

COMBINATORICS

Volume 14 (1992), Number 3, November 1992

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 enquires to the Membership Secretary at the address given below.

Joint Directors

Professor Lou Caccetta
School of Mathematics
Curtin University of Technology
Bentley, Australia, 6102
Fax: 61-9-351 3197
email: caccetta@cs.curtin.edu.au

Professor Cheryl Praeger
Department of Mathematics
University of WA
Nedlands, Australia, 6009
Fax: 61-9-380 1028
email: praeger@maths.uwa.oz.au

Membership Secretary

Dr H Gustafson
School of Mathematics
Qld University of Technology
Garden Point Campus
Brisbane, Australia, 4001
email: h.gustafson@qut.edu.au

Newsletter Editor

Dr Alan Woods
Department of Mathematics
University of WA
Nedlands, Australia, 6009
Fax: (09) 380 1028
email: woods@maths.uwa.oz.au

Annual Subscriptions

The 1992 (and 1993) 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

Financial or Non-financial?

As agreed at the recent Annual General Meeting, this issue of the Newsletter indicates whether, according to our files, a member is financial. Members with a * in the top right hand corner of their address label are financial for 1992.

The 19th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing

The University of Adelaide
12 - 16 July 1993

The 19th ACCMCC will be held at the North Terrace campus of The University of Adelaide, Australia, from 12-16 July 1993. The North Terrace campus is located in the parklands surrounding the City of Adelaide, adjacent to the central business and shopping district and close to the State Library, Festival Centre, Museum and Art Gallery. The picturesque Torrens River, the Botanical Gardens and the Zoological Gardens are also nearby. The University was established in 1874 and currently has about 10,000 students, of who 2,000 are undertaking postgraduate study.

The conference will attempt to reflect the spread of interests of the delegates, in-corporating a special emphasis on finite geometry. As usual, graduate students are especially encouraged to attend and participate.

Invited Speakers

The Organising Committee anticipates a balanced program of distinguished speakers from various branches of combinatorics. At this stage, the following people have accepted our invitation to speak at the conference:

Professor Claude Berge (Centre National de la Recherche Scientifique, France)
Professor Bill Cherowitzo (University of Colorado at Denver, USA)
Professor Dominique Foata (Universite Louis Pasteur, France)
Professor Dean Hoffman (Auburn University, USA)
Professor Rudi Lidl, (University of Tasmania, Australia)
Dr. Tim Penttila (University of Western Australia, Australia)
Professor Marialuisa de Resmini (University of Rome, Italy)
Professor Jef Thas (University of Ghent, Belgium)

Contributed Papers

A formal call for papers, including details of titles and abstracts, will be made in the next circular, to be sent early in 1993.

Papers from all areas of combinatorial mathematics and combinatorial computing will be sought. It is expected that presentation of a paper will be allocated 20-25 minutes in the conference program, of which five minutes should be made available for questions from the audience and for movement between rooms.

Accommodation

Single accommodation (with a very limited number of double rooms) has been booked at Lincoln College, a co-educational student residence at 45 Brougham Place, North Adelaide. It is an easy walk from Lincoln College across Adelaide's parklands to the University.

Adelaide is famous for its restaurants, many of which are within walking distance of both the University and Lincoln College.

Social Programme and Entertainment

There will be an informal gathering and registration at Lincoln College in the late afternoon/evening of Sunday 11 July. The Organising Committee is planning a coach tour

to the Southern Vales wine-producing area in the afternoon of 14 July, with tasting and an opportunity to buy some of Australia's finest wines. As possible alternatives, we can recommend a do-it-yourself walking tour of historic Port Adelaide with its fine Maritime Museum and locally brewed beers, or a tram ride to Glenelg beach and a cappuccino at the Ramada Grand Hotel.

The conference dinner will be held on Thursday 15 July and a survivor's gathering is planned from the evening of Friday 16 July.

