The Newsletter of the
Combinatorial Mathematics Society of Australasia

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, supports 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
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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

Secretary:	K Vijayan
Treasurer:	E Dawson
Membership Secretary:	H Gustafson

C Praeger moved a vote of thanks to J Seberry for the conference.

The meeting closed at 5.20 pm.

*This is a slightly re-worded version of the Minutes as received by the Newsletter Editor.

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Notices

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 .

R I P

It is with great sadness that we record the sudden death of Dr Alan Rahilly on Friday, 28 February, 1992: he was a Senior Lecturer at the University of Queensland and Managing Editor of the Australasian Journal of Combinatorics.

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.   Any additions you provide 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

Dr L Nochefranca; University of The Philippines; 5 months from March 1992; groups and graphs; University of Western Australia; Professor C Praeger

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

Next Newsletter

We expect to produce another CMSA Newsletter in early October 1992: items for inclusion in it should be sent to the Editor by **no later than 11 September**.

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: the speakers and the titles of their talks are indicated below.

- R A Bailey, Semi-Latin squares
- B Bollobas, Oriented percolations in 2 dimensions
- D Donovan, Threshold schemes: a survey
- P Lorimer, Some combinatorial objects of a geometrical nature
- J Lynch, Markov chains, Ehrenfeucht games, and the logic of random words
- C M O'Keefe, Applications of finite geometry to information integrity
- S B Rao, Theory of invariant sequences of hereditary graphs
- C A Rodger, Embedding things
- D Street, Orthogonal main effect plans
- J Thas, Characterisation of Hermitian curves
- N Wormald, Minimal Euclidean networks, or, why the helicoptering salesperson wants the towns to be on the roads, but Steiner doesn't care
- D Younger, Minimax relations for directed graphs

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. In this event, papers should conform with the journal's format: namely, typed within a 6 inch by 9 inch (152mm by 229mm) rectangular area centred on each page, with the title page exhibiting title, author/s, affiliations, and abstract, followed *immediately* by the body of the paper.

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, 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

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 cocktail party on Monday evening: this will enable participants to mingle with mathematicians attending two other conferences being held at UWA alongside the 18th ACCMCC. The sight-seeing excursion on Wednesday afternoon will be a boat-trip to Fremantle, a coastal town near Perth with an interesting colonial history: this will include lunch and drinks on board as well as a short tour of Fremantle's main attractions. The conference dinner will be on Wednesday evening: it will be a smorgasbord in Currie Hall, followed by a brief exhibition of Indian classical dance; there will be ample opportunity before and after dinner to chat over drinks in a fireside setting.

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!!

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.

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 Fax: (09) 322 4580	$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

Preliminary Programme

A tentative programme for the conference will be ready by **26 June** and can be accessed via:

