THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 304

May 2002

FORTHCOMING SOCIETY MEETINGS Wednesday 5 June 2002 – Liverpool Northern Regional Meeting Algebraic Geometry, Knot Theory and Related Topics Friday 21 June 2002 – London Professor A.R. Its (Hardy Lecture), J Marklof Wednesday 23 October 2002 - London The Four-colour Problem Joint meeting with the British Society for the History of Mathematics Friday 22 November 2002 - London Annual General Meeting J.T. Stuart (Presidential Address), J.D. Gibbon Monday 25 November 2002 South West and South Wales Regional Meeting

COUNCIL DIARY 22 March 2002

Many departments will have noticed a drop in doctoral training accounts from EPSRC this year. A succession of tabled emails alerted Council to this, and reported EPSRC's explanation. EPSRC admitted a drop of 8-9% since last year. This was partly an after-effect of a short term increase last year to ease the transition to DTA's, partly the effect of an increased withholding of funds for a pool of students wishing to go to departments without DTA's and partly a top-slicing of funds allocated for short courses. It was suggested at Council that funds released from unused case awards might be used to make up some of the decrease. Council agreed to consult with Alasdair Rose.

Reports in the press and elsewhere have warned of the possible closure of more than one mathematics department. Council heard that the President had already written to the Vice-Chancellor of one of the universities involved and had received a detailed reply. This put the blame for the deficit in that particular department which might cause its closure on a combination of the severe cut of research funding for departments with lower RAE grades together with the fall in student numbers (an issue which is also causing deep concern in the LMS Education Committee). It also suggested that the fragmentation of mathematical research into three units of assessment for the purposes of the research assessment exercise particularly disadvantaged small departments, raising another very topical issue. Council was extremely

concerned by the threats of closures and wondered how best to proceed. It was suggested that the matter needed to be taken to a higher level, that a high profile push was necessary. There will be further discussion.

This is the second year that some of the LMS meetings have been held in the regions, and the new scheme seems to have been a success. Council received a report of the second Midlands Regional Meeting, which took place in February, and heard of plans for the next meetings of the Northern and South West and South Wales Regions.

This meeting marked the end of Alun Morris' long period as Treasurer of the Society and of an even longer period of service on Council. He was *Journal* Editor from 1983 to 1988, Vice-President from

1992 to 1994, and Treasurer from 1994. Tony Scholl, who was chairing the meeting, described Alun as the 'big spender', since expenditure by the Society on mathematics had increased fourfold since 1993. But in the same period, the Society's assets had increased by the same factor. During Alun's period as Treasurer we had acquired De Morgan House, and sold a farm (for eight times what we had paid for it). On top of everything else, Alun had recruited his wife Mary to run, as a volunteer, the first De Morgan House crèche (and for this your diarist in particular is certainly enormously grateful to both of them). We all thanked Alun warmly. He will be a hard act to follow.

Sarah Rees

THE LIBRARY OF G.H. HARDY

Following the October 2001 Newsletter article about the books from Hardy's Library which are now at De Morgan House there have been a number of developments. A major breakthrough was receiving a copy of the Galloway & Porter 1971 catalogue all the way from Australia, due to the generosity of Peter Lowe. Professor Lowe has also supplied some details of the Hardy books that he purchased himself. In addition a few other members have contributed details of the volumes that they acquired or made suggestions as to where books may be.

Another lead came through a catalogue of books offered for sale by David Esplin, an antiquarian bookseller specialising in history of science and technology. This listed Sullivan's History of Mathematics in Europe with the details "bequeathed by GH Hardy to New College Oxford". A copy of Hardy's will was obtained from the London Probate Office and this confirmed that, although Littlewood was to have first choice from his library, Hardy bequeathed "such of the remainder ... as they may select to the Warden and

Fellows of New College Oxford to be used as they may judge for the convenience of persons engaged in mathematical research in Oxford". The Librarian of New College confirmed that they still had most of the bequest which was received in 1948. However, a rationalisation of Library stock in 2001 had resulted in a small number of Hardy's books being sold to the bookseller Francis Edwards of Hay-on-Wye. whence they were acquired by David Esplin. The New College connection has had two positive results in the quest for Hardy's books. First, the LMS has been able to recover four of the New College volumes. Secondly, I paid a visit to New College Library and was able to identify and list the remaining Hardy books. 36 in total, that are currently dispersed amongst the Mathematics collection. These have been added to the database that, it is hoped, will eventually collate information on all of Hardy's books including current or last known location and enable the LMS to recreate a "virtual" Hardy Library.

> Janet Foster LMS Archivist

LONDON MATHEMATICAL SOCIETY NORTHERN REGIONAL MEETING AND WORKSHOP ALGEBRAIC GEOMETRY, KNOT THEORY

AND RELATED TOPICS

The University of Liverpool Wednesday 5 June 2002; Workshop 6-8 June 2002

Wednesday lectures (for a general mathematical audience)

3.00 pm	Professor Lou Kauffman (University of Illinois at Chicago) Classifying and applying rational tangles and knots
4.15 pm	Tea
4.45 pm	Professor János Kollár (Princeton University) What are the simplest algebraic varieties?

The meeting will take place on Wednesday afternoon starting at 3 pm and in the evening (6.30 for 7.00) there will be a reception and dinner for speakers and visitors at Staff House in the University of Liverpool.

From Thursday 6th to Saturday 8th June there will be an LMS sponsored workshop on Knot Theory and Algebraic Geometry. This will include two 3-lecture courses suitable for postgraduate students:

- Dr Stavros Garoufalidis (Warwick) The geometry of the Jones polynomial
- Professor Andrei Tyurin (Steklov Institute, Moscow) Graphs, knots and vector bundles on algebraic curves

Other invited speakers for the workshop include L. Chekhov (Steklov Institute), L. Kauffman (University of Illinois), V. Kulikov (Steklov Institute), E. Looijenga (MSRI and Nijmegen), D. Rolfsen (University of British Columbia) and M. Scharlemann (University of California). There will be an opportunity for short contributed talks. Some LMS support is available for workshop speakers and UK postgraduate students.

For further details and to offer a contributed talk contact Professor Peter Giblin (tel: 0151 794 4053/4043, e-mail: pjgiblin@liv.ac.uk), or Professor Hugh Morton (tel: 0151 794 4070, e-mail: morton@liv.ac.uk), or see the webpage (http://www.liv.ac.uk/~pjgiblin/LMSJune02/) where there is a registration form.

There are also limited funds available to contribute up to £50 towards the expenses of members of the Society or research students attending the LMS meeting on Wednesday, either individually or, for example, using a shared car or minibus. Requests for such support should be addressed to the Meetings & Membership Secretary, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS (e-mail: grants@lms.ac.uk). Requests should include an estimate of expenses and a very brief *curriculum vitae*; research students should include brief letters of endorsement from their supervisors.

LMS HANDBOOK AND LIST OF MEMBERS 2002

The Society is preparing a new Handbook and List of Members which will appear in June 2002. An e-mail showing the information for your entry in the List of Members has been sent to every member (those who do not have e-mail have been sent a letter). If you have not received the e-mail or letter please contact the LMS office (tel: 020 7637 3686, fax: 020 7323 3655, e-mail: handbook@ Ims.ac.uk).

LMS REGIONAL SOCIETY MEETINGS

A meeting was held recently in order to outline next year's programme of Regional Society Meetings. The meeting was attended by most of the regional organisers, members of Programme Committee, the Executive Secretary, the Administrator and Professor P.J. Giblin, who attended as the scientific organiser of the next Northern regional meeting in Liverpool on 5 June.

