster
Fischer, G.	Düsseldorf
Francoise, J. P.	CNRS
Gabber, O.	Tel-Aviv
Haefliger, A.	Geneva
Hartshorne, R.	Berkeley
Husemoller, D.	Bonn
Kaplan, A.	Amherst
Katok, A.	Maryland
Katz, N.	Princeton
Lu Qui-Keng	Peking
Luztig, G.	M.I.T.
Mazur, B.	Harvard
Meeks, W.	Rio de Janeiro
Mlodinow, L.	C.I.T.
Ossa, E.	Wuppertal
Peixoto, M.	Rio de Janeiro
Peng, C. K.	China
Ribet, K.	Berkeley
Sacksteder, R.	C.U.N.Y.
Schwietzer, P.	Rio de Janeiro
Shikata, Y.	Nagoya
Siersma, D.	Utrecht
Smith, L.	Göttingen
Springer, T.	Utrecht
Stiller, P.	Bonn
Vogt, E.	Berlin
Zagier, D.	Bonn
Zsido, L.	Münster

ORDERED SETS

A conference on Ordered Sets and Its Applications will be held in Lyon, 5 July to 11 July 1982. The Conference will be held under the auspices of the University Claude Bernard, the Société Mathématiques de France, and the Centre National de la Recherche Scientifique (France), and it will take place at Chateau de la Tourette (about 30 km north-west of Lyon).

The theory of Ordered Sets has in recent years undergone accelerated development. We intend to bring together researchers who use ordered sets in topics ranging from set theory to social sciences. The Conference will present the most significant recent results in these fields. Besides selected lectures surveying broad areas of general interest, there will be lectures, contributed papers and problem sessions.

The topics include:

1. Ordered sets and set theory: infinite combinatorics, partition calculus, cofinality, chain conditions, topology in ordered sets and lattices, etc.
2. Ordered structures: connection with model theory, ordered group, Boolean algebras, lattices, etc.
3. Algebras and ordered structures: algebraic methods, chain condition in algebras, clones, etc.
4. Combinatorics of ordered sets: dimension, Dilworth number, jump number, Sperner property, fixed point properties, retracts, enumeration, etc.
5. Ordered sets in computer science: recursivity, complexity of algorithms, sorting, scheduling, linear and discrete programming, fixed point methods, semantics of programmation, etc.
6. Application of ordered sets to economic and social sciences: social choice, etc.

At the present time, the list of speakers and participants includes: R. Assous (France), J.-M. Barthelemy (France), C. Benzaken (France), R. Bonnet (France), G. Bruns (Canada), C. Charretton (France), J. Constantin (Canada), E. Corominas (France), D. Duffus (USA), P. Erdos (Hungary), C. Flament (France), R. Fraisse (France), C. Frasnay (France), F. Galvin (USA), A. Glass (USA), G. Gratzer (Canada), E. Harzheim (Germany), W. Hodges (England), C. Holland (USA), R. Jamison-Waldner (USA), G. Kalmbach (Germany), K. Keimel (Germany), D. Kelly (Canada), J. M. Laborde (France), E. Milner (Canada), B. Monjardet (France), D. Monk (USA), M. Pouzet (France), K. Prikry (USA), W. Pulleyblank (Canada), A. H. G. Rinnoy Kan (Holland), D. Richard (France), I. Rival (Canada), I. Rosenberg (Canada), J. Rosenstein (USA), D. Schweigert (Germany), G. Viennot (France), R. Woodrow (Canada).

We anticipate to accommodate around 100 participants at the Château de la Tourette at a very reasonable price. Further detailed information about abstracts, registration, local expenses, etc., will appear in the Conference brochure, which will be mailed in February 1982. In order to receive it and other communcations you are requested to write to the following address: R. Bonnet, M. Pouzet, Conference on Ordered Sets and Its Applications, UER de Mathématiques, Université Claude Bernard, Lyon 1, 69622 Villeurbanne Cedex, France.

THE FRENCH MUSEUM COMPETITION

The following is reproduced from The Mathematical Intelligencer, *at the request of its Editors. There is no connection with any other Competition.*

The aim of the competition is to encourage mathematicians to help make the most of this opportunity for Mathematics by proposing plans for exhibits in the National Museum of Science and Industry of La Villette. Exhibits should be interesting, attractive, and instructive, preferably to visitors with diverse backgrounds. They may seek to portray any aspect of mathematics and its life.

The competition is organized by *The Mathematical Intelligencer*, sponsored by the Mission du Musée des Sciences et de l'Industrie de La Villette, which has established the prize fund, and held also under the auspices of the Société Mathématique de France. Prizes up to a total of 30,000 French francs will be awarded.

Overall Conception

The Musée de La Villette will be a centre grouping various activities: libraries, conference rooms, a hemispheric cinema, discovery rooms intended to awaken scientific curiosity and creativity in children by giving them the possibility of carrying out experiments, a centre of research in history of science and technology. But the main part, around which all these activities will develop, will be the "permanent exhibition" displays which will occupy 30,000 square metres, and temporary exhibitions as a complement (10,000 sq. m.).

