THE LONDON MATHEMATICAL SOCIETY NEWSLETTER
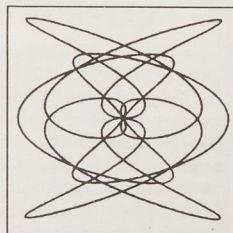
No. 127 March 1986

Forthcoming Meetings

21-22 March 1986, Two day meeting at Trinity College, Dublin
(E. C. Lance, R. G. Douglas, W. B. Arveson, A. Connes)
Friday 16 May 1986, Burlington House
(J. A. Green, D. Segal)
Friday 20 June 1986, Burlington House
Friday 17 October 1986, Burlington House
Friday 21 November 1986, Royal Society

PHILOSOPHY OF HENRI PONCARÉ

A seminar *La Philosphie des Sciences de Henri Poincaré* will be held at the Centre Universitaire de Luxembourg from 22 - 23 May 1986. It is organised by the Société Française de Philosophie, the Société Mathématique de France and the Section des Sciences de l'Institut Grand-ducal in collaboration with the Fondation Louis de Broghe and the Société Française d'Historie des Sciences et des Techniques.

The speakers include: H. Barreau (Équipe Fondement des Sciences, Strasbourg), J. Dieudonné (Académie des Sciences, Paris), G. Heinzmann (Université de Sarrebruck), P. Kerszberg (Université Libre de Bruxelles), A. I. Miller (Harvard University), R. Thom (Académie des Sciences, Paris), E. Zahar (London School of Economics, Londres).

Further details may be obtained from: Séminaire de mathématiques (c/o) Jean-Paul Pier Centre Universitaire de Luxembourg, 162 a, Avenue de la Faïencerie, L 1511, Luxembourg.

MATERIAL INSTABILITIES IN CONTINUUM MECHANICS

A two-day meeting on *Material Instabilities and Partial Differential Equations*, supported by the Science and Engineering Research Council as part of the Symposium Year on Material Instabilities in Continuum Mechanics, has been arranged for Monday 24 and Tuesday 25 March 1986 at Heriot-Watt University. The following have agreed to speak: D. Kinderlehrer (Minnesota), G. Parry (Bath), D. Serre (St-Etienne), J. L. Ericksen (Minnesota), I. Fonseca (CMAF, Lisbon), D. W. Heermann (Mainz), D. F. Parker (Nottingham), J. Sivaloganathan (Bath), J. Dunwoody (Queen;s, Belfast), L. Caffarelli (Chicago) and L. Tartar (Limeil). All those interested are welcome to attend this meeting. There is no registration fee and funds are available for some U.K. participants to attend this or the three-day meeting on *The calculus of variations and nonlinear elasticity; theory and numerical analysis* to be held from 16 - 18 July 1986. Visits are also expected from E. Acerbi (Pisa), N. Alikakos (Tennessee), S. Antman (Maryland), C. Atkinson (Imperial), P. Bates (Brigham Young), G. Buttazzo (Pisa), G. Caginalp (Pittsburgh), G. Capriz (Pisa), P. Charrier (Bordeaux), D. Chillingworh (Southampton), M. Chipot (Metz), P. Ciarlet (Paris VI), D. Cioranescu (Paris VI), B. Coleman (Carnegie-Mellon), B. Dacorogna (Lausanne), C. Dafermos (Brown), E. Dancer (Armidale), G. Dassios (Patras), C. Davini (Udine), P. De Mottoni (Roma), R. DiPerna (Berkeley), J. Dougill (Imperial), L. Fraenkel (Sussex), G. Francfort (Lab. CDPEC), A Friedman (Purdue), N. Fusco (Napoli), R. Glowinski (Houston), N. Goldenfeld (Santa Barbara), J. Goodman (Courant), Gou Z-H (Peking), J. Hale (Brown), H. Hattori (W. Virginia), T. Healey (Maryland), D. Holm (Los Alamos), R. Illner (Victoria), R. James (Minnesota), C. Jones (Arizona), S. Kaniel (Jerusalem), D. Kavian (Paris VI), B. Kawohl (Heidelberg), R. Kohn (Courant), E. Lieb (Princeton), J. Lions (Paris), K. Lurie (Leningrad), J. Maddocks (Maryland), P. Marcellini (Firenze), M. Mascarenhas (Lisbon), E. Mascolo (Salerno), D. McLaughlin (Tuscon), V. Mizel (Carnegie-Mellon), F. Murat (Paris VI), J. Nohel (Wisconsin), A. Novick-Cohen (VPI), O. Oleinik (Moscow), R. Pego (Nichigan), O. Penrose (Open University), M. Pitteri (Padova), M. Rascle (St. Etienne), D. Reynolds (Dublin), V. Roytburd (RPI), R. Saxton (New Orleans), M. Schatzman (Lyon), R. Schianchi (Napoli), M. Schonbek (Berkeley), A. Scott (Tuscon), J. Serrin (Minnesota), M. Slemrod (RPI), S. Spector (S. Illinois), K. Pericak-Spector (S. Illinois), G. Strang (MIT), F. Tomarelli (Pavia), L. Tr.de Campos (Lisbon), L. Veron (Tours), P. Villaggio (Pisa), M. Weinstein (Princeton), J. Willis (Bath). Further details may be obtained from Professor J. M. Ball, Department of Mathematics, Heriot-Watt University, Edinburgh EH14 4AS, Scotland.

