

COMBINATORICS

Volume 13 (1991), Number 3, March

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 140 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. Please address all inquiries, giving your full name and address, to the Treasurer, Ed Dawson, at the address given at the back of this newsletter.

Fees

Society subscriptions of \$10 (Australian) can be sent in your local currency to:

Canada: Professor R. G. Stanton
Dept. of Computer Science,
University of Manitoba,
Winnipeg,
Manitoba, R3T 2N2,
CANADA.

New Zealand: Dr R. E. L. Aldred
Dept. of Mathematics and
Statistics,
University of Otago,
P.O. Box 56,
Dunedin,
NEW ZEALAND.

USA: Professor C. Rodger
Dept. of Combinatorics and
Algebra,
Auburn University,
Auburn, AL, 36849-5307,
USA.

Australia: Ed Dawson (Treasurer)
c/- Helen Gustafson (Membership
Secretary),
QUT,
Garden Point Campus,
Brisbane, Queensland, 4000,
AUSTRALIA.

Notice of Motion

Jennifer Seberry conferred with AMP actuaries, who calculated that life membership should be twelve (12) times the annual membership.

Motion for AGM

That there be a category of membership called life membership, and that the subscription be twelve (12) times the current annual membership.

Details of the 17th ACCMCC have been finalised. Registrations are now being accepted. For early registration, complete the registration form enclosed with this newsletter. Full details of costs and all conference activities are also available (consult the information on the following pages).

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Future Conferences

Conference:

18th ACCMCC

Date and Venue:

The University of Western Australia and Curtin University of Technology. Monday July 6 to Friday July 10, 1992. The conference will meet at the University on Monday, Wednesday, Thursday and Friday, and at Curtin on Tuesday.

Accommodation:

50 student rooms have been reserved at St Colomba's College, a residential college adjacent to the UWA campus. Costs not available at the time of printing, but expected to be moderate.

Activities:

There will be a half day excursion and a conference dinner, details to be provided at a later date.

On the Saturday after the conference, information will be available to those interested in taking a day trip to Rotnest Island (11 miles from the coast). Attractions include swimming, fishing and cycling, as well as sampling the products of the famous Rotto bakery! (This information is given at the request of certain CMSA members.)

Contact Information:

Joint Directors of the Conference are Cheryl E. Praeger and Lou Caccetta. For further information, please contact Dr Vijayan, Department of Mathematics, University of Western Australia, Nedlands, WA, 6009.

Running concurrently with the conference will be the 11th Australian Statistical Conference at UWA and the Annual Meeting of the Australian Mathematical Society.

Conference:

13th British Combinatorial Conference

Date and Venue:

Guildford, Monday July 8 to Friday July 12, 1991

Accommodation:

Accommodation and meals will be available at the University of Surrey from Sunday evening to Saturday morning.

Invited Talks:

Nine invited lectures will be given:

- J. A. Bondy (Waterloo) – "Graph Reconstruction: the State of the Art."
- Z. Füredi (Budapest) – "Turán Type Problems"
- S. W. Golomb (Los Angeles) – "Radar Signal Patterns from Combinatorial Designs"
- G. Korchmáros (Potenza) – "Old and New Results on Ovals of Finite Projective Planes"
- I. G. MacDonald (London) – "Schubert Polynomials"
- R. Matheron (Toronto) – "Computational Methods in Design Theory"
- J. Nešetřil [with M. Loeb] (Prague) – "Unprovable Combinatorial Statements"
- O. Pretzel (London) – "Orientations and Edge Functions on Graphs"
- P. Rowlinson (Stirling) – "Graph Perturbations"

There will also be special sessions for contributed talks (each of 20 minutes duration) covering a wide range of topics in Combinatorial Theory. The papers of the Invited Speakers will be published in the London Mathematical Society Lecture Note Series and will be available at the conference. It is expected that the conference will receive financial support from the London Mathematical Society.

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Contact Information:

The conference is being organised jointly by the British Combinatorial Committee and the Department of Mathematical and Computing Sciences, University of Surrey. Local organisers are Dr A. D. Keedwell and Mr P. J. Owens, Department of Mathematical and Computing Sciences, University of Surrey, GUILDFORD, Surrey, GU2 5XH, United Kingdom. Application forms will be available by January 1991. Applications should be in the hands of the local organisers by Friday May 31, 1991; an increased registration fee will apply thereafter.