Currently the regional organisers are:

Northern region

Professor M. Prest, Manchester University tel: 0161 275 5875 e-mail: mprest@ma.man.ac.uk Dr T. Voronov, UMIST tel: 0161 200 3682 e-mail: theodore.voronov@umist.ac.uk

Midlands region

Professor R.T. Curtis, Birmingham University tel: 0121 414 6595 e-mail: r.t.curtis@bham.ac.uk

South West and South Wales region

Professor J.P. Keating, Bristol University tel: 0117 928 7975 e-mail: j.p.keating@bristol.ac.uk

The regional organisers will be pleased to receive any suggestions for regional activities either directly or through departmental members of the appropriate Regional Committee.

READING ONE-DAY COMBINA-TORICS COLLOQUIUM

There will be a one-day Combinatorics Colloquium at Reading University, Mathematics Department, on Wednesday 15 May 2002. The programme will start at 10.30 am and finish at 5.30 pm. Everyone interested is welcome to attend. The speakers and titles are:

- Professor I. Barany (University College) The minimum area convex lattice n-gon
- Dr R. Chapman (Exeter) Alternating sign matrices and tournaments
- Dr F. Holroyd (Open) Extensions of the Erdös-Ko-Rado theorem
- Mr R. Johnson (Cambridge) Baranyai Partitions and Fon-der-Flass' Conjecture
- Dr I. Leader (Cambridge) The number of 2-SAT functions
- Professor D. Preece (Kent) Primitive lambda roots: neglected combinatorial tools
- Dr J. Talbot (Oxford) The Erdös-Ko-Rado theorem for separated sets
- Dr I. Wanless (Oxford) Diagonally cyclic latin squares
- Dr D. White (Reading) An application of the Max-flow Min-cut theorem to rearrangements of series

The meeting is supported by an LMS conference grant. For further information contact Professor A.J.W. Hilton (tel: 0118 931 8991, e-mail: a.j.w.hilton@reading. ac.uk).

VISIT OF PROFESSOR P.B. DUBOVSKI

Professor P.B. Dubovski (Moscow) will visit the Department of Mathematics at Chester College from 20 May until 18 June. During this time he is expected to give seminars in Chester, Manchester and Liverpool. For further information contact Dr John Edwards, Chester College, Parkgate Road, Chester CH1 4BJ (tel: 01244 392 724, e-mail: j.edwards@ chester.ac.uk). The visit is supported by an LMS scheme 5 grant.

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2001. 24 x 17 cm. 191 pages. Hardcover. € 98,– [D] / US\$ 99.95* ISBN 3-11-016809-X (Ohio State University Mathematical Research Institute Publications 9)

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HARDY FELLOW TIMETABLE 2002

Professor Alexander Its, of Indiana University-Purdue University, is visiting the UK as Hardy Fellow. During his stay, he is visiting various institutions, as in the table below. There has been more demand for visits than can be accommodated: it is hoped that Members of the Society will find the opportunity to hear Professor Its when he is speaking at a neighbouring University. Further details about each talk can be obtained from the local host.

Date	Venue	Host	Lecture
Wednesday 15 May	Kent at Canterbury	Professor P.A. Clarkson (p.a.clarkson@ukc.ac.uk)	Quasi-linear Stokes Phenomenon for the Second Painlevé Transcendent
Tuesday 21 May	York	Dr G.W. Delius (gwd2@york.ac.uk)	The non-linear Schrödinger equation on the half line and a finite interval
Wednesday 22 May	Durham	Dr W. Klingenberg (wilhelm.klingenberg@ durham.ac.uk)	The Riemann-Hilbert method
Friday 24 May	Edinburgh Mathematical Society	Dr P. Heywood (philip@maths.ed.ac.uk)	Asymptotics of orthogonal polynomials, the Riemann- Hilbert Problem and universality in matrix models
Friday 21 June	London	London Mathematical Society (lms@lms.ac.uk)	Integrable Systems and Integrability
Friday 28 June	Leeds	Dr V.B. Kuznetsov (vadim@amsta.leeds. ac.uk)	The Riemann-Hilbert approach in Random Matrix Theory

ADAMS PRIZE

The Adams Prize has been won by a woman for the first time in its 120 year history. Dr Susan Howson, 29, a Royal Society fellow, lecturer at Nottingham University, and an LMS member, was lauded by the international judges for her research on number theory and elliptic curves. Previous winners of the £12,000 prize awarded by the Facualty of Mathematics, Cambridge University and St John's College, Cambridge, include the physicist James Clerk Maxwell and geometer Sir William Hodge. Howson is a pure geometer mathematician, choosing her subject 'because of the beauty of the theorems'.

ACME

The UK mathematics education community now has a single voice as Christopher Llwellyn Smith, Provost of University College London, takes the Chair of the Advisory Committee on Mathematics Education. ACME will bring together academics, teachers and education specialists. It will be based at the Royal Society and is a partnership with the Joint Mathematical Council. Its members are Chris Belsom. Annie Gammon, Celia Hoyles, Chris Robson, Sue Sanders, Nigel Thomas and John Williams. Chris Robson will provide a link with the London Mathematical Society



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Volume 4; Fall 2002; ISBN: 1-56881-144-6 Paperback; approx. 150 pp.; \$29.00, £22.00, €36.00 (tent.)

DEPARTMENT OF MATHEMATICS

Chair Of Pure Mathematics



- Martin Gardner

REF 140/02AJ

The University intends to make an appointment to the Chair of Mathematics with effect from 1 August 2002, or as soon as possible thereafter.

Applicants for the post should have an excellent record of academic achievement and publication in an area of Pure Mathematics. Preference may be given to candidates who would provide leadership in Analysis, Number Theory, Combinatorics or another area that complements our strong groups in Algebra and Geometry & Algebraic Topology.

You will be expected to participate fully in the research and teaching of a dynamic and broad-based department which gained a 5 rating in the 2001 Research Assessment Exercise.

It is expected that the University will provide a Lectureship to accompany this Chair.

Potential candidates are encouraged to make informal enquiries to Professor David Fearn (tel. 0141 330 5417, e-mail D.Fearn@maths.gla.ac.uk) or Professor Ken Brown (tel. 0141 330 5180, e-mail K.Brown@maths.gla.ac.uk).

For an application pack please see our website at www.gla.ac.uk or write quoting Ref: 140/02AJ to the Recruitment Section, Human Resources Department, University of Glasgow, Glasgow G12 8QQ.

Closing date: 31 May 2002.

The University is committed to equality of opportunity in employment.

The film A Beautiful Mind tells the story had a crush on Paul Cohen; how he was of the Princeton mathematician Paul arrested for exposing himself in a public Nash. Nash emerges in the early 50s as place, all things which are obviously one of his generation's most talented important to Nash's feeling of alienation mathematicians. His great breakthrough is the invention of a new discipline, Game Theory, or the mathematical analysis of rational human behaviour. In his early thirties Nash's life is destroyed by the onset of schizophrenia. His work on rational decision making is overtaken by a mind filled with irrational numerological observations and conspiracy theories. But after thirty years in the wilderness he suddenly emerges from the fog which had engulfed him. His remarkable remission from what is regarded by many as a degenerative condition coincides with the award in 1994 of the Nobel Prize for economics.

The film is based on the compelling biography of the same name by Sylvia Nasar. Nasar's book describes very sympathetically the world that mathematicians inhabit and gives an excellent insight into what it is like to be obsessed with mathematics. I feared then that the film would merely be a watered down rerun of the book I had so enjoyed.

