THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 200

December 1992

FORTHCOMING SOCIETY MEETINGS Friday 11 December 1992, University of Warwick Memorial Meeting for Rolph Schwarzenberger S. Pirie, S.A. Robertson, D.O. Tall, E.C. Zeeman Friday 15 January 1993, Burlington House

R.A. Cuninghame-Green, L.C. Thomas Friday 19 February 1993, York Friday 19 March 1993, Burlington House Thursday, Friday 13-14 May 1993, Cambridge Friday 18 June 1993, Burlington House

1992 COUNCIL ELECTIONS

At the Annual General Meeting on 20 November 1992, the following members were elected to Council: J. R. Ringrose (President); R. A. Bailey and A. O. Morris (Vice-Presidents); J. D. M. Wright (Treasurer); R. Y. Sharp (Council and General Secretary); D. J. Collins (Meetings and Membership Secretary); D. A. Brannan (Publications Secretary); J. A. Erdos (Librarian); J. M. Ball, F. H. J. Cornish, A. Gardiner, H. R. Morton, M. J. Taylor, C. T. C. Wall (Members-at-Large, 2-year terms); D. G. Crighton, W. A. Hodges, P. M. Neumann, J. C. Robson (Members-at-Large, 1-year terms). N. J. Hitchin and N. J. Young are Members-at-Large whose terms expire in 1993.

> R. Y. Sharp Council and General Secretary

LMS DURHAM SYMPOSIA 1993

There will be three symposia in 1993: **ANALYTIC AND GEOMETRIC ASPECTS OF HYPERBOLIC SPACE** (4th July - 11th July). Organisers: Professor D. Epstein*, Professor C. Series. Main Speakers: F. Bonahon, S. Kerckhoff, H. Masur, W. Thurston (provisional), S. Wolpert.

COMPLEX DYNAMICS (11th July - 21st July) Organisers: Professor I.N. Baker, Dr. A.F. Beardon, Dr. S.M. Rees*. Main Speakers: A. Douady, A. Eremenko, M. Lyubich, C. McMullen, M. Shishikura, D.Sullivan, G. Swiatek, J-C. Yoccoz.

VECTOR BUNDLES IN ALGEBRAIC GEOMETRY (22nd July - 1st August). Organisers: Professor N.J. Hitchin, Dr. P.E. Newstead*, Dr. W.M. Oxbury. Main Speakers: S.K. Donaldson, K. Hulek, J. le Potier, M.S. Narasimhan, A.N. Tyurin, K. Ueno.

These research symposia are organised under the auspices of the London Mathematical Society and are supported by Research Grants from SERC. There may be a few places available for mathematicians not yet invited. Those interested should write for more information to the organisers marked * at the following addresses: Professor D. Epstein, Mathematics Institute, University of Warwick, Coventry CV4 7AL. Dr. S.M. Rees Department of Pure Mathematics, University of Liverpool, P.O. Box 147, Liverpool L69 3BX. Dr. P.E. Newstead, Department of Pure Mathematics, University of Liverpool, P.O. Box 147, Liverpool L69 3BX.

LMS INVITED LECTURES PROFESSOR L. DE BRANGES

The London Mathematical Society annually organises a series of 10 expository lectures by an outstanding mathematician, given over the space of one week. The lecturer for 1993 will be Professor L. de Branges who will speak on Factorization and Invariant Subspaces. The series will start at 2pm on Monday, 22nd March and finish at mid-day on Friday, 26th March 1993, and will take place in the Department of Mathematics, Lancaster University.

Professor de Branges is well known for his work on operator theory and function theory, and is especially renowned for having proved the long-standing Bieberbach conjecture. This success was one consequence of a far-reaching theory of matrix- and operatorvalued analytic functions which he has developed. The theory concerns itself particularly with factorization questions. The functions are interpreted as transfer functions of unitary linear systems, having state spaces which are Hilbert spaces. The theory of these linear systems is a generalization of a topic which Hilbert himself regarded as a good candidate for an approach to the proof of the Riemann hypothesis - a spectral theory for second order differential operators.

The application of the theory requires the introduction of spaces with indefinite in-

The third issue of the Annual is now available. It contains the addresses, telephone and fax numbers of Departments of Mathematics, Statistics, Computer Sciences and kindred subjects at Universities, Polytechnics and similar institutes in the United Kingdom. Copies are being dis-

Professor M. Lorenz of Temple University, Philadelphia will be visiting the UK during December. He will give talks on Thursday 3rd December, to the London Algebra Colloquium (Grothendieck groups of invariant rings), on Monday 7th December at the University of Edinburgh (Grothendieck groups in ring theory) and on Wednesday 16th December at the University of Glasgow (title to be arranged). Professor Lorenz's visit ner products, and its present formulation is influenced by the ideas of Mark Krein. A technique called complementation, which generalizes the usual orthogonal complement, is applied in Hilbert spaces and Krein spaces. Complementation is a concept which underlies the proof of the Bieberbach conjecture. It is a precise mechanism for keeping track of the energy balance in the flow of a dynamical system.

The celebrated invariant subspace problem (must a continuous linear transformation in a non-trivial Hilbert space have a non-trivial invariant subspace?) can be viewed as a factorization problem. This approach leads to a generalization of the concept of invariant subspace. One then needs to determine when the existence of non-trivial generalized invariant subspaces implies the existence of non-trivial invariant subspaces. A mechanism for obtaining this conclusion has been found, but the invariant subspace problem itself remains open.

To reserve accommodation on campus (from £24.25 + VAT per day half board) contact Professor N.J. Young, Department of Mathematics, Fylde College, Lancaster University, Lancaster LA1 4YF, email N.J.Young@uk.ac.lancs.cent1. Reservations need to be confirmed by 1st February.

tributed free of charge to all the Departments concerned for further distribution to their members. Subject to availability, additional copies can be obtained by sending a stamped addressed envelope to Professor I.M. James, Mathematical Institute, 24-29 St Giles, Oxford OX1 3LB.

VISIT OF PROFESSOR M. LORENZ

MATHEMATICAL SCIENCES ANNUAL 1993

is partially supported by a Scheme 2 grant from the London Mathematical Society and by a grant from the Centenary Fund of the Edinburgh Mathematical Society. Further details may be obtained from Ken Brown, Department of Mathematics, University of Glasgow, Glasgow G12 8QW, telephone 041-339 8855 ext 6535, email k.a.brown@uk.ac.glasgow.vme.

LONDON MATHEMATICAL SOCIETY

MEMORIAL MEETING FOR ROLPH SCHWARZENBERGER

FRIDAY 11 DECEMBER 1992

Lecture Theatre ELT1 Mathematics Institute University of Warwick

11.30	D.O. Tall
	Mathematicians thinking about students
	thinking about mathematics
12.30	Lunch
2.15	S. Pirie
	Pupils' mathematical discussion - is it
	an aid to understanding?
3.15	Теа
3.45	S.A. Robertson
	The symmetry classification of convex bodies
5.00	E.C. Zeeman
	On competitive Lotka-Volterra equations

All interested are very welcome

A buffet lunch will be provided in the Mathematics Institute. Those who would like to have lunch are asked to inform Peta McAllister, Mathematics Research Centre, University of Warwick, Coventry CV4 7AL, telephone 0203-523053, no later than

Friday 4th December

TECHNOLOGY IN MATHEMATICS TEACHING: A BRIDGE BETWEEN TEACHING AND LEARNING

I read with interest Geoffrey Howson's article on ICME in the November issue of the LMS Newsletter. It is true that there has been a separation of those involved in teaching mathematics into different camps. However, this is being addressed through various initiatives and by various bodies. In the USA an annual conference has brought mathematicians and educators together by focussing on the specific issue of "Technology in Collegiate Mathematics". They have begun to attract schoolteachers to their meetings. This will be carried one stage further when the conference moves to the UK next year.