The Australasian Journal of Combinatorics

The Australasian Journal of Combinatorics is a new journal devoted to the publication of research concerning all aspects of combinatorics, pure and applied. It is intended that at least two copies 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, Queensland, 4072, 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 x 9 inch (152mm x 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), affiliation(s), 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 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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Seventeenth Australasian Conference on Combinatorial Mathematics and Combinatorial Computing

8-12 July, 1991

Second Call for Abstracts of Talks

The Seventeenth Australasian Conference on Combinatorial Mathematics and Computing will be held at the Australian National University. Details of registration and costs appear in this newsletter. Abstracts may be submitted by e-mail, or using a single A4 page (preferably set out using TeX or LaTeX) before May 18, 1991. Contributed papers which pass the strict refereeing process will be published in the Australasian Journal of Combinatorics. E-mail registration forms may be obtained from members of the organising committee.

News

Visiting Academics and New Appointments:

Dr Yulieng Zheng has recently taken up the position of postdoctoral fellow at the Centre for Computer and Communications Security Research, in the Department of Computer Science, ADFA, Canberra. The CCCSR has a number of researchers involved in the area of combinatorial mathematics and computing, led by the Director of the Centre, Professor Jennifer Seberry. The Centre has close links to other research centres within Australia and overseas, particularly Canada.

Ms Rebecca Gower, recently appointed to the position of Teaching Fellow, in the Department of Computer Science, ADFA, is another new arrival

at the CCCSR. Ms Gower will study for a Doctor of Philosophy, under Professor Jennifer Seberry.

Recent Publications

Jennifer Seberry and Mieko Yamada. *Hadamard Matrices, Sequences and Block Designs*, volume 1 of *Papers in Combinatorial Mathematics and Combinatorial Computing*. Centre for Combinatorial Mathematics and Combinatorial Computing Research. To appear.

A number of bibliographies, in BiBTeX format, have been made available in the archives at csadfa.cs.adfa.oz.au. The following files exist there: amic_complex.bib; had_books.bib; hadamar1.bib; and hadamar2.bib.

How to ftp the bibliography files:

```
ftp csadfa.cs.adfa.oz.au (or ftp
131.236.20.6)
```

(login is anonymous, password is your user id.)

```
cd security/bib
```

```
get (name of file)
```

(if you want more than one file, then use mget.)

type quit to logout, when you have retrieved the files you want.

These bibliographies are the joint effort of Jennifer Seberry, Cathy Newberry, Elizabeth Tait and Babak Sadeghiyan.

Please send in notices of recent publications, preprints and abstracts of theses for announcement in this newsletter to Cathy Newberry, Centre for Computer and Communications Research, Department of Computer Science, University College, The University of New South Wales, ADFA, Canberra, ACT, 2601, AUSTRALIA.

**Seventeenth Australasian Conference on Combinatorial Mathematics and
Combinatorial Computing**

8-12 July, 1991

The 17th ACCMCC will be held in Canberra, from 8-12 July, 1991. The venue will be the Haydon-Allen Tank Lecture Theatre and the adjacent Haydon-Allen Tank G25, at the Australian National University. Banking, eating and shopping facilities are available on campus. The University is located in the heart of Canberra city, and shops and restaurants are just minutes away from campus.

Invited Speakers:

A number of distinguished combinatorialists have agreed to present papers. They include:

Dr Lou Caccetta, Curtin University, W.A.;
Professor Paul Erdos, Hungarian Academy of Sciences, Budapest;
Dr Chris Godsil, University of Waterloo, Canada;
Professor H. Kharaghani, University of Lethbridge, Alberta, Canada;
Professor K. Brooks Reid, California State University, California;
Dr Reihaneh Safavi-Naini, University of New England, Armidale;
Professor George Szekeres, the University of New South Wales; and
Dr Mieko Yamada (Inaugural ICA Lecture), Konan University, Kobe, Japan.

Social Programme:

A cocktail party will be hosted by the Rector of the University College, at the Australian Defence Force Academy. This will take place the first evening of the conference, following registration.

The conference dinner will be held at the Canberra Club. A full day excursion to Perisher-Smiggins has also been organised. More details on both these events are provided in the registration leaflet.

Accommodation:

Arrangements for full bed and board have been made with John XXIII College, at the Australian National University. A limited number of places are available.

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Conference Fee:

The registration fee is A\$230. A concessional rate may be available upon application to the organising committee. Conference attendees are automatically members of C.M.S.A. for the next year.

Submission of Abstracts and Registration:

Abstracts of contributed papers may be submitted by e-mail or using a single A4 page (preferably set out using TeX or LaTeX) before May 18, 1991. Contributed papers which pass the strict refereeing process will be published in the Australasian Journal of Combinatorics. Registration by e-mail is also possible. E-mail registration forms may be obtained from members of the organising committee.