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ftp madvax.maths.uwa.oz.au
Login:     anonymous
Password:  guest
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Once in the system, at the next three prompts, type:
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cd    pub
get   combs-programme
quit
```

The programme can then be viewed or printed from your machine.
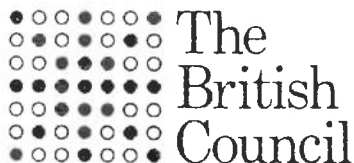
Acknowledgement

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

Australian Airlines
Australian Mathematical Society
British Council
Commonwealth Bank of Australia

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

Commonwealth Bank

The British Council

AUSTRALIAN AIRLINES

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

In particular, we note that the first of these will include a workshop on *Computer Algebra* on the Saturday after the conference. For information on this feature, you can contact the organiser, Dr G Keady, at email: keady@maths.uwa.edu.au .

Discrete Mathematics Booklets

The Society plans to produce a series of booklets on Discrete Mathematics. The first three are being processed and are entitled:

* Induction, Inclusion-Exclusion, and the Pigeonhole Principle
* Combinatorial Aspects of Block Designs
* Maximal Flow in a Network

You are invited to submit additional 30 - 50 page manuscripts that are self-contained and well-motivated: each should focus on one topic in discrete mathematics, and provide enough examples and problems to give the reader a sound understanding of the material. Booklets aimed at undergraduates could be useful as a supplement to lectures; while those at the postgraduate level could be a topic review, an example catalogue, a problem collection, or an annotated bibliography. However, before starting to write, you should first contact the editor:

Dr Kevin McAvaney
Department of Computing and Mathematics
Deakin University
Geelong, Australia, 3217
email: kevin@cm.deakin.oz.au

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), 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.

Preprints

B R Alspach, C C Chen and K L McAvaney, On a class of Hamiltonian laceable
    3-regular graphs
R W Robinson and N C Wormald, Almost all cubic graphs are Hamiltonian
A Rucinski and N C Wormald, Random graph processes with degree restrictions
Ming-Yao Xu, Half-transitive graphs of prime-cube order

MINUTES[*] of the Annual General Meeting
held on 11 July, 1991
at the Seventeenth Australasian Conference on
Combinatorial Mathematics and Combinatorial Computing
at the Australian National University
Canberra, Australia

J Seberry (Director) declared the meeting open at 4.00 pm.

1. Minutes of the 1990 AGM:
Minutes of the previous AGM (Massey University, Palmerston North, NZ, 4 December 1990) were circulated.

MOVED: That the minutes be accepted.
(SEBERRY/McAVANEY, carried nem. con.)

2. Financial Statement:
The financial statement was presented and some minor amendments noted. It was remarked that the statement should refer to the sixteenth conference, not the twelfth.

MOVED: That the financial statement be accepted with these amendments.
(STREET/BREACH, carried nem. con.)

3. Treasurer's Report:
The Treasurer's Report was distributed and considered.

MOVED: That the Treasurer's Report be accepted.
(STREET/PRAEGER, carried nem. con.)

4. Journal Report:
A Street requested that papers be submitted as soon as possible to the Journal and noted this can be done by email in either LaTeX or AMSTeX format. Information regarding the Journal was circulated and increases in subscriptions noted; the cost to libraries will rise in 1993. The Journal is AUD$846 in the red. The subscription drive is continuing and all members are urged to subscribe and/or arrange for their institutes to subscribe to the Journal: at present, there are only 19 regular subscribers.

MOVED: That a vote of thanks be passed to the editorial board of the Journal for its efforts.
(SEBERRY/CACCETTA, carried nem. con.)

5. Booklet Editor's Report:
K McAvaney reported that Booklet 1 is ready for printing, and Booklet 2 is being refereed. There was extensive discussion on the cost of publishing the booklets and D Holten's offer of his successful books. The cost of printing 500 of the society's booklets is $400, whereas to publish all fifteen of D Holten's books would cost $6000 (500 of each) and the society does not have that amount of money. The discussion then centred around how marketable the society's booklets would be, the possible revenue they would generate, and alternative avenues of publication.

MOVED: That alternatives be investigated and action taken at the discretion of the Executive Committee and K McAvaney, with a ceiling of $1000 for costs. (McAVANEY/CACCETTA, carried nem. con.)

6. First Notice of Motion - Conference Fees:

There was extensive discussion about the budget and the registration fees for the conferences as well as about the cost of a subscription to the Journal.

MOVED: That the conference fee include the cost of the conference proceedings. (DAWSON/GIBBONS)

AMENDMENT: "... and the monies collected (as part of the registration by the Conference Director for the production of the proceedings of the conference) be transferred to the account of the Australasian Journal of Combinatorics and those funds be applied by the Editor (of the Journal) on behalf of the members from whom these funds were collected". (PALMER/BOSWELL)

The amended motion was then put and carried.

7. Second Notice of Motion - Life Membership:

It was suggested that there be a category of life membership, that life membership should be 12 times the society's annual subscription, but that nobody can take out life membership until L Caccetta's foreshadowed motion for the next AGM is decided.

MOVED: That life membership should be 12 times the annual subscription. (SEBERRY/McAVANEY)

AMENDMENT: "... but does not include a subscription to the Journal". (McKAY/RINSMA-MELCHAT)

The amended motion was then put and carried (three votes against).

8. General Business:

(a) Future Conferences:

These will be held in Perth 1992 and Waikato 1994, and Adelaide offered to hold a CMSA conference in July or September 1993. Adelaide's proposal for a week adjacent to the AusMS Meeting in July 1993 was accepted with thanks.

(b) Subscriptions:

MOVED: That subscriptions be set at AUD$10 for 1992. (SEBERRY/CACCETTA, carried)

(c) Membership of CMSA:

H Gustafson announced that membership could be checked via email. B McKay agreed to investigate the creation of an emailing group within CMSA for the transmission of Newsletters and other information.

9. Election of Officers:

The following office-bearers were elected for 1992

Joint Directors: L Caccetta and C Praeger

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.

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 on 14-17 December 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.

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
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The University of Adelaide
Adelaide, South Australia, 5001
email: cokeefe@spam.ua.oz.au