THE LONDON MATHEMATICAL SOCIETY NEWSLETTER

No. 283 June 2000

FORTHCOMING SOCIETY MEETING

Friday 23 June 2000 - London

M. Buhmann, M.J.D. Powell

THIRD EUROPEAN CONGRESS OF MATHEMATICS LMS Meeting & Reception

The London Mathematical Society will be holding a Meeting and Reception, for its members, during the 3rd European Congress of Mathematics at 6.30 pm on Thursday 13 July. Members who wish to attend should apply for their free ticket to the Administrator, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP (e-mail: lms@lms.ac.uk) no later than 30 June. The Society hopes to entertain as many as possible of its members who are attending the European Congress, but numbers are limited by the capacity of the room.

SECANTS

SECANTS (South of England Computational and Algorithmic Number Theory Seminars) will hold its fifteenth meeting in Oxford on Saturday 17 June 2000. The main speaker will be Edlyn Teske (Waterloo), and the programme will include a series of short presentations by current PhD students. SECANTS is funded by an LMS Scheme 3 grant. For more details of the programme, as well as general information about SECANTS, and how to be put on the e-mail mailing list visit the web site (http://www.maths.nott.ac.uk/personal/jec/secants/secants15.html).

IUTAM 2000

An IUTAM Symposium 'Diffraction and scattering in fluid mechanics and elasticity', jointly organised by the Mathematics Departments at the universities of Manchester and Keele, will take place at the University of Manchester from 16-20 July 2000. Speakers include Roger Grimshaw (Monash and Loughborough), Allan Pierce (Boston), Ed Kerschen (Arizona), and John Willis (Cambridge and Bath). Further information may be obtained from Professor Abrahams (i.d.abrahams@ma.man.ac.uk) or Dr Chapman (c.j.chapman@maths.keele.ac.uk), or from the Symposium web site (http://www.ma.man.ac.uk/iutam). The meeting has financial support from the London Mathematical Society.

DONNA M. CARR

Professor Donna M. Carr, who was elected a member of the London Mathematical Society on 19 October 1984, died in February 2000, aged 59.

ROBERT F. RILEY

Professor Robert F. Riley, who was elected a member of the London Mathematical Society on 17 October 1974, died on 4 March 2000, aged 64.

BRITISH LOGIC COLLOQUIUM 2000

The annual meeting of the British Logic Colloquium will take place at the University of East Anglia in Norwich from Thursday 7 to Saturday 9 September 2000, starting after lunch on the Thursday and finishing before lunch on the Saturday. Invited talks representing a broad range of activity in Logic will be given by Ian Hodkinson (Imperial), Ruth Kempson (KCL), Jeffrey Ketland (Nottingham), Justin Moore (UEA), Charles Morgan (UEA), Martin Otto (Swansea), Andrew Pitts (Cambridge), Mike Prest (Manchester), Michael Rathjen (Leeds) and Boris Zilber (Oxford). There will also be a session for contributed talks. Further details and a registration form are available from the web site (http://www.mth.uea.ac.uk/~h120/blc.html) or from the organisers Mirna Dzamonja (m.dzamonja@uea.ac.uk) and David Evans (d.evans@uea.ac.uk) at the School of Mathematics, UEA, Norwich NR4 7TJ.

VISIT OF PROFESSOR P. EXNER

Professor Pavel Exner of the Nuclear Physics Institute, the Academy of Sciences, Czech Republic, will be visiting the UK between 11 and 21 June. The visit is supported by the LMS International Short Visits scheme grant. General enquires to Dr M. Levitin of Heriot-Watt University (e-mail M.Levitin@ma.hw.ac.uk). Professor Exner will give the following lectures:

- 12 June, University of Sussex: "Local perturbations in quantum waveguides: bound states and resonances"' (contact: L.Parnovski@sussex.ac.uk)
- 15 June, Imperial College London: "Curvature effects in spectra of quantum waveguides and layers"' (contact: E.B.Davies@kcl.ac.uk)
- 19 June, Heriot-Watt University: "Local perturbations in quantum waveguides: bound states and resonances"' (contact: M.Levitin@ma.hw.ac.uk)

MEGA 2000

The 6th International Symposium on Effective Methods in Algebraic Geometry (MEGA 2000) will be held at the University of Bath from 20-24 June, and is supported by the LMS. The conference is dedicated to effective methods, theoretical and practical complexity issues in commutative algebra, geometry, real geometry, algebraic number theory, algebraic geometry and related fields. Invited speakers are P. Cassou-Nogues (Bordeaux), E. Cattini (Amherst), A. Iserles (Cambridge), J. Kollar (Princeton), L.M. Pardo (Cantabria), J. Shackell (Canterbury), F. Sottile (Wisconsin), V. Vassiliev (Moscow). All interested colleagues are welcome. Some funds are available for research students studying at UK universities. For further information e-mail (mega2000@maths.bath.ac.uk) or visit the web site (http://www.maths.bath.ac.uk/CONFERENCES/mega2000/).

VISIT OF PROFESSOR S.R. SVIRSHCHEVSKII

Professor S.R. Svirshchevskii from Keldysh Institute of Applied Mathematics, Russian Academy of Sciences (Moscow) will be visiting the UK from 1-26 June, supported by an LMS Scheme 5 grant. He will be based at the Department of Mathematical Sciences, University of Bath. He will also lecture at the Institute of Mathematics and Statistics, University of Kent (local organiser P. Clarkson). The titles of his seminar concern applications of group-theoretical methods for nonlinear partial differential equations and new results on linear subspaces invariant under quasilinear differential and discrete operators. For further information contact Victor Galaktionov, Department of Mathematical Sciences, University of Bath, Bath BA2 7AY (tel: 01225 826988, e-mail: vag@maths.bath.ac.uk).

LONDON MATHEMATICAL SOCIETY

Friday 23 June 2000

Professor M.D. Buhmann (Giessen)
will speak at 3.30 pm on

RADIAL BASIS FUNCTIONS: EXISTENCE AND VARIATIONAL PROPERTIES

Professor M.J.D. Powell, FRS (Cambridge)
(1999 Senior Whitehead Prize Lecture)
will speak at 5.00 pm on

THE ACCURACY OF RADIAL BASIS FUNCTION INTERPOLATION

Tea will be served at 4.30 pm

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

A dinner will be held at Poons Restaurant, 50 Woburn Place, Russell Square, London WC1 at 7.30 pm. The cost will be £23.00 per person, inclusive of wine,and a reception at De Morgan House beforehand. Those wishing to attend should inform Miss Susan M. Oakes, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP, enclosing a cheque payable to 'The London Mathematical Society' to arrive no later than **Tuesday 20 June**.

Some funds are available to contribute in part to the expenses of members of the Society or research students who wish to attend the meeting. Requests for support should be addressed to the Meetings and Membership Secretary, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP (requests should include an estimate of expenses and a very brief *curriculum vitae*; research students should include brief letters of endorsement from their supervisors).