Organising Committee:

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Next Newsletter

Material for the next newsletter should be submitted by early June, 1991. Notices of upcoming conferences, news of members, details of visitors, and notices of recent publications and talks are particularly welcome. Please send your submissions to:

Cathy Newberry
Centre for Computer and Communications
Security Research,
Dept. Computer Science,
University College,
The University of NSW,
ADFA,
Canberra, ACT, 2601,

CMSA Office-Bearers

(to the end of 1991)

Director:

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Dept. Computer Science,
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The University of NSW,
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This newsletter edited by Professor J. Seberry and Dr J. Cooper, CCCSR, Dept. Computer Science, University College, UNSW, ADFA, Canberra, ACT, 2601. Typesetting and technical editing, C. Newberry, CCCSR.

Published by the Combinatorial Mathematics Society of Australasia.

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Late notice of talk

Finite Geometry Special Session

The response to my request for opinions about a possible Special Session on Finite Geometry at the A.M.S. regional meeting to be held at Lehigh University in Bethlehem, Pennsylvania on April 11th and 12th of 1992 has been so positive that I have decided to go ahead and organize such a session; moreover, Jenny Key has agreed to help and so we will jointly organize the Special Session.

You will be able to follow the development of the Session in the Notices of the A.M.S. and I will keep you informed of developments via e-mail. Which brings me to an important point: the list of e-mail addresses I have is not long and I want to reach all those people who might be interested. Please feel free to redirect this message to others or to tell others to contact me so that I might add their e-mail address to the present list. In accordance with A.M.S. policy, any member may request ten minutes of time at the meeting to give a talk in the general sessions; the special-session talks are typically twenty minutes and "invited" or, at least, selected by the organizers. You need not be a member of the A.M.S. to talk, but if you are not you must be sponsored (a formality).

The time available for talks limits the number of talks to seventeen unless one holds parallel sessions. Since that seems rather silly I am exploring the possibility of holding "another" conference at the same time — in effect extending the meeting.

Edward F. Assmus, Jr.

Email: EFA0@NS.CC.LEHIGH.EDU

REGISTRATION FORM

SECTION A: Personal Details

Delegate:

Title	Family Name	Given Names
Institution/Organisation		
Position Held		
Postal Address _____ _____		
Country _____	Postal/Zip Code _____	
Telephone _____	e-mail _____	
Telex _____	Facsimile _____	
Accompanying Person(s)		

SECTION B: Accommodation

<p>Do you require the college accommodation (please circle): Yes/No</p> <p>If yes, do you have any special dietary needs (eg., vegetarian)?</p>
<p>College accommodation (Bed and Board)</p> <p>\$180 per person for four nights</p>

TOTAL SECTION B:

\$A

SECTION C: Social Programme

Conference Events:

Event	Cost per person	No. of persons	Total
Conference dinner Accompanying person	\$A35		
Thredbo excursion	\$A48		

TOTAL SECTION C:

\$A

SECTION D: Payment of Conference Fees

1. Registration fee	\$A230
2. Total SECTION B	\$A?
3. Total SECTION C	\$A?

TOTAL PAYMENT:

\$A

Signature _____

Date _____

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Social Programme:

A cocktail party will be hosted by the Rector of the University College, at the Australian Defence Force Academy. This will take place the first evening of the conference, following registration.

The conference dinner will be held at the Canberra Club, located in the heart of Canberra City. The cost of the dinner for conference participants is included in the registration fee. The cost for accompanying persons is \$A35.

A full day excursion to Perisher-Smiggin has also been organised, at a cost of \$48 per person. This will include ski hire and stocks, a skiing lesson, entry fee to the National Park, cost of transportation and lift tickets. The tour has been organised for Wednesday, 11th July. There are only a limited number of places available for this tour, so conference participants are advised to register their interest early to avoid disappointment.

Accommodation:

Arrangements for full bed and board have been made with John XXIII College, at the Australian National University, at a cost of \$180 per person. A limited number of places are available and will be allocated on a first come, first served basis. Please indicate on your registration form whether or not you will require the college accommodation.

For those conference participants who may wish to make their own accommodation arrangements, the following hotels are also available, close to the University campus:

Gowrie Private Hotel — Northbourne Avenue, Braddon, ACT, 2601. Rates are \$30 per night for a single room (including breakfast) and \$50 per night for a double room (also including breakfast).

Country Comfort Inn — 102 Northbourne Avenue, Braddon, ACT, 2601. Rates are \$125 per night from Monday to Thursday and \$95 per night from Friday to Sunday.

Downtown Speros Motel — 82 Northbourne Avenue Braddon, ACT, 2601. Rates are \$68 per night for a standard room and \$88 per night for a deluxe room.

Kythera Motel — 98–100 Northbourne Avenue, Braddon, ACT, 2601. Rates are \$73 per night.

Capital Hotel — 108 Northbourne Avenue, Canberra City, ACT, 2601. Rates are \$135 per night on weekdays and \$89 per night on the weekend.

Canberra City Motor Inn — 74 Northbourne Avenue, Canberra City, ACT, 2601. Rates are \$89 per night for a double room.

Submission of Abstracts and Registration

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