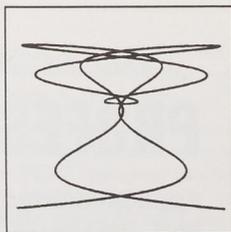


THE LONDON MATHEMATICAL SOCIETY NEWSLETTER



No. 135

December 1986

Editor: Czes Kosniowski, School of Mathematics, The University, Newcastle upon Tyne, NE1 7RU. Tel: 091-232 8511 and 091-284 4209.

Advertising: Susan Oakes, LMS Office, Burlington House, Piccadilly, London W1V 0NL. Tel: 01-437 5377.

The *Newsletter* is published monthly, except in August and September. Items for inclusion (with the exception of advertising material) should be sent to the Editor, to arrive before the tenth day of the month prior to publication. Advertisements, and general enquiries about the Society, should be addressed to Susan Oakes at the LMS Office.

Forthcoming Meetings

Friday 16 January, 1987 Burlington House
(J. T. Kent, S. L. Lauritzen)

Friday, 20 February 1987, University of Manchester
(R. O. Gandy, J. V. Tucker, G. Kreisel)

Friday 20 March 1987, Burlington House
(J. M. Ball, J. B. McLeod)

8-9 May 1987, Edinburgh

Joint meeting with Edinburgh Mathematical Society

Friday 19 June 1987, Burlington House,

Friday 16 October 1987, Burlington House,

Friday 20 November 1987, Burlington House,

PROFESSOR KURT HIRSCH

Professor Kurt August Hirsch died on November 4th at his home in London. He was born in Berlin on 12 January 1906. He was a Professor of Pure Mathematics at Queen Mary College from 1957 to 1973. Professor Hirsch was a member of the London Mathematical Society from 1944 and served on the Council of the Society for a total of some eleven years, including four as Secretary

(1955-59) and two as a vice-president (1963-5). There will be a memorial service at Queen Mary College AT 3.00 p.m. on Thursday 8th January 1987. It would be very much appreciated if anyone planning to attend the memorial service could drop a note to the Principal's Secretary of Queen Mary College as soon as possible.

JAMES COOK UNIVERSITY OF NORTH QUEENSLAND

PROFESSOR OF MATHEMATICS

Applications are invited from mathematicians with academic and, desirable, practical professional experience, for the position of Professor and Head of the Department of Mathematics.

The University wishes to strengthen its teaching and research in pure and applicable mathematics. It hopes to attract applicants whose interests are in applied statistics, image processing, mathematical modelling, mathematical programming, operational research and similar fields, but applicants well-qualified in any branch of mathematics will be considered.

The salary for Professor is currently \$A58348 per annum.

Further information and application forms may be obtained from the Secretary General, Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF; or from the Registrar, James Cook University of North Queensland, Townsville, Queensland 4811, Australia, with whom applications, quoting reference number 86131, close on **31 January 1987**.

THE 1987 HARDY LECTURER

Council is pleased to announce that Professor Michael O. Rabin has accepted its invitation to be the 1987 Hardy Lecturer. Professor Rabin received his M.Sc. from the Hebrew University and his Ph.D. in Mathematics from Princeton University. Since 1958 he has been at the Mathematics Institute of the Hebrew University of Jerusalem where he was Rector in 1972-75. In 1981 he was appointed T.J. Watson Professor of Computer Science at Harvard University and he now divides his time between the two universities. He has received the Rothschild Prize in Mathematics and the A.M. Turing Award in Computer Science. He is a member of the Israel Academy for the Sciences and Humanities, and a Foreign Associate of the U.S. National Academy of Sciences. His research interests include mathematical aspects of computing, randomized algorithms and computer security. In 1984 he was a speaker at the British Mathematical Colloquium in Bristol.

Professor Rabin will be visiting the U.K. between 8 June and 26 June 1987 and will give about nine lectures including the 1987 Hardy

Lecture to the Society in London on Friday 19 June. He would be prepared to lecture on the following topics:

- Parallel Computations in Algebra
- Randomized Algorithms in Number Theory
- Graph Algorithms
- Control in Parallel and Distributed Computing

The lectures will be aimed at a general mathematical audience and will explain the area of research and discuss important recent results.

Institutions wishing to be visited by Professor Rabin should write to the Meetings and Membership Secretary, A.R. Pears, Department of Mathematics, King's College, Strand, London WC2R 2LS by 12 December 1986. Professor Rabin's tour will be a little shorter than recent Hardy Lecture tours and neighbouring institutions are most strongly encouraged to issue joint invitations on a regional basis. The itinerary and lecture titles will be decided by Programme Committee in consultation with Professor Rabin and the host institutions.

LMS DURHAM SYMPOSIA 1987

There will be two Symposia in 1987:

2 - 12 July

Operator algebras

Organisers: Professor E. C. Lance, Dr. R. J. Plymen*

Main Speakers: W. B. Arveson, A. Connes, E. G. Effros, U. Haagerup, V. F. R. Jones, J. M. Rosenberg.

14 - 24 July

Representation theory of algebraic groups and related finite groups.

