The Combinatorial Mathematics Society of Australasia was formed in 1978, with the aim of promoting combinatorics and its connection with computer science. It disseminates information about combinatorics via this newsletter, conducts an annual conference, publishes the Australasian Journal of Combinatorics, and engages in any activity which furthers the appreciation of combinatorics. Any interested person may join the CMSA. Please forward all enquiries to the Membership Secretary at the address given below.

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Annual Subscriptions

The 1992 subscription is AUD$10 for one calendar year, and may be forwarded to the Treasurer at the address below, or sent in your local currency to one of the following:

Australia:

Dr E P Dawson (*Treasurer*)
School of Mathematics
Qld University of Technology
Brisbane, 4001

New Zealand:

Dr R E L Aldred
Department of Mathematics
University of Otago
Dunedin

Canada:

Professor R G Stanton
Department of Computer Science
University of Manitoba
Winnipeg, Manitoba, R3T 2N2

USA:

Professor C Rodger
Dept of Combinatorics & Algebra
Auburn University
Auburn, AL, 36849-5307

18th Australasian Conference
on
Combinatorial Mathematics and Combinatorial Computing

6 - 10 July 1992

University of Western Australia

Venue

The 18th ACCMCC will take place in Perth, Australia, on a campus which is located in a picturesque setting on the edge of the Swan River and adjacent to Kings Park, a large natural bush reserve. The University is noted for its interesting architecture and attractive gardens and, being only 6 km from Perth's city centre, is easily accessible by bus.

A full day on Tuesday will be spent at Curtin University of Technology which is some distance south of the Swan River (transport will be provided).

Invited Speakers

Each day there will be at least two invited lectures: we anticipate the series will cover a broad spectrum of combinatorics. The following people have accepted our invitation to speak at the conference: in some cases, however, their visit still depends on a successful application to a funding agency.

R A Bailey, Goldsmith College, England
B Bollobas, University of Cambridge, England
D Donovan, University of Queensland, Australia
P Lorimer, University of Auckland, New Zealand
J Lynch, Clarkson University, USA
C M O'Keefe, University of Adelaide, Australia
S B Rao, Indian Statistical Institute, India
C A Rodger, Auburn University, USA
D Street, University of New South Wales, Australia
J Thas, University of Ghent, Belgium
N Wormald, University of Melbourne, Australia
D Younger, University of Waterloo, Canada

Contributed Papers

Participants are invited to present papers of 25 min duration on any area of combinatorics or its connection with computer science: such papers may discuss recent work or be expository in nature. An abstract covering at most one A4 page (including title and author's name) should be supplied no later than **18 May 1992**; it will be reproduced as submitted. Any paper which passes a standard refereeing process will be published in the Australasian Journal of Combinatorics if the author so desires.

Notices

J Seberry notes that many people have just received news of their successful application for an ARC Grant, and suggests that more experienced researchers should collaborate with younger people to help them prepare grant applications.

J Seberry as Director of the Centre for Computer and Communications Security Research at the University of Wollongong, Australia, expects to have some funds available to help students and others to visit the Centre to engage in research of mutual interest; contact her at email: jennie@ramoth.unl.edu .

Next Newsletter

We expect to produce another CMSA Newsletter in early April 1992: items for inclusion in it should be sent to the Editor by **no later than 16 March.**

Accommodation

Single accommodation has been arranged at Currie Hall, a co-educational student residence opposite the University. Some of this accommodation may be available before and after the conference. The rate will be $36 per day per person for bed and breakfast (lunch and dinner will be paid for separately).

For people interested in motel or self-catering accommodation, we list a few suggestions with brief details. There are many other possibilities but they tend to be more expensive or less accessible from the University. Each of the following is situated between the campus and the city, and only a few minutes away from either via a direct bus route. They are opposite attractive parkland and provide comfortable (but not luxurious) accommodation; all prices are 'room only' and variable. Participants should make their own arrangements directly with the motels, or through Australian Airlines when booking their airfare. There is a large shopping centre, and a wide range of cafés and restaurants, near the University.