MEETING OF HEADS OF DEPARTMENTS OF MATHEMATICS

A meetings of Heads of Departments of Mathematics was held on Friday 31 January at the Royal Society.The meeting, organised by the LMS, was attended by about 100 people. It provided an opportunity for Heads of Department to let off steam. The President of the LMS chaired the meeting.

The morning session covered UGC matters with Professor James Wiegold (until 31/12/85 a member of the UGC Mathematics subcommittee) leading the discussion. Some of the topics discussed were:

"Undergraduate expansion in computer science seems to be inevitably at the expense of mathematics.

"The supply of well-prepared undergraduate mathematicians depends crucially on the presence of enough school teachers of high quality."

"The UGC has not specified a minimum viable size for a mathematics department. One university (at least) appears to be on the brink of discontinuing single honours mathematics."

"Universities are using 'performance indicators' internally to assess their departments. Some of these indicators, such as 'kilopounds of research grant money per member of staff', are inimical to mathematics"

"Mathematical research may suffer less from financial cuts than some other areas, but library cuts, especially in the smaller centres, are having a serious effect."

The afternoon session concerned SERC matters and was led by Profesor J. Trevor Stuart (chairman of the SERC Mathematics committee). Points raised included:

"The 'pool' system for Research Studentships is unique to mathematics. Is it working satisfactorily?"

"Does selectivity make sense in a non-laboratory subject?"

"Are steps taken to avoid injustice in awarding finance to named subjects? For example, are mathematicians deprived of money for computational work of importance because the 'label' is wrong?"

No formal resolutions were passed although several were agreed informally. A committee is being formed to put forward concrete resolutions concerning matters discussed at the meeting.

LONDON MATHEMATICAL SOCIETY
&
IRISH MATHEMATICAL SOCIETY

Joint Two-Day Meeting

C*-Algebras and Operator Theory
Friday 21 and Saturday 22 March 1986
Trinity College, Dublin

Friday   3.30   E. C. Lance (Leeds)
          5.00   R. G. Douglas (Stonybrook)

Saturday 10.30   W. B. Arveson (Berkeley)
         12.00   A. Connes (Paris)

Lectures will take place in the
Small Lecture Theatre
of the Physics Department,
Trinity College

All interested are very welcome

Enquiries may be addressed to the Conference
Organiser, Dr. T. T. West, School of Mathematics,
39 Trinity College, Dublin

THE ROYAL SOCIETY
MATHEMATICAL INSTRUCTION SUBCOMMITTEE NEWSLETTER No. 1

by Professor D. G. Crighton, Chairman of the MIS

The Mathematical Education Joint Committee of the Royal Society and the Institute of Mathematics and its Applications has established a standing Mathematical Instruction Subcommittee to advise and inform the UK mathematical education community on matters relating to the International Commission on Mathematical Instruction (ICMI) and all other international matters relating to mathematical education. The subcommittee will, in particular, act as a focus for UK participation in the International Congresses on Mathematical Education (ICMEs) and coordinate the UK contributions.