How do new technologies enhance the teaching and learning of mathematics?

The next conference, the sixth in the series, will be held at the University of Birmingham from September 17th-20th, 1993. This exciting venture is designed to bring together mathematics teachers, lecturers and educators from across the world to the heart of the Midlands. Anyone interested in the teaching of mathematics will be very welcome; the programme will cater for all teachers, from those who teach the very young to those engaged in teaching at degree level. Key international speakers include Professor Andrea diSessa from the University of California, Professor Colette Laborde from University Joseph Fourier, Grenoble and Dr Philip Rippon from The Open University. Variety and participation are the main characteristics of the conference, together with an active social programmme which will enable delegates to enjoy some of the highlights of the Midlands area in the company of like-minded people.

The conference format will support three strands:

1: The mathematical content of teaching and learning environments.

2: Technology as a resource for the teacher.

3: Hands-on interaction between learners and

technology plus a special theme workshop on technology in the teaching of undergraduate mathematics.

Delegates are invited to make a contribution under one of the following headings by 31 January 1993.

a) A 30 minute presentation, concerned with theory, research or practice, followed by 15 minutes for questions. An 8 page (maximum) paper is required, which will be refereed by the Programme Committee. Accepted papers will appear in the Conference Proceedings.

b) A 15 minute presentation, concerned with theory, research or practice, followed by 5 minutes for questions. A 500 word abstract is required.

c) To chair a 90-minute symposium around a particular issue. A 500 word abstract indicating content, focus and organisation is required.

d) To lead a 90-minute hands-on workshop. A 500 word outline indicating purpose is required, with an indication of necessary hardware and possible frequency of repeat.

e) To display a poster and participate in a discussion together with other poster presenters in a 90-minute session. A statement of the poster's theme is required.

A schools competition will be run in conjunction with the conference and an exhibition of mathematical publications, computers and calculators will be on display throughout the proceedings. Teachers who are unable to attend the whole conference will be able to attend a one day 'mini programme' on the Saturday. TMT93 will also incorporate the 1993 conference of the Association of Mathematics Education Teachers (AMET).

For further details please contact Pam Bishop, TMT93, Faculty of Education, The University of Birmingham, Edgbaston, Birmingham B15 2TT, UK, telephone 021-414 4800, email tmt93@bham.ac.uk

Pam Bishop

POLYTOPES: ABSTRACT, CONVEX AND COMPUTATIONAL NATO ADVANCED STUDY INSTITUTE

A seminar on Polytopes: Abstract, Convex and Computational will be held from 23rd August to 4th September 1993 at Scarborough, Ontario, Canada. For further in-

formation write to Professor T. Bisztriczky Department of Mathematics and Statistics, University of Calgary, Calgary, Alberta T2N 1N4. Canada.

BRITISH VISITORS FUND

LMS GRANT TO THE MATHEMATICS RESEARCH CENTRE UNIVERSITY OF WARWICK

The London Mathematical Society has given the Warwick MRC a grant of £5,000 for the year 1992/93 to help support British visitors who want to take part in the various mathematical activities which take place in Warwick. These funds are specifically for British Visitors who would not get support from the SERC or their own university, for this particular visit to Warwick.

For example, we can offer support to people who fall into the following categories:

- Mathematicians whose principal research area is not necessarily the main subject of the symposium or workshop but who would clearly benefit from taking part.
- (2) Young mathematicians who are developing their research interests but who have not yet really established themselves.
- (3) British graduate students.
- (4) British mathematicans taking part in two-day meetings, special lectures, and one-off events which occur from time to time.

Enquiries about and applications for these funds should be sent to the organiser of the event at Warwick. Expenditure must be approved by the Director of the MRC and the representative of the LMS on the Advisory Board of the MRC.

Title	Dates	Organisers
Symposium: Analytic and Geometric Aspects of Hyperbolic Geometry	September 1992 - July 1993	D.B.A. Epstein, C.M. Series
Instructional Conference: Analytic and Geometric Aspects of Hyperbolic Geometry	14 - 19 September	D.B.A. Epstein, C.M. Series
Memorial Meeting for Rolph Schwarzenberger	11 December	D.H. Fowler, C.M. Series
Workshop: Surfaces & 3-folds	7 - 10 January	M. Reid
Symposium Workshop: Analytic and Geometric Aspects of Hyperbolic Geometry	15 - 22 April	D.B.A. Epstein, C.M. Series
Workshop: Conformal field theory, operator algebras and low dimensional topology	1 - 31 August	V.F.R. Jones, J.D.S. Jones and B.W. Westbury

Programme of Activities at Warwick 1992/93

BRITISH COMBINATORIAL CONFERENCE

The fourteenth British Combinatorial Conference will be held at Keele University, Staffordshire from Monday, 5th July to Friday, 9th July, 1993. Accommodation and meals will be available in the University from Sunday evening to Saturday morning.

The nine invited lectures will be: N. Alon (Tel-Aviv), 'Restricted Colourings of Graphs'; A. Blokhuis (Eindhoven), 'Polynomials in Finite Geometries and Combinatorics'; G. Brightwell (London), 'Models of Random Partial Orders'; A. Frank (Bonn), 'Applications of Sub-modular Functions'; A.J.W. Hilton (Reading), 'Weighted Quasi-groups'; A.A. Ivanov (Chicago), '2-transitive Graphs with Projective Sub-constituents and Small Girth'; B. Jackson (London), 'Cycle Decompositions and Covers of Graphs'; M. Saks (Rutgers), 'Restrictions of Labelled Hypercubes'; D.R. Stinson (Nebraska), 'Combinatorial Cryptography'. The invited lectures will be published by Cambridge University Press in the London Mathematical Society Lecture Notes Series and will be available at the Conference.

There will be special sessions of contributed talks, normally of 20 minutes, on all branches of Combinatorics. Subject to refereeing, these will subsequently be published in Discrete Mathematics.

The Conference is organised by the British Combinatorial Committee, with financial support from the London Mathematical Society.

For further information, please contact the local organiser, Mr K. Walker, Department of Mathematics, Keele University, Staffordshire ST5 5BG, U.K., phone: 0782 583268, fax: 0782 715194, email: maa06@uk.ac.keele.seq1.

Application forms will be available in January, 1993 and should be returned by 31st May, 1993.

BRITISH SOCIETY FOR THE HISTORY OF MATHEMATICS CHRISTMAS MEETING AND ANNUAL GENERAL MEETING

The Christmas Meeting and Annual General Meeting of the British Society for the History of Mathematics will be held on Monday 21st December 1992 at Birkbeck College, Malet Street, London. The programme is as follows: 10.30 - 11.00 coffee; 11.00 - 11.45 'Nicolai Ivanovich Lobachevsky' (Jeremy Gray, Open University); 11.50 - 12.35 'Real numbers and fantastic functions' (Steve Russ, University of Warwick); 12.45 - 1.45 buffet lunch; 2.00 - 2.45 'Thomas Archer Hirst, mathematician Xtravagant' (Helen Gardner and Robin Wilson, Open University); 2.50 -4.00 Annual General Meeting; 4.00 - 4.30 tea. A limited number of bursaries of £20 are available to assist students with travel expenses of the meeting. If you would like to be considered, write to Dr Roger Bray, Royal Institution, 21 Albermarle Street, London W1X 4BS outlining your reasons for applying. If you wish to attend, send either £4 registration fee (including tea and coffee but not lunch) or £15 fee (including, tea, coffee and lunch) to Dr J. Keith Dugdale, Department of Mathematics, University of Reading, PO Box 220, Reading RG6 2AX by Friday 11th December. Cheques should be made payable to "BSHM".