Accommodation	Single	Double
Adelphi Self-Catering Apartments 130a Mounts Bay Rd, Perth Ph: (09) 322 4666	$50	$61
Kings Park Lodge 255 Thomas St, Subiaco Ph: (09) 381 3488 Fax: (09) 381 4159	$56	$61
New Esplanade Hotel 28 The Esplanade, Perth Ph: (09) 325 2000 Fax: (09) 221 2190	$40 Traveller's Wing: ask for river view	$45
Sullivan's Hotel 166 Mounts Bay Rd, Perth Ph: (09) 321 8022 Fax: (09) 481 6762	$66	$66

Social Activities

An informal get-together for all participants and their guests will be held in conjunction with registration late on Sunday afternoon. There will be a sight-seeing excursion on Wednesday afternoon followed by the conference dinner in the evening. As an alternative to the excursion we will provide details at the conference of a do-it-yourself walking tour of Fremantle: its art gallery and maritime museum, outdoor markets and craft shops, old alehouse and boat harbour.

On the Saturday after the conference, information will be available for those interested in taking a day trip to Rottnest Island (15 km off the WA coast) which is the home of dimunitive kangaroos called 'quokkas'. Its attractions also include swimming (in Winter?!), fishing and cycling, as well as sampling the delights of the famous Rotto Bakery!!

Registration

The cost of registration for CMSA members will be

Students/unemployed:	AUD$75	($95)
Other people:	AUD$150	($170)

The first figures are applicable if registration is paid before **18 May 1992**. Registration for non-members of the Society will be the above plus one year's annual subscription of AUD$10. In all cases the registration fee includes the cost of the conference dinner and one volume of the Australasian Journal of Combinatorics. *To register your interest, please complete the enclosed loose-leaf insert and return it as soon as possible.*

To encourage students to attend and speak at the conference, the Directors will consider applications by a limited number of full-time students for travel assistance up to the level of AUD$100. If interested, you should apply to the Joint Directors of the conference, Professors Lou Caccetta and Cheryl Praeger, as soon as possible; this can be done through:

Conference Secretary: Dr K Vijayan
Department of Mathematics
University of Western Australia
Nedlands, Australia, 6009
email: vijayan@maths.uwa.oz.au

Travel and Transport

Australian Airlines has been appointed the official airline for the conference in return for valuable and much appreciated contributions made to the Organising Committee. It is important therefore that you support this appointment by flying Australian Airlines wherever air travel in Australia is required.

Transport from Perth Airport to the University will be the responsibility of participants: a regular bus service will transfer you from the Airport to the city hotels, but not Currie Hall, at a cost of about AUD$6; the taxi fare to UWA is about AUD$20.

Acknowledgement

The organisers of the 18th ACCMCC are most grateful for the support granted them by:

Australian Airlines
Australian Mathematical Society
British Council
Curtin University of Technology

Institute of Combinatorics & Applications
Royal Society of London
University of Western Australia

**AUSTRALIAN
AIRLINES**

Combinatorial Mathematics Society of Australasia

Statement of Income and Expenditure
for the year ended 30 June 1991

Balance in bank account as at 1 July 1990	5897.68	
Balance in petty cash as at 1 July 1990	33.50	5931.18
Add: Receipts		
Membership	1148.49	
Interim 1990 conference payments	760.65	
Interest	302.00	2211.14
		8142.32
Less: Payments		
Audit fees	50.00	
Bank charges	16.50	
Donation: Australasian J of Combinatorics	1000.00	
1990 conference expenses	1505.80	
1991 conference expenses	800.00	
Printing and postage	585.36	3957.66
Balance as at 30 June 1991		4184.66
Represented by:		
Petty cash	39.25	
Cash at bank	4145.41	4184.66

Note: Westpac Account No. 628830 was closed on 24 October 1990 and transferred to Westpac Account No. 564642 (Queen & George Streets Branch, Brisbane, Australia).

Auditor's Report

In my opinion the above statement of Income and Expenditure for the year ended 30 June 1991 has been properly drawn up so as to give a true and fair view of the state of the affairs of the Society as at 30 June 1991.

Peter J Jorgensen, CPA
2 July 1991

Position Vacant

Raybould Visiting Fellowship in the Department of Mathematics, University of Queensland, Australia for up to 6 months in 1993; closing date: 31 January 1992; contact: V G Hart at email: ldk@maths.uq.oz.au .