Enquiries may be addressed to Miss Susan M. Oakes,
(tel: 020 7637 3686, e-mail: lms@lms.ac.uk).

All interested are very welcome.

STOKES' MILLENNIUM SUMMER SCHOOL

The Stokes' Millennium Summer School is to be held at Skreen, County Sligo, Ireland from 4-9 August 2000. This is the third in a series of conferences organised by Alastair Wood (Dublin City University) and Sir Michael Berry (Bristol) to honour the life and work of Sir George Gabriel Stokes at his birthplace "within the sound of the Atlantic breakers". Like the 1998 Summer School, lectures will be held in the former Parochial School, in the very room where Stokes received his primary education. Unlike 1998, attention will be concentrated on a single aspect of his work, the Navier-Stokes Equations: computational methods and applications, including asymptotic and perturbation methods, as well as numerical analysis. There will also be talks on history and applications to meteorology and engineering. Because of the capacity of this scenic and historic venue, attendance is restricted to 50. As before, accommodation will be in farmhouse bed-and-breakfast and self-catering houses in the parish. Meals will be taken communally in the Parochial Hall.

The School is in two parts, and participants may attend either or both.

- 4- 5 August - Instructional Course on new numerical methods for the Navier-Stokes Equations, organised by J. Miller (Dublin) and G. Shishkin (Ekaterinburg) with A. Hegarty (Limerick) and E. O'Riordan (Dublin City).
- 6-9 August - Workshop with invited lectures from J.R. King (Nottingham), V. Entov (Moscow), A.R. Davies (Aberystwyth), P.G. Drazin (Bristol), P. Clarkson (Kent), B. Straughan (Glasgow), E. Mansfield (Kent), A. D. Craik (St. Andrews), P. Lynch (Met Eireann) and L. Crane (Dublin). Lectures are scheduled for mornings and early evening, leaving afternoons free for discussions and interactions.

For details of fees and registration, intending participants should visit the website (http://webpages.dcu.ie/~wooda/stokes/stokes2000.html) or, School of Mathematical Sciences, Dublin City University, Dublin 9, Ireland (e-mail: Carmel.Reid@dcu.ie or Alastair. Wood@dcu.ie, tel: +353 1 7045293, fax: +353 1 7045786).

ENVIRONMENTAL MATHEMATICS
First Announcement

Potential collaboration between mathematicians and environmental scientists will be the subject of a workshop held on 18 July 2000 at the Institute of Physics, London. Organised by the Natural Environment Research Council (NERC) and the Engineering and Physical Sciences Research Council (EPSRC), the key output of the workshop will be ideas for inclusion in a proposal to NERC and EPSRC for a jointly funded programme in 'Environmental Mathematics'.

Environmental sciences often throws up complex and difficult mathematical questions. These range from problems in fluid dynamics and ecological modelling, to difficulties with environmental risk assessment. Collaboration between the two communities could benefit environmental science by drawing upon mathematicians' expertise and cutting-edge knowledge, and could benefit mathematics by revealing new and challenging mathematical questions. A moderately sized research programme in this area could be timely.

The second announcement of the workshop will include a more detailed programme and request for potential topics. Anyone interested in receiving the second announcement should give their contact details to Sheila Drury, NERC, Polaris House, North Star Avenue, Swindon SN2 1EU (tel: 01793 411611; fax: 01793 411502; e-mail: sdru@nerc.ac.uk). For more general questions about the workshop and plans contact Ian Dwyer, NERC (tel: 01793 411511; e-mail: i.dwyer@nerc.ac.uk).

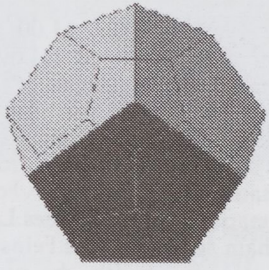
LONDON MATHEMATICAL SOCIETY

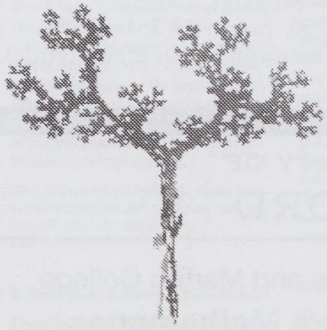
POPULAR LECTURES 2000

Leeds University - Monday 5 June
Strathclyde University - Wednesday 14 June
Institute of Education, London University - Wednesday 28 June

Professor John Barrow
Simplicity and Complexity

'Physicists say that the world is simple, but biologists disagree. Superstrings, chaos and the theory of complexity all help to resolve this contradiction.'





Professor Kenneth Falconer
Fractals - the New Geometry

'How can mathematics model highly irregular phenomena such as trees, mountain skylines and stock market prices? Fractal geometry provides an answer!'

LEEDS Commences at 6.30 pm, refreshments at 7.30 pm, ends at 9.00 pm. Admission is free, with ticket. Please apply by May 31st 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). A self-addressed envelope would be appreciated.

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 P. Davies, Department of Mathematics, Strathclyde University, Livingstone Tower, 26 Richmond Street, Glasgow G1 1XH (tel: 0141 548 3647/3416, e-mails: a.c.mcbride@strath.ac.uk, penny.davies@strath.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 June 23rd to Miss S.M. Oakes, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP (e-mail: lms@lms.ac.uk). A stamped addressed envelope would be appreciated.

FUNCTION THEORY AND FUNCTION SPACES

A meeting on 'Function Theory and Function Spaces' will be held at the University of Nottingham from 18 - 19 September 2000.

- Monday 18 September, 11.00 am to 5.00 pm: a day devoted to function theory, following the traditional format of the annual One-Day Function Theory Meetings.
- Tuesday 19 September, 11.00 am to 5.00 pm: a day devoted to function spaces and Banach algebras.

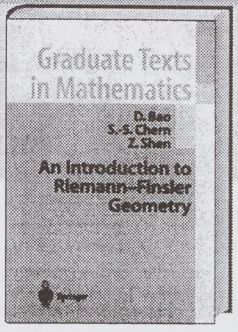
There will be no registration fee. The meeting is supported by a grant from the London Mathematical Society. For further information, contact James.Langley @nottingham.ac.uk or Joel.Feinstein@ nottingham.ac.uk, or visit the web site (http://www.maths.nottingham.ac.uk/ personal/jff/ 2-day-function).

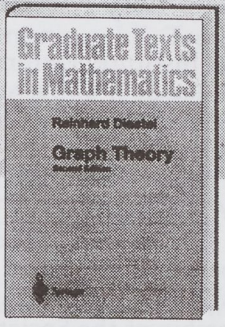
GEOMETRISCHE STRUKTUREN IN DER MATHEMATIK

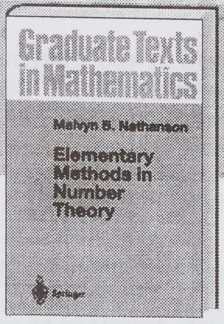
The second symposion of SFB 478 on "Geometrische Strukturen in der Mathematik" will take place in Münster, Germany from 26-30 June 2000. The SFB covers Arithmetic-, Rigid-, Analytic-, Differential- and Noncommutative Geometry and Algebraic Topology with a particular emphasis on intersections. Every two years it hosts a symposion reporting on new developments in these geometric theories.

