

12 JAN 1994

COMBINATORICS

Volume 15, 1993, Number 3, December

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, 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.

Director

Dr Christine O'Keefe
Department of Pure Mathematics
The University of Adelaide
Adelaide, South Australia 5005
AUSTRALIA
email: cokeefe@maths.adelaide.edu.au

Membership Secretary

Ms H Gustafson
School of Mathematics
Queensland University of Technology
GPO Box 2434
Brisbane, Queensland 4001, AUSTRALIA
email: h.gustafson@qut.edu.au

Annual Subscriptions

The 1994 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:

Assoc Prof E P Dawson (Treasurer)
Information Security Research Centre
Queensland University of Technology
GPO Box 2434, Brisbane, 4001

New Zealand:

Dr R E L Aldred
Department of Mathematics and Statistics
University of Otago
PO Box 56, Dunedin

Canada:

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

USA:

Professor C Rodger
Department of Discrete and Statistical Sciences
Auburn University
Auburn, AL, 36849-5307

Dr B.D. McKay
Department of Computer Science
ANU
ACT 0200

**Minutes of the 19th Annual General Meeting
of the
Combinatorial Mathematics Society of Australasia
held on 13 July 1993
at the 19th Australasian Conference on
Combinatorial Mathematics and Combinatorial Computing
at The University of Adelaide, Adelaide SA**

The meeting commenced at 4.25pm with Emeritus Professor Bernhard Neumann in the chair.

1. Apologies

Rey Casse, Cheryl Praeger.

2. Minutes of the 1992 AGM

These were circulated in the November 1992 CMSA Newsletter and reproduced for those attending the AGM. Subject to the spelling corrections *Bernhard* Neumann and *Jennie* Seberry, the minutes were confirmed (moved: Anne Street, seconded Liz Billington, carried unanimously).

3. Matters arising from the minutes

In response to a question on life membership by Derrick Breach, Helen Gustafson reported that the Society has 158 members including 15 life members.

4. Reports

- (a) The **Director's report** was presented by Christine O'Keefe and was received (moved Derrick Breach, seconded Bob Buttsworth). The report appears in full in this newsletter.
- (b) The **Treasurer's report** was presented by Ed Dawson. Ed asked that in future the subscription for the CMSA be included in the conference fee to help reduce administration and to ensure that fees are paid. For instance, many members have not yet paid their 1993 subscription. The report was received (moved Kevin McAvaney, seconded Anne Street) and appears in this newsletter.
- (c) The **Membership report** was presented by Helen Gustafson, and appears in this newsletter. A full list of members is available from QUT by anonymousFTP, which is updated monthly by Helen. The Society congratulates Helen for doing such an excellent job and the report was accepted with acclaim (moved Jennie Seberry, seconded Christine O'Keefe).
- (d) The **Financial report of the Australasian Journal of Combinatorics** was presented by Tony Moran and appears in this newsletter. The journal has 85 subscriptions (about 20 new this year with 5 cancellations) and members are urged to investigate ordering the journal for their library. The report was accepted (moved Jennie Seberry, seconded Rebecca Gower).
- (e) The **Booklet Editor's report** was presented by Kevin McAvaney. There are 3 booklets ready to print and 3-4 offers of further booklets. Kevin is at the point of making decisions about the numbers to print and marketing. The report was accepted (moved Anne Street, seconded R Aldred).

5. 1995 Membership fee

The treasurer Ed Dawson suggested that the fee remain at \$10 for 1995, and that this be collected at the 1994 conference. The motion was carried (moved Bernhard Neumann, seconded Kevin McAvaney).

6. Future conferences

The Hadamard Centenary Conference will be held in Wollongong from 6-9 December 1994. See the last newsletter for details.

The 20th ACCMCC will be held in Auckland, New Zealand, from 5-9 December 1994. Further details are given in this newsletter.

The 21st ACCMCC will be held at Deakin University.

7. Election of Office bearers for 1994

It was noted that this item is connected to item 9. However, it was decided that for 1994 we continue the practise of electing the next conference director as Director of the CMSA and empower the director to co-opt a committee. Therefore, Professor Peter Gibbons will be the director of the CMSA for 1994.

8. Review of ARC funding

The ARC held a review of the funding of the Mathematical Sciences during the period 87-91, in which some disturbing references to Combinatorics were made. It was agreed that the Society should write to Professor Max Brennan, Chair of the Australian Research Council, protesting the claims that combinatorics is *overfunded* in Australia. (This letter was signed by conference attendees and forwarded to Professor Brennan on 15 July. A response was received on 28 July. Anyone who signed the letter and would like to obtain a copy of the reply should contact Christine O'Keefe).

9. CMSA structure

The previous item led naturally to this one, which is prompted by several considerations. Firstly, it is becoming increasingly clear that the Society needs to have a stable and coordinated organisational body to adequately represent the interests of Combinatorics in Australia and New Zealand. Secondly, the Society should be incorporated to prevent the current situation that the members are individually responsible for costs arising from, for example, a lawsuit against the Society. These changes necessitate a revision of the constitution. A committee (Derrick Breach, Jennie Seberry and Anne Street (convenor)) agreed to draft a new constitution, circulate it for comment and present it for a postal ballot to take effect from December 1994. This motion was carried unanimously (moved from the chair, seconded Jennie Seberry).

10. Any other business

Kevin McAvaney proposed a vote of thanks to the organisers of the 19th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, to be conveyed also to the University of Adelaide, Lincoln College and the Royal Adelaide Hospital Residential Wing.

The meeting closed at 5.20pm.

**19th Australasian Conference on
Combinatorial Mathematics and Combinatorial Computing
Director's report**

My main duty as Director was to organise the 19th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, which was held from 12-16 July 1993 at The University of Adelaide. I would like to thank the following for their generous support of the conference:

1. The Institute of Combinatorics and its Applications for sponsorship of the ICA speaker Professor Claude Berge
2. The University of Adelaide Research Grants Scheme
3. The Combinatorial Mathematics Society of Australasia
4. The Australian Mathematical Society
5. The University of Adelaide
6. The University of Adelaide's Deputy Vice-Chancellor, Research, Professor Gavin Brown
7. The Department of Pure Mathematics at The University of Adelaide
8. The International Development Program of Australian Universities and Colleges
9. The Department of Applied Mathematics at The University of Adelaide
10. Australian Airlines
11. The ANZ Banking Group

We further note that The University of Queensland and the Queensland Institute of Technology offered support, which was not eventually needed.

I would like to thank the other members of the organising committee, Rey Casse, Bob Clarke and Liz Cousins, for their help and willingness to take on responsibility for various aspects of the running of the conference. Also, I would like to thank everyone who helped with the conference (some of whom I'm probably not even aware of) but particularly Cath Quinn, Matt Brown, Ivano Pinneri, Wen-Ai Jackson, Mary Mattaliano, Sandra Jackson, Claire Rivett, Martin Oxenham and Ann Ross. Finally, I am grateful to the organising committee of the 1993 conference (particularly Cheryl Praeger) for very helpful advice on running this conference.

The standard of the presentations at the conference was very high, and I thank all the speakers for their efforts.

Finally, I'd like to thank the participants in the conference for their good attitude and humour. It was nice to see people enjoying themselves.

Christine O'Keefe

COMBINATORIAL MATHEMATICS SOCIETY OF AUSTRALIA
STATEMENT OF INCOME AND EXPENDITURE
FOR THE YEAR ENDED 30TH JUNE 1993

	\$
<u>Balance</u> - bank account 1st July 1992	4123.24
- petty cash 1st July 1992	<u>39.25</u>
	4162.49
 <u>Add: Receipts</u>	
Membership	2379.18
Interest	154.78
1991 conference balance	58.01
1992 conference balance	<u>1003.00</u>
	<u>3594.97</u>
	7757.46
 <u>Less: Payments</u>	
Audit fees	50.00
Bank charges	15.50
1993 conference expenses	<u>1000.00</u>
	<u>1065.50</u>
 BALANCE AS AT 30TH JUNE 1993	 6691.96
	<hr/>
 <u>Represented by:</u>	
Petty cash on hand	39.25
Cash at bank	<u>6652.71</u>
 CLOSING BALANCE AS AT 30TH JUNE 1993	 6691.96
	<hr/> <hr/>

Membership Information Statistics

Number of members listed	158
Number of non-paying members	39
Members paid till year ending:	
1990	2
1991	21
1992	34 33
1993	48
Life	145
Number of members on e-mail	94

Number of Members listed from different Countries :

Australia	80
Canada	22
USA	19
New Zealand	16
Japan	3
United Kingdom	3
Belgium	2
China	2
India	2
United Soviet States	2
Austria	1
Denmark	1
Germany	1
Hungary	1
Israel	1
Iran	1
Indonesia	1

FIRST CIRCULAR

The 38th Australian Meeting of the Australian Mathematical Society is being hosted by the Department of Mathematics, Statistics, and Computing Science of the University of New England in Armidale from the 4th to the 8th of July, 1994.

The following principal speakers have indicated their intention to address the conference.

Ben Andrews	ANU and Stanford	PDE and Geometry
Albert Baernstein	Washington U., St Louis	Complex Analysis
Alan Beardon	Cambridge	Complex Analysis
Alan Carey	Adelaide	Mathematical Physics
Norm Dancer	Sydney	Non-Linear PDE
Peter Hilton	SUNY Binghamton	Algebra and Topology
Kathy Horadam	RMIT	Algebra
Gavin Martin	ANU and Auckland	PDE and Geometry
Walter Neumann	Melbourne	Algebraic Geometry
Iain Raeburn	Newcastle	C*-Algebras
Colin Rogers	UNSW	Soliton Equations
Jalal Shatah	Courant Institute	Hyperbolic PDE
Richard Schoen	Stanford	PDE and Geometry
Efim Zelmanov	Wisconsin	Algebra

Participants are invited to present papers of 25 minutes duration on any area of mathematics. Please indicate your intention to present a paper on the questionnaire below. Titles and abstracts will be called for later.

Students are particularly welcome. They may compete for the B. H. Neumann Prize for the best student talk at the conference and those who present papers are also eligible for up to \$100 assistance with their travel and accommodation expenses. Application for this support should be lodged as soon as possible with the Treasurer of the Conference: Assoc. Prof. J. Hempel, Mathematics, Statistics and Computing Science, University of New England, Armidale 2351.

Further Information

The Committee may be contacted via: Imi Bokor, Conference Secretary, Department of Mathematics, Statistics and Computing Science, The University of New England, Armidale 2351

Alternatively, details may be obtained from ams94-info@neumann.une.edu.au

The ams94-info mail server has been established to enable electronic request for information regarding the 38th Annual Meeting of the Australian Mathematical Society.

Preliminary Announcement
20th Australasian Conference on
Combinatorial Mathematics and Combinatorial Computing
5-9 December 1994
University of Auckland, New Zealand

Originally scheduled to be held at the University of Waikato, the 20th ACCMCC will now be held at the University of Auckland (City Campus) from 5 - 9 December 1994.

An enthusiastic conference organising committee consisting of Peter Gibbons, Peter Lorimer, Marston Conder, Paul Bonnington, Margaret Morton, and Paul Hafner has been formed, and is planning for a balanced program of contributed and invited talks covering a wide range of combinatorics. Invited speakers who have confirmed their attendance so far are:

Paul Bonnington (Auckland)
Charlie Colbourn (Waterloo)
Dominic de Caen (Queen's)
Vaughan Jones (Berkeley)
Rudi Mathon (Toronto)
Brendan McKay (Australian National University)
Cheryl Praeger (Western Australia)
Ralph Stanton (Manitoba)

The committee is attempting to attract two further distinguished speakers. An announcement will be made about this later.

Accommodation has been booked at O'Rorke Hall, a modern student hostel within 5 minutes walk of the conference venue. Further details, along with details of registration and the social programme, will be published towards the middle of 1994.

The city campus of the University of Auckland is situated on a rise overlooking the Waitemata Harbour, only five minutes walk from the restaurant, shopping and entertainment facilities of the central business district. For the information of colleagues from more distant places, Auckland is antipodal to Malaga in Spain and is known as the "City of Sails". It has a population of close to one million and a climate moderated by the adjacent Tasman Sea and the Pacific Ocean. Besides using the city as a gateway to the rest of New Zealand, visitors to Auckland enjoy ready access to outdoor activities such as ocean swimming, tramping and boating. December corresponds to the start of the Summer holiday period in New Zealand, with daytime temperatures expected to lie in the range 16 - 23 degrees Celsius.

Further information may be obtained from Peter Gibbons, Department of Computer Science, University of Auckland, Private Bag 92019, Auckland, New Zealand (email: p.gibbons@cs.auckland.ac.nz).

The Adolph Basser Library

The Adolph Basser Library of the Australian Academy of Science keeps archival records of the CMSA. However, the holdings were found to be quite incomplete (see the enclosed listing).

If anyone can provide any of the missing items, particularly the Newsletter Volume 7 Number 2 to date, please forward this to the Library. Also, material from the several missing conferences would be appreciated.

Adolph Basser Library
Australian Academy of Science
GPO Box 783 Canberra ACT 2601 AUSTRALIA

COMBINATORIAL MATHEMATICS SOCIETY OF AUSTRALASIA

- 151/1 1-8. Conferences 1979-86
- 1 1979 conference - financial statements
 - 2 Seventh conference - abstracts of papers
 - 3 Tenth conference, Adelaide, 1982 - list of participants
 - 4 Eleventh conference, Christchurch, 1983 - abstracts
 - 5 Twelfth conference, Perth, 1984 - correspondence with invited speakers, abstracts, list of participants
 - 6 Thirteenth conference, Sydney, 1985 - correspondence and abstracts
 - 7 Australia-Singapore Joint Conference on Information Processing and Combinatorial Mathematics, Singapore, 1986 - notice
 - 8 List of invited speakers to conferences, 1972-83
 - 9 Constitution
 - 10 Correspondence regarding links between CMSA and the Australian Mathematical Society
- 11-13. Correspondence. 1978-86
- 11 Early correspondence (1978)
 - 12 Correspondence 1984
 - 13 Correspondence 1985-86
 - 14 Newsletter, vol 1, no 1 - vol 7, no 1
 - 15 18th Conference, Perth, 1992. Correspondence with invited speakers; programme, abstracts, list of participants; agenda and minutes of committee meetings; newsletters

Australasian Journal of Combinatorics Financial Statement 31-5-93

Credit balance at 31.5.92: \$2422.71

Income for period 1.6.92 to 31.5.93:

Subscriptions from 1992 conference	\$2640.00
Other subscriptions	\$6270.61
Offprints payments	\$12255.00
Miscellaneous	\$10.00
<hr/> Total	<hr/> \$10175.61

Expenditure for period 1.6.92 to 31.5.93:

Printing	\$4652.54
Postage	\$2076.30
Post bags	\$6995.39

Credit balance at 31.5.93: \$5602.93

Tony Moran

Congratulations to Marston!

At the Annual General Meeting of the New Zealand Mathematical Society in August, Marston Conder was presented with the New Zealand Mathematical Society's 1993 Research Award. The citation read: *to Marston Conder, for research exhibiting insight and originality in solving problems in algebra and combinatorics, in which, by his outstanding skills in machine computation, he has demonstrated the effectiveness of the computer when guided by real intelligence.*

Further, Marston has just been appointed to a Chair in Pure Mathematics at the University of Auckland.

Future Meetings

The Summer School and International Conference on Combinatorics will be held from May 25-June 5, 1995 on Dongpu Island, Hefei City, China. The local organiser is: Head, Associate Professor Ku Tung-Hsin, The Hefei Branch Research Centre of Combinatorial Mathematics and Computer Science, Academia Sinica, PO Box 1110, Hefei, Anhui 230031 China (PRC)

The 25th Annual Iranian Mathematics Conference (AIMC25) will be held at Sharif University of Technology (Tehran, Iran), March 28-31, 1994. The mailing address is: A I M C 25, P O Box 11365-9415, Tehran, Iran. Tel and Fax (98-21) 600-5117, Email : AIMC25@irearn.bitnet.

CMSA via FTP

Anonymous FTP Account at QUT, Brisbane, Australia

QUT now has anonymous FTP. This means the CMSA can store important information so that all members can access it.

To access this FTP account type:

ftp ftp.qut.edu.au

Username: **Anonymous**

Password: **your personal e-mail address**

(eg. h.gustafson@qut.edu.au)

To change directory to the CMSA list type: **cd papers/cmsa**

To obtain a list of files available type: **ls**

To obtain a file from list type: **get 'filename'**

For example to obtain the list of members addresses type:

get members-address-list

You may enter 'Return' to keep the same name for the file.

To exit type: **quit**

To change any address information or to add CMSA information to this FTP account contact Helen Gustafson by e-mail at:

h.gustafson@qut.edu.au

Helen Gustafson
Membership Secretary
School of Mathematics
Queensland University of Technology
GPO Box 2434
Brisbane 4001 QLD
Australia

Electronic mail for distribution to CMSA members on the mailing list should be sent to cmsa@qut.edu.au.

Graph Theory Newsletter

The graph theory newsletter was founded in 1971 by the Department of Mathematics and Statistics, Western Michigan University USA. The main purposes of the newsletter are to:

- help researchers locate publications related to graph theory;
- allow authors to publish abstracts of recent research;
- announce newly conferred degrees;
- announce upcoming conferences;
- announce change of addresses;
- announce new positions occupied by graph theorists;
- announce publications of graph theory books;
- announce unsolved problems (conjectures).

The Department of Mathematics at WMU ceased publications with the 21st volume (1992). However the Department of Mathematics B.V. Bhoomaraddi college, Bidar, Karnataka, India, will continue further publication.

The address for contribution or subscription is:
Dr DG Akka, Editor GTNL, Rampure Colony, BIDAR-585403, Karnataka, India.

Dr Vitaly Voloshin

The Society has received several preprints from Dr Vitaly Voloshin, Assistant Professor at Moldova State University, Kishinev. Dr Voloshin is keen to correspond with any member interested in hypergraph colouring problems. The preprints are:

- On the upper chromatic number of a hypergraph;
- Incidence graphs of biacyclic hypergraphs (with FF Dragan);
- Dually chordal graphs (with A Brandstädt, FF Dragan and VD Chepoi).

Anyone interested can obtain these preprints from Christine O'Keefe, or can contact Dr Voloshin at 76/2-64, Albishoara Str, Kishinev 277074 MOLDOVA (ex-USSR). Email: voloshin@university.moldova.su