1993 BRITISH MATHEMATICAL COLLOQUIUM

The 45th British Mathematical Colloquium will be held at the University of Reading, from 29th March to 2nd April 1993. The lectures will take place 30th March to 1st April. The overseas speakers are E.G. Effros (Berkeley), L. Babai (Budapest and Chicago) and S. Lang (Yale). The other invited speakers are: C-H. Chu, R.T. Curtis, J.A. Erdos, R.G. Haydon, S.E. Rees (all on 29th March), D.R.J. Chillingworth, D.M. Evans, S.J. Patterson, M.R. Vaughan-Lee, D.T. Whiteside (on 30th March), F.A. Rogers, P. Rowlinson, J. Sheehan, R.M. Timoney and D.J.A. Welsh (on 1st April).

A full programme of splinter groups as well as social activities is planned in addition. UK members will receive a booking form with this Newsletter. Enquiries should be addressed to Dr D.S.G. Stirling, Department of Mathematics, University of Reading, Whiteknights, PO Box 220, Reading RG6 2AX, fax: (0734) 313423, email: maths@uk.ac.reading.

THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

The Fields Institute for Research in Mathematical Sciences invites applications for Institute Junior Fellowships for the 1993-94 program year. These fellowships will be tenable for two years, the second of which being held at McMaster University, the University of Toronto or McGill University. Candidates should possess a PhD degree in mathematical sciences and have a strong research record. Partial support may also be available for a limited number of additional participants and graduate students working in the program area.

For the 1993-94 academic year the topic of concentration is L- Functions. The organising committee for the programme consists of Manfred Kolster and Victor Snaith (McMaster University), Kumar Murty (University of Toronto) and Ram Murty (McGill University) supplemented by an advisory panel of Spencer Bloch (University of Chicago), John Coates (University of Cambridge), and Martin Taylor (University of Manchester Institute of Science and Technology).

Applications, including curriculum vitae and three letters of reference sent directly to the Institute on your behalf, should be sent by January 15, 1993 to: Dr J.E. Marsden, Director, The Fields Institute for Research in Mathematical Sciences, 185 Columbia Street. W., Waterloo, Ontario, Canada N2L 5Z5.

The Institute is a collaboration involving McMaster University, the University of Toronto, the University of Waterloo and affiliate universities across Canada. It is supported by the Ministry of Colleges and Universities of Ontario and the National Sciences and Engineering Research Council of Canada.

MODULAR COURSES AT THE UNIVERSITY OF STRATHCLYDE

Many institutions are modularising their degree courses at present. At the University of Strathclyde in Glasgow, a modular structure for all courses has been in operation since the start of Session 1988/89. The first cohort of students to have passed right through the new system graduated in July 1992. It is therefore an appropriate juncture to describe briefly how the system has worked and to indicate some problems that have arisen.

The academic year can be broken down as follows:

First "semester" of 12 weeks from the end of September to the Friday before Christmas;

Two-week exam diet in mid-January;

Second "semester" involving 12 weeks of teaching with an Easter break (of two weeks in the past but three weeks in Session 1992/93);

Four-week exam diet from mid-May to mid-June;

Two-week exam diet in August for all resit exams.

Each class offered by the university has a credit rating (in the range 0.5 to 3). In each academic year a student will typically be required to take classes amounting to at least 12 credits. Classes worth one credit (or less) usually last one semester and are examined at the end of that semester. Classes worth two credits or more normally run throughout the year and are examined in the four-week summer diet.

The two headings of Flexibility and Assessment provide a suitable framework for the subsequent discussion.

Flexibility

There is no doubt that a modular structure affords <u>some</u> extra flexibility. Under the old system, honours students of Mathematics had to choose between Mechanics and Statistics at the end of their second year whereas now they can continue to study both of these areas. There is greater scope for choosing elective subjects outside Mathematics and Statistics to help to provide a broad education. Different groups of students can be accommodated without the need to create a number of special classes; for instance, Computer Science students may take only one credit of Calculus and stop whereas Physics students, having taken the same initial Calculus class, would continue much further. This might suggest a possible saving in staff effort. However, there are limits to what can be achieved. Flexibility for an individual student is restricted by timetabling problems. (These would not be overcome even if the teaching day were to be lengthened, as was suggested at one stage.) Furthermore, as we are encouraged to take in more and more students, classes grow to such a size that they have to be subdivided in order to be manageable. (There is also a shortage of large enough lecture theatres.) Thus any saving in staff effort may be small.

Assessment

As an illustration, consider second year Honours Mathematics students under the old and new systems. We regard each credit as equivalent to 30 contact hours, typically made up of 20 lectures of new material, 4 hours of revision and 6 tutorials. (All relevant classes in the new system are worth one credit except for a two-credit class in Probability and Statistics.)

	Old	New
Number of classes	5	11 or 12
Hours of lectures	250	240
Hours of degree exa	ams 15	18
Timing of degree	Summer	January
	exams	& Summer

It seems that $1\frac{1}{2}$ hours is the minimum possible duration of a degree examination if students are to have time to get settled or to recover from a bad start. With credits examined separately, we see that students are in the exam room for 3 hours longer than previously, although the total lecture time is marginally less. Furthermore, it is much more demanding of a student to pass two separate $1\frac{1}{2}$ hour exams in January and May/June than to pass a single 3-hour exam in the summer on the combined material. This is especially true of a typical first course in Analysis whose concepts take a long time to sink in. On two counts, therefore, the students are under increased pressure. It is not surprising that the percentage of students who gain all 12 credits at the first attempt is lower than one might wish.

Various ideas have been suggested to try to alleviate these difficulties. One such is greater use of continuous assessment and coursework, already a feature of classes in Numerical Analysis and Statistics. This would tend to make the teaching even more assessment-driven than it is already. (Under the old system there was a period in the year when examinations were sufficiently distant to allow the inclusion of some "cultural digressions" in lectures but that has gone.) If credits are still to be gained separately, some sort of compensation scheme could be considered. Alternatively, some one-credit classes might be combined for exam purposes.

Flexibility and Assessment have illustrated some of the problems which have arisen but there have been plenty others, many highly non-trivial. As a final example, we mention difficulties encountered by staff in attending conferences at Easter. This year the BMC was held at Strathclyde and the dates had to be fixed long in advance. When the dates of the 1991/92 Easter vacation (lasting only 2 weeks) were announced, it was noted that the BMC would fall during term time! Eventually the Easter vacation was moved and the BMC duly took place. If all institutions operated a similar system, conferences could be arranged to suit most people. At present, however, this is not the case and attendances at the BMC and BAMC/BTMC will suffer accordingly.

In summary, a modular scheme has some desirable features but the possible limitations must be recognised. Practical details have to be carefully worked out in advance if a scheme is going to be implemented successfully.

> Adam C. McBride Department of Mathematics University of Strathclyde

BRITISH APPLIED MATHEMATICS COLLOQUIUM

The British Applied Mathematics Colloquium (incorporating the 35th British Theoretical Mechanics Colloquium) will be held at the University of Strathclyde from Monday 5th to Thursday 8th of April 1993. The Colloquium is open to all interested in applications of mathematics, and aims to be broad in its scope, highlighting the interactions of mathematics with new areas of applications, while also providing a forum for the traditional strengths of British applied mathematics.