The film turned out to be a complete surprise. Nasar's biography builds up a picture of the world around Nash through a sequence of fascinating interviews with Nash's colleagues. The reader looks from the outside in. The film on the other hand places you directly inside the head of Nash. In contrast to the book, we are made to look from the inside out. Where the book deals little with what Nash was actually experiencing in his mind beyond references to conspiracy theories, the film very graphically creates three imaginary characters that inhabit Nash's life. I do not know whether schizophrenia induces such graphic images but as a creative tool, it worked remarkably well.

There have been many criticisms of the film. An important theme of Nasar's biography is Nash's sexuality: how Nash

during the homophobic fifties. The film on the other hand shies away from tackling such a thorny issue. We are presented instead with a simple love story. Nash's wife, Alicia, brilliantly played by Jennifer Connelly, remains with Nash through the thirty dark years of his mental illness. In the film it is her love that is responsible for Nash's subsequent remission. Some have criticised Hollywood for ignoring Nash's ambiguous sexuality as not commercially viable. The film already has such strong themes that one can understand the creative wish not to explore this part of Nash's life too. But perhaps it is a reflection on our MTV culture that film-makers believe that audiences are not up to negotiating such complexities.

And what of the mathematics? Nash spends his time chalking his ideas up on the windows around Princeton. The equations are a vehicle in the film to enforce the sense of Nash's own private world. There is a small glimpse of the ideas that Nash introduced which so revolutionised economics. Nash's mathematical breakthrough emerges during an explanation of how his four friends can ensure that they all get laid one evening by all avoiding competing for the beautiful blond. But Nash's mathematics is by no means a central theme of the film.

The Riemann Hypothesis has a walk on part. The first public indication of Nash's mental decline was a rambling lecture he gave on his ideas for a solution to the Riemann Hypothesis which involved spurious connections to space-time and quantum physics. Perhaps rather insightful considering the subsequent discovery of connections with quantum chaos. During his wilderness years Nash continued to work on the Riemann Hypothesis in the hope that a solution will convince the world more than anything that he

had not lost his youthful brilliance.

As Nasar's book testifies, it was indeed Nash's mathematics which alerted the world in Princeton to Nash's remission some thirty years later. Peter Sarnak recalls his astonishment at Nash's insightful comments after a seminar Sarnak gave on the Riemann Hypothesis. The film's depiction of this third act in Nash's life is probably the most mawkish section of the film. The attempts to age Crow and Connelly also stretch one's suspension of disbelief to the limit - both look like latex puppets off Spitting Image.

Despite this I felt that the film rose above all the criticisms I had read in the media and complemented my enjoyment of Nasar's biography. The film joins a growing catalogue of artistic pieces that cast mathematicians as mad, emotionless outsiders - pieces like the films Pi and A Mirror Has Two Faces, William Boyd's book Brazzaville Beach or David Auburn's Pulitzer winning play Proof. Nevertheless, recruiting a former Gladiator to portray the mathematical battle that rages daily in our minds cannot do mathematics too much harm.

Marcus du Sautoy

LECTURE AT BLETCHLEY PARK

There will be a lecture at Bletchley Park by Professor Jack Copeland on Sunday 16 June 2002 at 2 pm. The lecture will be on "Bletchley Park and the Modern Computer". Jack Copeland is Professor of Philosophy at the University of Canterbury, New Zealand and Director of the Turing Archive for the History of Computing. He works in mathematical and philosophical logic, cognitive science, and the history and foundations of computing.

The lecture will be free of charge, although entrance to the Park will be charged as normal. This is a ticket only event and is strictly on a first come first served basis. Contact Sue May on 01908 647269 for tickets. Lunch and refreshments will be available in Hut 4.

NORTH BRITISH FUNCTIONAL ANALYSIS SEMINAR

A meeting of the North British Functional Analysis Seminar will be held at the David Hume Tower of Edinburgh University from 2.30 pm on Monday 27 May until 12.00 noon on Tuesday 28 May 2002. The speakers will be Professor Harry Dym (The Weizmann Institute of Science, Israel) and Professor Jean Renault (Université d'Orléans, France). The meeting has financial support from the London Mathematical Society. For further information, please contact Dr Zinaida Lykova, Newcastle University (Z.A.Lykova@ncl.ac.uk).

THE KOUROVKA NOTEBOOK

Unsolved Problems in Group Theory The latest 15th edition (2002, editors V.D.Mazurov and E.I.Khukhro. softcover. 164 pp, 26x17 cm, ISBN 5-94356-060-2, Price (incl. p&p): £11.00, US\$21.00. Euro 23.00) of the 'Kourovka Notebook' has just been published. This is a collection of unsolved problems in Group Theory proposed by more than 300 mathematicians from all over the world. It has been published every 2-4 years in Novosibirsk since 1965 and it is now also available in English. This 15th issue contains more than 100 new problems and a number of comments on about 900 problems from the previous issues. It includes also a new section. 'Archive of Solved Problems', which includes all the solved problems from the previous issues.

For more than 30 years the 'Kourovka Notebook' has served as a unique means of communication for researchers in Group Theory and nearby fields of mathematics. Probably the most striking illustration of its success is the fact that more than three-quarters of the problems from the first issue of 1965 have now been solved. For further information or to place an order contact Professor E.I. Khukhro, 6 Llanedeyrn Close, Cardiff CF23 9ED (khukhro@cardiff.ac.uk).

LONDON MATHEMATICAL SOCIETY

POPULAR LECTURES 2002

Strathclyde University - Thursday 20th June Leeds University - Thursday 27th June Institute of Education, London University - Wednesday 3rd July

Dr Helen Mason

'Our Dynamic Sun'

'Mathematics helps to unravel the mysteries of the sun, by looking beyond visible light to amazing ultra-violet and Xray observations.'





Dr John Silvester

'Geometry Ancient and Modern'

'Euclid found many curious properties of circles - this talk describes a theorem he could have proved but didn't, and gives some more modern approaches to it.'

STRATHCLYDE Commences at 2.00 pm, refreshments at 3.00 pm, ends at 4.30 pm. Admission is free. Enquiries to Professor A. McBride or Dr A. Ramage, Department of Mathematics, Strathclyde University, Livingstone Tower, 26 Richmond Street, Glasgow G1 1XH (tel: 0141 548 3647/3801, e-mails: a.c.mcbride@strath.ac.uk, a.ramage@strath.ac.uk).

LEEDS Commences at 6.30 pm, refreshments at 7.30 pm, ends at 9.00 pm. Admission is free. Enquiries to Dr R.B.J.T. Allenby, School of Mathematics, University of Leeds, Leeds LS2 9JT (tel: 0113 233 5122, e-mail: pmt6ra@leeds.ac.uk).

LONDON Commences at 7.00 pm, refreshments at 8.00 pm, ends at 9.30 pm. Admission is free, with ticket. Apply by **28 June** to Miss L. Taylor, London Mathematical Society, 57-58 Russell Square, London WC1B 4HS (e-mail: taylor@lms.ac.uk). A stamped addressed envelope would be appreciated.

MSc in Financial Mathematics

Full-time and part-time programmes starting September 2002 at King's College London in the Department of Mathematics



King's College is a multi-faculty institution with over 16,000 students. The Department of Mathematics has a strong reputation for the quality of its teaching and research, and was rated 5 in the RAE 2001 in both pure and applied mathematics. In 2000 King's College launched a new initiative in Financial Mathematics with the appointment of Professor Lane P. Hughston, Dr. Giulia Iori, and Dr. Mihail Zervos to established posts in the Department of Mathematics. Applications are now being invited for the MSc programme starting in September 2002.

