COMBINATORICS

NEW PUBLICATIONS

Authors are requested to contribute lists of publications from 1978, and send future details of publications on appearance to Dr. D.A. Holton, Department of Mathematics, University of Melbourne, Parkville, Vic., 3052.

(Items marked with an asterisk have previously been listed in the Research Announcement section.)

*I.R. Beaman and W.D. Wallis, Pairwise orthogonal Latin squares, *Proc. Ninth South-eastern Conf. on Comb., Graph Theory and Computing,* Utilitas Math., Winnipeg, 1978, 113-118.

A. Hartman, Parallelism of Steiner quadruple systems, *Ars. Comb.,* 6, 1978, 27-38.

*K. Heinrich and W.D. Wallis, Graphs with symmetric automorphism group, *J. Graph Th.,* 2, 1978, 329-336.

A. Horadam, Diagonal functions, *Fib. Quarterly,* 16, 1978, 33-36.

A. Horadam, Wythoff pairs, *Fib. Quarterly,* 16, 1978, 147-151.

K.M. Koh, D.G. Rogers and T. Tan, Two theorems on graceful trees, *Discrete Maths.,* 25, 1979, 141-148.

B.D. McKay and R.G. Stanton, Isomorphism of two large designs, *Ars. Comb.,* 6, 1978, 87-90.

R.C. Mullin, D.R. Stinson and W.D. Wallis, Concerning the spectrum of certain skew Room squares, *Ars. Comb.,* 6, 1978, 277-291.

D. Parkes and W.D. Wallis, Graph theory and the study of activity structure, in *Timing Space and Spacing Time II: Human Activity and Time Geography,* Edward Arnold, 1978, 75-99.

D.G. Rogers, A graceful algorithm, *SEA Bull. Math.,* 2, 1978, 42-44.

D.G. Rogers, Ascending sequences in permutations, *Discrete Maths.,* 22, 1978, 35-40.

D.G. Rogers, Pascal triangles, Catalan numbers and renewal arrays, *Discrete Maths.,* 22, 1978, 301-311.

*J. Seberry, A class of group divisible designs, *Ars. Comb.,* 6, 1978, 151-152.

*J. Seberry, On skew-Hadamard matrices, *Ars. Comb.,* 6, 1978, 255-275.

J.J. Seidel and D.E. Taylor, Two-graphs, a second survey. *Proc. Int. Colloq. Algebraic Methods in Graph Theory,* Szeged, 1978.

K. Sinha, A series of BIB designs, *J. Austral. Math. Soc.,* 27A, 1979, 88-90.

RESEARCH ANNOUNCEMENTS

This department will publish research announcements, announcements of forthcoming publications and so forth. Please send contributions to Dr. D.A. Holton, Department of Mathematics, University of Melbourne, Parkville, Vic. 3052.

R.J. Armstrong, R.B. Eggleton and T.K. Sheng, Lattice points in simple regions.

R.B. Eggleton, Common factors of integers via graphs.

R.B. Eggleton, A note on the problem of Fröbenius.

R.B. Eggleton and D.A. Holton, Graphic sequences.

R.B. Eggleton and D.A. Holton, The graph of type $(0,\infty,\infty)$ realizations of a graphic sequence.

J. Hammer, Higher dimensional orthogonal matrices and orthogonal functions.

J. Hammer and J. Seberry, Higher dimensional orthogonal designs and applications.

A.F. Horadam, R.P. Loh and A.G. Shannon, Divisibility properties of some Fibonacci-type sequences.

K.M. Koh, D.G. Rogers and T. Tan, Interlaced trees: a class of graceful trees.

K.M. Koh, D.G. Rogers and T. Tan, Another class of graceful trees.

E. Nemeth, J. Seberry and M. Shu, On the distribution of permanents of cyclic $(0,1)$ matrices.

M.J. Pelling and D.G. Rogers, Stein quasigroups 2: Algebraic aspects.

M.J. Pelling and D.G. Rogers, Some $(2,n)$ combinatorial Stein groupoids.

C.A. Rodger, On the complete weight enumerator of certain linear codes over GF(3).

C.A. Rodger, A family of weakly self-dual codes.

D.G. Rogers, An application of renewal sequences to the dimer problem.

D.G. Rogers, Rhyming schemes: crossings and coverings.

D.G. Rogers, The enumeration of a family of ladder graphs by edges: Parts 2 and 3.

D.G. Rogers, Lagrangian proofs of Catalan identities.

D.G. Rogers, The enumeration of some restricted matrices.

A.G. Shannon, A.F. Horadam and R.P. Loh, Proper divisors of Lenakel numbers.

J. Seberry, Some infinite families of Hadamard matrices.

J. Seberry and A.L. Whiteman, Complex weighing matrices and orthongal designs.

D.E. Taylor, Appendix to "Classical Groups" by D.G. Higman.

THIRD NOTICE

SEVENTH AUSTRALIAN CONFERENCE ON COMBINATORIAL MATHEMATICS

The seventh Australian Conference on Combinatorial Mathematics will be held at the University of Newcastle in the week 20th-24th August, 1979. All those interested are cordially invited to attend.