The subcommittee's composition is:
Chairman - Professor D. G. Crighton (Cambridge University)
Members - Mr. A. Ashbrook (DES observer), Mr. N. L. Biggs (LMS), Dr. A. J. Bishop (AUMET), Professor H. Burkhardt (ICMI National Member), Mrs. A. S. Hawkins (statistician), Professor A. G. Howson (ICMI Secretary), Dr. D. J. G. James (IMA), Dr. Daphne Kerslake (NATFHE), Mr. D. W. Lingard (ATM), Mr. P. Reynolds (MA), Professor C. A. Rogers (RS), Mr. C. J. Wood (SMC).

A major aim of the subcommittee is to publicise arrangements for ICMEs and other international activities in mathematical education. It will endeavour to obtain financial support from appropriate sponsors for ICME participants, although the subcommittee has no funds of its own for this purpose. Details of this and of all the topics covered by MIS will be found in the next MIS Newsletter. Our intention is to prepare a newsletter twice yearly (more frequently as the next ICME approaches) and to publish it in this *Newsletter* and others of the professional mathematical associations.

ICME-6 Budapest 27 July to 3 August 1988

The structure of ICME-6 is expected to follow that of ICME-5 in Adelaide, including lectures, seminars, workshops, films, poster sessions and exhibitions of current projects in mathematical education, together with working groups of three kinds — Action Groups related to specific levels of teaching, Theme Groups on the principal themes of the Congress, and Topic Groups of other areas of continuing interest. A preliminary announcement appears elsewhere in this *Newsletter* including the address of the Congress organization in Hungary. Those requiring further official information of the programme and registration details as they emerge should write to that address.

UK Planning for ICME-6

The subcommittee will hold annual public planning meetings for ICME-6, the first taking place at the University of Nottingham on *Friday 6 June 1986* under the auspices of Professor Hugh Burkhardt. The afternoon of a full-day meeting will be devoted to ICME-6 affairs. The meeting is open to anyone with an interest in arrangements for ICME-6; further details of the meeting may be obtained from Professor H. Burkhardt at the Shell Centre for Mathematical Education, University of Nottingham, University Park, Nottingham, NG7 2RD.

UK mailing list

As part of its coordinating activities, the subcommittee is compiling a mailing list. If you would like to receive information from the subcommittee, please write to the address below specifying details as follows:

(a) whether you are proposing to offer a presentation at ICME-6,

(b) whether you expect to attend ICME-6

(c) whether you attended ICME-5,

(d) any information about your interests and activities in mathematical education.

UK presentation

An information sheet has been prepared for those wishing to make a presentation at ICME-6; these are available from the Royal Society, address below. Forms should be returned, if necessary with only brief details, by *Friday 2 May 1986* to the address below. There will be a second deadline in September for detailed proposals for those who were unable to meet the May deadline. The subcommittee will forward *all* proposals to the International Programme Committee, which is expected to make its final decision in December 1986. The subcommittee will ensure that potential presenters are informed of the decisions of the IPC as soon as possible — at the latest one year before ICME-6. The annual public meeting in the summer of 1987 will concentrate on the accepted presentations. The question of sources of funding and sponsorship for travel will also be considered.

Other international activities on mathematical education

The 38th meeting of the International Commission for the Study and Improvement of Mathematics Teaching (CIEAEM) will be held from 24-30 July 1986 at the University of Southampton. The theme for the meeting will be, 'Mathematics for those between 14 and 17 years, do they really need it?'. For a registration form and further information please contact *Mr. P. Bowie,* The Grove, Shalbourne, Marlborough, Wilts., SN8 3QD. Tel: (0672) 870410.