Financial Mathematics has developed over the last three decades into a substantial discipline. Its numerous applications are now vital to the functioning of the world's financial institutions. As a consequence, a solid command of the principles of quantitative finance is essential for a responsible and intelligent approach to the trading and risk management of complicated financial positions.

The new MSc in Financial Mathematics at King's College London covers a full range of topics in mainstream mathematical finance and its applications. The curriculum includes derivatives pricing and hedging, asset price dynamics, interest rate and foreign exchange derivatives, credit linked products, real options, energy and weather derivatives, stochastic optimisation, and investment decision making, as well as other mathematical subjects of relevance to both the theory and the practice of financial modelling.

The MSc programme is organised by the Financial Mathematics Research Group in the Department of Mathematics at King's College London, and builds on the group's close links with leading financial institutions in London and elsewhere throughout the world. The MSc in Financial Mathematics at King's College London has been designed (a) to enhance the knowledge and understanding of students to a degree such that they can competitively enter the pool of potential employees of investment banks and other financial institutions, and (b) to provide the essential background skills in mathematical finance needed for students who wish eventually to study for a doctoral degree in this area

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The MSc in Financial Mathematics is intended for students or professionals with a strong mathematical background, and a first class or upper second class BSc degree in mathematics or a mathematics-based subject, or an equivalent qualification. The part-time programme is designed to be compatible with the needs of those already employed in the financial sector.

The 2002 fees have been provisionally set at $\pounds 9,300$ for the one-year full-time MSc programme, and $\pounds 4,850$ per year for the two-year part-time MSc programme. For further course details and downloadable application forms see the following website:

www.mth.kcl.ac.uk

Alternatively, contact:

The Postgraduate Administrator Department of Mathematics King's College London The Strand, London WC2R 2LS, UK tel: +44 (0)207 848-2107

tinmath@mth.kcl.ac.uk

UNIVERSITY OF WALES INTERCOLLEGIATE COLLOQUIUM IN MATHEMATICS

This year's Colloquium will be held from Monday 20 - Wednesday 22 May, at Gregynog Hall, Gregynog, Newtown, Powys SY16 3PW. It is supported by an LMS conference grant and from the Gregynog Fund of the University of Wales. The invited speakers are Professor T.J. Pedley (University of Cambridge), Professor N. Reshetikhin (University of Berkeley - on leave at IHES) and Professor A. Sobolev (University of Sussex). For further information contact Johannes Kellendonk in Cardiff (e-mail: kellen donkj@cf.ac.uk).

ROLLO DAVIDSON TRUST

The trustees of the Rollo Davidson Trust give notice that they have awarded Rollo Davidson Prizes for 2002 as follows:

- Stanislav Smirnov (Stockholm) in recognition of his achievements in critical perolation and conformality in stochastic processes.
- Balaji Prabhaker (Stanford) in recognition of his achievements in queueing theory applied to communication networks.

Further details of the Rollo Davidson Trust may be found on the webpage (fttp://www.statslab.cam.ac.uk/Rollo/in dex.html).

LONDON MATHEMATICAL SOCIETY

Notice of a General Meeting

A General Meeting of the Society will be held on Friday 21 June 2002 at 5.00 pm in the Chemistry Auditorium, University College London. Council proposes that the following By-Laws be varied:

By-Law I.3. Replace the words 'a Council and General Secretary, a Meetings and Membership Secretary, a Publications Secretary and a Librarian' by the words 'a General Secretary, a Programme Secretary, a Publications Secretary and an Education Secretary'.

By-Law X.2. Replace the present By-Law by 'There shall be a General Secretary, a Programme Secretary, a Publications Secretary and an Education Secretary'.

By-Law XII.3. Replace the word 'another' by the word 'an'.

The principal purpose of these changes is to establish the Office of Education Secretary. In order not to increase the number of Officers of the Society, it is proposed that the Librarian should cease to be an Officer. By-Law XII.3 will then require the Librarian to be a member of Council, who may also hold an Office of the Society. The opportunity is also taken to propose changes to the titles of the Council and General Secretary and of the Meetings and Membership Secretary to reflect their duties more accurately.

Council will also make nominations for appointment of Scrutineers for the annual elections.

ABSTRACTS

INTEGRABLE SYSTEMS AND INTEGRABILITY Alexander R. Its

The goal of this talk is twofold. The first and the main objective is to present to a general mathematical audience an overview of the modern theory of integrable systems. The theory was originated in the remarkable work of Gardner, Green. Kruskal. and Miura of 1967 on the Korteweg-de Vries equation. Since then it has gradually transformed into a subject which could be called 'nonlinear special functions' and which overlaps now with many areas that have never been considered before as 'integrable systems'. The focus of the talk will be on the analytic aspects of the theory of integrable systems represented by its principal analytic ingredient - the Riemann-Hilbert method. We will argue that the method can be thought of as a non-commutative analogue of the method of contour integral representations. The connections of the Riemann-Hilbert method to the algebraic (KacMoody algebras) and geometric (holomorphic vector bundles) aspects of integrable systems will also be outlined.

The second objective of the lecture is. to a certain extent, of a speculative nature. We will try to use the main topic as an opportunity to reflect on the very notion of 'integrability'. In fact, we shall try to go beyond the classical definitions of integrability in the sense of Liouville and Frobenius. An ideal goal would be a rigorous understanding of such commonly used terms as 'explicit solution', 'exact formula', etc. Most certainly we are, at the moment, very far from even a rigorous formulation of the question. Still, some relevant observations toward the goal mentioned can be made, and we will try to do so when discussing the recent applications of the Riemann-Hilbert method in matrix models, special functions and combinatorics.

MATHEMATICAL MODELS OF QUANTUM CHAOS Jens Marklof

One of the major achievements in the theory of dynamical systems is the construction of statistical measures, which characterize the degree of "randomness" of the long-time evolution of a Hamiltonian system. Ergodicity, mixing and the existence of a central limit theorem are examples of such statistical properties.

In my lecture, I will explain that a similar scheme works in quantum mechanics. The main idea is to ask how well statistical properties of a given quantum Hamiltonian can be modelled by a large random matrix in a suitably chosen ensemble. Numerical investigations have led to conjectures of striking universality, which in turn have connections to deep unsolved problems in number theory. I will report on recent progress in the case of "simple" mathematical models: the Laplacian on Riemann surfaces and graphs, and symplectic maps of the torus.

LONDON MATHEMATICAL SOCIETY

FRIDAY 21 JUNE 2002

J. Marklof (Bristol University) will speak at 3.30 pm on Mathematical Models of Quantum Chaos

A. Its (Indiana University-Purdue University) will give the 2002 Hardy Lecture at 5.00 pm on Integrable Systems and Integrability

The meeting will be held at the Chemistry Auditorium, Christopher Ingold Building, Department of Chemistry, University College London, 20 Gordon Street, London WC1.

Tea will be served at 4.30 pm

A reception and dinner will be held after the meeting. For details contact Susan Oakes, Administrator, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS (e-mail: oakes@lms.ac.uk).

There are limited funds available to contribute in part to the expenses of members of the Society or research students to attend the meeting. Requests for support may be addressed to the Meetings & Membership Secretary, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS (email: grants@lms.ac.uk). Requests should include an estimate of expenses and a very brief *curriculum vitae*; research students should include brief letters of endorsement from their supervisors.