The permanent exhibitions are structured temporarily in five big sectors: Universe, Life, Work of Man, Energy and Information, Matter and Mathematics. The displays should give historical perspectives, establish a certain balance between science and technology, between understanding the world and acting on it.

We emphasize that participation of visitors will be systematically canvassed. Computer consoles, educational games, all modern developments of technology will be used to get an interactive relation between the displays and the visitor.

Inside "Matter and Mathematics"

There will be a room linking Mathematics and Art, devoted to perspective (history of geometry, painting, and architecture). The Mathematics section will also be linked with the "Computers" part, we hope.

Our aim is to give a fair idea of Mathematics as a Science, in close relation with other fields, with deep-rooted links with human culture, but a science of its own, with a quite specific way of development (this "abstractness" which is quite difficult to show in a Museum). In short, try to give a taste of Mathematics and dispel a few enduring preconceptions.

What could help?

Historical approach can be illuminating: how the concept of function was born? Throughout ages, how people have computed volumes? Games, interactive displays, computer-aided consoles can of course lead the public (especially young people) into the "world of Mathematics".

But also, cultural, aesthetical, art-displays can help to relate mathematics to other fields, and show its beauty.

We have selected six big sections (each one should be represented by a big "symbol-object"): Numbers (theory of); Numbers and Functions (approximation, function theory); Symmetry (groups, transformations); Geometry (shapes and spaces); Probability and Statistics; Logic and Algorithmics.

Of course, some of these subjects will mention sciences which are not, strictly speaking, Mathematics: theoretical physics, theoretical computer science, etc.

How to Enter the Competition

Entries should describe a proposed exhibit and should consist of a text which answers at least these questions: What are the mathematical ideas involved? How will they be communicated to visitors? How could the exhibit be constructed? If appropriate (in most cases it will be) the description should be accompanied by figures, photos, etc. Credit will be given for constructive thoughts about implementa-

tion, for detail as well as for the basic idea.

Entries will be judged by a panel of mathematicians: M. F. Atiyah, M. Berger, R. L. Graham, C. Houzel, J. M. Kantor. The judges decision will be final, not only with respect to a winner, but also with respect to the distribution of prizes among several entrants, if that is deemed appropriate. It is at the discretion of the judges whether all or only part of the prize-money available will be awarded. Entrants may not correspond with the panel concerning the competition, unless requested to provide further information by one of the judges.

The Mission du Musée may freely use submitted projects and the *Intelligencer* reserves the rights to publish descriptions and details of entries. Entrants whose proposals are published will receive a free subscription for one year to the *Intelligencer*, independently of the results of the competition. It is of course hoped that some entries will in fact ultimately be implemented as exhibits in the museum or in the grounds outside. However, the decisions of the Museum are wholly independent of the results of this competition.

Entries should be submitted (two copies please) to: *The Mathematical Intelligencer*, Roberto Minio, 21 Kingsway, London SW14 7HL, England, not later than *30 April 1982*.

GREEK BOOKS WANTED

Do any LMS members have any of the following out-of-print books and journals that they no longer need, or know where they can be bought? Teubner critical editions of Greek mathematical authors, T. L. Heath's works, especially his *History of Greek Mathematics* (2 vols), issues of *Quellen und Studien zur Geschichte der Mathematik*, and other scholarly items on Greek mathematics.

At present, these are available only from expensive reprint houses. D. H. Fowler of the Mathematics Institute, University of Warwick, Coventry who is working on a new interpretation of Greek mathematics, would be very interested in contacting anybody who has any such items for sale.

GROUPS IN GALWAY

A weekend conference on Group Theory will be held at the University College, Galway on 14–15 May. The conference is supported by the Irish Mathematical Society. The main talks will be given by R. A. Bryce (ANU/QMC), P. Fitzpatrick (UC Cork), B. Seifert (IHES/UC Dublin) and A. Christofides (UC Galway). Further details may be obtained from M. L. Newell, University College, Galway, Ireland.

STATISTICS TEACHING CONFERENCE

The First International Conference on Teaching of Statistics will be held in Sheffield, England, 8–13 August 1982. Please address correspondence to the Conference Secretary, International Conference on the Teaching of Statistics, Department of Probability and Statistics, The University, Sheffield S3 7RH, England.

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.

P. K. Sen: Sequential nonparametrics, pp 421, £31 (John Wiley & Sons).

A. J. Brentjes: Multi-dimensional continued fraction algorithms, pp 183, DFl 23·10 (MC Tract 145) (Mathematisch Centrum).

H. Haken (ed.): Chaos and order in nature, Proceedings of the International Symposium on Synergetics, Bavaria, 1981, pp 275, DM 60; US $28 (Springer Verlag).