The following speakers have agreed to give lectures: E. Bayer-Fluckiger, D. Blasius, S. Bloch, J. Denef, G. Faltings, J. Franke, N. Katz, D.T. Le, J. Lott, L. Merel, B. Perrin-Riou, C. Sabbah, D. van Straten, M.F. Vigneras, K. Vilonen, G. Yu. If you are interested in participating in the symposion contact the secretary of the SFB: Mrs Gabi Weckermann, Hittorfstr. 27, 48149 Münster, Germany (tel: +49 251 8333730, fax: +49 251 8332720, e-mail: sfb478mi@math.uni-muenster.de).

Teaching Science







D. Bao, S.S. Chern, Z. Shen

An Introduction to Riemann-Finsler Geometry

This teachable account focuses on the elementary but essential items among the solid repertoire of rigidity and comparison theorems in Finsler geometry, most of them founded upon a fruitful analogue of the sectional curvature, as well as the bewildering array of explicit examples, illustrating many phenomena which admit only Finslerian interpretations.

2000. Approx. 400 pp. 10 figs. (Graduate Texts in Mathematics, Vol. 200) Hardcover * DM 98,-; £ 34,-; FF 370,-; Lit. 108.230
ISBN 0-387-98948-X

G. Bachmann, L. Narici, E. Beckenstein

Fourier and Wavelet Analysis

2000. IX, 505 pp. (Universitext) Hardcover * **DM 119,-**; £ 41,-; FF 449,-; Lit. 131.420
ISBN 0-387-98899-8

R. Diestel

Graph Theory

This concise - yet carefully written - introduction to modern graph theory contains all major recent developments, and can be used both as a reliable textbook for an introductory course and as a graduate text. There is now a section of hints for all the exercises, to enhance their value for both individual study and classroom use.

2nd ed. 2000. XIV, 313 pp. 122 figs. (Graduate Texts in Mathematics, Vol. 173)
Softcover * DM 69,-; £ 24,-; FF 260,-; Lit. 76.200
ISBN 0-387-98976-5

Hardcover * DM 149,-; £ 51,50; FF 562,-; Lit. 164.550 ISBN 0-387-95014-1

D. Eisenbud, J. Harris

The Geometry of Schemes

Grothendieck's beautiful theory of schemes permeates modern algebraic geometry and underlies its applications to number theory, physics, and applied mathematics. This book provides a simple account, emphasizing and explaining the universal geometric concepts behind the definitions.

2000. X, 294 pp. 40 figs. (Graduate Texts in Mathematics, Vol. 197)
Softcover * DM 52,-; £ 18,-; FF 196,-; Lit. 57.420
ISBN 0-387-98637-5

Hardcover * DM 139,-; £ 48,-; FF 524,-; Lit. 153.520 ISBN 0-387-98638-3

M.B. Nathanson

Elementary Methods in Number Theory

Elementary Methods in Number Theory begins with „a first course in number theory" for students with no previous knowledge of the subject. The main topics are divisibility, prime numbers, and congruences. There is also an introduction to Fourier analysis on finite abelian groups, and a discussion on the abc conjecture and its consequences in elementary number theory. In the second and third parts of the book, deep results in number theory are proved using only elementary methods.

2000. XVIII, 513 pp. (Graduate Texts in Mathematics, Vol. 195) Hardcover * DM 98,-; £ 34,-; FF 370,-; Lit. 108.230
ISBN 0-387-98912-9

M. Hindry, J.H. Silverman

Diophantine Geometry

An Introduction

2000. Approx. 520 pp. 8 figs. (Graduate Texts in Mathematics, Vol. 201)
Softcover * DM 79,-; £ 27,-; FF 298,-; Lit. 87.250 ISBN 0-387-98981-1

Hardcover * DM 139,-; £ 48,-; FF 524,-; Lit. 153.520 ISBN 0-387-98975-7

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RECORDS OF PROCEEDINGS AT MEETINGS

Ordinary Meeting

held at the Mathematical Institute, Oxford, on *Friday 31 March and Saturday 1 April 2000*, Professor J. T. STUART, FRS, Vice-President, in the Chair. There were present about 60 members and visitors.

Eleven people were elected to Ordinary Membership: F. R. Austin, S. Coombes, M. A. Dritschel, Y. V. Fyodorov, S. A. Gourley, G. J. Lord, B. A. Maenhaut, J. Marklof, A. Valentini, M. Wiercigroch, O. V. Zaboronski; and two people were elected to Associate Membership: L. M. Orton and T. O. Womack. Four members signed the book and were admitted to membership of the Society.

The following lectures were given: K. Weijer, 'Pattern formation in a biological excitable medium: The morphogenesis of Dictyostelium'; J. Lewis, 'Lateral inhibition, lateral induction, and vector fields: nearest-neighbour interactions and cellular patterning in the inner ear'; and N. Ferguson, 'Modelling viral evolution: HIV, influenza & dengue fever'.

After tea, a lecture was given by H. Othmer 'The Mathematical and computational challenges inherent in using micro-scale data to understand macro-scale behaviour in biological systems'. The meeting then adjourned.

In the evening, a dinner was held at Lady Margaret Hall attended by 35 people.

On Saturday morning, the Chair was taken by Professor T. J. PEDLEY, FRS, and then by Professor B. D. SLEEMAN, and the following lectures were given: R. Traub, 'High-frequency (>100 Hz) neuronal oscillations generated by a novel type of interaction between neurons: axon-axon gap junctions'; S. Panfilov, 'Spatiotemporal chaos in the heart'; J. Brindley, 'Climate, Cod and Calculus; Mathematics at Sea'; and D. Rand, 'Explaining T cell recognition: how to obtain a timely, effective and safe response from low-affinity receptors'. The Meetings and Membership Secretary thanked Professor Maini, the local organiser, for planning and organising the meeting, and closed the meeting.

SET THEORY AND ANALYSIS

LMS/EPSRC Short Course

University of Leeds, 11 - 16 September 2000

Organiser: J.K. Truss

Originating in the work of Cantor over 100 years ago, set theory has blossomed during the twentieth century. The most famous results have been Gödel's and Cohen's classic solution of Cantor's continuum problem (using constructible sets and forcing respectively) followed by more recent work on iterated forcing, cardinal arithmetic, determinacy and large cardinal axioms. Particularly striking has been the impact on certain parts of analysis.

The meeting is aimed at research students working in logic, analysis and allied areas, and all those postgraduate students who want to broaden their knowledge of modern developments in mathematics. It will introduce them to some of the main ideas of contemporary set theory, and help them to understand the impact of these on certain parts of analysis (and vice versa). Three main lecture series will be supplemented by two lectures on a more specialized application to analysis.

