COMBINATORICS

Volume 6 (1984) Number 1 (March)

pp.1-9

Combinatorics is the newsletter of the
Combinatorial Mathematics Society of
Australasia, and is published by the
Society. The annual subscription rate
for individual non-members and instit-
utions is $4 (AUST). During 1984 all
enquiries should be directed to the
CMSA, C/- Professor Cheryl Praeger,
Department of Mathematics, University
of Western Australia, Nedlands, W.A.
6009, Australia.

1984 SUBSCRIPTIONS
ARE NOW DUE!!!

1. The Twelfth Australasian Conference on Combinatorial Mathematics and Computing (XII ACCMC) will be held from

13-17 August 1984

at the University of Western Australia, Perth.

(i) Invited Speakers

The following have accepted our invitation to give one-hour invited addresses

Professor A. Barlotti (University of Florence)
Dr B. McKay (Australian National University)
Professor N. Pullman (Queens University, Canada)
Professor D. Stinson (University of Manitoba, Canada)
A/Professor A.P. Street (University of Queensland)

It is possible that

Professor P. Erdos
Professor V. Sos
Professor C. Godsil

may also give invited lectures.

(ii) Papers/Proceedings

In addition to the invited lectures we welcome contributed papers in all areas of pure and applied combinatorics including computing aspects. These will be of 25 minutes duration with 5 minutes allowed for questions.

Potential speakers should send a TITLE and a SHORT ABSTRACT to -

Dr P. Schultz, The Secretary CMSA, Department of Mathematics, University of Western Australia, Nedlands WA 6009, Australia

by July 16th 1984 to ensure inclusion in the programme. (We cannot guarantee that late contributions will be accepted.)

The proceedings of XII ACCMC will be published as Volume 19A of Ars Combinatoria. All papers will be refereed. Contributors may submit their manuscripts in final form at the conference, or, failing this, should send the final form of their manuscript by September 30th 1984 to -

The Editor, Ars Combinatoria, Department of Computer Science, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2.

Typing Instructions For Manuscripts:

(a) The text on the paper should be spaced with a spacing of 1½.

(b) Typing should be done on standard A4 paper (or on American 8½ × 11 paper).

(c) The typing on each page should be restricted to a box 15 centimetres by 22½ centimetres. (It is important that the typist should not extend the pages beyond the proper length and it is also important that lines should not stretch out beyond the indicated length.)

(d) This box should be placed on the page so that there is a margin of 2½ centimetres to the left of the page. The margins at the top and bottom of the page should be even. (Typists may find it convenient to rule out a black box on one sheet of paper and put this behind the page that they are currently typing.)

(iii) As well as those already mentioned, several other people have already indicated an interest in attending including Tony Gardiner, M.K. Siu, R.G. Stanton, Douglas Rogers.

(iv) Accommodation

Accommodation has been reserved for the conference at Currie Hall, a University Hall of Residence adjacent to the campus. Most of the rooms are single study bedrooms but a few double rooms are available, and it is possible to accommodate children. Participants may stay in Currie Hall before the conference, but must vacate their rooms by 10 am Friday, August 17th (due to the return of students for the start of 3rd term).

The cost of accommodation at Currie Hall will be A$21 per day for bed and breakfast; lunches and dinners are available at a cost of A$4 per meal. For children aged 5-15 years half-rates apply, and for children less than 5, accommodation is free. Lunches may also be taken at University House, (the academic staff club), and there are several other restaurants close to the campus. The Conference Dinner will take place at Currie Hall on Thursday evening at a cost of A$18.50 per person.

Accommodation during the conference has been arranged on a dinner-bed breakfast basis. Thus the overall rate (including the Conference Dinner) from Sunday evening August 12th after dinner through to Friday morning August 17th after breakfast will be A$135.50 per person. A deposit of A$25 per person is required by July 1st 1984. (This deposit will be refundable up to July 1st, but is non-refundable after this date.) If it would be more convenient for (overseas) participants the entire accommodation cost may be remitted by July 1st 1984.

* The rules have changed. The typing must be done on special paper which will be sent to you on request once we have a quantity of it, or at worst will be distributed at the conference.

Information about alternative forms of accommodation (for example hotel, motel) may be obtained from Dr P. Schultz, Secretary CMSA, Department of Mathematics, University of Western Australia, Nedlands 6009, Australia.

Please let us know if you have any special requirements, for example a special diet, or disability, or if you require special arrangements for children.

It may be possible to arrange care for preschool children at Unicare, a child care centre adjacent to the campus, if sufficient notice is given. If other care is required we will try to help.

(v)   Registration

Registration fees are payable at the conference (but may be sent ahead of time) and will be -

A$45 for members of the Combinatorial Mathematics Society of Australasia (CMSA).

A$50 for non-members (giving membership for the rest of the year).

A$22.50 for students and unemployed persons (including retired persons).

(vi)   Social Programme

On Sunday evening there will be a wine and cheese party in Currie Hall from 8 pm onwards at which participants may register.