The principal invited speakers will be B. Fornberg (Exxon Research, USA), R. May FRS (Oxford), I. Müller (TU-Berlin), L. Payne (Cornell), K. Walters FRS (Aberystwyth) and A. Craik (St Andrews). The programme will also include five mini-symposia on Industrial Mathematics, Inverse Problems, Liquid Crystals, Mathematical Biology and Nonlinear Dynamical Systems, each including at least one invited lecture reviewing aspects of the subject in a manner suitable for the nonspecialist, together with shorter contributed lectures. The Colloquium gratefully acknowledges financial support from the London Mathematical Society to help meet the expenses of the principal invited lecturers, and also further financial support from British Gas, British Nuclear Fuels, National Power and Schlumberger Cambridge, plus financial support for mini-symposia from Edinburgh Mathematical Society and Wellcome Trust. A grant from the Royal Society allows the organisers to provide some financial assistance to young postdoctoral scientists attending the Colloquium.

Other activities will include three receptions, a whisky tasting evening, an exhibition of mathematical books, and an accompanying persons programme. Enquiries and requests for registration forms should be addressed to the Secretary BAMC, Mathematical Department, Strathclyde University, Livingstone Tower, Richmond Street, Glasgow G1 1XH, Scotland; telephone 041-552-4400, ext. 3657; electronic mail bamc93@uk.ac.strath.

TEACHING AND LEARNING UNDERGRADUTE MATHEMATICS

I have been asked to write a short note explaining the work and aims of the Mathematical Association group called "Teaching and Learning Undergraduate Mathematics". I am on this group as the representative of the LMS Education Committee. It is chaired by Alan Beardon with Bob Burns as the convener. It is working by setting up working groups to discuss various problems.

The membership is drawn widely across much of higher education. One of the issues which concern many of us is the problems of adapting courses to the changing base of students. This is both in terms of the changes in school as well as the effect of the increasing numbers of students within higher education. As a consequence we have set up four working groups: Learning; Teaching, assessment and new technology; Mathematical content at university, and Mathematical content at the school/university interface.

The groups will try to produce reports which I hope will inform and excite colleagues into thinking about their activities. It would be wrong for this group to become prescriptive but we hope that by describing, in modern parlance, best practice it will help us to see what suits our own institution best.

One comment which members might like to consider was the following view expressed to the group considering comment "Is there an LMS-style answer to what kind of maths degree would be suitable for a student with grade E maths at A'level?" The maths in B. Ed. courses may provide some sort of guide. A. Camina

DYNAMICAL SYSTEMS AND NONLINEAR ANALYSIS Interdisciplinary Aspects

A Summer School on 'Dynamical Systems and Nonlinear Analysis' will be held at the University of Cape Town, from 25th January to 5th February 1993. The Summer School provides a series of introductory courses to some of the major recent developments in the study of nonlinear dynamical systems, and in their impact on science and technology. Each course consists of approximately six lectures, and several seminars in which perspectives on recent developments will be given. There will also be time set aside for participants to deliver seminars on their work. Participants should have a background in ODE's or PDE's.

In the tentative programme, the speakers are Jeanne-Pierre Aubin (Université de Paris-Dauphine), Steven R. Bishop (University College, London), P. Collet (École Polytechnique, Palaiseau, France), J.P. Eckmann (Université de Geneve, Switzerland), Celso Grebogi (University of Maryland, College Park), Jean Mawhin (Louvain-la-Neuve, Belgium), Jim Murray (University of Oxford), David Ruelle (IHES, France), R. Temam (Université de Paris-Sud, Orsay) and J. Wisdom (M.I.T.).

A registration fee of \$70 will be charged to cover costs. For further information contact: Professor Ronnie Becker or Dr Erwin Bruning, Department of Mathematics, University of Cape Town, Rondebosch 7700, South Africa, telephone: (021) 650 3203/3814/3192, fax (021) 650 3726, email: maths@ucthpx.uct.ac.za.

WARWICK SYMPOSIUM ON ANALYTIC AND GEOMETRIC ASPECTS OF HYPERBOLIC GEOMETRY 1992-93

Particular events are a Workshop in Warwick (15-22 April 1993) and the Durham Symposium (4-11 July 1993). There will also be many visitors to Warwick outside these periods, particularly from April to July 1993.

At the April meeting there will be three mini-courses, given by R.D. Canary, S.P. Kerckhoff and J.P. Otal, devoted to the general problem of putting hyperbolic structures on 3-dimensional manifolds, orbifolds and cone-manifolds. Canary and Otal will discuss methods developed by Thurston, McMullen and others. Kerckhoff will talk about his joint work with Hodgson, explaining the use of harmonic theory in this problem. There will also be lectures on other topics.

Support from the LMS is available for UK academic staff and graduate students. SERC funds are available for invited visitors. Contact mrc@maths.warwick.ac.uk. Organizers: David Epstein and Caroline Series.



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THE UNIVERSITY OF HONG KONG

Reader/Senior Lecturer/Lecturer in Mathematics (Ref. 92/93-24)

Applications are invited for a teaching post in the Department of Mathematics tenable from January 1993. Preference will be given to candidates with specialized knowledge in Numerical Analysis and/or Operations Research, but mathematicians with proven achievement in a main area of mathematics may also apply.

Annual salaries (superannuable) are on the scales:

Reader HK\$557,100 - 740,100 (9 points: approx. £44,320 - £58,878); Senior Lecturer HK\$534,000 - 717,360 (9 points: approx. £42,482 - £57,069);

Lecturer HK\$343,680 - 574,140 (11 points: approx. £27,341 - £45,675). Sterling equivalents as at 19 October 1992. Starting salaries depend on qualifications and experience. Salaries tax is currently 15% of gross income.

Appointments are normally made on permanent, superannuable terms, subject to a period of probation of not less than 33 months. Staff benefits include generous leave provisions, medical benefits and children's education allowances; housing assistance is also provided in most cases, at a charge of 7.5% of salary.

Further particulars and application forms may be obtained from Appointments (41160), Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, UK, or from the Secretary, Faculty of Science, The University of Hong Kong, Pokfulam Road, Hong Kong (Fax (852) 8584620). Please quote the reference number in all correspondence.

Closes 10 December 1992

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Table of Contents:

Foreword: Benoit B. Mandelbrot: Fractals and the Rebirth of Experimental Mathematics. – The Backbone of Fractals: Feedback and the Iterator. –

Classical Fractals and Self-Similarity. – Limits and Self-Similarity. – Length, Area and Dimension. – Measuring Complexity and Scaling Properties. – Encoding Images by Simple Transformations. – The Chaos Game: How Randomness Creates Deterministic Shapes. – Irregular Shapes: Randomness in Fractal Constructions.

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- C Room 701, Mirror Tower, 61 Mody Road, Tsimshatsui, Kowloon, Hong Kong

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MATHEMATICIANS VISITING THE UK IN 1992/93

ABERDEEN UNIVERSITY

Dr J. da Costa (Madeira) Relativity Theory, Autumn 1992

Dr B. Edgar (Linkoping) Relativity Theory, 92 - 93

Dr A. Held (Berne) Relativity Theory, Autumn 1992

Dr H. Knutsen (Stavanger) Relativity Theory, 92 - 93

Professor Z. Wojtkowiak (Nice) Topology and Analysis, 6 months 1993

BATH UNIVERSITY

Professor J.T. Beale (Duke University, USA) The Mathematics of Free Surface Flows, Apr -Sep 93

Professor R. Duduchava (Academy of Sciences, Tblisi, Georgia) Intregral Equations, 20 - 26 Oct 92

Dr J. Elschner (Berlin) Integral Equations, 19 Oct - 11 Dec 92

Dr W. Govaerts (Gent Univesity, Belgium) Bifurcation Theory and Numerical Analysis, Nov 92

Professor I. Johnstone (Stanford University, USA) Statistics, 1 Feb - 31 Mar 93 Professor Ja-Yong Koo (Hallym University, Korea) Statistics, 1 Dec 92 - 28 Feb 93 Professor R. McPhedran (University of Sydney) Electromagnetic Scattering, Composite Materials, Oct 92 - 31 Jan 93 Mr K. Meerbergen (Katholik University, Leuven, Belgium) Large Sparse Systems, Hopt Bifurcation, May 93 Professor G.W. Milton (Courant Institute, USA)

Composite Materials, Homogenization, Oct 92 - 11 Jan 1995

Dr P. Plechac (Charles University, Prague) Bifurcation Theory, Numerical Analysis, Singularity Theory, Oct 92 - Sep 93

BRADFORD UNIVERSITY

Dr A.U. Khan (Bahauddin Zakariya University, Pakistan) Parallel Computing and Modelling, Oct 92 - Mar 93 Mr I.S. Lagu (University of Calgary) Approximation Theory, Oct - Dec 92

BRUNEL UNIVERSITY -Mathematics & Statistics

Dr A.Y. Al-Hawaj (University of Bahrain) Numerical Modelling of Flow in the Arabian Gulf, Feb - Aug 93 Professor I. Maros (Hungarian Academy of Science) Mathematical Programming, Feb - Sep 93 Dr M. Yamamoto (University of Tokyo) Control Theory for Partial Differential Equations: Inverse Problems, 9 - 13 Dec 92

BRUNEL UNIVERSITY -Institute of Computational Mathematics

Dr T. Apel (TH Zwickau, Germany) Numerical Treatment of Problems Involving Singularities, Oct - Nov 92 Dr M.S. Kuczma (Poznan, Poland) Elastoplasticity, Jan - Jun 93 Dr R. Mücke (Technische Universität Otto von Guericke, Magdeburg) Adaptivity. Large Deformation Elasticity, Sep 92 - Aug 93 Dr M. Suri (University of Maryland, Baltimore) Locking for Finite Element Methods, Oct 92 - Jan 93

CAMBRIDGE UNIVERSITY - DAMTP

Dr N. Baba (University of Osaka) Turbulence. 1 Apr 92-31 Mar 93 Professor R. Baxter (ANU, Canberra) Statistical Mechanics, 1 Jul - Oct 93 Dr F. Chen (National University of Taiwan) Fluid Dynamics, 1 Jan - 31 Jul 93 Dr A.C-L. Chian (National Institute of Space Research, Brazil) Nonlinear Waves in Space Plasmas, 1 Aug 92 - 31 Jul 93 Dr N. Deruelle (Institut Henri Poincaréi, Paris) General Relativity: Cosmology. 1 Jan 90 - 30 Jun 93 Dr M. Gailitis (Latvian Academy of Sciences, Riga) Atomic Physics, 1 Oct - 19 Nov 92 Professor A.S. Goldhaber (Stonybrook, NY) High Energy Physics, 1 Oct 92 - 14 Jan 93 Professor J.M. Guilarte (University of Salamanca) Quantum Field Theory, 1 Sep 92 - 30 Jun 93 Dr H. Kanno (Kyoto University) Quantum Field Theory, 20 Jul 92 - 30 Jun 93 Dr A. Kiselev (St Petersburg) Seismology, 25 Mar - 24 Jun 93 Dr M. Markl (Charles University, Prague) Quantum Groups and Algebraic Topology, 7 Feb - 7 Apr 93 Professor A. Maxworthy, Geophysical Fluid Dynamics, May 93 Dr K. Nishimura (Hokkaido University, Sapporo, Japan) Blowing Snow, 1 Nov 92 - 31 Aug 93 Professor O. Olregón (UNAM, Mexico City) Relativity/Gravitation, 10 May - 25 Jun 93

Professor D. Poulikakos (University of Illinois) Geological Fluid Mechanics, 1 Jan - 31 Jul 93 Professor P. Prasad (Indian Institute of Science, Bangalore) Linear/Nonlinear Waves, 1 Oct - 31 Dec 92 Dr B. Stenum (Roskilde, Denmark) Optics and

Fluid Dynamics, 1 Sep 92 - 31 Jan 93 Dr J.S. Wettlaufer (University of Washington, Seattle) Geological Fluid Mechanics, 1 Mar - Aug 93

CAMBRIDGE UNIVERSITY - DPPMS

Dr C. Atkin (Victoria University of Wellington) Infinite-dimensional Geometry,

15 Nov 92 - 30 Jun 93

Professor H.L. Chong (National University of Singapore) Number Theory, 1 Jan - 30 Jun 93 Professor O. Chryssaphinou (Athens University) Applied Probability, Reliability, Oct 92 - Jun 93

Dr P. Diamond (University of Queensland) Dynamical Systems, Stochastic Processes, Jan - Mar 93

Dr F.J. Gonzalez (Université de Lausanne) Analysis, 1 Sep 92 - 31 Aug 93

Mr Y. Goto (Queen's University, Kingston) Number Theory, 1 Jan - 31 Mar 93 Professor F.W. Hartmann (Villanova University) Complex Analysis, 1 Scip. 21 Dae 02

1 Sep - 31 Dec 92

Professor G.M. Kelly (University of Sydney) Category Theory, 1 Nov - 31 Dec 92 Ms M. Li (CTH/GU Sweden) History of Mathematics, 92 - 93

Dr S.A. Linton (SERCPD, QM) Finite Group Theory, 1 Jan 92 - 31 Dec 93

Dr C.J. Lloyd (La Trobe) Statistical Influence, Saddlepoint Approximations, Apr - Jul 93 Professor C.A. McGibbon (Wayne State University, Detroit) Algebraic Topology, 92 - 93

Professor H. Murakami (Osaka City University) Topology, 10 Feb - 15 Nov 92 Dr A. Nelson (University of Sydney) Number Theory, 1 Mar - 30 Jun 93

Professor A. Pfister (Universitaet Mainz) Quadratic Forms, 1 Apr - 30 Jun 93 Professor P. Taylor (University of Adelaide) mid April - end Jun 93

Professor N. Yui (Queen's University, Kingston) Number Theory, 1 Jan - 30 Jun 93

DUNDEE UNIVERSITY

Professor H. Chen (Wuhan University, P.R. China) Partial Differential Equations and

Microlocal Analysis, Mar 93 Dr A.A. Majid (Science University, Penang, Malaysia) Computer-aided Geometric Design, 26 Oct - 24 Nov 92 Professor D.L. Rod (University of Calgary, Canada) Dynamical Systems, Apr - May 93

DURHAM UNIVERSITY

Professor R. Sasaki (Hiroshima University) Theoretical Physics, Aug 92 - Aug 93

EDINBURGH UNIVERSITY

Professor W. Browder (Princeton & Arhus) Topology, May 93 Professor V.M. Buchstaber (VNIIFTRI, Moscow) Algebraic Topology, Feb - Mar 93 Professor J.L. Davison (Laurentian) Number Theory, 1 Sep 92 - 30 Jun 93 Professor T. tom Dieck (Göttingen University) Topology, March 93 Dr I.R. Doust (New South Wales University) Functional Analysis, May - Jul 93 Professor M. Herrmann (Köln, Germany) Commutative Algebra, May - Jun 93 Dr D. Hill (University of Western Australia) Nonlinear Diffusion, July - Aug 93 Professor I.B. Jung (Kyungpook National University Taegu, Korea) Operator Theory, 1 Jan - 30 Dec 92 Dr T.R. Marchant (Wollongong University) Nonlinear Waves, Sept - Dec 93 Professor A.A. Minzoni (National University of Mexico) Nonlinear Waves, Aug - Dec 93 Professor A. Mishchenko (Moscow University) Topology, 10 Jan 92 - 10 Feb 93 Mr T. Pruscke (Martin Luther University Halle, Germany) Algebra, 18 Oct 92 - Feb 93 Dr R. Sasaki (Kyoto University, Japan) Mathematical Physics, Jan - Feb 93 Dr R. Spurzem (Kiel University, Germany) Astrophysics, Jun - Dec 92 Professor I.L.C. Stoica (Institute of Mathematics of the Romanian Academy) Diffusion Processes, 1 Mar - 31 May 93 Professor Ngo Viet Trung (Hanoi/MPI Bonn) Commutative Algebra, May - Jun 93 Dr A.L. Worthy (Wollongong University) Nonlinear Waves, Aug 93

EXETER UNIVERSITY

Dr A.N. Pham (Hungarian Academy of Sciences) Ring Theory, Jan - Feb 93.

GOLDSMITHS' COLLEGE

Professor H.B. Cohen (University of Pittsburgh) Functional Analysis, 1 - 30 Sep 93 Professor J.P. Morgan (Old Dominion University, Virginia, USA) Design of Experiments, Sep - Dec 92

GLASGOW POLYTECHNIC

Professor Z. Wojcik (University of Texas at San Antonio, USA) Computing Science; Pattern Recognition, 5 - 24 Dec 92

GLASGOW UNIVERSITY

Dr M. Bergman (Harvard University) Magnetohydrodynamics Dynamo Theory, Oct - Dec 92

Professor I. Dorfman (Russian Academy of Sciences) Integrable Partial Differential Equations and Hamiltonian Structures, 25 Sep - 22 Nov 92

Dr W. Kuang (Harvard University) Magnetohydrodynamics Dynamo Theory, Oct - Dec 92

Professor P.A. Leonard (Arizona State University) Number Theory, Apr 93 Professor M. Lorenz (Temple University, USA) Algebra 3 - 31 Dec 92 Professor B. Osofsky (Rutgers University) Algebra (Ring and Module Theory) 28 Sept - 18 Dec 92 Professor L.E. Payne (Cornell University) Partial Differential Equations, Apr - May 93

HERIOT-WATT UNIVERSITY

Dr V.Z. Enol'skii (Kiev) Solitons and Integrable Systems, 15 Nov 92 - 15 Jan 93 Dr V.B. Kuznetsov (Petersburg University) Solitons and Integrable Systems, Nov 92 - Jun 93 Professor M. Salerno (Salerno University) Solitons and Integrable Systems, 15 Nov - 15 Dec 92 Dr H-J Song (Pusan National University, Korea) Low-dimensional Topology/ Combinatorial Group Theory, Jan - Feb 93

HULL UNIVERSITY

Professor C. Ward Henson (University of Illinois) Model Theory and Analysis, May - Jun 93

KEELE UNIVERSITY

Professor F. Harary (New Mexico State University) Graph Theory, 9 - 24 Nov 92

KENT UNIVERSITY

Professor A. Albert (Universite de Liège) Medical Statistics, 3 - 9 May 93

KING'S COLLEGE LONDON

Professor M. Budinich (Universita di Trieste) Neural Nets, 1 Sep - 15 Nov 92 Professor J.N. Goldberg (Syracuse University) General Relativity, May - Nov 93 Professor G. Kaiser (Lowell University) Wavelets, end March 93 Professor J.R. Klauder (University of Florida) Coherent States, end March 93 Professor L.R. McCulloch (Illinois University) Algebraic Number Theory, 28 Sep - 31 Dec 92 Professor L.E. Morris (Clark University) P-adic Groups and the Langlands Program, 1 Sept 92 - 15 Jan 93 Professor R. Penner (University of South Carolina) Teichmuller Spaces, QFT, Apr 93

LEEDS UNIVERSITY -

Applied Mathematical Studies

Mr Wo Bin (Peking University) Fluid Mechanics, Oct 92 - Mar 93 Professor H. Han (Tsinghua University) Fluid Dynamics, Aug 92 - Jan 93 Dr K. Haldar (Indian Statistical Institute) Physiological Fluid Mechanics, 1 Nov - 31 Dec 92 Professor Wu (Peking University) Numerical Analysis, Apr - Aug 93 Professor V.A. Vladimorov (Lavrenteyev Institute of Hydrodynamics, Novosibirk) Fluid Mechanics, Oct 92 - Apr 93

LIVERPOOL UNIVERSITY - DAMTP

Professor G. Antonacopoulos (University of Patras, Greece) Astronomy, Oct 92 - Jun 93 Dr N. Kafousias (University of Patras, Greece) Fluid Mechanics, March - Sep 93

LIVERPOOL UNIVERSITY - Pure Mathematics

Dr D. Ahmadi (Trieste International Centre of Theoretical Physics) Complex Dynamics, 10 Sep - 30 Sep 92 Professor K. Aoki (Senshu University, Kanagawa, Japan) Singularity Theory, 1 Sep 92 - 31 Aug 93 Professor W.L. Marar (University São Paulo at São Carlos, Brazil) Singularity Theory, 1 Sep 92 - 31 Aug 93

LOUGHBOROUGH UNIVERSITY

Professor J. Bicak (Charles University, Prague, Czechoslovakia) Relativity, Jan - Feb 93 Dr F. Tang (Suzhon University, Jiangsu, China) Mathematical Education, Oct 92 - Sep 93

MANCHESTER UNIVERSITY

Dr M. Ajetunmobi (Lagos University) Algebraic Topology, Oct 92 - Jul 93

MIDDLESEX UNIVERSITY

Dr J.J. Cross (University of Melbourne) History of Potential Theory, - Dec 93

OXFORD UNIVERSITY

Dr A.M. Abdurrahman (Tripoli, Libya) Mathematics/Physics, Jan - Dec 92 Dr Y. Akvildiz (Dhahran, Saudi Arabia) Comb. Theory, Oct 92 - Sep 93 Professor A.V. Archangel'skii (Moscow, Russia) General Topology, 14 -28 Mar 93 Dr W. Brandts (University Toronto) Complex Systems, Oct - Dec 92 Dr V. Blondel (Brussels, Belgium) Monge-Ampere Eqn., Oct - Dec 92 Dr R. Brussee (Leiden, Netherlands) Vector Bundles, Jan - Dec 92 Dr M. Conder (Auckland, New Zealand) Group Theory, 3 - 24 Oct 92 Dr E. Cortina (Buenos Aires, Argentina) Numerical Methods, 6 Oct - 6 Dec 92 Dr Lavinia Egidi (Milan, Italy) Mathematical Logic, Oct 92 - Aug 93 Professor V. Fedorcuk (Moscow, Russia) General Topology, 15 - 29 Oct 92 Dr A. Filipoiu (Bucharest, Romania) Lattice Theory, Oct - Dec 92 Dr J. Frauendiener (Munich, Germany) General Relativity, May 92 , Apr 93 Dr S. Fritzche (Kassel, Germany) Atomic Physics, Oct 92 - Sep 93 Dr G. Gaigolas (Vilnius, Lithuania) Manybody Theory Jan - Jun 93 Dr M. Hartl (Max-Planck, Germany) Nilpotent Groups, 1 yr from Apr 92 Professor J.M. Henle (Massachusetts, USA) Set Theory, Sep - Dec 92 Professor Y.E. Hohlov (Steklov Inst. Moscow) Boundary Problems, Oct - Dec 92 Professor G.M. Homsy (Stanford University, USA), Fluidised Beds, Apr - Jun 93 Dr I. Ilani (Hebrew University, Jerusalem) Pro - p Groups, Aug 92 - Jul 93 Dr G. Kember (Beak Env. Consultants) Time Series Anal., 1 Oct 92 - 21 Jan 93 Professor S. Koshitani (Chiba University, Japan) Rep. Finite Groups, 14 - 24 Sep 92 Dr M. Manas (Madrid, Spain) Integrable Systems, Jan - Dec 93 Dr N.G. Martinez (Buenos Aires, Argentina) Algebraic Logic, All or part of 93