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REAL FUNCTIONS THEORY CONFERENCE

The Mathematical Institute of the Slovak Academy of Sciences is organizing the traditional Summer Conference on Real Functions Theory, at High Tatra, Slovakia on 1-6 September 2002. The programme and organizing committee consists of J. Borsik (chairman), J. Dobos, R. Fric, J. Haluska, K. Stefancikova. The conference programme will cover the following topics: generalized continuity, derivatives, integration, structures on the real line as well as applications. The 17th Summer School schedule will comprise 45-minute plenary lectures by invited speakers and 20-minute contributed presentations by other conference participants.

At present, the following mathematicians have been asked to give a principal lecture:

- Domenico Candeloro (Perugia, Italy)
- Zbigniew Grande (Bydgoszcz, Poland)
- Jun Kawabe (Nagano, Japan)
- T.V. Panchapagesan (Merida, Venezuela)
- Miklos Laczkovich (Budapest, Hungary)

The mathematical community is warmly invited to attend. A book of abstracts will be published and will be available at the beginning of the conference. The Tatra Mountains Mathematical Publications journal is planning a special issue. This issue will also serve as conference proceedings and all contributions will be refereed as usual.

The conference will take place at Hotel Euro in Stara Lesna, from 1 September (arrival day) - 6 September 2002. The cost of accommodation and full board per day will be approximately Euro30; the conference fee is Euro100 and includes use of the conference facilities, proceedings, refreshment, and banquet. More details (payment, travel connections, etc.) will be included in the second announcement, to be distributed at the beginning of June. If you are interested in the conference contact Jan Borsik, Mathematical Institute, Slovak Academy of Sciences, Gresakova 6, 040 01 Kosice, Slovakia (tel/fax: ++(421) (55) 6228 291, e-mail: musavke@saske.sk) or look on the website (http://www.saske.sk/MI/confer/ lsrf2002.htm) by **31 May 2002**.

SOUTHERN BIFURCATION MEETING

There will be a meeting of the Southern Bifurcation Group (supported an LMS Scheme 3 grant) at the University of Southampton on Friday 10 and Saturday 11 May 2002. Speakers include Peter Ashwin (Exeter), Reiner Lauterbach (Hamburg), Ken Meyer (Cincinnati and Warwick) and James Montaldi (UMIST). Funds will be available to support travel and accommodation - especially for research students. For further information contact David Chillingworth (e-mail: drjc@maths.soton.ac.uk; tel: 023 8059 3677).

WAVELETS AND APPLICA-TIONS WORKSHOP

The IMUB (The Institute of Mathematics of the University of Barcelona) announces a workshop on Wavelets and Applications to be held from 1-6 July 2002. The course is addressed to graduate students and young researchers not necessarily specialized on wavelets.

There will be several main basic courses:

- Introduction and basic aspects of wavelets theory (G. Weiss).
- Wavelets and probability (D. Gundy).
- Wavelets and numerical methods (C. Canuto and A. Tabacco).
- Wavelets on a computer (T. Nguyen).

The workshop will also consist of several specialized lectures related and complementing the above courses. For further information look on the website (http://www.imub.ub.es/wavelets).

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DESIGNS IN COMBINATORICS AND STATISTICS

LMS/EPSRC Short Course

Queen Mary, University of London, 9-13 September 2002

Organisers: R.A. Bailey and P.J. Cameron

Many topics in Combinatorial Design originated in Statistics. For example, twodesigns began life as balanced incomplete-block designs for agricultural field trials, while symmetric designs from Hadamard matrices originated in efficient factorial designs for industrial experiments. In other instances there has been parallel development under different names; for example, linear codes are the same as the duals of fractional factorial designs.

However, the knowledge that these topics cross from Combinatorics into Statistics has been lost on both sides, particularly at beginning PhD level. The aim of this course is to give PhD students in both Combinatorics and Statistics the basic building blocks in the area and to give them the language to be able to understand one another's literature. The course will give these PhD students an opportunity to meet other PhD students and PDRAs, both in their own area and in the other, and discuss their research interests in this wider group.

There will be three courses of lectures:

• Combinatorial Design : Dr Ian Anderson (University of Glasgow)

• Statistical Design : Professor R.A. Bailey (Queen Mary)

• Interface : Professor Peter Cameron (Queen Mary)

There will be three additional guest lectures by specialists to be announced. The courses will be supplemented with problem sessions: worksheets will be supplied and postdoctoral tutors will be available. Further details of the programme are available at: http://www.maths.qmul.ac.uk/~pjc/design/shortcourse.html

The registration fee is £60, which for all UK-based research students includes the cost of course accommodation and meals. Participants must pay their own travel costs. EPSRC-supported students can expect that their registration fees and travel costs will be met by their departments from the EPSRC Research Training and Support Grant that is paid to universities with each studentship award (or from the Doctoral Training Account in the case of first-year students).

Application forms may be obtained from Frances Spoor, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS (spoor@lms.ac.uk) or from the LMS website (http://www.lms.ac.uk/activities/ research meet com/short_course/12_app.html).

Numbers will be limited and those interested are advised to make an early application. The closing date for applications is **28 June 2002**.

DIFFERENTIAL GEOMETRY, HOMOGENEOUS SPACES AND INTEGRABLE SYSTEMS

LMS/EPSRC Short Course

University of Durham, 16-20 September 2002 Organisers: J. Berndt and J. Bolton

In differential geometry, properties of geometric configurations are investigated by means of differential and integral calculus. Applications may be found in many branches of mathematics and modern sciences, in particular in theoretical physics.

Differential geometry is the main theme of the Short Course, and one of the three intensive lecture courses will provide an introduction to this area. The second lecture course discusses homogeneous geometry, in which differential geometric problems are tackled using algebraic methods. The third lecture course deals with integrable systems and discusses applications principally to surface theory of certain types of differential equations which arise frequently in pure and applied mathematics.

Our overriding objective is to feed the participants' appetites for geometrical mathematics. The Short Course, which will provide training for postgraduate students wishing to know about differential geometry and related areas, will have three main aims. First, a student with only a very limited previous exposure to differential geometry will attain a reasonable competence in this area and also get some idea of the many applications of the subject. Secondly, a student with a good initial knowledge will be given a significant insight into areas of current research activity. Thirdly, students should interact with each other and with the speakers and tutors.

The combination of well-established and comparatively recent mathematics will prove of benefit to a wide cross-section of graduate students particularly in pure mathematics, although students in theoretical physics will also benefit.

The course titles and lecturers are:

- Introduction to Differential Geometry : Mario Micallef (University of Warwick)
- Lie Groups and Homogeneous Spaces : Dmitri Alekseevsky (University of Hull)
- Geometry and Integrable Systems : Martin Guest (Tokyo Metropolitan University)

Each course comprises five lectures; supplementary worksheets and exercises will be supplied, to be discussed with post-doctoral tutors in afternoon sessions. More information about the courses and lecturers may be found on the Short Course website (http://www.hull.ac.uk/LMS-DG/).

The registration fee is £60, which for all UK-based research students includes the cost of course accommodation and meals. Participants must pay their own travel costs. EPSRC-supported students can expect that their registration fees and travel costs will be met by their departments from the EPSRC Research Training and Support Grant that is paid to universities with each studentship award (or from the Doctoral Training Account in the case of first-year students).

Application forms may be obtained from Frances Spoor, London Mathematical Society, 57-58 Russell Square, London WC1B 4HS (spoor@lms.ac.uk) or from the LMS website: (http://www.lms.ac.uk/activities/research_meet_com/short_course/13_app. html).

Numbers will be limited and those interested are advised to make an early application. The closing date for applications is **5 July 2002**.