- **Background set theory and the real numbers as an ordered set**
  Professor John K. Truss (University of Leeds)

- **Combinatorial functional analysis**
  Dr Charles Morgan (University of East Anglia)

- **Forcing, large cardinals and their connections with analysis**
  Dr Mirna Dzamonja (University of East Anglia)

- **Two lectures on superreal numbers**
  Professor H. Garth Dales (University of Leeds)

Lectures will be supplemented by tutorials and discussion.

The registration fee is £60 which, for 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.

Application forms may be obtained from: Helen Woodward, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP (e-mail: woodward@lms.ac.uk) or from the LMS website (http://www.lms.ac.uk/activities /research_meet_com/short_course/05_app.html).

Numbers will be limited and those interested are advised to make an early application. The closing date for applications will be **23 June 2000**.

PARTIAL DIFFERENTIAL EQUATIONS

LMS/EPSRC Short Course

University of Bath, 4 - 8 September 2000

Organisers: G.R. Burton, G.C. Smith

In the modern theory of partial differential equations, where even the notion of "solution" has many interpretations, analytical precision is of central importance. This introductory course on rigorous PDE theory covers both the foundations in potential theory and harmonic analysis, and particular examples in linear and nonlinear analysis, to furnish background valuable to students of analysis, numerical analysis or continuum mechanics.

The core of the meeting will be three series of lectures accessible to beginning research students, but of benefit to the wider research community.

- **Nonlinear hyperbolic equations**
  C.M. Dafermos (Brown University, Providence)

- **The Newtonian potential and nonlinear Poisson equations**
  L.E. Fraenkel FRS (University of Bath)

- **Distributions, Fourier transforms and microlocal analysis**
  Yu. Safarov (King's College London)

The registration fee is £60 which, for 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.

Application forms may be obtained from: Helen Woodward, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP (e-mail: woodward@lms.ac.uk) or from the LMS website (http://www.lms.ac.uk/activities/research_meet_com/short_course/04_app.html).

Numbers will be limited and those interested are advised to make an early application. The closing date for applications will be **23 June 2000.**

MATHEMATICAL BIOLOGY

LMS/EPSRC Short Course

Nottingham, 4 - 8 September 2000

Organiser: H.M. Byrne

Mathematical Biology is an exciting and rapidly expanding field of mathematics in which mathematical theory is used to provide insight into the physical mechanisms underlying complex biological processes such as solid tumour growth, the spread of epidemics and blood flow. As new biological problems are addressed, they, in turn, generate novel mathematical problems whose solution requires the development of new techniques.

The meeting will be aimed at graduate students interested in using mathematical techniques to investigate biological problems. The core of the meeting will be the following three series of lectures which will furnish participants with state of the art knowledge of key areas of mathematical biology.

- **Biological Fluid Dynamics**
  Dr Matthias Heil (University of Manchester)

- **Spatial Modelling in Ecology**
  Dr Jane White (University of Bath)

- **Stochastic Modelling**
  Dr Philip O'Neill (University of Nottingham)

The lectures will be accessible to first year research students and of benefit to all participants. They will be supplemented by tutorials and discussion.

The registration fee is £60 which, for 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.

Application forms may be obtained from: Helen Woodward, London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HP (e-mail: woodward@lms.ac.uk) or from the LMS website (http://www.lms.ac.uk/activities/research_meet_com/short_course/03_app.html).

Numbers will be limited and those interested are advised to make an early application. The closing date for applications will be **23 June 2000**.

MATHS IN A LEOPARD'S SPOT

Why is the leopard spotted but the tiger striped? What do sailors' knots and the action of viruses have in common? What do a snowflake and heart attack have in common? What do a fern and stock market fluctuations have in common? All have precise patterns and structures. And they will all be shown in a European Community Project 'Raising Public Awareness of Mathematics' showing CD ROMs, posters, videoclips, web sites, across Europe, and indeed the world.

This is part of UNESCO's World Mathematics Year 2000. The Centre for the Popularisation of Mathematics (CPM) at the University of Wales, Bangor, has been awarded a European Commission grant of 33,000EU as its part of a project in collaboration with the French and the European Mathematical Societies.

The Centre will be producing CD ROMs and video clips to be available for distribution to schools and colleges and for public displays, while the French partners are producing posters on public transport and also mobile displays and a booklet. These will be produced and distributed in time for European Science and Technology Week 2000, which takes place 6-12 November.

The idea is to show not only how mathematics opens up new areas of imagination and thought but also how we depend on it in everyday life. Mathematics is necessary to predict natural phenomena, such as the weather or the flow of ocean currents, for example. It underpins much of the everyday technology we take for granted, such as error correction in CD ROMs, medical imaging, engineering, encryption of financial data, and many others. It is also necessary to understand the statistical data with which we try to interpret trends in our own society. The whole project will show how math predicts, cures, builds, corrects, flies, puzzles, counts, imagines, models, amazes, computes, and many others. It is hoped that the project will also inspire many to see mathematical knowledge and expertise, at many levels and the more the better, as the basis of a flexible career.

The CDs will be available for distribution to schools and will support the poster campaign. They will contain dynamic material which will encourage individual work and experimentation by pupils. The CD format has been chosen as it is simpler and more cost effective for school use than accessing this material via the internet, and allows the material to be produced and distributed easily in many languages. For more information, see http://www.bangor.ac.uk/ma/CPM or consult Ronnie Brown (e-mail: r.brown@bangor.ac.uk).

CIMA 2001

The International Congress on Computational Intelligence: Methods and Applications (CIMA 2001) will be held at the University of Wales, Bangor from 19-22 June 2001. CIMA 2001 will bring together Computer Scientists, Mathematicians and Engineers, as diverse expertise and experience can enrich each of the participating disciplines and foster new research perspectives.

CIMA 2001 will feature four symposia:

- FLA'2001 (fuzzy logic and applications),
- AIDA'2001 (advances in intelligent data analysis),
- ACBM'2001 (advanced computing in biomedicine), and
- ACFM'2001 (advanced computing in the financial markets).

Among the plenary speakers is Professor Jim Bezdek (University of West Florida). For further information contact Dr Ludmila Kuncheva (l.i.kuncheva@bangor.ac.uk), Professor Tim Porter (t.porter@bangor.ac.uk) or visit the CIMA web pages (www.icsc.ab.ca/cima2001.htm).

MiMI
Mathematics in Medicine Initiative

CELL CYCLE IN IMMUNOLOGY AND PATHOLOGY

MATHEMATICS INSTITUTE - WARWICK UNIVERSITY

Organised by
N.J. Burroughs (Warwick) & P.J. Smith (Department of Pathology, University of Wales College of Medicine, Cardiff)

19 - 21 July 2000

This is an interdisciplinary meeting in Mathematics and Biology.