The Conference Committee

The organising committee for the conference is:

Christine O'Keefe (Director) Ext 5081

Rey Casse (Secretary) Ext 5080

Bob Clarke (Treasurer) Ext 5498

Department of Pure Mathematics, The University of Adelaide

GPO Box 498, Adelaide, SOUTH AUSTRALIA 5001

Phone: (08) 228-(plus Ext listed above)

E-mail: cokeefe@maths.adelaide.edu.au, rcasse@maths.adelaide.edu.au,

rclarke@maths.adelaide.edu.au

Liz Cousins Ext 5261

Department of Applied Mathematics, The University of Adelaide

GPO Box 498, Adelaide, SOUTH AUSTRALIA 5001

Phone: (08) 228-(plus Ext listed above)

E-mail: ecousins@maths.adelaide.edu.au

Congratulations Lou!

Congratulations to Lou Caccetta who we are pleased to learn has recently been promoted to a Personal Chair in Mathematics at Curtin University of Technology.

Carslaw books at reduced prices.

Three CARSLAW books have just come out in hardcover and are available to members of CMSA at reduced prices until the end of November. They are:

T Hibi, "Algebraic Combinatorics on Convex Polytopes", 164 pp (1992)

ISBN 0-875399-04-6 (RRP \$34.95, Members \$30)

Gives a detailed overview of several topics in enumerative combinatorics related to commutative algebra including the study of face numbers of simplicial complexes and Ehrhart polynomials of convex polytopes.

RFC Walters, "Number Theory - An Introduction", 131 pp (1987)

ISBN 0-9589105-6-1 (RRP \$26.95, Members \$22)

Introduction to elementary number theory, whose theme is the solution of diophantine equations.

KH Wehrhahn, "Combinatorics - An Introduction" - 2nd Edition, 176pp (1992)

ISBN 1-875399-03-8 (RRP \$29.95, Members \$25)

Introduction to enumerative combinatorics, including Polya theory and an introduction to the finite operator calculus and the theory of combinatorial species.

For single copies the postage and handling charge is \$3.50 (\$9.50 Economy Air overseas), for orders within Australia this charge is waived if two or more books are ordered. Orders with cheques or money orders in Australian dollars should be sent to CARSLAW PUBLICATIONS, Box 615, Glebe NSW 2037 Australia.

(Business Address: 42 Boundary Road, Wahroonga NSW 2076 Australia.)

**Minutes of the 18th Annual General Meeting
of the
Combinatorial Mathematics Society of Australasia
held on 7 July, 1992
at the Eighteenth Australasian Conference on
Combinatorial Mathematics and Combinatorial Computing
at Curtin University of Technology, Bently W.A.**

The meeting started at 4.00 pm with Professor Cheryl Praeger and A/Professor Lou Caccetta sharing the chair.

1. Minutes of the 1991 AGM

These had been circulated in the April 1992 CMSA newsletter. It was moved from the chair that the minutes be accepted as read. Unanimously approved.

2. Matters arising from the Minutes

The only matter needing discussion was membership subscriptions, which was already included in the agenda. So discussions were postponed till then.

3. Reports

3.1 Directors' Report

The Directors' report was presented by Cheryl Praeger and Lou Caccetta, and was received. (It is printed in full in this Newsletter.)

3.2 Treasurer's Report

The Treasurer's Report was presented by Vijayan (in the absence of the Treasurer, Ed Dawson), and was received.

3.3 Secretary's report

The Secretary Vijayan presented his report, which was accepted unanimously. (This report appears elsewhere in this Newsletter.)

3.4 Booklet Editor's Report

The Booklet Editor Kevin Mc Avaney reported that at the moment one book is ready to be published. Two more are being refereed, one is being looked at a third time. Another one is back in the hands of the authors. There are a number of offers for more booklets. Two or three are promising.

The report was accepted unanimously.

4. Australasian Journal of Combinatorics

4.1 Editor's Report

The Editor Anne Street is happy with the number of papers being submitted to the Journal. Things are running smoothly, except that because of the premature death of Alan Rahilly,

the Managing Editor, the accounts are not up to date. A financial summary up to 31 May 1992 was tabled. (This summary appears elsewhere in this Newsletter.) The report was accepted unanimously. (Moved B.H. Neumann, seconded K. Mc Avancy.)