Professor L. Mdzinarishvili (Georgian Technical University) Shape Theory, May 93 Dr A. Nesteruk (St Petersburg, Russia) Quantum Effects, Jan - Dec 93 Dr D.M. Riley (University Alberta, Canada) Algebra, Aug 91 - 1 Sep 93 Professor D.H. Sampson (Davey Lab, Pennsylvania) Relative Quantum Theory, Jan - Mar 93 Dr T.C. Scott (Massachusetts, USA) Mathematics/Physics, Jan 93 - Dec 95 Dr J.E. Sienkiewicz (Gdansk, Poland) Scatt. of Electrons, Jan - Jun 93 Dr B.M. Tchardarov (Sofia, Bulgaria) Nonlinear Analysis, Jan - Jun 1993 Professor S.H. Weintraub (Louisiana State) Geometry & Topology, Mid Jun - end Jul 93 Dr M. Wrobel (Poland) Applied Mechanics, Aug 92 - Jan 93 Professor V.L. Yakhontov (Leningrad State, USSR) Atomic Physics, 92 - 93 Professor Li-Mei Zhang (Mexico) Math. Biology, Jan - Sep 1993

PORTSMOUTH UNIVERSITY

Professor I. Maros (Hungarian Academy of Sciences) Operational Research and Optimisation, 1 Feb - 30 Sep 93

QUEEN MARY & WESTFIELD COLLEGE

Professor M. Bridson (Princeton) Topology, Mar - Apr 93 Dr A. Burd (Capetown, SA) Relativity/Cosmology, Jan 93 Professor E. Chubarian (Yerevan University) Relativity/Cosmology, Nov 92 Dr P. Dunsby (Capetown, SA) Relativity/Cosmology, Jan 93 Dr D. Hamilton (Cornell, USA) Astronomy, Nov 92 Professor M. Lorenz (Philadelphia) Pure Mathematics, 1 - 3 Dec 92 Dr V. Martinez (Valencia) Astronomy, Jul - Sep 93 Dr V. Sahni (IUCAA, India) Astronomy, Nov 92 Professor G. Savonije (Amsterdam) Astronomy, early Dec 92 Dr N. Tomimura (CNpQ, Brazil) Relativity, Jul 92 - Jul 93 Professor R. Woodrow (University of Calgary) Logic, 2 Nov - 2 Dec 92 SALFORD UNIVERSITY

SALFORD UNIVERSITY

Mr M. Van Eupen (Technological University of Eindhoven, Netherlands) Coding Theory, Oct 92 - Mar 93

SHEFFIELD UNIVERSITY - Pure Mathematics

Dr D.S. Kim (Dongshin University, Korea) Commutative Algebra, 1 Aug 92 - 31 Jul 93

SOUTHAMPTON UNIVERSITY

Dr B. Corrente (Brazil) Statistical Modelling, -Mar 93 Dr V. Pergamenshekik (Ukraine) Applied

Mathematics, - Summer 93 Dr K.G. Russell (Wollongong University) Zaporozhets Statistics - changeover designs, May - Jun 93 Dr A.A. Zaporozhets (Moscow State University) Electromagnetic Theory, academic year

ST ANDREWS UNIVERSITY

Dr Z. Sedlacek (Academy of Sciences, Prague) Plasma Oscillations Waves in Inhomogenous Media, Mar - Apr 93

STRATHCLYDE UNIVERSITY

Professor B. Fornberg (Exxon Research, NJ) Numerical Analysis, Computational Fluid Dynamics, 5 - 24 Apr 93

SUNDERLAND UNIVERSITY

Dr A. Hatchikhan (Technical University of Sofia) Modelling, Jan - Jun 93 Professor M.D. Mikhailov (Technical University of Sofia) Modelling, Oct - Nov 92 Dr V. Pasheva (Technical University of Sofia) Modelling, Oct 92 - Apr 93 Dr D. Toal (University of Limerick) Simulation, 28 Sep -2 Oct 92

SURREY UNIVERSITY

Dr J. Cooper (Australian National University, Canberra) Combinatorics, 7-10 days, first half of 1993

SUSSEX UNIVERSITY

Dr P. Gurka (Charles University, Prague) Analysis, Oct 92 - Sep 93 Dr H. Kaneta (Okayama University, Japan) Finite Geometry, Aug 92 - Sep 93 Dr G. Kiss (Eotvos Lorand University, Budapest) Finite Geometry, Aug 92 - Sep 93 Dr M.R. Levitin (Association for Physical and Technical Mechanics, Moscow) Partial Differential Equations, Aug 92 - Feb 93 Dr Yu. G. Safarov (Steklov Institute, St Petersburg) Partial Differential Equations, Aug and Dec 92 Professor M.I. Vishik (Moscow State University) Partial Differential Equations, One month in 1993

UNIVERSITY COLLEGE LONDON

Dr P. Chakravarti (McMaster University) Numerical Analysis, Oct 92 - Sep 93 Professor A. Hinkkanen (University of Illinois) Complex Analysis, Sep -Dec 92 Dr S.N. Timoshin (TSAGI, Moscow) Theoretical Aerodynamics, Oct 92 - Sep 93 Dr J. Tiser (CVUT, Prague) Geometric Measure Theory, Geometry of Banach Spaces, Real Analysis, Oct 92 - Oct 93

UNIVERSITY COLLEGE OF SWANSEA

Professor G.A. Elliott (Copenhagen/Toronto) Operator Algebras, 1 Jan - 30 Jun 93 Dr M. Izumi (RIMS, Kyoto) Operator Algebras, 1 Oct 92 - 30 Jun 93 Professor J.T. Lewis (Dublin) Statistical Mechanics and Applied Probability Theory, 1 week in Lent Term Dr H. Su (Toronto) Operator Algebras, 1 Oct 92 - 28 Feb 93 Professor M. Yor (Paris) Brownian Motion and Bessel Processes, 1 week sometime in Jan/Feb 93

UNIVERSITY OF WALES COLLEGE OF CARDIFF

Professor M.C. Hofmann (Skidmore College Saratoga Springs) Group Theory, Jan - Jun 93 Professor V. Kokilashvili (Georgia Math Institute, Tbilisi) Function Spaces and Functional Analysis, 10 Mar - 10 Apr 93

WARWICK UNIVERSITY

Professor W. Abikoff (Connecticut) Hyperbolic Geometry, 15 May - 3 Jul 93 Professor N. Ahmed (Quaidi-i-Azam University) Nonlinear Systems. Academic year Professor J. Anderson (SUNY) Hyperbolic Geometry, June 93 onwards Professor M. Bauer (Rennes) Hyperbolic Geometry, 4-10 Jul 93 Professor F. Bonahon (USC) Hyperbolic Geometry, Jun 93 Dr B. Bowditch (Aberdeen) Hyperbolic Geometry, Apr and/or Jul 93 Professor M. Burger (IAS, Princeton) Hyperbolic Geometry, 15 - 22 Apr 93 Professor A. Caliskan (Ege University) Stochastic Analysis, Academic year Professor D. Canary (Stanford) Hyperbolic Geometry, 7 Apr - 7 Jul 93 Professor D. Cooper (Santa Barbara) Hyperbolic Geometry, 10 Jun - 10 Jul 93 Professor H. Farkas (Hebrew University)