Programme

The formal programme will start at 10.30 am on Monday, 20th August and end at 3.30 pm on Friday, 24th August. However, registration will take place on the Sunday evening and on the Monday morning before 10.30. Formal sessions will take place in room V107, Mathematics building, University of Newcastle.

Hour-long addresses will be delivered by R.C. Mullin (University of Waterloo), D.E. Taylor (University of Sydney) and S.A. Vanstone (University of Waterloo). R.G. Stanton (University of Manitoba) has agreed to present a short series of lectures at an expository level, on "Matrices and Designs". There will be sessions for contributed papers - see below. The first Annual General Meeting of the Combinatorial Mathematics Society of Australasia will be held at the Conference on the Thursday.

The social programme will include a conference dinner (cost approximately $10 per head) and wine-and-cheese parties; in particular there will be an informal party on the night of Sunday, 19th August for those who have arrived by then. We shall organize an afternoon's excursion through the Hunter Valley, including vineyard visits and a barbecue. (The cost will depend on the numbers involved.) The organizing committee welcomes any suggestions for mathematical activities (special interest sessions, instructional lectures, forums, ...) or other proposals for the conference.

Registration Fees

The fee will be $11 for ordinary participants, and $7 for full-time students. In both cases there will be a $2 reduction for members of the C.M.S.A.

Contributed Papers

Papers are welcome in all areas of pure and applied combinatorics. Contributed talks should be of 30 minutes' duration. It is planned to publish a refereed volume of Proceedings of the Conference. All speakers will be expected to supply short abstracts of their talks; abstracts are required now.

The following people have so far indicated that they expect to speak:

> A.P. Street, D. Street, C. Praeger, C. Armanios,
> J. Oxley, D. Row, B. McKay, P. Eades, J. Weadon,
> M. Hendy, L. Foulds, A. Horadam, J. Seberry,
> D. Billington, D. Gregory, A. Hartman, S. Quinn,
> J. Dawson, R. Casse, M. Sved, K. McAvaney,
> A. Bazelow, W. Wallis, P. Hanlon, R.W. Robinson,
> R.G. Stanton

If you wish to give a paper, but your name does not appear in the above list, please contact the organizing committee immediately.

Responses

If you responded to the Second Notice and said that you would or might attend the conference, a confirmation slip is enclosed. Please let us know of any changes. If you did not reply but plan to attend, please tell us immediately.

It is planned to meet the train arriving at Broadmeadow railway station from Sydney at 7.35 pm on Sunday and to meet Masling flight 4104 (6.00 pm) from Canberra, TAA flight 497 (7.05 pm) from Brisbane and Masling flight 4098 (5.30 pm) from Sydney. If you plan to arrive at any other time, please let us know; if you plan to drive, let us know so that we can send you a map.

> R.W. Robinson,
> G.W. Southern,
> W.D. Wallis,
> Organising Committee.

ANNOUNCEMENTS

Under this heading we publish short new items for the information of members. All contributions should be sent to Professor R.W. Robinson, Department of Mathematics, University of Newcastle, N.S.W. 2308. *Typical "announcements" might include news of new appointments in Combinatorics, availability of lecture notes, honours, overseas visitors, and so forth.*

A meeting on *Geometrie* will be held at Oberwolfach, 23rd-29th September, 1979, organised by K. Leichtweiss and K. Voss.

A Report on the Combinatorics Group, 1978, has been received from J. Seberry, Department of Applied Mathematics. This gives details of the activities of the group at Sydney University, including visitors, seminars, research projects and publications.

Dr. N.C. Wormald's address for 1979 is *Department of Combinatorics and Optimization, University of Waterloo, Waterloo, Ontario, N2L 3G1, Canada.*

APOLOGY

Unfortunately Professor Norman Biggs will not be able to attend the Seventh Australian Conference on Combinatorial Mathematics, due to pressure of other commitments.

SIXTH AUSTRALIAN CONFERENCE

The following papers were delivered at the Sixth Australian Conference on Combinatorial Mathematics, in August, 1978, but will not appear in the "Proceedings" of the Conference.

INVITED PAPERS

G.E. Andrews, Ramanujan's Lost Notebook.

D.A. Holton, The Four Colour Theorem.

D.H. Row, Free and Open Projective Planes.

CONTRIBUTED PAPERS

P. Eades, Integral Quadratic Forms and Orthogonal Designs.

D. Glynn, Two Uses of (q+1)-Arcs in Finite Projective Planes of Order q.

J. Hammer, Higher Dimensional Orthogonal Matrices and Orthogonal Functions.

P. Hanlon, The Enumeration of Unlabelled Interval Graphs.

R.P. Loh, A Search for 40 Primes.

K.L. McAvaney, Cartesian Products with Stability Index 1.

G.R. Morris, An Extension of Sperner's Lemma.

W.D. Wallis, Room Squares: Recent Developments.