In further discussions Anne Street pointed out that the membership numbers are not strong - only 70 currently - and need to be increased. A motion (moved Cheryl Praeger, seconded Anne Street) that the possibility of exchanging other Journals with AJC be explored, was carried unanimously.

5. Membership

The first question was about the membership fee. The treasurer in his report recommended no change though some felt that it should be increased so that the Journal could be supported better. Wal Wallis raised the question of keeping a proper record of current members and sending reminders to those who are late with their payments. This would help to put membership fees on a realistic basis.

After some discussion, a motion that the membership fee for 1993 will remain the same as for this year, was carried. The financial status of members should be indicated on their copy of the newsletter.

Kathy Heinrich raised the question of Associate Membership of the Association. As there are no journals directly associated with the Association it was decided that there is no need for this category of membership.

The 1991 AGM had decided to postpone decision about Life Membership . Jenny Seberry introduced a motion:

A new category of membership called Life Membership will be created, and the fee for Life Membership will be fixed at 12 times the Ordinary Membership fee applicable at the time of joining as a Life Member.

The motion was seconded by Mike Palmer and carried unanimously.

6. Future Conferences

The venue of the 19th conference was confirmed as the University of Adelaide, and it will be held from 12th to 16th July, 1993.

The 20th conference would be in 1994 at the University of Waikato, with Les Foulds undertaking the organisation.

7. Election of office-bearers for 1993

The following office-bearers were elected unanimously:

Director:	Christine O' Keefe
Treasurer:	Ed Dawson
Membership Secretary:	Helen Gustafson

The Director was asked to co-opt a Conference Secretary and an Organising Committee.

8. General Business.

There being no other business, Bernard Neumann proposed a vote of thanks to the organisers, which was carried unanimously.

The meeting finished at 5.00 PM.

FINANCIAL SUMMARY: AUSTRALASIAN JOURNAL OF COMBINATORICS
(12 July, 1991 to 31 May 1992)

The figures below indicate the income and expenditure for the period 12/7/91 to 31/5/92.

INCOME

	\$	
Brought Forward (Debit)	-771.80	
Subscriptions ¹	8147.16	
Offprints	940.00	
Donation CMSA	1000.00	

		\$9315.36

EXPENDITURE

Printing (Vol.4)	2512.70	
Printing (Vol.5)	2644.23	
Postage	1658.82	
Miscellaneous	76.90	

		\$6892.65

TOTAL (Income - Expenditure)

Carried Forward² (Credit) \$2422.71

1. Includes payments for back orders and volumes for conference participants. Note also that some invoices for 1992 subscriptions are yet to be paid.
2. Note that the expenses for Volume 6 are yet to be met.

These figures should be seen as approximate, as the precise breakdown of income was not always available.

Ken Gray
Financial Manager, 22 June, 1992.

Reprint Service on Combinatorial and Geometric Group Theory.

From Norma Yunez (email: yunez@sci.ccnycuny.edu) comes news of a project being carried out with Gilbert Baumslag, Hamish Short and Chuck Miller to start a reprint service on Combinatorial and Geometric Group Theory (called "Magnus"). In this way Tex versions of preprints will be made immediately available to the community by email.

They also intend to set up a database of examples of finitely presented groups, together with some of their properties. This would include, in particular, an actual list of finite presentations. In order to properly launch this list your timely contribution of examples of finitely presented groups (f.p. gps.), explicit references to articles about f.p. gps. and material directly related to f.p. gps, would be most welcome. For more information, please email Norma Yunez.