Hyperbolic Geometry, mid Jun 93 Professor A. Frumkin (Jerusalem University) Algebra, Autumn 92 Professor K. Fujiwara (Keio) Hyperbolic Geometry, Apr - Jul 93 Professor D. Gabai (CalTech) Hyperbolic Geometry, Jan - Jul 93 Professor E. Ghys (Lyon) Hyperbolic Geometry, Jun and/or Jul 93 Professor E. Glasner (Tel-Aviv University) Ergodic Theory, Academic year Professor Yu.G. Gliklikh (Voronezh State University) Stochastic Analysis, Autumn 92 Professor L. Goldberg (California) Hyperbolic Geometry, 1 - 30 Jun 93 Professor J. Harer (Michigan) Hyperbolic Geometry, Summer 93 Professor C. Hodgson (Melbourne) Hyperbolic Geometry, Jun/Jul 93 Dr D. Hurley (Cork) Hyperbolic Geometry, May or Jun 93 Professor B. Im (Chonnam National University) Algebra, Academic year Dr S.E. Koh (Kon Kuk University) Hyperbolic Geometry, Academic year Professor C. Kourouniotis (Crete) Hyperbolic Geometry, Autumn 92 Professor I. Kra (SUNY) Hyperbolic Geometry, Jun - Jul 93 Professor D. Long (Santa Barbara) Hyperbolic Geometry, Jun - Jul 93 Professor M. Lyubich (SUNY) Hyperbolic Geometry, mid-May - Jul 93 Dr L. Magalhães (Porto University) Spring & summer terms 93 Dr C. Maclachlan (Aberdeen) Hyperbolic Geometry, June 93 Professor A. Marden (Minnesota) Hyperbolic Geometry, Sept - Nov 92 Professor G. Martin (Auckland) Hyperbolic Geometry, Apr - Jul 93 Professor B. Maskit (SUNY) Hyperbolic Geometry, mid-Jun - Jul 93 Professor H. Masur (Chicago Circle) Hyperbolic Geometry, 1 May - Jul 93 Professor G. Mess (UCLA) Hyperbolic Geometry, Jun - Jul 93 Professor R. Meyerhoff (Boston) Hyperbolic Geometry, Jun - Jul 93 Professor F.D. Moura Neto (PUC, Rio de

Janeiro) Nonlinear Systems, Academic year Professor K. Ohshika (Tokyo) Hyperbolic Geometry, 1 Apr - 31 Jul 93 Professor J-P Otal (Orsay) Hyperbolic Geometry, May - Jul 93 Professor A. Papadopoulos (Strasbourg) Hyperbolic Geometry, 1 Apr - 30 Jun 93 Professor P. Patterson (Göttingen) Hyperbolic Geometry, beg Apr 93 Professor F. Paulin (Lyon) Hyperbolic Geometry, Jun 93 Dr Z. Qian (Shanghai Institute) Stochastic Analysis, Academic year Dr N. Ralevic (Belgrade University) Hyperbolic Geometry, Academic year Professor S. Rosenberg (Boston University) Stochastic Analysis, Academic year Professor H. Rubenstein (Melbourne) Hyperbolic Geometry, Jun - Jul 93 Professor M. Scharlemann (Santa Barbara) Hyperbolic Geometry, Jun - Jul 93 Professor P. Scott (Michigan) Hyperbolic Geometry, May - Jul 93 Professor P. Shalen (Illinois) Jun - Jul 93 Professor Y. Takahashi (Tokyo University) Stochastic Analysis, Spring term Professor S. Tan (National University of Singapore) Hyperbolic Geometry, 10 Apr - 10 Jun 93 Professor P. Tukia (Helsinki) Hyperbolic Geometry, 1 Apr - 31 May 93 Professor J. Velling (Brooklyn) Hyperbolic Geometry, Apr - Jul 93 Professor Z. Wang (Ruhr University) Stochastic Analysis, Autumn term 92 Professor D. Wright (Oklahoma) Hyperbolic Geometry, Hyperbolic Geometry, Jan - Aug 93 Professor G. Zacher (Padua University) Algebra, Autumn & Spring terms

YORK UNIVERSITY

Dr W. Bergweiler (RWTH Aachen) Complex Analysis and Iteration, 12 Oct - 13 Nov 92 Professor C. Karanikas (Thessaloniki University, Greece) Analysis, 30 Sep - 19 Oct 92 Professor S.Z. Levendorskii (Institute of National Economy, Rostov-on-Don, Russia) Quantum Groups, Oct 92 - Apr 93



Claude Ambrose Rogers (born 1920) was educated at Berkhamstead School, University College London, and Birkbeck, whence he graduated in 1941. He spent the war as an Experimental Officer at the Ministry of Supply, before becoming a Lecturer at UCL, when he completed his PhD. After a spell in Birmingham he returned to UCL as Astor Professor from 1958-86. He has written widely, with books on Packings and Coverings and Hausdorff Measures. He was elected to Fellowship of the Royal Society in 1959. The London Mathematical Society awarded him the De Morgan Medal in 1977. He was the Society's 55th President from 1970 to 1972.

DIARY

The diary lists Society meetings and other events publicised in previous issues of the Newsletter. For further information, refer to the figure in brackets, which is a cross reference to the LMS Newsletter Number.

1992

1992	
DECEMBER	7
11	Edinburgh Mathematical Society Meeting, Edinburgh (197)
11	Rolph Schwarzenberger Memorial Meeting, Warwick
12	Model Theory Groups, Oxford (199)
1993	
JANUARY	
15	Edinburgh Mathematical Society Meeting, Heriott-Watt (197)
15	London Mathematical Society Meeting, London
FEBRUARY	
7-11	Australian Applied Mathematics Conference, South Australia (197)
12	Edinburgh Mathematical Society Meeting, Edinburgh (197)
15-27	Langlands' Programme Instructional Course, Cambridge (198)
19	London Mathematical Society Meeting, York
MARCH	
12	Edinburgh Mathematical Society Meeting, Stirling (197)
19	London Mathematical Society Meeting London
29-1 Apr	British Mathematical Colloquium, Reading
29-8	Geometry and Combinatorial Methods in Group Theory Workshop, ICMS.
	Edinburgh (198)
MAY	
7	Edinburgh Mathematical Society Meeting, Aberdeen (197)
13-14	London Mathematical Society Meeting, Cambridge
29	Edinburgh Mathematical Society Meeting, St Andrews (197)
JUNE	
18	London Mathematical Society Meeting London
29-2 July	Number Theoretic and Algebriac Methods in Computer Science, Moscow, Bussia (197)
5-0	14th British Combinatorial Conference Koole (199)
5-9	Annual Meeting of the Australian Mathematical Society Wollengong, Australia (109)
12-16	Combinatorial Mathematics and Combinatorial Computing Conference, Adelaide
12 10	Australia (189)
12-16	Algebraic Graph Theory, ICMS, Edinburgh (197)
26-30	Randomness and Comutation Workshop, Edinburgh (197)
26 - 6 Aug	Séminaire de Mathématiques Supérieures, Montreal, Canada (199)
AUGUST	
17_20	The Mathematical Heritage of Sir William Power Hamilton Dublin Iroland (102)
18-22	Differential Equations Ploydiv Bulgaria (197)
SEDTEMPE	D
6_9	Rubble Dynamics and Interface Phonomena Conference, Dirmingham (199)
20-24	Ordinary Differential Equations and their Applications, Eleronge, Halv (108)
24	Retirement J. R. Bingrose - Meeting, Newcestle upon Type (100)
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The Newsletter is published monthly except in August. Items and advertisements for inclusion in the Newsletter should be sent to the Editor, Susan Oakes, London Mathematical Society, Burlington House, Piccadilly, London WIV 0NL, to arrive before the first day of the month prior to publication. Telephone 071- 437 5377, Fax 071-439 4629, E-mail Ims@uk.ac.kcl.cc.oak.