On Monday early evening the Vice Chancellor of the University of Western Australia, Professor R. Street, will welcome conference participants at a reception.

The conference excursion is planned for Wednesday afternoon. It will be a cruise on the Swan River including a three course lunch. Conference participants may bring guests. The cost will be A$24 per person.

The Annual Dinner will be held at Currie Hall on Thursday evening. The cost of the dinner is included in the charge for Currie Hall residents. The cost to non-residents will be A$18.50. Conference participants may bring guests.

For the duration of the conference, participants will be members of University House, the academic staff club.

2. Subscription renewal

Members are reminded that the 1984 subscriptions for the
Combinatorial Mathematics Society of Australasia fall due on
January 1st. The rates are A$4 for those in full-time employment
and A$2 otherwise. Prompt payment would be appreciated. Please
make cheques, drafts, etc. payable to the CMSA and post with full
name and address to Dr Vijayan, Treasurer, CMSA, Department of
Mathematics, University of Western Australia, Nedlands WA, 6009,
Australia. Receipts will be issued. Those remitting in NZ$ send
NZ$5.50. Those remitting in US$ send US$6 (to allow for bank
charges).

3. Other Conferences

(a) The Fifth International Congress on Mathematical Education
(ICME 5) will be held in Adelaide, 24-30 August, 1984 - that
is "just" after XII ACCMC. It is organised on behalf of the
International Commission on Mathematical Instruction through
the Australian Subcomission and the Australian Academy of
Science. I think there will be a discussion group on the
teaching of Combinatorics. The congress address is ICME 5,
GPO Box 1729, Adelaide SA, 5001, Australia.

(b) The next Summer Research Institute of the Australian
Mathematical Society will be held at the University of
Auckland in January 1985.

(c) The First International Conference on Fibonacci Numbers and
their Applications will be held at the University of Patras,
Greece, 27-31 August 1984. It is sponsored by the Fibonacci
Association and the University of Patras. For further
information contact Professor G.E. Bergum, Editor, Fibonacci
Quarterly, Department of Mathematics, South Dakota State
University, Box 2220, Brookings SD S7007-1297, USA, or
Professor A.N. Philippou, Department of Mathematics,
University of Patras, Patras, Greece.

(d) Unfortunately we are too late to announce the Fifteenth South
Eastern Conference on Combinatorics, Graph Theory, and
Computing which was held this month at Louisiana State
University, as the information reached me in late January.
I hope it was successful.

4. Changes of Address

(i) Charles J. Colbourn and Marlene J. Colbourn, Department of
Computer Science, University of Waterloo, Waterloo,
Ontario, N2L 3G1 Canada.

(ii) St John Kettle, Department of Mathematics and Operations
Research, Footscray Institute of Technology, PO Box 64,
Footscray, Vic.

(iii) Donald Skilton, Department of Mathematics, Simon Fraser
University, Burnaby, B.C., Canada, V5A 1S6.

(iv) Nick Wormald, Department of Mathematics and Statistics,
The University of Auckland, Private Bag, Auckland, NZ.

(v) Brendan McKay, Department of Computer Science, Australian
National University, G.P.O. Box 4, Canberra, Australia,
2601.

5. Honours (Please let me know of any)

    Emeritus Professor B.H. Neumann has been invited to give the Matthew
    Flinders Lecture of the Australian Academy of Science to be
    delivered 26th April 1984. The award of a bronze medal goes with
    this invitation.

    This information I obtained from the IMU Canberra Circular
    February 1984 which also contained the following inductive
    definition of a mathematician (due to Professor Wieslaw Zelazko):
    Carl Friedrich Gauss was a mathematician; a person whom a
    mathematician considers to be a mathematician is a mathematician.

6. Recent Papers/Preprints

    (a) A.F. Horadam

        (i)   (with A.G. Shannon) 'Irrational Sequence-Generated
                Factors of Integers' *Fibonacci Quart.* 19(3) 1981,
                240-250

        (ii)   (with S. Pethe) 'Polynomials Associated with
                Gegenbauer Polynomials' *Fibonacci Quart.* 19(5) 1981,
                393-398

        (iii)   (with A.G. Shannon) 'Concerning a Paper by L.G.
                Wilson' *Fibonacci Quart.* 20(1) 1982, 38-41

        (iv)   (with A.G. Shannon) 'Combinatorial Aspects of an
                Infinite Pattern of Integers' *Fibonacci Quart.* 20(1)
                1982, 44-51

        (v)   'Pythagorean Triples' *Fibonacci Quart.* 20(2) 1982,
                121-22

        (vi)   'Geometry of a Generalized Simson's Formula' *Fibonacci
                Quart.* 20(2) 1982, 164-168

        (vii)   (with E.M. Horadam) 'Roots of Recurrence-Generated
                Polynomials' *Fibonacci Quart.* 20(3) 1982, 219-226

        (viii) (with A.G. Shannon) 'Some Combinatorial Aspects of
                Complex Logarithms' *Bull. Number Theory and Related
                Topics* 7(1) 1982, 11-16