Coming shortly!

The next subcommittee newsletter will be issued in about six months. It will include reports on the June 1986 Nottingham meeting, the meetings of the IPC and related planning groups. There will also be further details of the programme for ICME-6 and some preliminary ideas on travel funding for participants.

For further subcommittee information please contact: Jill A. Nelson, The Royal Society, 6 Carlton House Terrace, LONDON SW1Y 5AG. Tel: 01-839-5561, ext. 266.

SMOOTH ERGODIC THEORY

As part of the Warwick Symposium on Smooth Ergodic Theory (which runs until the end of July 1986) there will be an Instructional Conference during 14-18 April 1986, at the Mathematics Institute, University of Warwick, Coventry.

The first lecture will start after lunch on Monday 14 April and the last lecture will end before lunch on Friday 18 April. One of the short lecture courses will be given by W. Thurston (Princeton) on Rational Maps of the Riemann Sphere. Accommodation is available on campus. If you would like to come please write for an application form to: Ms. E. Shiels, Mathematics Research Centre, University of Warwick, Coventry CV4 7AL. or to: Professor Peter Walters, Mathematics Institute, University of Warwick, Coventry CV4 7AL.

ICME-6

The ICME-6 Organising committee is pleased to announce that the Sixth International Congress on Mathematical Education will be held in Budapest from 27 July to 3 August, 1988.

The formal program will cover all areas of mathematical education and the diverse needs and interests of the participants. Congress activities will include lectures, seminars, workshops, films, poster sessions and exhibitions of current projects in mathematical education. A large exhibition of aids and materials relevent to mathematical education and research is planned to be held in conjuction with the Congress.

Existing Special Interest, Working and Study Groups are invited to meet and to contribute to the Congress program.

The main language of communication of the Congress is English. Simultaneous translation into several languages is anticipated for some sessions. Some translated abstracts or summaries of presented papers will be available. A complimentary copy of the Proceedings of ICME-6 will be sent to each registered full member of the Congress.

Social activities will be included in the Congress program. In addition, a program of activities, arranged for those not participating in the formal program, will be available to visitors registering as accompanying members of the Congress.

A variety of accommodation will be available varying from dormitory type to first class hotel standard. Early registrants will have the best choice. Most of the available accommodation is within easy walking distance of the Congress venue.

Further details may be obtained from ICME-6, Janos Bolyai Mathematical Society, Budapest, Anker Koz 1 - 3, 1, 111, H-1060, Hungary.

NORTH BRITISH FUNCTIONAL ANALYSIS SEMINAR

The next meeting of the North British Functional Analysis Seminar will be held on Monday, 3 March, 1986 at 14.30 and 16.30 in Room M 503, School of Mathematics, Merz Court, The University, Newcastle-upon-Tyne. The speakers will be Professor M. Neumann (Essen University) *Decomposable Operators, Divisible Subspaces and Problems of Automatic Countinuity;* and Professor I. Namioka (University of Washington, Seattle, and University College, London) *Radon-Nikodym compact spaces.* Tea and biscuits will be served at 15.30.

SINGAPORE GROUP THEORY CONFERENCE

There will be a conference on Group Theory to be held at the National University of Singapore in the period 8 - 19 June 1987. Contributions on any aspect of group theory, finine or infinite, will be welcome.

This is a preliminary notice. If you wish to know more about the conference or to receive subsequent notices please write to Singapore Group Theory Conference, Department of Mathematics, National University of Singapore, Kent Ridge, Republic of Singapore 0511.

UNIVERSITY OF LIVERPOOL
Chair of Pure Mathematics

Applications are invited for a Chair in the Department of Pure Mathematics. The other Chair in the Department is held by Professor C. T. C. Wall, F.R.S., currently holder of a S.E.R.C. Senior Fellowship from 1983 to 1988.