7th International Conference on Graph Theory, Combinatorics, Algorithms, and Applications

This conference occurs every four years at Western Michigan University, Kalamazoo with the next being on 1 - 5 June, 1992. Over 200 participants are expected to attend. Contact:

The Directors: 7th International Conference
Department of Mathematics & Statistics
Western Michigan University
Kalamazoo, MI 49008-5152

19th ACCMCC

Advance notice is given of the 19th ACCMCC which will be held between 12 - 16 July 1993. For further information, contact:

Dr C M O'Keefe
Department of Pure Mathematics
The University of Adelaide
Adelaide, South Australia, 5001
email: cokeefe@spam.ua.oz.au

Conference Report

Manila Graph Theory and Combinatorics Workshop & Conference, 21 - 25 October 1991

Report by Cheryl Praeger:

This meeting was attended by 160 mathematicians: 100 local and 60 overseas. It was the first international meeting organised by members of the Manila Consortium which is supported by the Australian Universities' International Development Programme. It was very successful and the organising committee, chaired by Dr Mari-Jo Ruiz and Dr Evelyn Tan, did a superb job. The presentations were of a high standard and it was good to hear many of the young Filipino mathematicians contributing talks alongside the international participants, many of whom came from the nearby Asian region.

I gave three lectures in a Workshop devoted to Automorphism Groups of Graphs, and other Workshops were conducted by Jin Akiyama, Koh Khee Meng and Roger Eggleton on Combinatorial Geometry, Chromatic Polynomials and Distance Graphs, respectively. In addition, there were plenary sessions as follows:

C Berge, Some games on directed graphs
E Bannai, Association schemes and fusion algebras
C C Chen, On Hamiltonian laceability of brick products of even cycles
N Ito, Questions on Hadamard tournaments and even tournaments
V Chvatal, Perfectly orderable graphs

Two other major conferences will be held on the same campus at the same time as the 18th ACCMCC, and participants mainly interested in the latter can arrange to attend some lectures in the former; for information on these, please contact the people indicated.

36th Annual Meeting of the Australian Mathematical Society

Conference Secretary: Dr P F Siew
           School of Mathematics & Statistics
           Curtin University of Technology
           Bentley, Australia, 6102
           email: tsiewpf@cc.curtin.edu.au

11th Conference of the Australian Statistical Society

Conference Secretary: Dr R John
           School of Agriculture
           University of Western Australia
           Nedlands, Australia, 6009
           email: aerdj@uniwa.uwa.oz.au

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The Australasian Journal of Combinatorics

This is a relatively new journal devoted to the publication of research concerning all aspects of combinatorics, pure and applied. It is intended that at least two volumes will appear each year. Contributors should submit two copies of their manuscripts to the Editor-in-Chief (A P Street), the Managing Editor (A J Rahilly) or any one of the Associate Editors (E J Billington, D M Donovan, J N Holt or S Oates-Williams), all of whom are located at the *Department of Mathematics, The University of Queensland, St Lucia, Australia, 4072*. The journal is produced using a photo-offset process, and so it is most important that authors submit manuscripts typed within a 6 inch by 9 inch (152mm by 229mm) rectangular area centred on each page. Authors should also ensure the title page of their papers exhibit the following order: title, author/s, affiliations, abstract, followed *immediately* by the body of the paper.

The cost is AUD$30 per volume plus postage: to obtain more information about the journal, and to arrange a subscription, please contact the Editors at the address noted above.

Discrete Mathematics Booklets

The Society plans to produce a series of booklets on Discrete Mathematics. The editor invites you to submit 30 - 50 page manuscripts which may be suitable for publication in the series; however, before starting to write, you should first contact the editor:

Dr Kevin McAvaney
Division of Computing and Mathematics
Deakin University
Geelong, Australia, 3217

News

The Newsletter Editor, Dr Bob Sullivan, urges you to make these pages your voice to the world, and you can do this by sending him such things as

.. abstracts of dissertations and theses
.. summaries of interesting seminars
.. reports on recent conferences
.. research problems and major breakthroughs
.. reviews of books and copies of preprints
.. information on visitors, staff changes, and accolades awarded

Visitors

The following information is culled from Bernhard Neumann's IMU Canberra Circular and is arranged as: name of visitor; home institution; dates of visit; principal field of interest; host institution; contact for enquiries. Revised information is marked by an asterisk. Any additions you can make will be greatly appreciated.