1991 CONFERENCE BUDGET

Income		Expenditure	
CMSA Donation	\$800.00	Invited Speakers	\$2680.00
Registration	\$6435.00	Room Hire	\$300.00
Accommodation	\$2250.00	Accommodation	\$3285.00
Urn Refund	\$30.00	Tea/Social	\$208.65
Sales Tax Refund	\$40.25	Stationery	\$7.70
Interest	\$2.51	Dinner	\$1254.00
Donation		Abstracts	\$241.49
from Seberry	<u>\$692.59</u>	Postage	\$210.00
Gross Income	\$10250.35	Proceedings	\$1540.00
		Bank Expences	\$12.56
		Memberships	\$390.00
		Donation to CMSA	<u>\$120.95</u>
		Gross Expenditure	\$10250.35
Balance	<u>0</u>		

1992 CONFERENCE BUDGET

Income		Expenditure	
Registration to	\$8620.00	Conference Dinner	\$2635.50
Accommodation	\$4853.00	Cocktail, Coffee,Tea	\$1745.61
Excursion	\$1027.00	Accommodation	\$5770.00
Grants:		Visiting Speakers	\$2430.00
AMS	\$1500.00	Lecture Hall	\$255.00
ICA	\$1500.00	Bus to Curtin	\$100.00
CMSA	\$1000.00	Excursion	\$1323.92
Interest	<u>\$39.40</u>	Students Travel	
		Assistance	\$200.00
		Journal	\$2640.00
		Postage	<u>\$350.00</u>
		TOTAL	\$17450.03
		Payment to CMSA	<u>\$1089.37</u>
			\$18539.40
Balance	<u>0</u>		

18th ACCMCC, Directors' Report:

The 18th ACCMCC was held at the University of Western Australia and Curtin University of Technology in Perth, 6-10th July 1992. We acknowledge the generosity of many institutions and funding bodies:

- (a) The University of Western Australia and Curtin University for waiving hire charges for use of the lecture theatre, seminar room and other facilities.
- (b) The Mathematics Department of UWA for sponsorship of the UWA lecturer Professor R. A. Bailey, and full support of two other invited speakers, Professors J. Lynch and S. B. Rao.
- (c) The School of Mathematics and Statistics of Curtin University for sponsoring the reception and providing facilities during the second day of the conference.
- (d) The Institute of Combinatorics and its Applications for sponsoring the ICA speaker, Professor D. Younger.
- (e) The British Council, the Claude McCarthy Fellowship Fund (University of Auckland), the Science Foundation (Belgium), and Australian Airlines for travel support for invited speakers: Professors B. Bollobas, P. Lorimer, J. Thas and C. Rogers.
- (f) The Australian Mathematical Society for a special grant which helped support student participants (of the 83 participants, about 24 were students), and publication costs for the Proceedings.
- (g) The International Seminars Support Scheme of AIDAB and the Australian Research Council which enabled several others to participate in the Conference.
- (h) The Commonwealth Bank of Australia.

We thank and congratulate all the speakers, those who gave invited lectures and contributed papers, for the very high standard of their presentations.

We are very grateful for the willingness and enthusiasm of the other members of the Organising Committee (Vijayan, Miro Kraetzel, Tim Penttila, Gordon Royle, Phill Schultz, Bob Sullivan, Alan Woods) in taking on responsibility for various aspects of the organisation. Also thanks to all the graduate students from UWA and Curtin for the last minute jobs they were willing to do, and to the office staff at the University of Western Australia for their cheerful help.

There have been several participants speaking at the Australian Mathematical Society's Annual Meeting, or the biennial meeting of the Statistical Society of Australia, as well as at the ACCMCC. Also most participants took advantage of the fact that three conferences were running simultaneously to hear talks at the other meetings. Although there has been almost too much choice of talks during the week, we feel that the experiment of holding the meetings at a single venue is worth repeating (but not too frequently!).

Lou Caccetta, and Cheryl E. Praeger.

Secretary's Report:

There were a total of 83 participants in the conference. It was encouraging to observe that 24 of them are students. To encourage participation of students in such conferences, some interstate students were given an allowance of \$100 each, as well as subsidised registration. Two of the participants were registered with the other conferences. Overall 67 papers were scheduled to be presented. All the indications are that the conference has been a successful one.

Vijayan.