The Department has an excellent international reputation and attracts considerable research funding. It works closely with the Departments of Applied Mathematics and Theoretical Physics and of Statistics and Computational Mathematics. Applications are welcome from candidates who have an outstanding research record and whose research has possibilities of interaction with current departmental work.

The salary will be within the range approved for non-clincial professorial salaries, currently not less than £18,933 per annum (under review).

Applications, together with the names of three referees, should be received not later than 30th April, 1986, by The Registrar, The University, P.O. Box 147, Liverpool, L69 3BX, from whom further particulars may be obtained.
Quote ref. RV/277.

UNIVERSITY OF CAPE TOWN
Posts in the Department of Mathematics

Applicants are invited for two posts in the Department of Mathematics, vacant from 1 July 1986. Candidates should indicate whether they wish their application to be considered for a post at Professor, Associate Professor, Senior Lecturer or Lecturer level.

The salary ranges are: Professor: R34 070-R40 962, Associate Professor: R28 889-R35 377, Senior Lecturer: R26 403-R32 763, Lecturer: R17 267-R28 889 with an annual bonus and attractive staff benefits.

Applicants should submit a full curriculum vitae and the names and addresses of three referees not later than 15 April 1986 to the Registrar (Attention: Appointments Office), University of Cape Town, Private Bag, Rondebosch, 7700, Republic of South Africa, **quoting Ref. 133 clearly on envelope and letter.** Further information may be obtained from the above address.

The University's stand against apartheid and all racially discriminating legislation is on record. Information on this as well as on the University's policy not to discriminate in the appointment of staff or the selection of students on grounds of sex, race or religion, is obtainable on request.

QUEEN MARY COLLEGE
SCHOOL OF MATHEMATICAL SCIENCES
MATHEMATICIAN/PROGRAMMER
(Computational Group Theory)

The School of Mathematical Sciences has recently been awarded a special support post for work in computation group theory and related areas, and now seeks a suitable appointee who should normally have a Ph.D. in some area of Pure Mathematics and experience in managing large computer programmes.

The School has a flourishing research activity in computational group theory and the successful applicant will be expected to work with members of the School on the development, maintenance and implementation of large group theory programmes, to assist with teaching, and to undertake research.

The appointment will be for up to 3 years in the first instance with the possibility of an established post at the end of this period.

Starting salary according to age and experience will be in the range of £8,817 to £12,502 (including London Allowance). [A pay award is currently under consideration and the College is paying 4% on account]. The post is available from 1 April or 1 September, 1986.

Further details and application forms can be obtained from Professor I. W. Roxburg, Head of the School, to whom completed forms and a curriculum vitae should be returned by 7 March.

COMPUTER SCIENCE COLLOQUIUM

The second British Theoretical Science Colloquium will be held at the University of Warwick from 24-26 March 1986. The speakers will include:-

Dr. Dominic Welsh (Oxford), Prof. Mike Paterson (Warwick), Prof. Frances Yao (Xerox PARC), Dr. Tony Cohn (Warwick), Dr. Stan Wainer (Leeds), Prof. Matthew Hennessy (Sussex), and Prof. Rod Burstall (Edinburgh).

This meeting will be an opportunity for informal presentation and discussion of all aspects of research in theoretical computer science, and interested mathematicians are warmly invited to attend and contribute.

For further information please contact Dr. Meurig Beynon, Department of Computer Science, University of Warwick, Coventry CV4 7AL.

ALFRED GOLDIE

Professor A. W. Goldie retires from the University of Leeds at the end of the current academic year. In order to celebrate his contributions to algebra, and to ring theory in particular, a two day meetings and a research syposium will be held at the University of Leeds during the period Thursday 3 July to Saturday 12 July, 1986.

The two day meeting will be held on Thursday 3 July and Friday 4 July, with a dinner on the Thursday evening. The lecturers are S. A. Amitsur, P. M. Cohn, I. N. Herstein, A. Joseph, G. Michler, L. W. Small, J. T. Stafford and R. B. Warfield. This meeting is being supported by the London Mathematical Society and the University of Leeds.