During the division cycle a cell undergoes dramatic changes in both cellular architecture and function. Despite this disruption, specific cellular activities can be recalled and modulated according to the microenvironment. Cessation of cell function can also occur over extended intervals, for example during the quiescence of memory cells. The regulatory mechanisms of cell cycle therefore interact with control mechanisms of other cellular functions, while the extent of cell cycle progression reflects the operation of checkpoints that require environmental and internal inputs (e.g. IL2R signals). The regulation of the cell cycle is integrated with several pathways including those that control cell differentiation, senescence, oncogenesis, DNA repair and cellular stress responses.

Cell signalling, and signal integration underlies the interdependence of proliferation and function control mechanisms; the current repertoire of molecular techniques to track cell cycle-related events is revealing a complex network of interleaved cascades and checkpoints. This workshop will bring together experimentalists and theoreticians to examine the cell cycle and its dependence on cellular function and environment from a number of perspectives including: checkpoint activation, environmental influences, the interplay of lymphocyte effector function, telomerase driven senescence barriers, co-stimulation signals, escape from cell cycle control, and pathological diseases including cancer. Presentations will also address the wider experimental and mathematical/theoretical aspects of this important topic.

For further information contact: Nick Bell, MiMI Secretary, Mathematics Institute, University of Warwick, Coventry CV4 7AL
(e-mail: nick@maths.warwick.ac.uk,
tel: +44 (0)24 7652 3870; fax: +44(0)24 7652 4182).

FREQUENCY ASSIGNMENT WORKSHOP

Brunel University
25-27 July 2000

The radio spectrum is a limited resource. Spectrum is required for both new and expanding radio services. This makes the allocation of spectrum increasingly difficult.

In addition the way in which existing services, possibly relying on older technology, make use of the spectrum needs to be reviewed. In the frequency assignment problem we seek an assignment of frequencies to a number of transmitters in as efficient a way as possible. In the basic mathematical model the infrastructure is fixed and the problem is a generalisation of graph colouring. More recently, the cell planning problem has been introduced. This problem deals with the optimal location of transmitters as well as the assignment of frequencies.

Invited Speakers

David Hendon	Radiocommunications Agency
Steve Hurley	University of Cardiff
Robert Leese	Director of Smith Institute and University of Oxford
Rudolf Mathar	Aachen University
Colin McDiarmid	University of Oxford
Ryszard Struzak	International Telecommunications Union

Organisation and Topics Covered

In 1997 a highly successful MathFIT workshop on the frequency assignment problem was organised by Dr Robert Leese. In this workshop we plan to build on the work that was presented there. All participants will have the opportunity to give a contributed talk. Each session will have one invited talk and a number of contributed talks in related areas. A broad range of topics will be covered including an introductory overview, mathematical results, efficient algorithms for solving the frequency assignment problem and the cell planning problem. In addition there will be talks covering the problems faced by spectrum managers and investigating aspects of engineering influencing the mathematical models. The intention is to foster co-operation between the various groups: mathematicians, computer scientists, engineers, practitioners and spectrum managers.

Local Organisers

Gregory Gutin, Gautam Mitra, Steven Noble.

For more information please contact Steven Noble (mastsdn@brunel.ac.uk) or visit the workshop website (http://www.brunel.ac.uk/~mastsdn/FAP.html). This workshop is supported by EPSRC and the London Mathematical Society under the MathFIT programme.

(PSEUDO)SPECTRA OF RANDOM NONHERMITIAN MATRICES

A one-day meeting on (Pseudo)Spectra of Random Nonhermitian Matrices will take place at the Computing Laboratory, Oxford University on Friday 30 June 2000. The speakers are:

- Professor J. Chalker (Oxford)
- Dr M. Contedini (Oxford)
- Professor E.B. Davies, FRS (KCL)
- Dr M. Embree (Oxford)
- Professor I. Goldsheid (QMW)
- Dr B.A. Khoruzhenko (QMW)
- Professor G. Strang (MIT)
- Professor L.N. Trefethen (Oxford)

For further information contact Shirley Day (shirley@comlab.ox.ac.uk).

DEPARTMENTAL NEWS

Bristol University Philip Welch has been appointed as Chair of Mathematical Logic at the Graduate School of Science and Technology at Kobe University, Japan.

Surrey University Dr Peter E. Hydon has been promoted to Reader in Mathematics, with effect from 3 April 2000, in the Department of Mathematics and Statistics. Peter was previously a Lecturer in Mathematics at Surrey.

FRONTIERS IN MATHEMATICAL PHYSICS SUMMER WORKSHOP ON STRING COSMOLOGY

The Frontiers in Mathematical Physics Summer Workshop on String Cosmology will take place at the University of British Columbia, Vancouver, Canada from 24 July - 4 August 2000. The goal of the workshop is to bring together experts in string theory, nonperturbative gauge field theory and cosmology to explore the consequences for cosmology of the recent breakthroughs in fundamental field and string theory. These consequences may lead to a greatly improved understanding of the early Universe and to the resolution of some fundamental problems for cosmology left unanswered by the present theories of the early Universe. The subject of the workshop includes in particular: strongly coupled gauge field theories and cosmology, M-theory and D-brane cosmology, brane-world scenarios, inflation and alternatives to standard inflation from string (M-) theory, and cosmology at the QCD scale and RHIC physics.

Invited participants:

- Tom Banks (Rutgers)
- Gia Dvali (New York University and ICTP)
- Neumanja Kaloper (Stanford University)
- Lev Kofman (CITA, University of Toronto)
- Andrei Linde (Stanford University)
- Rob Myers (McGill University)
- Burt Ovrut (University of Pennsylvania)
- Soo-Jong Rey (Seoul National University)
- V. Rubakov (Institute for Nuclear Research, Moscow)
- Misha Shaposhnikov (University of Lausanne)
- E. Shuryak (Stony Brook)
- Sang-Jin Sin (Hanyang University)
- Dam Son (Columbia University)
- Paul Steinhardt (Princeton University)
- Neil Turok (DAMTP, University of Cambridge)
- Gabriele Veneziano (CERN)

The Organising Committee consists of: Robert Brandenberger, Brown University, (rhb@het.brown.edu), Chaiho Rim, APCTP, Seoul, (rim@apctp.org), Alexander Rutherford, PIMS, (sandy@pims.math.ca), Bill Unruh, UBC, Vancouver, (unruh@theory.physics.ubc.ca) and Ariel Zhitnitsky, UBC, Vancouver (arz@physics.ubc.ca). For registration and further information visit the conference web site (http://www.pims.math.ca/fmp/2000).

CRYPTOGRAPHY

The British Society for the History of Mathematics has arranged a meeting on the History of Cryptography on Saturday 24 June 2000, at the Mill Lane lecture Rooms in Cambridge. Registration is at 9.30 and the day ends at 17.45, with a break for lunch at 12.30. The cost for members of the BSHM is £16, for non-members £27 and for students the fee is £7. Tea and coffee is included but lunch is extra and will be available for £14.50.