NEW ZEALAND INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

On 6 March 2002 the New Zealand government announced the formation of the New Zealand Institute of Mathematics and its Applications (NZIMA) as a Centre of Research Excellence. Another new Centre, the Allan Wilson Centre for Molecular Ecology and Evolution, has a major biomathematics component. The establishment of these two research centres amounts to a revolution in mathematics research funding in New Zealand.

The NZIMA is based at the University of Auckland and headed by Fields Medallist Vaughan Jones DSc FRS FRSNZ (Berkeley) and Professor Marston Conder (Auckland). It will be modelled on similar well-funded mathematical research institutes, notably the Fields Institute (Canada), IMPA (Brazil), MSRI (Berkeley), and the Newton Institute (UK). In particular, it will place considerable emphasis on world-class research and the use of high-level mathematical techniques in modern application areas such as bioengineering, bioinformatics, medical statistics, operations research, and risk assessment.

Its activities will include:

- the organisation of two 6-month programmes each year, on themes drawn from a range of fields of significant interest.
- an associated workshop held at various locations around New Zealand, like the New Zealand Mathematics Research Institute Workshops held annually since 1995.
- establishment of annual Maclaurin Fellowships, to enable mathematical scientists from NZ or worldwide to take time out from their usual occupations and undertake full-time research in New Zealand (or partly overseas if based in New Zealand).

It is expected that NZIMA will open for business later this year.

The Allan Wilson Centre for Molecular Ecology and Evolution will be located at Massey University and directed by Professors David Penny (biology) and Michael Hendy (mathematics). It will undertake studies of the ecology and evolution of New Zealand plants, animals and micro-organisms. Recent research, using new techniques such as sequencing of whole genomes and the study of ancient DNA. has revolutionised our understanding of New Zealand's biodiversity. The simplistic view that New Zealand is a 'Moa's Ark' of relic species undergoing 'ancient and slow' changes over long periods of time has been overturned by the information obtained with these new techniques. The Centre's vision is to utilise the network of outstanding New Zealand biologists and mathematicians, who have made significant contributions to developing new analytical methods and techniques in this area, to address some of the fundamental questions about New Zealand's plant and animal life.

> Rod Downey, President New Zealand Mathematical Society

DR HAROLD EXTON

Dr H. Exton, who was elected a member of the London Mathematical Society on 23 May 1997, died in August 2001, aged 73.

VISIT OF PROFESSOR J. FRITZ

Professor Jozsef Fritz (Budapest University and the Hungarian Academy of Sciences) will be visiting the University of Edinburgh for one month during May-June, supported by an LMS scheme 5 grant. He will give seminars at Edinburgh University, Heriot Watt University and Oxford University. For further information contact Professor Istvan Gyongy, Department of Mathematics and Statistics, University of Edinburgh, King's Buildings, Edinburgh EH9 2DG (e-mail: gyongy@maths.ed. ac.uk).

CIME 2002

The CIME (International Mathematics Summer Centre) organizes the following courses for the summer 2002 activity.

Real methods in complex and CR geometry will take place at Martina Franca (Taranto) from 30 June to 6 July. Scientific Direction: Professor Dimitri Zaitsev (zaitsev@math.unipd.it) and Professor Giuseppe Zampieri (zampieri@ math.unipd.it).

6 Courses (4 lectures in English for each course).

- a) Angular derivatives in several complex variables Professor Marco Abate, Università di Pisa, Italy (abate@dm. unipi.it)
- b)Real methods in complex dynamics Professor John Erik Fornaess, University of Michigan, USA (fornaess @unimich.edu)
- c) On the Chern-Moser theory and rigidity problem of holomorphic maps Professor Xiaojun Huang, Rutgers University, USA (huangx@math.rutgers.edu)
- d) Theory of analytic functionals, and boundary values in the sense of hyperfunctions Professor Jean Pierre Rosay, University of Wisconsin, USA (jrosay@math. wisc.edu)
- e) Extremal analytic discs and the geometry of CR manifolds Professor Alexander E. Tumanov, University of Illinois at Urbana-Champaign, USA (tumanov@ math.uiuc.edu)

Abstracts of the courses will be on the CIME webpage as soon as they are available.

Analytic number theory will take place at Cetraro (Cosenza) from 10-19 July. Scientific Direction: Professor C. Viola, Università di Pisa (viola@dm.unipi.it) and Professor A. Perelli, Università di Genova (perelli@dima.unige.it).

a) Producing Prime Numbers via Sieve

Methods (4 lectures) Professor John Friedlander, Toronto, Canada

- b) Exponential Sums, Uniform Distribution and Cryptographic Applications (2 lectures) Professor John Friedlander, Toronto, Canada
- c) Counting Rational Points on Algebraic Varieties (6 lectures) Professor Roger Heath-Brown, Oxford University, UK
- d) Automorphic L-Functions (6 lectures) Professor Henryk Iwaniec, Rutgers University, New Jersey, USA
- e) Axiomatic Theory of L-Functions: the Selberg Class (6 lectures) Professor Jerzy Kaczorowski, Poznan, Poland

The abstracts of the courses are available on the webpage (http://www.math.unifi. it/cime/).

Theory and applications of imaging will take place at Martina Franca (Taranto) from 15-21 September. Scientific Direction: Professor George Papanicolaou, University of Stanford, USA (papanico @georgep.stanford.edu) and Professor Giorgio Talenti, Università di Firenze, Italy (talenti@math.unifi.it).

- a) Array imaging in noisy environments Professor George Papanicolaou, University of Stanford, USA
- b) *Tomographic imaging* Professor Frank Natterer, University of Münster, Germany
- c) Diffuse imaging for medical diagnoses Professor Simon R. Arridge, University College, London, UK
- d) Experimental methods and results in laser-tissue imaging Professor Robert R. Alfano, Institute for Ultrafast Spectroscopy and Lasers, CUNY, New York, USA
- e) Seismic imaging Professor William W. Simes, Rice University, USA

Abstracts of the courses will appear on the CIME webpage as soon as they are available.

Those who want to attend the sessions

should fill in an application to the Director of CIME Professor Pietro Zecca (pzecca@ingfi1.ing.unifi.it) by **15 May** 2002, or for any further information contact Fondazione CIME c/o Dipartimento di Matematica 'U. Dini' Viale Morgagni, 67/A - 50134 Firenze, Italy (tel: +39-55-434975 / +39-55-4237123; fax: +39-55-434975 / +39-55-422695; e-mail: cime@udini.math.unifi.it). Alternatively contact the Secretary of CIME, Professor Elvira Mascolo (mascolo@math.unifi.it)

or look on the webpage (http: //www.math.unifi.it/cime/).

This CIME activity is made possible thanks to the generous support received from: The European Commission, Division XII, TMR Programme 'Summer Schools', Consiglio Nazionale delle Ricerche, Ministero Affari Esteri Italiano, Ministero dell' Università e della Ricerca Scientifica e Tecnologica, UNESCO-ROSTE, Venice Office.

LONDON MATHEMATICAL SOCIETY

INVITED LECTURES SERIES

The Society's Invited Lectures series consists of meetings at which a single speaker gives a course of about ten expository lectures, examining some subject in depth, over a five day period (Monday to Friday) during a University vacation. The meetings are residential and open to all interested. It is intended that the texts of the lectures given in the series shall be published. In addition to full expenses, the lecturer is offered a fee of £1250 for giving the course and a further fee of £1500 on delivery of the text in a form suitable for publication. Recent lecturers in the series have been P.F. Baum (1995), F.J. Almgren (1996), J. Alperin (1997), D. Zagier (1998), A. Mielke (1999), B. Dubrovin (2000), T. Goodwillie (2001). The 2002 lectures will be given at the University of Leeds by P. van Moerbeke.