        (ix)   (with A.G. Shannon and R.P. Loh) 'Sloane's Fermat
                Coefficient Sequences' *J. Natural Sciences and
                Mathematics* 22(2) 1982, 187-190

    (b) Donald Skilton

        (i)   (with R.B. Eggleton) 'Chain decompositions of graphs,
                1: abstract graphs', to appear in *Proceedings of the
                First Southeast Asian Colloquium on Graph Theory,
                National University of Singapore, 1983*

    (ii)   (with R.B. Eggleton) 'Chain decompositions of graphs,
             2: surface embeddings', to appear in *Proceedings of
             the First Southeast Asian Colloquium on Graph Theory*,
             National University of Singapore, 1983

    (iii)   'Eulerian chains and segment reversals', to appear in
             *Proceedings of the First Southeast Asian Colloquium
             on Graph Theory*, National University of Singapore,
             1983

(c)   Cheryl E. Praeger

    (i)   (with P.J. Cameron) 'On 2-arc transitive graphs'
             J. Comb. Theory (B) 35 (1983), 1-11

    (ii)   (with P.J. Cameron, G.M. Seitz and J. Saxl) 'On the
             Sims' cojecture and distance transitive graphs',
             Bull. London Math. Soc. 15 (1983), 499-506

    (iii)   (with C.K. Nilrat) 'Sequential binary arrays and
             circulant matrices', Research Report, University of
             W.A., 1984

    (iv)   Symmetric graphs and the classification of the finite
             simple groups, (Proceedings of Groups - Korea 1983)

(d)   Cheryl E. Praeger and Anne Penfold Street

    (i)   'Characterization of some sparse binary sequential
             arrays', *Aequationes Math.* (to appear)

    (ii)   (with J.A. Hopkins) 'Twills with bounded float
             length', *Bull. Austral. Math. Soc.* 28 (1983), 255-282

    (iii)   (with J.A. Hopkins) 'Balanced twills with bounded
             float length', (preprint, 1983)

(e)   Peter Eades, Cheryl E. Praeger and Jennie R. Seberry

    'Some remarks on the permanents of circulant (0,1) matrices,
    Utilitas 28 (1983), 145-159

(f)   Cheryl E. Praeger and Nicholas C. Wormald (with E.A. Bender)

    'Optimal worst case trees' (preprint, 1983)

7. Recent Theses

    A.T. Moran (M.A. Hons 1983, University of New England)
        Title: The construction of orthogonal latin squares of order
             ten.
        Supervisor: A.F. Horadam

    J. Spraggon (M.A. Hons, 1983, University of New England)
        Title: Special Aspects of Combinatorial Number Theory (Being
             an Exposition of the Mathematical Research of V.E.
             Hoggatt, Jr.)
        Supervisor: A.F. Horadam

8. AMS Affiliation

As requested by the last AGM of the society I have approached the
Australian Mathematical Society about possible affiliation of
CMSA with them. Our application will be on the agenda for the
next Council Meeting of the AMS in May. We are requesting them to
consider having us either as a division, or as a subdivision of a
Division of Pure Mathematics which might be created. I will keep
you informed of progress in this matter, and hope that we may have
a definite proposal from the AMS to discuss at our AGM in August.

9. Proceedings of Conferences

"Should we as an Australasian body consider having the proceedings
of our conferences published within Australasia, perhaps as a
special issue of the Journal, or Bulletin of the Australian
Mathematical Society". This suggestion was put to me by a member
and I think it should be considered by us - through published
correspondence in the next newsletter, and at the next AGM in
August. The Australian journals I mentioned have produced special
issues in the past. Would it be appropriate to ask for a special
issue if we affiliate with the AMS? I'd be happy to hear your
views, and pass them on through this newsletter.

                              See you all in August, I hope.

                              Cheryl E. Praeger

REGISTRATION FORM

Please complete and return to:-

> Professor C.E. Praeger
> Director, XII ACCMC
> Department of Mathematics
> University of Western Australia
> Nedlands Australia 6009

Name: ....
BLOCK LETTERS   Title   Initials   Surname

Name for Conference name tag: ....

Address: ....

.................................Phone: ....

(Please tick or leave blank the following boxes
as appropriate)

I expect to attend the XII ACCMC   [ ]

I wish to contribute a paper   [ ]

   Title: ....

My abstract will reach you by July 16th   [ ]

I enclose an abstract (for the Secretary)   [ ]

I am willing to chair a session   [ ]

I will require accommodation at Currie Hall for ....
persons from Sunday evening to Friday morning

other ....

Special requirements...

I wish to attend the Conference Dinner   [ ]

and will bring .... guests.

I wish to go on the Conference Excursion   [ ]

and will bring .... guests.

I enclose a cheque for A$.................................. covering:

   Registration fee: A$..

   Deposit for accommodation: A$...
   ($25 per person).
All cheques should be made payable to CMSA.