Following a welcome from Dr Ross Anderson (University of Cambridge) the speakers are:

10.30: Dr Karl de Leeuw (University of Utrecht) on J.F. Euler (1741 - 1800) Cryptology and the Anatomy of Writing

11.30: Dr Gabriel Landini (University of Birmingham) Secrets of Mediaeval Science? The Voynich Manuscript

14.00: Stephen Budiansky (Leesburg, VA) Codebreaking with IBM Machines in World War II

15.00: Dr R.A. Ratcliff (Oakland CA) How the Germans proved Enigma secure

16.45: Professor Donald Michie (University of Edinburgh) Colossus and the Breaking of the Wartime Fish Codes

The British Society for the History of Mathematics is grateful to the London Mathematical Society for its support of this conference, which is also sponsored by nCipher. Further details on the BHSM web site (http://www.des.warwick.ac.uk.bshm/) and from J.V. Field, Department of History of Art, Birkbeck College, 43 Gordon Square, London WC1H 0PD (fax 020 7631 6107, fax and voice messages on 020 7736 9198; e-mail jv.field@hart.bbk.ac.uk).

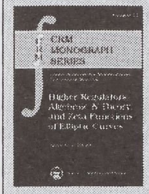
WORKSHOP ON SPECTRAL GEOMETRY

A workshop on Spectral Geometry will be held from 11-15 July 2000 at the University of Bristol as a satellite meeting of the XIII International Congress in Mathematical Physics. Registration is scheduled for 10 July 2000. The workshop will focus on recent developments in spectral geometry at the low energy end of the spectrum. The plenary speakers will include M. Ashbaugh (Missouri), R. Banuelos (Purdue), E.B. Davies (London), W.D. Evans (Cardiff), P. Gilkey (Oregon), D. Grieser (Berlin), E. Harrell (Atlanta), M. Hoffmann-Ostenhof (Vienna), T. Hoffmann-Ostenhof (Vienna), P. Kroeger (Valparaiso), A. Laptev (Stockholm), N. Nadirashvili (Chicago), D. Vassiliev (Bath), S. Zelditch (Baltimore). The workshop is supported by EPSRC and Hewlett-Packard. Further details may be obtained from Professor M. van den Berg (M.vandenBerg@bris.ac.uk) or Dr V. Liskevich (V.Liskevich@bris.ac.uk) School of Mathematics, University of Bristol, Bristol BS8 1TW, or visit the web site (http://www.maths.bris.ac.uk/~pure/conf).

APPLICATIONS OF SINGULARITY THEORY TO GEOMETRY

The concluding event of the Newton Institute programme on Singularity Theory will be a conference in Liverpool, Saturday 16 - Thursday 21 December 2000, with the title 'Applications of Singularity Theory to Geometry'. Support is available from the London Mathematical Society and the Newton Institute, and applications are particularly welcomed from UK research students. Enquiries to Peter Giblin (pjgiblin@liv.ac.uk).

OUP & AMS



Higher Regulators, Algebraic K-Theory, and Zeta Functions of Elliptic Curves

Spencer J. Bloch

This is the long-awaited publication of the famous Irvine lectures by Spencer Bloch delivered in 1978 at the University of California at Irvine. They have become an entry point to several intimately-connected new branches of arithmetic algebraic geometry, and in the 20 years since then, the importance of Bloch's lectures has not diminished.

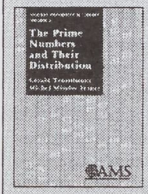
CRM Monographs No. 11
2000, 97 pp, Hardback, 0-8218-2114-8, £16.75

Functions of Bounded Variation and Free Discontinuity Problems

Luigi Ambrosio, Nicola Fusco, and Diego Pallara

This solid introduction to the field covers the practical treatment and theory behind free discontinuity and other variational problems. Existence, regularity and qualitative properties of solutions are explained and a survey is given on the current knowledge of this challenging mathematical field.

Oxford Mathematical Monographs
2000, 452 pp, 2 halftones, 25 line figures, Hardback, 0-19-850245-1, £55.00



Prime Numbers and Their Distribution

Gerald Tenenbaum and Michel Mendes

This book provides insights into prime numbers and describes how a sequence so tautly determined can incorporate such a striking amount of randomness.

'... this book is very well written. It is fun to read and at the same time presents most of the fundamental concepts and ideas in analytic number theory.' **Mathematical Reviews**

Student Mathematical Library no. 6
2000, 120 pp, Paperback, 0-8218-1647-0, £12.00

Elements of Intuitionism

Second Edition

Michael Dummett

NEW EDITION

This long-awaited, and fully revised new edition gives an informal but thorough introduction to intuitionistic mathematics, leading the reader gently through the fundamental mathematical and philosophical concepts. Brouwer's proof of the Bar Theorem has been reworked, the account of valuation systems simplified, and the treatment of generalized Beth Trees and the completeness of intuitionistic first-order logic rewritten.

Of the first edition: *'excellent book ...'* **Zentralblatt fur Mathematik**

Oxford Logic Guides No. 39
2000, 336 pp, Hardback, 0-19-850524-8, £60.00

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European network on: Modern Homotopy Theory

EU research project EEC HPRN-CT-1999-00119

Several years of postdoctoral positions in algebraic topology are available at the seven universities listed below, as well as in some other associated universities. Dates are negotiable: they could be for one year starting 1 September; but earlier or later starting dates and shorter stays can also be arranged. (In particular, since the program officially started on 1 March 2000, candidates looking for a position for this spring and summer will be very welcome.)

Researchers in any area of mathematics covered by the network will be considered. Applicants must have (or be close to finishing) a PhD degree in mathematics. They must be citizens or long-term residents of an EU country other than the country where they will be working, or of a country associated with the EU in this context. They must be 35 years old or younger at the time of appointment. The terms of appointment will be in accordance with current regulations in the host country.

The seven principal nodes of the network, with main contact person, are as follows:

Aarhus	Ib Madsen (imadsen@imf.au.dk)
Aberdeen	John Hubbuck (j.hubbuck@maths.abdn.ac.uk)
Barcelona	Jaume Aguade (aguade@manwe.mat.uab.es)
Lille	Daniel Tanre (tanre@gat.univ-lille1.fr)
Louvain	Yves Felix (felix@agel.ucl.ac.be)
Paris-Nord	Bob Oliver (bob@math.univ-paris13.fr)
Sheffield	John Greenlees (j.greenlees@sheffield.ac.uk)

The main overall topics of the network are: Steenrod modules, classifying spaces and p-compact groups, algebraic K-theory of spaces, equivariant topology, rational homotopy theory with geometric applications, and numerical homotopy invariants such as Lusternik-Schnirelmann category.

More details of the emphases at the individual nodes are given on the network web page (http://www.shef.ac.uk/~pm1jg/mhrtn/rtn.html).

Mathematics: Frontiers and Perspectives V. Arnold, M. Atiyah, P. Lax and B. Mazur (eds): 459 pp., US$49.00, ISBN 0-8218-2070-2, American Mathematical Society.