For the 2003 meeting, proposals are now invited from any member who, in addition to suggesting a topic and lecturer, would be prepared to organize the meeting at the member's own institution or a suitable conference centre. Enquiries about this series should be directed to the Executive Secretary, Dr D.J.H. Garling, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS (e-mail: garling@lms.ac.uk, tel: 020 7637 3686, fax: 020 7323 3655). Programme Committee hopes to make a decision on **Friday 21 June 2002**.

TOPICS IN ALGEBRAIC NUMBER THEORY

LMS/EPSRC Short Course

King's College London, 2-6 September 2002 Organiser: David Burns

Algebraic number theory has a long and distinguished history and remains one of the most significant areas of research in mathematics. The subject has in particular enjoyed spectacular advances in recent years, with Wiles' proof of Fermat's Last Theorem standing as one of the undisputed milestones of twentieth century mathematics. The analysis of problems in number theory, even those of a seemingly concrete and explicit nature, may well however involve the interplay of results and techniques from many different branches of pure mathematics. In conjunction with the increasing pace of current developments this means that it is all too easy to feel relatively isolated from the fundamental advances which are being achieved today.

With this problem in mind, the lectures at this short course aim to provide students with a grounding in some of the areas which are of central importance in both algebraic number theory and arithmetic algebraic geometry. The topics to be discussed have been chosen both because they have been of pivotal significance to recent developments and also because they illustrate well the wide variety of techniques and the nature of the problems which arise in much of the fundamental research which is being conducted today. The course titles and lecturers are:

- Local Fields : Ivan Fesenko (University of Nottingham)
- Iwasawa Theory : David Burns (King's College, London)
- Modular Forms : Kevin Buzzard (Imperial College, London)

The course on Local Fields will discuss the basic properties of rings which arise naturally in all areas of arithmetic algebraic geometry and will also describe the foundational aspects of class field theory; the course on Iwasawa Theory will introduce students to one of the most useful techniques currently available to number theorists; the course on Modular Forms will take students to the point at which they can understand the statement of the Shimura-Taniyama-Weil Conjecture, its connections to Fermat's Last Theorem and the statement of results of Wiles and others related to this conjecture. Each course comprises six lectures and will start from a discussion of basic definitions and concepts. Prerequisites will be kept to a minimum so that the courses are for the most part accessible to beginning graduate students, presupposing only a thorough knowledge of undergraduate material. The lectures will be useful treatment of concrete examples. In addition, worksheets and exercises will be supplied, to be discussed with post-doctoral tutors in afternoon sessions. Suggestions for background reading will be available at www.maths.kcl.ac.uk/~burns/ shortcourse.

The registration fee is £60, which for all UK-based research students includes the cost of course accommodation and meals. Participants must pay their own travel costs. EPSRC-supported students can expect that their registration fees and travel costs will be met by their departments from the EPSRC Research Traning and Support Grant that is paid to universities with each studentship award (or from the Doctoral Training Account in the case of first-year students).

Application forms may be obtained from Frances Spoor, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS (spoor@lms.ac.uk) or from the LMS website http://www.lms.ac.uk/activities/research_meet_com/short_course/11_app.html

Numbers will be limited and those interested are advised to make an early application. The closing date for applications is **21 June 2002**.

FOAMS, FLUIDS AND LIQUID CRYSTALS: THE COMPLEXITY OF FLUID MOTION

A one day meeting and open day will be held on Monday 13 May 2002 at the Schuster Laboratory, Department of Physics, Manchester University. The Invited Speakers are:

- Professor D. Weaire, FRS (Trinity College, Dublin) Foam Frontiers
- Professor E.J. Hinch, FRS (University of Cambridge) A Load of Balls in Newton's Cradle
- Professor P. Raynes, FRS (University of Oxford) Liquid Crystal Displays -Past, Present or Future?
- Professor J.T. Stuart, FRS (Imperial College, London) Hydrodynamic Stability and Singularities in Fluid Flows

For further information and free registration see the webpage (http:// www.ma.man.ac.uk/MCND/meeting) or contact Dr Anne Juel (anne. juel@ma.man.ac.uk). The meeting is supported by an LMS conference grant.

THE HISTORY AND PHILOSOPHY OF MODERN MATHEMATICS CONFERENCE

A conference on the History and Philosophy of Modern Mathematics will be held on 24 May 2002 at the Centre for the History of the Mathematical Sciences at the Open University. The day starts at 10.30 with coffee and the programme includes the following talks:

- Paolo Mancosu (Philosophy, Berkeley) Wittgenstein's constructivization of Euler's proof of the infinity of primes
- Jamie Tappenden (Philosophy, Ann Arbor) A reassessment of the mathematical roots of Frege's logicism: Some

history, some philosophy

- David Corfield (HPS, Cambridge) Higher-dimensional algebra and higher-order category theory
- Colin McLarty (Philosophy and Mathematics, Case Western Reserve) Logic and geometry, from Eilenberg & Mac Lane through Grothendieck

The conference is free. If you are intending to attend or you require further information, contact Jeremy Gray, Centre for Mathematical Sciences, Open University, Milton Keynes MK7 6AA (e-mail: j.j.gray@open.ac.uk).

COMPLEX ANALYSIS CONFERENCE

The first half of the Japan-China joint satellite conference on Complex Analysis will be held at the Kyoto Institute of Technology, 10-12 August 2002. The second half is held in Shanghai, China, 14-17 August 2002. For further details see the webpage (http://www.icm2002.org.cn/ satellite/satel_36.htm). The main topics are Riemann surfaces, Kleinian groups, Hyperbolic geometry, and Geometric function theory.

Invited speakers include: C. Bishop (SUNY), M. Bonk (Michigan), B. Bowditch (Southampton), Κ. Bromberg (CalTech), P. Buser (EPFL), E. Fujikawa (Tokyo Inst. of Tech), W. Harvey (King's College London), S. Kojima (Tokyo Inst. Tech), P. Koskela (Jyvaskyla), N. Lakic (CUNY), A. Marden (Minnesota), K. Matsuzaki (Ochanomizu), D. Minda (Cincinatti), S. Mitra (Connecticut), H. Miyachi (Osaka City), K. Ohshika (Osaka), P. Schmutz Schaller (Geneva), C. Series (Warwick) and T. Sugawa (Kyoto).

For further details contact H. Shiga, Tokyo Institute of Technology (shiga@math.titech.ac.jp) or visit the website (http://www.cajpn.org/ kyotostl/).

9th International Mathematics Competition for University Students

19 - 25 July 2002 Warsaw, Poland http://www.imc-math.org/

The **9th IMC** is being co-organized by University College London and Warsaw University, Warsaw, Poland. It will extend over six days and take place in Warsaw. Every participating university is invited to send several students and one teacher. Individual students are welcome. The competition is planned for students completing their first, second, third or fourth year of university education and will consist of 2 Sessions of 5 hours each. Problems will be from the fields of Algebra, Analysis (Real and Complex) and Combinatorics. The working language will be English.

Selection of the Problems

The problems will be chosen at the Meeting of the Jury on July 20 from those received in advance by the President of the Jury, Professor John Jayne. The problems proposed should be precisely formulated and accompanied by a detailed solution. The problems should be in fields of Algebra, Analysis (Real and Complex) and Combinatorics. The problems given at the last eight Competitions can give a general idea of the level expected (see the IMC web site http://www.imc-math.org/). Additional topics may be also included.