The research symposium in ring theory, which is being supported by the SERC, will take place in the week after the two day meeting and will end on 12 July 1986. The two meetings are independent, although a large overlap of participants is expected.

Accommodation for the whole, or part of the period, is available in student residences on the campus.

For further details please write to Professor J. C. Robson, School of Mathematics, University of Leeds, Leeds. LS2 9JT.

COLORADO STATE UNIVERSITY

The Department of Statistics, Colorade State University, has funding available for qualified and motivated students wishing to study for the MS or PHD degree. Areas of specialization include probability and stochastic processes, linear models, time series analysis, multivariate analysis, design, sampling and mathematical statistics. The department is active and very congenial and the physical surrounding unsurpassed. Funding is in the form of teaching, research or consulting assistantships and completely covers tuition and living expenses. Potential students who for personal or professional reasons are determined to go abroad are urged to contact Professor Sid Resnick, who is visiting the Mathematics Department, Sussex University until July 1986, Telephone 0273 606755 Extension 3062.

MATHEMATICIANS FREEZE APPEAL

The Mathematicians Freeze Appeal is an international call by mathematicians for a halt to the arms race. It calls for an agreement to freeze all nuclear weapon systems and space weapons, that is, to stop their development, testing, production and deployment. Anyone interested in further details should contact Daniel Cohen, Mathematics Department, Queen Mary College, Mile End Road, London E1 4NS.

RAMANUJAN BUST APPEAL

The distinguished Indian mathematician Srinivasa Ramanujan was born in 1887 and died in 1920. Through the efforts of the late Professor G. H. Hardy he was persuaded to come to Cambridge in 1914, and remained in England until his return to India in 1919. His best work was done during these five years, despite the fact that, after 1917, he was a sick man and rarely out of bed. During this period he wrote over 30 papers, seven of them being in collaboration with Hardy.

In 1983, at the instigation of Professor Richard Askey in Madison, Wisconsin, the American sculptor Paul Granlund was commissioned to make a bust of Ramanujan and eight copies were cast. One of these was presetned to Ramanujan's widow, now in her 86th year, and another was purchased and sent to the Indian Academy of Sciences in Bangalore. Five others were acquired by various American institutions or individuals, so that one bust remains unsold. The sculptor based his work on the well known 1919 passport photograph of Ramanujan, which is reproduced in Hardy's *Ramanujan* (Cambridge, 1940). It is slightly larger than life size, is mounted on a five inch bronze base and weight 35 lbs.

An appeal has gone out to nearly 200 individual mathematicians in the U.K. asking for contributions to enable the remaining copy of the bust to be purchased and displayed in the Library of the Department of Pure Mathematics in Mill Lane, Cambridge. It will more readily be seen there by mathematicians than in any other location. For this purpose a sum of the order of £1,000 will be required, excluding transport costs and other related charges.

All contributions should be sent to Professor R. A. Rankin, Department of Mathematics, University of Glasgow, Glasgow G12 8QW. Cheques should be made out to Ramanujan Bust Appeal.

RETIREMENT OF C. A. ROGERS

A meetings will be held at University College London on Friday 27 June 1986 to mark the retirement of Professor C. A. Rogers, F.R.S.

The meeting will be supported by the L.M.S. and will take the form of three lectures given by E. Hlawka (2.30 - 3.10 p.m.), A. H. Stone (3.15 - 3.55 p.m.) and D. G. Larman (4.45 - 5.25 p.m.) relating to the various branches of Rogers' work.

The lectures will take place in the Gustave Tuck Theatre and tea will be served at 4.00 p.m.

THIRD COLLINGWOOD LECTURE

The Department of Mathematical Sciences of the University of Durham has established an annual lecture on the History and Philosophy of Mathematics in memory of Sir Edward Collingwood F.R.S. This year's Collingwood Lecture will be given by Dr. P. M. Neumann (Queen's College, Oxford) who will speak about *The Paris Grand Prix of 1860* on Thurday, 13 March 1986 at 4.15 p.m. in the Scarbrough Lecture Theatre.