You can read this book as if listening to a succession of high-powered old school friends who are passing through for a month. Over dinner and drinks you ask him (on 29 occasions) or her (twice) "What's keeping you busy these days?" These essays are the answers. Some of your friends are sterner than others, a few are happy to tell you about their life as a mathematician while most tell you about the mathematics that animates them. But as they chatter away, sometimes scribbling on the pad of paper you keep handy for such occasions, you get a good sense of what they do, what's difficult about it, and why it matters. They adhere to the rules of dinner table conversation: they talk but do not lecture, and they want to be understood. One or two go to bed rather early, some say what you've heard them say before, and three arrived rather late, but they're none the worse for that.

Which ones you remember best will depend on you, and I cannot mention them all here. To listen to Bourgain explaining that harmonic analysis and combinatorics are starting to seem closely related surprised me. He makes his point by describing Montgomery's conjectures on the distribution of Dirichlet sums and their relation to the dimension of Kakeya sets. His visit helps to elucidate the conversation with Gowers a few days later, as he muses on the undue separation, as he sees it, between problem-solving and theory-building in mathematics. When Stanley passes through, towards the end of the month, he connects combinatorics to other branches of mathematics altogether, mostly in the areas he has worked in for many years, commutative algebra, algebraic geometry and algebraic topology.

One weekend Lions pops in, followed by Majda. The result is a fascinating insight into the difficult world that is centred on the Boltzmann equation, which has the Navier-Stokes equation as a sort of special case. Alerted to the reasons why such equations are important and how they can be studied, one understands much better the real mathematical difficulties in making mathematical models of the Earth's climate. Majda explains very well what the wide range of scales are that are involved, why they are necessary, what is characteristic of them, and how they make the problem very hard. Both he and Lions also give good reasons for optimism about future work.

Some of your friends have friends who are physicists. Some even are physicists. Witten does a good job of explaining why string theory and quantum field theory may be a major topic in the years to come, and how it may not only unite relativity theory and quantum mechanics but also continue to generate much interesting mathematics. Problems with and derived from physics are also what Penrose talked about, while Vafa, who passed through two days before Witten, was in a more contemplative mood, and speculated on the future relationship of mathematics to physics as physics becomes even less accessible to experiment. One sign of this inter-action has been the bubbling field of mirror symmetry. This is not prominent in what Donaldson and Mori say, although their subjects overlap with it, but it is one of the themes in Yau's conversation. Dusa MacDuff's account of symplectic geometry is another interesting overlap with some of this material, and with Arnold's too.

Yau may in fact have kept you up all night with a succession of stimulating ideas. His theme is the range of interactions between differential geometry and analysis, typically through the medium of partial differential equations for curvature functions. Arnold, who turned up the next day, is the most quotable of all

your friends, even if, like all such people, he would rather be quotable than right. It's worth it, though, for provocative remarks like "mathematicians never appreciate new ideas" – attributed to I. M. Gelfand – and his gloomy speculations on the future of mathematics. It's more than worth it for the vigorous account of much of the Russian school of mathematics, and for a magnificent trip through what is to be seen by thinking of the reals, the complex numbers, and the quaternions in a unified way. This incorporates the regular solids, Dynkin diagrams, Hopf bundles, the quantum Hall effect, and an intriguing question mark or two.

Unification is at the heart of what Connes has to say. He begins with class field theory in the spirit of Weil, and moves through spectral theory to show how the Riemann zeta function and the Riemann hypothesis can be approached from this direction. Sarnak, when he passed through, gave the Riemann hypothesis as one of a number of problems for the next century, without describing any of his own recent work on it. Smale (back to back with Sarnak) also singles it out in his list. Another evening must be mentioned, although there is not space to mention them all. Wiles gives a lovely account of the last 20 years of number theory, much of it to do with elliptic functions and modular forms. Finally, Mumford speaks with all the zeal of a self-confessed convert for the dawning of the age of stochasticity.

Some of your friends relax completely. Ruelle, it seems, has had a most fruitful three-month encounter with a slime galactic superoctopus with views on the nature of mathematical activity. Kirwan talks eminent personal sense about the life of a mathematician. Manin offers another of his thought-provoking reflections about mathematical life and language.

The most pleasing feature of this handsome book is the emphasis on the unity of mathematics. The connections many people here want to make between mathematics and physics, von Neumann algebras and knot theory, number theory and analysis, are not only fresh and vivid, but oddly coherent. They give a sense not only of mathematics undergoing one of its characteristic contractions around a few organising principles, but how productive this reorganisation can be.

Jeremy Gray
Open University

TABLEAUX 2000

An international conference on "Automated Reasoning with Analytic Tableaux and Related Methods" will be held, with the support of London Mathematical Society Conference Grant, in St Andrews on 4-7 July, together with a workshop on "First-order Theorem Proving". Professor Franz Baader (RWTH, Aachen), Professor Melvin Fitting (CUNY) and Professor Alasdair Urquhart (Toronto) are the invited speakers at the main conference. Further details of both meetings are available at http://www.dcs.st-and.ac.uk/~tab2000 or from the Local Organiser, Dr R. Dyckhoff, School of Computer Science, St Andrews University (e-mail: rd@dcs.st-and.ac.uk).

COMPUTATIONAL AEROACOUSTICS

A one-day meeting on Computational Aeroacoustics, will take place on Thursday 6 July at the Maritime Greenwich Campus, University of Greenwich. This meeting will highlight recent advances in computational techniques for aeroacoustics. There will be expository talks on numerical methods for computational aeroacoustics and dissemination of research topics on industrial problems. Tentative speakers include Professor C. Tam (Florida State University), Professor N. Sandham and Dr Zhang, (University of Southampton) and Dr G. Djambazov, University of Greenwich. For further information contact Dr C-H. Lai (e-mail: C.H.Lai@gre.ac.uk).

THE INSTITUTE OF MATHEMATICS AND ITS APPLICATIONS

FORTHCOMING CONFERENCES

MATHEMATICS IN MEDICAL SCIENCES AND HEALTHCARE
Glasgow Caledonian University, UK 7 June 2000

NINTH MATHEMATICS OF SURFACES
Cambridge, UK 4 – 6 September 2000

THIRD QUANTITATIVE MODELLING IN THE MANAGEMENT OF HEALTH CARE
University of Salford, UK 5 – 7 September 2000

SECOND INTERNATIONAL BOUNDARY INTEGRAL METHODS: THEORY AND APPLICATIONS
University of Bath, UK 12 – 16 September 2000

AN INTERDISCIPLINARY WORKSHOP ON INNOVATIVE BOUNDARY ELEMENT TECHNIQUES IN COMPUTATIONAL ACOUSTICS AND ELECTROMAGNETICS
University of Bath, UK 14 – 15 September 2000

SHORT COURSE AND THIRD IMAGING AND DIGITAL IMAGE PROCESSING: MATHEMATICAL METHODS, ALGORITHMS AND APPLICATIONS
De Montfort University, Leicester, UK 12-15 September 2000

SHORT COURSE AND FIRST FRACTAL GEOMETRY: MATHEMATICAL TECHNIQUES, ALGORITHMS AND APPLICATIONS
De Montfort University, Leicester, UK 19-22 September 2000

FIFTH MATHEMATICS IN SIGNAL PROCESSING
University of Warwick, UK 18 - 20 December 2000

THIRD SPATIAL PATTERNS IN PERMEABLE ROCKS
Churchill College, Cambridge, UK 27 - 29 March 2000

FOURTH MODELLING IN INDUSTRIAL MAINTENANCE AND RELIABILITY
University of Salford, UK 9-11 April 2001

ECCOMAS 2001
Swansea, UK 4 - 7 September 2001

ADVANCED SIMULATION AND CONTROL FOR AUTOMOTIVE APPLICATIONS
Keble College, Oxford, UK 24 - 26 September 2001

FURTHER DETAILS FROM:
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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).