Evaluation

The students' work will be evaluated by Team Leaders and other Professors and Assistant Professors using criteria provided by the Jury.

Necessary Information

Participants are invited to confirm their intention to participate by the end of May 2002, providing the following information: University: City, Country: Leader of the team (name, e-mail address): Students (number): Mailing address: e-mail address: Fax.

Visas

The participants from some countries will need a visa to enter Poland. Please, contact your travel agent or the Polish Consulate in your country for details. If necessary, the organizers will post formal invitations for participation in the Competition.

Local Expenses

The living expenses (room, board and local transportation, including spending money) and other costs have not yet been finalized. These will be sent out shortly in the Second Announcement. Please send all confirmations of participation by mid June and arrival details to John Jayne at the e-mail address below. If you would like a copy of the competition poster, please sent your request with postal address to John Jayne (tel: +44-20-7679 7322, fax: +44-20-7419 2812, e-mail: j.jayne@imc-math.org) Department of Mathematics, University College London, Gower Street, London WC1E 6BT.



J.K. MOSER HONORARY MEMBER 1996

DIARY

The diary lists Society meetings and other events publicized in the Newsletter. Further information can be obtained from the appropriate LMS Newsletter whose number is given in brackets. A fuller list of meetings and events is given in the Society's web site (http://www.lms.ac.uk/meetings/diary.html).

MAY 2002

3 Edinburgh Mathematical Society Meeting, Aberdeen (296) 10-11 Southern Bifurcation Meeting, Southampton University (304)

13 Foams, Fluids and Liquid Crystals: The Complexity of Fluid Motion Meeting, Manchester University (304)

13-31 Probability Theory School and Conference, ICTP, Italy (300)

15 Assessment with a Purpose Workshop, Sheffield Hallam University (303)

15 Combinatorics Colloquium, Reading University (304) 17-18 Professor P. McMullen's 60th Birthday Meeting, University College London (303)

18 SECANTS, Bristol University (303)

19-26 Symmetry and Perturbation Theory Conference, Sardinia, Italy (299)

20-22 University of Wales Intercollegiate Colloquium in Mathematics, Cardiff University (304)

24 Edinburgh Mathematical Society Meeting, Hardy Fellow Lecture (302)

24 History and Philosophy of Modern Mathematics Conference, Open University (304)

27-28 North British Functional Analysis Seminar, Edinburgh University (304)

27-31 SIMAI 2002 Congress, Chia, Sardinia (303) **IUNE 2002**

2-8 Combinatorics 2002 Conference, Maratea, Italy (301)

3-8 Abel Bicentennial Conference, University of Oslo (301) 5-8 LMS Northern Regional Meeting & Workshop (Algebraic Geometry, Knot Theory and Related Topics) Liverpool University (304)

7 Edinburgh Mathematical Society Meeting, St Andrews (296) 10-16 Aarhus Topology Conference, Aarhus University (301) 10-16 Nonstandard Methods and Applications in Mathematics Congress, Pisa, Italy (303)

12-16 Unione Matematica Italiana/American Mathematical Society Joint Meeting, Pisa, Italy (303)

16 Bletchley Park and the Modern Computer Lecture, Bletchley Park (304)

17-21 Householder Symposium XV, Peebles Hydro Hotel, Scotland (296)

20 LMS Popular Lectures, Strathclyde University (304)

21 LMS Meeting, Hardy Lecture, London (304) 21-26 Symmetries and Integrability of Difference Equations, Giens, France (301)

24-28 Analytic Number Theory Workshop, Max Plank Institute, Bonn (288)

24-29 Topology, Geometry and Quantum Field Theory Symposium, Oxford (300)

27 LMS Popular Lectures, Leeds University (304)

27-2 July LMS Invited Lectures, Professor P. van Moerbeke, Leeds University (302)

30-6 July Real Methods in Complex and CR Geometry CIME Course, Italy (304) **JULY 2002**

1-6 The Teaching of Mathematics Conference, Crete, Greece (297)

1-6 Wavelets and Applications Workshop, University of Barcelona (304)

1-11 Representations of Finite Groups and Related Algebras, LMS Durham Symposia, Durham University (302)

3 LMS Popular Lectures, Institute of Education, London (304) 7-19 Numerical Analysis Summer School, University of

Durham (295) 8-19 Normal Forms, Bifurcations and Finiteness Problems in Differential Equations SMS-NATO ASI Meeting, Université de Montréal, Canada (298) 8-26 Algebraic K-theory and its Applications School and Conference, ICTP, Italy (300) 10-19 Analytic Number Theory CIME Course, Italy (304) 15-25 Computational Methods for Wave Propagation in Direct Scattering, LMS Durham Symposia, Durham University (302) 18-19 Mathematical Foundations of Computer Science and Information Technology Conference, National University of Ireland (301) 19-25 9th International Mathematics Competition for University Students, Warsaw University, Poland (304) 21-26 Computation and Analytic Problems in Spectral Theory Workshop, University of Wales (296) 21-27 Geometry, Symmetry and Mechanics II Workshop, Warwick University (298) 23-2 Aug EDGE mid-term Summer School and Conference, Edinburgh (299) 26-27 Meeting in honour of 65th birthday of M.S.P. Eastham, University of Wales (296) 29-8 Aug Astrophysical Fluid Mechanics, LMS Durham Symposia, Durham University (302) AUGUST 2002 5-15 New Directions in Dynamical Systems, Ryukoku and Kyoto Universities (293) 10-12 Complex Analysis Satellite Conference, Kyoto (304) 14-17 Complex Analysis Satellite Conference, Shanghai (304) 20-28 ICM2002, Beijing, China (297) 21-29 Workshop on Modern Problems in Applied Probability, Heriot-Watt University (301) 26-30 Combinatorial & Computational Aspects of Statistical Physics Workshop, Newton Institute, Cambridge (303) 29-2 Sept Nonlinear Partial Differential Equations International Conference - Theory and Approximation, City University of Hong Kong (297) SEPTEMBER 2002 1-6 Real Functions Theory Conference, Slovakia (304) 1-9 Algebraic Hyperstructures and Applications Congress, Samothraki Island, Greece (300) 2-6 Random Graphs & Structures Workshop, Newton Institute, Cambridge (303) 2-6 Topics in Algebraic Number Theory LMS/EPSRC Short Course, King's College London (304) 9-13 Designs in Combinatorics and Statistics LMS/EPSRC Short Course, Queen Mary, University of London (304) 9-20 Axiomatic, Enriched and Motivic Homotopy Theory Conference, Isaac Newton Institute, Cambridge (302) 9-27 Intersection Theory and Moduli, ICTP, Italy (300) 15-21 Theory and Applications of Imaging CIME Course, Italy (304) 16-20 Differential Geometry, Homogeneous Spaces and Integrable Systems LMS/EPSRC Short Course, Durham University (304) 30-4 Oct K-theory and Arithmetic Conference, Isaac Newton

Institute, Cambridge (302) OCTOBER 2002

23 BSHM/LMS Meeting, The Four-colour Problem, London NOVEMBER 2002

22 LMS Annual General Meeting, London

25 LMS South West and South Wales Regional Meeting

The Newsletter is published monthly except in August. Items and advertisements for inclusion in the Newsletter should be sent to the Editor, Susan Oakes, by e-mail, fax or post to the LMS office (addresses below), to arrive before the first day of the month prior to publication.

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Printed by Armstrong Press Ltd, Southampton 023 8033 3132