S. Fucik: Solvability of nonlinear equations and boundary value problems, pp 389, DFl 60; US $29·95 (Mathematics & Its Applications 4) (D. Reidel Publishing Co.).

G. Chartrand, Y. Alavi, D. L. Goldsmith, L. Lesniak-Foster, D. R. Lick (eds): The theory and applications of graphs, Proceedings, 4th International Conference, pp 611, £22 (John Wiley & Sons).

J. H. Ferziger: Numerical methods for engineering application, pp 270, £16·50 (John Wiley & Sons).

A. Graham: Kronecker products and matrix calculus with applications, pp 130, £14·50; £4·95 (Ellis Horwood Ltd.).

T. Banchoff, T. Gaffney, C. McCroy: Cusps of Gauss mappings, pp 88, £6·25 (Research Notes in Mathematics, 55) (Pitman Advanced Publishers).

A. W. Glass: Ordered permutation groups, pp 266, £12·50 (LMS Lecture Notes Series, 55) (Cambridge University Press).

B. L. Rabtoe, A. Hedayat, W. T. Federer: Factorial designs, pp 209, £22·25 (John Wiley & Sons).

M. Hazewinkel, J. C. Willems: Stochastic systems: The mathematics of filtering and identification and applications, pp 668, DFl 160 (Series C, 78) (D. Reidel Publishing Co.).

S. Lang: The file—Case study in correction (1977–79), pp 712, DM 58, US $24·70 (Springer Verlag).

R. W. Shephard: Cost and production of functions, pp 105, DM 22, US $10·30 (Springer Verlag).

A. Beller, R. B. Jensen, P. Welch: Coding the universe, pp 353, £17·50 (LMS Lecture Note Series, 47) (Cambridge University Press).

B. D. Craven: Functions of several variables, pp 136, £4·95 (Chapman & Hall).

K. H. Ebert, P. Deuflhard, W. Jager (eds): Modelling of chemical reaction systems, Proceedings, Heidelberg, 1980, pp 339, DM 72, US $33·60 (Springer Verlag).

A. S. Ramsey: Newtonian attraction, pp 184, £6·95 (Cambridge University Press).

P. L. Butzer, B. Sz.-Nagy, E. Gierlich (eds): Functional analysis and approximation, Proceedings, Oberwolfach, Aug. 9–16, 1980, pp 482 (ISNM, 60) (Birkhauser Verlag).

J. Hano, A. Morimoto, S. Murakami, K. Okamoto, H. Ozeki (eds): Manifolds and Lie Groups, Papers in honour of Yozo Matsushima, pp 459, $35 (Birkhauser Verlag).

D. A. Vogan, Jr.: Representations of real reductive Lie groups, pp 771, $35 (Birkhauser Verlag).

P. A. Griffiths, J. W. Morgan: Rational homotopy theory and differential forms, pp 264, $16 (Birkhauser Verlag).

D. H. Greene, D. E. Knuth: Mathematics for the analysis of algorithms, pp 107 (Birkhauser Verlag).

T. Tsuzuku: Finite groups and finite geometries, pp 328, £22·50 (CTM 78) (Cambridge University Press).

J. M. T. Thompson: Instabilities and catastrophes in science and engineering, pp 226, £14·50, $34·75 (John Wiley & Sons).

A. Bouvier: La mystification mathematique, pp 158, Fr 62 (Herman, Paris).

N. Ikeda, S. Watanake: Stochastic differential equations and diffusion processes, pp 464, US $85·25, DFl 175 (North-Holland Publishing Co.).

J. S. Maritz: Distribution-free statistical methods, pp 264, £14 (Chapman & Hall).

M. M. Rao: Foundations of stochastic analysis, pp 295, £26·20, $39·50 (Academic Press).

Edited by N. L. Biggs, Department of Mathematics, Royal Holloway College, Egham, Surrey TW20 0EX.
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LONDON MATHEMATICAL SOCIETY

TWO-DAY MEETING AT OXFORD

16-17 April 1982

A HUNDRED YEARS OF ALGEBRA 1830-1930

Friday, 16 April

2.15 p.m. Meeting opens

2.30 p.m. **R. Taton** (Paris): Évariste Galois et ses contemporains

3.45 p.m. Tea

4.15 p.m. **H. M. Edwards** (New York): Dedekind's invention of ideals

5.30 p.m. **T. Hawkins** (Boston): Wilhelm Killing and the structure of Lie algebras

7.15 for 7.45 p.m. Dinner in The Queen's College

Saturday, 17 April

9.30 a.m. **W. Ledermann** (Sussex): Issai Schur and his school in Berlin

10.45 a.m. Coffee

11.15 a.m. **B. L. van der Waerden** (Zürich): The school of Hilbert and Emmy Noether

Lectures will take place at the
Mathematical Institute
24-29 St Giles', Oxford

All interested are very welcome

More information inside