Organisers: Professor R. W. Carter, Dr. S. Donkin*

Main Speakers: H. H. Anderson, P. Fong, J. E. Humphreys, J. C. Jantzen, G. Laumon, G. Lusztig, T. A. Springer, B. Srinivasan.

These research symposia are organised under the auspices of the LMS and are supported by Research Grants from SERC. There may be a few places available for mathematicians not yet invited. Those interested should write for more information to the organisers marked* at the following addresses: Dr. R. J. Plymen, Department of Mathematics, University of Manchester, Oxford Road, Manchester M13 9PL; Dr. S. Donkin, School of Mathematical Sciences, Queen Mary College, Mile End Road, London E1 4NS.

BANACH ALGEBRAS AND AUTOMATIC CONTINUITY

There is to be a semester on this topic at Leeds University in the period February - July, 1987, to be organised by G. R. Allan (Cambridge), W. G. Bade (Berkeley), H. G. Dales (Leeds), and B. E. Johnson (Newcastle).

The theme of the semester will be the general structure of Banach algebras, and the continuity and structure of homomorphisms and derivations from Banach algebras. Foreign visitors will include P. C. Curtis (UCLA), J. Esterle (Bordeaux), K. B. Laursen (Copenhagen), R. J. Loy (ANU, Canberra), J. P. McClure (Winnipeg,

Manitoba), and M. P. Thomas (California).

The semester will include weekly lectures, a mini-conference 10-13 April, and a research symposium 22 June - 3 July.

The semester is supported by the SERC, and some financial support may be available for UK participants.

For further details, please contact H. G. Dales, School of Mathematics, University of Leeds LS2 9JT.

BRITISH MATHEMATICAL COLLOQUIUM

The 39th British Mathematical Colloquium will be held at the University of St. Andrews on 1st, 2nd and 3rd April, 1987. The principal speakers will be Lê Dung Trang (Paris), J. L. Alperin (Chicago) and H. W. Lenstra (Berkeley).

Speakers from the U.K. are W. B. R. Lickorish, D. Segal, T. J. Lyons, A. F. Beardon, K. D. Elworthy, J. F. Humphreys, F. E. A. Johnson, J. D. Murray, H. A. Priestley, T. J. Ransford, P. J. Rippon, K. D. Schmidt, P. Slodowy and R. A. Wilson.

The registration fee is £12, increasing to £18 for applications received after 31st January

1987. For research students, for those who have retired and for those without jobs each of these fees is halved. The cost of accommodation and meals for the full period from dinner on 31st March to breakfast on 4th April is £64.

A copy of the application form accompanies the *Newsletter*. More copies and further information are available from the Colloquium Secretary, Dr. J. J. O'Connor, Dept. of Pure Mathematics, Mathematical Institute, North Haugh, St. Andrews, Fife KY16 9SS.

1987 LIST OF MEMBERS

The Society is preparing a new list of Members which will appear in May 1987. A letter showing the information for your entry in the List of Members has been sent to every member. If any of the information is incorrect or incomplete please

return the form enclosed with the letter to the LMS office by Wednesday 18th February. If you have not received the letter please let Susan Oakes, the LMS Administrator, know straight away.

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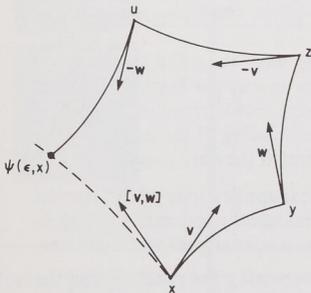


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P. J. Olver, University of Minnesota, Minneapolis, MN, USA

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Contents: Introduction to Lie Groups. – Symmetry Groups of Differential Equations. – Group-Invariant Solutions. – Symmetry Groups and Conservation Laws. – Generalized Symmetries. – Finite-Dimensional Hamiltonian Systems. – Hamiltonian Methods for Evolution Equations. – References. – Symbol Index. – Author Index. – Subject Index.

Symmetry methods have long been recognized to be of great importance for the study of the differential equations arising in mathematics, physics, engineering and many other disciplines. The purpose of this book is to provide a solid introduction to those applications of Lie groups to differential equations which have proved to be useful in applications, including determination of symmetry groups, integration of ordinary differential equations, construction of group-invariant solutions to partial differential equations, symmetry methods in Hamiltonian systems. The computational methods are presented so that graduate students and researchers in other fields can readily learn to use them.

Volume 108

R. M. Range, State University of New York at Albany, New York, NY, USA

Holomorphic Functions and Integral Representations in Several Complex Variables

1986. 7 figures. XIX, 386 pages. Hard cover £ 46.50. ISBN 3-540-96259-X

This is a textbook on the theory of functions of several complex variables. It differs from existing books on the subject in that it approaches the theory through integral representations, rather than through sheaf theory, commutative algebra and PDE's. This enables the author to present substantial results, with much less preparatory material. The book begins with elementary local results, discusses the basic new concepts of the multidimensional theory in detail, and leads up to complete proofs of fundamental global results on domains of holomorphy. The book also provides a systematic treatment of the theory of integral representations including, for the first time in a book, a proof of C. Fefferman's mapping theorem. This text should be accessible to second year graduate students. It will also be of interest to complex analysts who want to learn the new methods of integral representations.