Dr Astry; ISI, Calcutta, India; 3 months from April 1992; groups and combinatorics; University of Western Australia; Professor C Praeger

Dr Li Cai-Heng; Yunnan Teachers University, PRC; one year from February 1992; graph theory; University of Western Australia; Professor C Praeger

Professor Horst Hamacher; University of Kaiserlautern; 23 February - 23 March 1992; combinatorial optimization; University of Waikato; Professor L R Foulds

Professor J W Moon; University of Alberta; till August 1992; graph theory; University of Otago; Professor D Holton

Research Announcement

Ivano Pinneri, in an entertaining seminar at UWA on 12 November 1991, discussed the existence of hyperovals in the Desarguesian projective planes $PG(2, q)$. In his words:

A hyperoval in $PG(2, q)$ is a set of $q + 2$ points, no three of which are collinear. This is the maximal size a set of points, no three being collinear, can have and is only attained when q is even. An example of a hyperoval is the regular hyperoval which consists of the points of a non-degenerate conic and the intersection of its tangents. Finite Desarguesian projective planes for $q = 2, 4$ and 8 contain only the regular hyperoval but, for some 30 years, irregular ones have been known to exist for $q = 16, 32$ and for $q = 2^h$ for $h \geq 7$, and an open question concerned the case $q = 64$. Together with Tim Penttila, I have found two (inequivalent) irregular hyperovals in $PG(2, 64)$.

Preprints

K Budayasa, L Cacetta and K Vijayan, The characterisation of edge-maximal critically K-edge connected graphs

A Gardiner and C E Praeger, On 4-valent symmetric graphs, I and II

A Gardiner and C E Praeger, A geometrical approach to imprimitive graphs

D G Glynn et al, Ovoids and monomial ovals

K M Koh and K Vijayan, On the second order chromatic number and maximal criticality of graphs

A Niemeyer-Nickel et al, The block transitive, point-imprimitive 2-(729, 8, 1) designs

C Nilrat and C E Praeger, Balanced directed cycle designs and cyclic groups

C E Praeger, On minimal symmetric automorphism groups of finite symmetric graphs

C E Praeger, Finite quasiprimitive permutation groups and 2-arc transitive graphs

C E Praeger, R J Wang and M Y Xu, Symmetric graphs of order a product of two primes

K Vijayan, An easy method of constructing a pair of orthogonal latin squares

Future Conferences

The following information appears in two formats. The first is a list of conferences culled from Bernhard Neumann's IMU Canberra Circular: it provides very brief details on conferences that may interest some members. The second format comprises those conferences on which we have more information as provided by the organisers: if you wish to be included in either list, please send us a circular well ahead of time.

International Conference on Random Mappings, Partitions and Permutations at Los Angeles, California on 3-6 January 1992; contact: S Tavare, Department of Mathematics, University of Southern California, Los Angeles, CA 90089-1113.

3rd ACM-SIAM Symposium on Discrete Algorithms at Orlando, Florida on 27-29 January 1992; contact: SIAM Conference Dept, 3600 University City Science Centre, Philadelphia, PA 19104-2688.

6th SIAM Conference on Discrete Mathematics at Vancouver, Canada on 8-11 June 1992; contact: SIAM Conference Dept, 3600 University City Science Centre, Philadelphia, PA 19104-2688.

4th Conference on Formal Power Series and Algebraic Combinatorics at Montréal, Canada on 15-19 June 1992; contact: LACIM, Université de Québec, Montréal, H3C 3P8

European Congress of Mathematics at Paris, France on 6-10 July 1992; contact: Congrès Européen de Mathématiques, Collège de France, 3 rue d'Ulm, F-75005, Paris.

2nd Meeting of the International Linear Algebra Society at Lisbon, Portugal on 3-7 August 1992; contact: J A Dias Da Silva, Universidade de Lisboa, Portugal.

AUSCRYPT 92 at Gold Coast, Australia in November 1992; contact: W Caelli, Faculty of Information Technology, Qld University of Technology, Brisbane, 4001.

Hadamard Centenary at Wollongong, Australia in 1993; contact: J Seberry, Department of Computer Science, University of Wollongong, Wollongong, Australia, 2500.

18th ACCMCC

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Questionnaire

If you may attend the conference, please complete the details listed below and return them to the Conference Secretary *as soon as possible*. This will not commit you in any way to definitely attending but will assist the organisers in their preparations.

Title   Family Name   Given Names

_____

Postal Address: _____

_____

_____ Postcode: _____

Phone: _____ Fax: _____

email: _____

I will be accompanied by _____

Please reserve _____   single room(s) in College accommodation for the period

in on _____   *out on* _____

Please reserve _____   place(s) on the Wednesday Excursion

Please reserve _____   place(s) at the Conference Dinner
(the Dinner is free for registered participants but guests must pay \$35 per person)

I wish to contribute a short paper   Yes/No

Title: