The Newsletter of the
Combinatorial Mathematics Society of Australasia

The Combinatorial Mathematics Society of Australasia was formed in 1978, with the aim (as stated in its constitution) of promoting combinatorial mathematics; this has been broadly interpreted as including the relevant areas of computing. It disseminates information about combinatorics and combinatorialists through its newsletter Combinatorics and conducts an annual conference with refereed published proceedings. There are currently about 160 members from all over the world.

Any interested person is invited to join the C.M.S.A.. Annual subscription for 1991 is Australian $10 payable to C.M.S.A.. Members receive the newsletter and a reduction in the conference registration fee. Please address all enquiries, giving your full name and address, to the Director, Prof. Jennifer Seberry at the address given below.

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CMSA OFFICE-BEARERS
to the end of 1991

DIRECTOR
Professor Jennifer Seberry
Department of Computer Science
University College
University of NSW
Australian Defence Force Academy
Canberra, 2600
AUSTRALIA

e-mail: jennie@cs.adfa.oz.au
Fax: 0061(6) 2688 581
Telex: ADFADM AA62030

TREASURER
Mr E P Dawson
School of Mathematics
Qld University of Technology
PO Box 2434
Brisbane, QLD 4001
AUSTRALIA

EDITOR, BOOKLET SERIES
Dr Kevin McAvaney
Division of Computing and Mathematics
Deakin University
Geelong, Victoria 3217
AUSTRALIA

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ANNUAL SUBSCRIPTIONS

If you haven't done so this year, please send $10 in Australian currency to the Treasurer of CMSA (adding $2 to foreign cheques to cover bank charges.

17th Australasian Conference on
Combinatorial Mathematics and Combinatorial Computing

8-12 July, 1991
Canberra, Australia

The following people have accepted invitations to speak

> Mieko Yamada (Japan) (Inaugural TICA Lecture)
> Lou Caccetta
> Pal Erdos (Hungary)
> Hadi Kharaghani (Canada)
> Cheryl Praeger
> K Brooks Reid (USA)
> Ralph Stanton (Canada)
> George Szekeres

Enquiries should be directed to the Director

> Professor Jennifer Seberry
> Department of Computer Science
> University College
> University of NSW
> Australian Defence Force Academy
> Canberra, 2600
> AUSTRALIA
>
> e-mail: jennie@cs.adfa.oz.au
> Fax: 0061(6) 2688 581
> Telex: ADFADM AA62030

Abstracts of contributed papers may be submitted by e-mail or using a single A4 page preferably in T_EX or L_AT_EX before May 18, 1991. Registration will also be available by e-mail.

Contributed papers which pass the strict refereeing process will be published in the Australasian Journal of Combinatorics.

Other members of the organising committee are:

> Dr Joan Cooper, Department of Commerce, ANU, Canberra
> Dr Brendan McKay, Department of Computer Science, ANU, Canberra
> Mrs Cathy Newberry, Department of Computer Science, ADFA

Accommodation will be at John XXIII College, ANU and lectures held on the ANU campus.

FUTURE CONFERENCES

EIGHTEENTH AUSTRALASIAN CONFERENCE

The Eighteenth Australasian Conference on Combinatorial Mathematics and Combinatorial Computing will be held in Perth in 1992. For details please write to one of the following:

Professor Cheryl Praeger
Department of Mathematics
University of Western Australia
Nedlands, WA 6009
AUSTRALIA

Dr Lou Caccetta
School of Mathematics and Statistics
Curtin University of Technology
GPO Box U 1987, Perth, WA 6001
AUSTRALIA

4th AUBURN COMBINATORICS CONFERENCE - March 20-23 1991
Sponsored by the National Security Agency, Mathematical Sciences Program

The invited speakers for the conference are
E Brickell (Sandia Laboratories, USA), C J Colbourn (University of Waterloo, Canada), K Heinrich (Simon Fraser University, Canada), J W P Hirschfield (University of Sussex, England), J H van Lint (Technical University of Eindhoven, Netherlands), R M Wilson (Caltech, USA)

For more detailed information concerning the conference, write to:
K T Phelps, Department of Algebra, Combinatorics and Analysis, 120 Mathematics Annex Auburn University, Auburn, Alabama 36849-5307, USA.
e-mail: ktphelps@ducvax.auburn.edu)

GRAPH THEORY AND COMBINATORICS, MANILA 1991
"Graph Theory and Combinatorics, Manila 1991" is a workshop and conference organized by the Mathematical Society of the Philippines with the assistance of the Southeast Asian Mathematical Society.

The workshop and conference will be held at the Science Teacher Training Center (STTC) of the University of the Philippines in Diliman, Quezon City, Metro Manila.

The workshop on selected topics in graph theory, combinatorics and applications will take place on October 21-23, and the conference on graph theory and combinatorics, on October 24-25, 1991.

Workshop - The workshop sessions will be conducted by the following speakers:
Jin Akiyama (Tokai University, Japan), Roger Eggleton (University of Brunei Darussalam), Khee Meng Koh (National University of Singapore), Cheryl Praeger (University of Western Australia)

Conference - At the conference, plenary sessions will be held in the mornings. Parallel sessions for short technical reports will be held in the afternoons.
The proceedings of the conference will be published.

SEAMS Biennial Meeting - A meeting of the Southeast Asian Mathematical Society will be scheduled on a late afternoon of the Conference.

Registration - The registration fee for the workshop and conference is US$50. Those who will attend the workshop only or the conference only will be charged US$30. Those who wish to receive succeeding announcements, please contact co-chairman:

> Mari-Jo P Ruiz, Mathematics Department, Ateneo de Manila University, PO Box 154, Manila, Philippines 1099, Tel. No. 99-87-21, 98-25-41, local: 161, Fax No: (632)921-6159
> **OR**
> Evelyn L Tan, Mathematics Department, University of the Philippines, Diliman 1101, Quezon City, Tel. No. 95-14-71, Fax No. (632)994-493

SIXTH MIDWESTERN CONFERENCE ON COMBINATORICS, CRYPTOGRAPHY AND COMPUTING

The Midwestern Conference on Combinatorics, Cryptography and Computing was formerly known as the Carbondale Combinatorics Conference, where the first five conferences were held. The Sixth Conference will be held at the University of Nebraska-Lincoln on October 31 - November 2 1991. The invited speakers will include the following:

> E F Brickell, Sandia National Laboratories; C J Colbourn, University of Waterloo; E R Lamken, Institute for Defense Analyses; R A Liebler, Colorado State University; C C Lindner, Auburn University; V S Pless, University of Illinois-Chicago Circle.

Further information may be obtained from:

> Spyros S Magliveros, Computer Science Department, University of Nebraska Lincoln, NE 68502-0115, USA. Fax No. 402-472-5005, e-mail: spyros@pythia.uue.edu.

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DISCRETE MATHEMATICS BOOKLETS

The series editor, Dr Kevin McAvaney would be pleased to receive further offers of 30-50 page booklets on discrete mathematics. Dr McAvaney's address is on the front of this newsletter; his phone number is (052) 471-276.

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RECENT PUBLICATIONS IN COMBINATORIAL MATHEMATICS

Marston Conder and Peter Lorimer, "Automorphism groups of symmetric graphs of valency 3", Journal of Combinatorial Theory Series B 47 (1989), 60-72.

Marston Conder, "An infinite family of 4-arc-transitive graphs each with girth 12", Bulletin of the London Mathematical Society 21 (1989), 375-380.

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PREPRINTS ON COMBINATORIAL MATHEMATICS

Marston Conder & Margaret Morton, "A note on groups associated with 4-arc-transitive cubic graphs", accepted for the Bulletin of the London Mathematical Society.

> Marston Conder, "Generating the Mathieu groups and associated Steiner systems".
> Marston Conder, Peter Lorimer & Cheryl Praeger, "Constructions for arc-transitive diagraphs".
> Marston Conder, "The symmetric genus of the Mathieu groups".

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THE AUSTRALASIAN JOURNAL OF COMBINATORICS

The Australasian Journal of Combinatorics is a new journal devoted to the publication of research conerning all aspects of combinatorics, pure and applied. It is intended that at least two volumes of the journal will appear each year. Intending contributors should submit two copies of 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 at the Editorial Office of the Australasian Journal of Combinatorics, Department of Mathematics, The University of Queensland, 4072, Queensland, Australia. The journal is produced using a photo-offset process. Because of this it is most important that authors submit manuscripts typed so as to occupy a 6 inch × 9 inch (152mm × 229mm) rectangular area centred on each page. Authors are also urged to submit papers the title page of which exhibits the following order: title, author/s, affiliations, abstract, followed immediately by the body of the paper.

INFORMATION CONCERNING SUBSCRIPTIONS

The following information is provided for those interested in subscribing to the Australasian Journal of Combinatorics.

Frequency of publication: Two volumes per year (approx. March and September).

Subscription price: $25 (Australian) per volume.

Surface postage: For those wishing to have their copies of the Australasian Journal of Combinatorics sent surface mail the surface postage we require, in addition to the subscription price, is $3 (Australian) per volume.

Airmail postage: For those wishing to have their copies sent airmail the following list contains airmail postage required in addition to the subscription price.

Oceania (exc. Australia), Indonesia, Malaysia	$5 (A) per volume.
Elsewhere	$8 (A) per volume.

Payment method: Cheque or bank draft in Australian dollars payable to "Australasian Journal of Combinatorics".

ISSN number: 1034-4942.

Back issues: Vol 1 (March 1990) is available.

Agency discounts: We regret that we are unable to give agency discounts.

NOTE: Our preferred minimum period of subscription is for one year. This covers two volumes. For such a period we require $50 plus postage for two volumes in Australian dollars. Thus the amount we require for a one year subscription is either:

1. $56(A) surface mail OR
2. $60 (A) airmail for Oceania (exc. Australia), Indonesia, Malaysia OR
3. $66 (A) airmail OUTSIDE Oceania, Indonesia, Malaysia.

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16th ACCMCC

The Sixteenth Australasian Conference on Combinatorial Mathematics and Combinatorial Computing was held at Massey University during the period December 3-7 1990. A total of 60 people registered. There were a total of 6 one-hour invited addresses and 44 half-hour contributed talks. It was a special source of pleasure that the Royal Society of New Zealand presented the Hamilton Award, for young scientists, to Rod Downey at this conference.

The Director and organising committee thank those who attended and hope you enjoyed your few days at Massey University.

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Combinatorial Mathematics Society of Australasia
Statement of Income and Expenditure
For the Year Ended 30 June 1990

Balance bank account as at 1.7.89		7190.36
Balance petty cash as at 1.7.89		83.50
		7273.86
Add: Receipts		
Donation - University of Queensland	1500.00	
Conference receipts	5324.00	
Membership	299.00	
Bank interest	652.92	7775.92
		15049.78
Less: Payments		
Audit fee	50.00	
Bank fees	15.60	
Conference expenses	7820.76	
Postage	92.55	
Donation: Australian Journal of Combinatorics	1089.03	
Gift: B Neumann	58.66	9118.60
Balance as at 30 June 1990		5931.18
Represented by:		
Petty cash		33.50
Balance Westpac Advantage Saver Account 628830		5897.68
		5931.18

Auditor's Report
In my opinion the above statement of Income and Expenditure for the year ended 30 June 1990 has been properly drawn up so as to give a true and fair view of the state of affairs of the Society as at 30 June 1990.

P J Jorgensen, CPA
15 November 1990

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MINUTES of the Annual General Meeting
held on 4 December 1990
at the Sixteenth Australasian Conference on
Combinatorial Mathematics and Combinatorial Computing
at Massey University
Palmerston North, New Zealand

C H C Little (Director) declared the meeting open at 7.00pm, with 29 people (on average) present.

1. **Welcome:** The Director welcomed all those present.

2. **Apologies:**
    E Dawson, M Conder, L Foulds, D Street, W Wallis.

3. **Minutes of the 1989 AGM:**
    Minutes of the previous AGM (Brisbane, 13 July 1989) were circulated.

    MOVED: That the minutes be adopted.
    (McAVANEY/NEUMANN, carried nem. con.)

4. **Matters arising from the minutes:**
    (a)   Item 10: Motion (previously tabled) to change the constitution.
    The following motion was tabled in 1988 and 1989 for consideration at the 1990 AGM:

    Notice of Intention to Change the Constitution that, in the item "Termination", the phrase

        "to the Australian Mathematical Society"

    be changed to

        "equally to the Australian Mathematical Society and the New Zealand Mathematical
        Society."

    Derek Holton mentioned that the change was motivated as an acknowledgement of the
    funding provided by the NZMS for CMSA conferences held in New Zealand. Jennie
    Seberry offered further support for the motion, noting that the AMS had recently turned down
    a request for funding for the next conference. Given that the CMSA was not likely to ever
    disappear, Ralph Stanton supported either the current or proposed wording.

    MOVED: That the motion be approved.
    (LITTLE/HOLTON carried nem. con.)

    (b)   Other: all other matters arising are dealt with elsewhere in the Minutes.

5. **Director's Report:**
    The Director reported that he had quite literally interpreted his role, and thanked the various
    people to whom he had delegated responsibility in the organization of the Conference. He
    also acknowledged the secretarial support of the Department of Mathematics and Statistics,
    Massey University, the financial sponsorship of the Royal Society of New Zealand, funding
    support from the New Zealand Mathematical Society, Bennetts University Book Centre Ltd,
    Advantage Computers Ltd, and the British Council (which contributed towards the airfare of
    Douglas Woodall). All the invited and contributing speakers also deserved special thanks.

The Director highlighted two recent developments in Australasian Combinatorics: the establishment, by Anne Street, of the Australasian Journal of Combinatorics, and the initiation of the booklet series (edited by Kevin McAvaney) on various aspects of combinatorics (as a means of generating a continuing source of income for the CMSA). He also suggested the formation of a Publications Committee to have an oversight and coordination role for the booklets, and also a position of Newsletter Editor.

MOVED: That the Director's Report be received.
(CHAIR, carried nem. con.)

MOVED: That a Publications Committee be formed and charged with general oversight of the Society's publishing activities.
(CHAIR, postponed until consideration of item 8)

MOVED: That the position of Newsletter Editor be created.

Much discussion ensued. Jennie Seberry mentioned that the logistics of liaising with someone else so close to the next Conference would be difficult, and that the use of Research Assistant at that time would be more appropriate. Charles Little maintained that the Newsletter deserved more attention than a Conference Organising Committee could give it. Kevin McAvaney asked if it was envisaged that the Newsletter become like the AMS Gazette, whereby assistance could be shanghaied to deal with, for example, "PhD theses", "preprints" and "visitors". Anne Street agreed, suggesting that if the Society had a President and Secretary the Director would be free to deal exclusively with the Conference. She further foreshadowed the idea of creating the position of a Membership Secretary.

Jennie Seberry took the opportunity of asking for suggestions for what should be in the Newsletter. Charlie Colbourn noted that it was often difficult to find out what went on at a Conference if one was unable to attend; a short report in the Newsletter, including E-mail addresses of the list of participants, would be useful. Derrick Breach spoke against the motion, whilst Warwick de Launey spoke for it, seeing advantages in having one person responsible for all parts of the job. He added that the contents of the Newsletter be examined to determine if one was actually necessary. It was thus decided to

MOVE: That the motion be deferred until the next AGM
(PALMER/STREET, carried).

6.   **Treasurer's Report:**
In the absence of Ed Dawson, Helen Gustafson presented the Treasurer's Report, with figures quoted in Australian dollars. Bernhard Neumann pointed out that the report was, according to the Society's Constitution, required for the past calendar year, not financial year, and suggested that the incoming Organising Committee clarify the discrepancy. Several possibilities for changing future report dates were considered, in order to cover the differing financial years in Australia and New Zealand, but no consensus was reached. Jennie Seberry suggested that either an unaudited statement be presented to the next AGM, or a six-monthly report be presented.

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

7. **Matters arising from the Treasurer's Report:**
   (a) **Subscriptions**
   A convoluted sequence of motions and amendments were put, interspersed with procedural debate. Major points of discussion included: Ralph Stanton noted that current payments were out of synchronization because of the timing of the present conference. Warwick de Launey mentioned that dues were sometimes included in conference fees, but Charles Little warned that this was unconstitutional.

   MOVED: That the subscription dues remain at $A10.
   (BREACH/BILLINGTON, carried (eventually))

   AMENDMENT: That payment be for the period January 1 1990 - December 31 1990.
   (STANTON/COLBOURN, carried).

   Included in the discussion on the Amendment, Charlie Colbourn advised that fixed payment periods were useful for overseas members. Jennie Seberry proposed that, if the dues were a clearly marked portion of the Conference Fee (à la the Australian OR society), there should be no (constitutional) problem. Bernhard Neumann suggested that volunteers (with published addresses) in New Zealand, Canada and the United States collect fees from local members and forward them in bulk, to reduce bank charges.

   MOVED: That Jennie Seberry collect fees for 1990, plus fees for 1991 (for those who choose to do so) at this conference, and that the meeting instruct her to remit the funds to the Treasurer by January 15, 1991.
   (SEBERRY/NEUMANN, carried).

   AMENDMENT: That $A5 be paid now (for 1990) and $A10 for 1991.
   (HOLTON/McKAY, lost).

   SECOND AMENDMENT: That $A10 be paid for 1990 and $A10 be paid for 1991.
   (STREET/SEBERRY, carried).

   As clarification for the Treasurer, it was decided to, in future, report the dates at which members made payments to save partial-year "catch-up" problems.

   (b) **Support for the Australian Journal of Combinatorics:**
   Warwick de Launey requested the publication details of the Journal. Anne Street replied that there were 50 subscribers, to whom the cost was $A50 per year ($A25 per volume); this price was needed to cover the cost of producing 300-350 copies. $NZ20 had been included in the present conference's registration fee towards the production costs of the Proceedings. Anne Street noted that the University of Queensland Mathematics Department subsidized costs, and that there were few institutional subscribers.

   MOVED: That the society contribute $A1000 to the Australian Journal of Combinatorics (in addition to the fees already collected).
   (SEBERRY/NEUMANN, carried nem. con.).
   Anne Street will provide a report on the financial status of the Journal for the next AGM.

   (c) **Life Membership and Cost:**
   Because of lack of information, it was decided to ask for recommendations at the next AGM.
   Ralph Stanton advised that the "usual" cost of life membership was $12 \times$ the annual membership fee.

   MOVED: That this item be deferred to the 1991 AGM.
   (NEUMANN/BREACH, carried nem. con.)

(d)   **Proposal for a Membership Secretary**
MOVED: That the position of Membership Secretary be created.
(STREET/SEBERRY, carried nem. con.)

8.   **Booklet Editor's Report:**
Kevin McAvaney indicated that two booklets were under recent consideration:

"Three Principles of Combinatorics" (for which a revised version is being refereed).

"Combinatorial Aspects of Block Designs" (rejected because of length).

Further titles in the series are being sought, and should be forwarded to the Editor in T_EX, preferably electronically, to reduce the resources required for rekeying.

MOVED: That the Booklet Editor's Report be received.
(HOLTON/BREACH, carried nem. con.)

Referring to the Director's first Motion (Item 5), Kevin McAvaney stated that he perceived the Society Executive as his Committee, and saw no need for a special Publications Committee. Further discussion ensued regarding the general policy for the Booklet Series, and the difficulty in obtaining manuscripts for it. Guidelines as follows were formulated:

1. __   A theme from within the area of Combinatorics with the form of, for example, a review of a topic, a collection of problems or an annotated bibliography.

2.   30-50 pages, reasonably self-contained.

3.   Aimed at the graduate/upper level undergraduate market.

4.   Acceptable standard of writing and content.

The Director's original motion of forming a Publications Committee was LOST at this point.

9.   **Future Conferences:**
MOVED: That future conferences be officially known by the year rather than the sequence number.
(CHAIR, lost 17-2).

MOVED: That future conferences be officially known by the year and the sequence number.
(BREACH/GIBBONS, lost).

It was felt that retaining the sequence number was important to show the longevity of the Society and its Conferences, as this was useful in obtaining continued funding support.

Jennie Seberry then gave details of the 17th ACCMCC, to be held in Canberra, 8-12 July 1991. (See notice in February 1991 Newsletter).

9a.   **Election of Officers:**
The following office-bearers were elected for 1991:

Director: Jennifer Seberry
(NEUMANN/STANTON, elected by acclamation).

Secretary: Joan Cooper
(SEBERRY/NEUMANN, elected by acclamation).

Treasurer: Ed Dawson
(STREET/GUSTAFSON, elected by acclamation).

Membership Secretary: Helen Gustafson
(STREET/SEBERRY, elected by acclamation).

10.   **General Business:**
Anne Street informed the AGM that pages 111-120 of Volume 2 of the Australian Journal of Combinatorics were missing in 9 copies as yet unaccounted for, and that copies of the Proceedings of the First ACCMCC were available for $A5 each. It was noted that the CMSA does not currently hold a complete set of ACCMCC Proceedings.

A motion (from Ralph Stanton) that there be a vote of thanks for the 16th Conference Organizing Committee was received with acclamation.

The meeting closed at 9.11pm.