Volume 109

O. Lehto, University of Helsinki, Finland

Univalent Functions and Teichmüller Spaces

1987. 16 figures. Approx. 270 pages. Hard cover £ 45.-. ISBN 3-540-96310-3

Contents: Introduction. – Quasiconformal Mappings. – Univalent Functions. – Universal Teichmüller Space. – Riemann Surfaces. – Teichmüller Spaces. – Bibliography. – Index.

This book treats the theory of Teichmüller spaces, viewing it as a part of classical complex analysis. The main emphasis of the book consists of developing ideas of Bers: they provide an approach to Teichmüller theory which applies to the case of compact and noncompact Riemann surfaces. These ideas involve the connection between Teichmüller spaces and the theory of univalent analytic functions via the Beltrami equations and the Schwarzian derivative. Although there is an extensive literature covering the theory of Teichmüller spaces, there is no comprehensive introduction available. This book fills that gap. Furthermore some of the newer developments in the theory have also been included.

Volume 111

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1986. 44 figures, 7 tables. Approx. 340 pages. Hard cover £ 39.50. ISBN 3-540-96371-5

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Professor Hervé Reinhard,
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H. Zassenhaus (Ohio State University, USA) Algebra

University of Reading

P. J. Browne (University of Calgary, Canada) Functional analysis Spectral theory Different operators
S. A. Choudum (Madurai Kamaraj University, India) Combinatorics
Jo. W. Heath (Auburn University, Alabama, USA) Geometric topology Group Theory

University of Sheffield

S. F. Albar (Umm AL-Qura University, Saudi Arabia) Abstract harmonic analysis
M. A. Pourabdollah (Mashad University Iran) Abstract harmonic analysis
G. Shahkar (Mashad University, Iran) Queueing Theory

University of Southampton

J. H. Albert (Bowling Green State University, USA) Bayesian Analysis of Categorical Data

P. Azimi (Teacher Training University) Functional Analysis and Banach Spaces
 M. Engelfield (Monash, Australia) Lie group representations
 M. T. Garcia Del Valle (Bilbao, Spain) Statistical Sampling
 A. J. Lee (Auckland University, New Zealand) Statistics
 H. A. Mehran (Kuwait University) Commutative Algebra
 A. J. Scott (University of Auckland, New Zealand) Statistical Inference
 G. Smith (New South Wales University, Australia) Operational Research/Simulation

University of St. Andrews

P. Cargill (Washington) MHD
 Gracinda Gomes (University of Lisbon) Semi-groups
 M. Goossens (Leuven, Belgium) MHD
 L. Jacobsen (University of Trondheim) Continued Fractions
 V. Krisham (Bangalore) MHD
 M. Kuperus (Utrecht) MHD
 S. Leibovich (Cornell) Fluid Mechanics
 A. S. A. Noor (Rajshahi University, Bangladesh) Lattice Theory
 M. Raadu (Stockholm) MHD
 J. Sakai (Tokyo) MHD
 H. Waadeland (University of Trondheim) Continued Fractions

ANDREW DU PLESSIS

Professor A. du Plessis will be visiting England, financed partly by the LMS, from 8-22 January 1987. He will give talks at the University of Liverpool, the University of Warwick and the University of Newcastle upon Tyne. In addition he will

deliver the Frank Budden Memorial Lecture to the Mathematics Association on 14 January at Newcastle upon Tyne. Further details may be obtained from Dr. W. Bruce or Dr. C. Kosniowski at Newcastle upon Tyne.

PROFESSOR IRVING REINER

Professor Irving Reiner, of the University of Illinois, died at his house on 27 October after a long illness. He was a frequent visitor to this

country and became a reciprocity member of the Society in June, 1980.

EQUADIFF 87

A conference on Differential Equations will take place in Xanthi, Greece from 24-28 August 1987. This conference continues the Western European Equadiff series (Marseille 1970, Brussels 1973, Florence 1978, Würzburg 1982).

- Topics of the conference include:
- Ordinary Differential Equations.
 - Partial Differential Equations.
 - Dynamical Systems.
 - Numerical Methods of Solutions of Differential Equations.
 - Functional Differential Equations.
 - Stochastic Differential Equations.

The list of speakers includes: L. Arnold

(Bremen), J. Ball (Heriot-Watt), P. Brunovsky (Bratislava), S. N. Chow (Michigan), D. Da Prato (Pisa), J. Hale (Brown), G. Papanicolaou (Courant Institute), L. A. Peletier (Leiden), G. R. Sell (Minnesota), P. E. Souganidis (Brown). The complete list of invited speakers will be announced later. There will be approximately 16 invited speakers of 50 minutes duration and 16 of 30 minutes.

Further details may be obtained from Prof. J. Schinas, Equadiff 87, Democritus University of Thrace, 67100 Xanthi, Greece.