JUNE 2000

2 Edinburgh Mathematical Society Meeting, St Andrews University (275)
3-7 Association for Symbolic Logic Annual Meeting, Illinois, USA (278)
5 LMS Popular Lectures, J. Barrow & K. Falconer, Leeds University (283)
13-16 AMS Scand 2000 Meeting, Odense, Denmark (278)
14 LMS Popular Lectures, J. Barrow & K. Falconer, Strathclyde University (283)
17 South of England Computational and Algorithmic Number Theory Seminar (SECANTS), Oxford (283)
20-24 Effective Methods in Algebraic Geometry Symposium (MEGA 2000),
Bath University (283)**23** LMS Meeting, London
24 History of Cryptography Meeting, Cambridge (283)
24-30 Numerical Methods for Evolution Partial Differential Equations Euroconference, Crete, Greece (280)
25-29 European Dynamics Days, Surrey University (280)
26-30 Geometrische Strukturen in der Mathematik Symposion, Münster, Germany (283)
28 LMS Popular Lectures, J. Barrow & K. Falconer, Institute of Education, London University (283)
30 (Pseudo)Spectra of Random Nonhermitian Matrices Meeting, Computing Laboratory, Oxford (283)

JULY 2000

3-7 Functional Analysis Meeting, Technical University, Valencia, Spain (265)
3-7 Alhambra 2000 Joint Mathematical European-Arabic Conference, Granada, Spain (280)
3-14 Approximation, Complex Analysis & Potential Theory Seminar, Montreal University (276)
9 - 22 Geometry & Topology Workshop, Warwick University (277)
10-14 3rd European Congress of Mathematics, Barcelona, Spain (272)(279)
10-14 Free Surface Flows IUTAM Symposium, Birmingham University (272)
10-14 Disordered and Complex Systems Conference, King's College, London (278)
10-14 Dynamical Systems ICMS Workshop, Edinburgh (279)
10-14 Noncommutativity - Geometry and Probability International Conference, Nottingham Trent University (282)
11-15 Spectral Geometry Workshop, Bristol University (283)
16-20 Diffraction and Scattering in Fluid Mechanics and Elasticity Symposium (IUTAM 2000), Manchester University (283)
16-21 Finite Geometries Advanced Research Workshop, Isle of Thorns, Sussex (282)
17-21 Integrable Systems in Differential Geometry, Tokyo, Japan (275)
17-22 International Congress on Mathematical Physics, Imperial College, London (257) (278)
18 Environmental Mathematical Workshop, Institute of Physics, London (283)
19-21 Cell Cycle Immunology and Pathology Meeting, Warwick (283)
22-28 New Mathematical Methods in Continuum Mechanics Euroconference, Crete, Greece (280)
23-31 Association for Symbolic Logic European Summer Meeting, Paris, France (278)
24-2 Aug New Analytic and Geometric Methods in Inverse Problems, EMS Euro Summer School, ICMS Edinburgh (279)
24-4 Aug String Cosmology Workshop, British Columbia University, Canada (283)
25-27 Frequency Assignment Workshop, MathFIT, Brunel University (283)
29 - 4 Aug Curves and Abelian Varieties over Finite Fields and their Applications Euroconference, Crete, Greece (280)

AUGUST 2000

2-18 Large Rings, Modules and Representations, Constanta, Romania (281)
3-5 Recent Development in the Wave Field and Diffuse Tomographic Inverse Problems EuroConference, ICMS Edinburgh (279)
4-9 Stokes' Millennium Summer School, Skreen, Ireland (283)
19-25 Discrete and Algorithmic Geometry Euroconference, Crete, Greece (280)

SEPTEMBER 2000

1-4 Constantin Caratheodory Congress, Evros, Greece (279)
3-9 Operator Function Theory and Semigroups, Ambleside (281)
4-7 UMTC 2000, Sheffield Hallam University (282)
4-8 Partial Differential Equations, LMS/EPSRC Short Course, Bath University (283)
4-8 Mathematical Biology, LMS/EPSRC Short Course, Nottingham University (283)
4-8 Current Environmental Issues: Quantitative Methods Meeting, TIES/SPRUCE 2000, Sheffield University (280)
4-15 Spatial Structures in Biology Summer School, Taranto, Italy (279)
7-9 British Logic Colloquium 2000, East Anglia University (283)
10-17 Geometry of Quiver-Representations and Preprojective Algebras Summer School, Isle of Thorns, Sussex University (275)
11-16 Set Theory and Analysis, LMS/EPSRC Short Course, Leeds University (283)
13-15 Royal Statistical Society International Conference, Reading University (277)
15-18 Physical Interpretations of Relativity Theory Meeting, Imperial College London (277)
18-19 Function Theory and Function Spaces Meeting, Nottingham University (283)
18-23 Differential Geometry International Congress, Bilbao, Spain (275)
19 Flexible Learning in Mathematics, Birmingham University (281)
27 Set Theory and its Neighbours: Games, De Morgan House, London

NOVEMBER 2000

18-22 Mathematics for Living Conference, Jordan (280)
20 Differential Geometry in Fluid Dynamics and Dynamical Systems, BRIMS Day, Isaac Newton Institute, Cambridge (282)

DECEMBER 2000

16-21 Applications of Singularity Theory to Geometry Conference, Liverpool University (283)
18-20 Mathematics in Signal Processing, Warwick University (279)

APRIL 2001

9-12 British Mathematical Colloquium, Glasgow University

JUNE 2001

19-22 Computational Intelligence: Methods and Applications Congress (CIMA 2001) University of Wales, Bangor (283)

JULY 2001

1-6 British Combinatorial Conference, Sussex University (276)
9-13 Stochastic Processes and their Applications Conference, Cambridge (275)

AUGUST 2001

12-19 Homological Conjectures for Finite-Dimensional Algebras Summer School, Nordfjordeid, Norway (275)

AUGUST 2002

20-28 ICM2002, Beijing, China (272)

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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