

# COMBINATORICS

Volume 12 (1990), Number 2, August

## 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 1990 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, Dr C. H. C. Little at the address given below.

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### CMSA OFFICE-BEARERS to the end of 1990

**DIRECTOR**  
Dr C. H. C. Little  
Dept of Mathematics and Statistics  
Massey University  
Palmerston North  
NEW ZEALAND

**ACTING TREASURER**  
Mr E. P. Dawson  
School of Mathematics  
Qld University of Technology  
P O 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).

## FUTURE CONFERENCES

The SEVENTEENTH AUSTRALASIAN CONFERENCE on Combinatorial Mathematics and Combinatorial Computing will be held at the Australian Defence Force Academy in Canberra in 1991. For details, please write to:

Professor Jennifer Seberry  
Department of Computer Science  
University College, University of NSW  
ADFA  
Northcott Drive  
Canberra ACT 2600  
Australia

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

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## RECENT PUBLICATIONS

I. Rinsma, C. H. C. Little and D. R. Woodall, "Maximal Matchings in Graphs with Large Neighbourhoods of Independent Vertices", J. Graph Theory 14 (1990), 167-71

Please send in notices of recent publications, preprints and abstracts of theses for announcement in this newsletter to Peter Kelly, Department of Mathematics and Statistics, Massey University, Palmerston North, New Zealand.

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## DISCRETE MATHEMATICS BOOKLETS

Two booklets are currently in progress.

The first on "The three principles of combinatorics: pigeonhole, mathematical induction, and inclusion-exclusion" has been submitted, refereed and is now under revision by the authors. Resubmission is expected by the end of the year.

The draft of the second on "Combinatorial aspects of block designs" is currently in preparation with submission expected by the end of the year.

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) 471276.

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## 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 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  $\times$  9 inch (152mm  $\times$  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, 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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### NEXT NEWSLETTER

Copy for the next newsletter should be submitted by December 7, 1990. I would be particularly grateful for news of members, and details of visitors to Australia or New Zealand who may be of interest to members. Please send to Peter Kelly, Department of Mathematics and Statistics, Massey University, Palmerston North, New Zealand.



The Combinatorial Mathematics Society of Australasia  
invites you to attend the

## SIXTEENTH AUSTRALASIAN CONFERENCE ON COMBINATORIAL MATHEMATICS AND COMBINATORIAL COMPUTING

sponsored by the ROYAL SOCIETY OF NEW ZEALAND



### SECOND CIRCULAR

The Sixteenth Australasian Conference on Combinatorial Mathematics and Combinatorial Computing will be held at Massey University, Palmerston North, New Zealand, during December 3-7, 1990.

#### PROGRAMME

The following people have agreed to deliver one-hour invited lectures:

Fan Chung, Bell Communications Research;  
Charles Colbourn, Department of Computer Science, University of Waterloo;  
Ron Graham, AT&T Bell Laboratories;  
Jennifer Seberry, Department of Computer Science, Australian Defence Force Academy;  
Ralph Stanton, Department of Computer Science, University of Manitoba;  
Doug Stinson, Department of Computer Science, University of Manitoba;  
Douglas Woodall, Department of Mathematics, University of Nottingham.

There will also be half-hour contributed papers. The response to the first circular (at least 57 contributed papers) suggests that parallel sessions will be necessary. It is planned to begin the formal sessions at 8.45am on Monday, December 3 and to conclude at approximately 5.00pm on Friday, December 7. The Annual General Meeting is planned for the evening of Tuesday, December 4, and there will be a four-course conference dinner at the Staff Club on the evening of Thursday, December 6. The cost of the dinner will be \$25 per head, including GST (12 $\frac{1}{2}$ % Goods and Services Tax). Drinks are extra.

An excursion to the National Wildlife Centre at Mt. Bruce is planned for the afternoon of Wednesday December 5. Many of New Zealand's rare birds are bred and displayed here, including the takehe, once believed to be extinct. This visit will be followed by a barbecue, and a trip through the scenic Manawatu Gorge. The estimated cost of the excursion will be \$25.

#### TRAVEL

Palmerston North is serviced by Air New Zealand (Domestic), Ansett New Zealand, and several regional airlines (such as Eagle Air and Air Nelson), with connections from each of the international gateways of Auckland, Christchurch and Wellington. All airlines offer "Thrifty" fares, giving a 35% discount for advanced ticket purchase; these fares do not attract GST if booked overseas. Sample Thrifty fares are:

Auckland - Palmerston North	\$NZ 102
Christchurch - Palmerston North	\$NZ 111
Wellington - Palmerston North	\$NZ 66

All services from North America use Auckland, and this is usually the most convenient arrival point from Australia.

There is no scheduled bus service from Palmerston North airport to the city or to the campus, but taxis and rental cars are available at the airport. If you wish to be met at the airport, please give appropriate details on the attached registration form.

Palmerston North is also served by trains and intercity buses. If you wish to be met at the railway station, please give the time of arrival on the registration form. If you wish to be met at the bus terminal, you will also need to indicate whether you are travelling with Newman's Coach Lines or the NZR Road Services.

If you are arriving by car, the most convenient car parks are the shaded areas near the numbers 12 and 41 on the campus map. Parking is also available on the ring road.

## ACCOMMODATION

Rooms have been reserved in Egmont Court, one of the student hostels on the campus of Massey University (number 4 on the enclosed map). Rates (inclusive of GST) are NZ \$38.70 per night for bed and breakfast. If you wish to book accommodation in Egmont Court, please send a \$20 deposit with your registration form. Only single rooms are available in the hostel.

For those preferring hotel or motel accommodation off-campus, the following table gives a representative sample of those on or near the bus route from central Palmerston North to Massey and should be booked directly via the fax number indicated. (The country code is 64, and the area code is 63.) The quoted nightly rates are for 1-2 persons, inclusive of GST, in \$NZ. (As of July 1990, \$1NZ = \$0.75(AUS), \$0.69(CDN), \$0.59(US)).

	Rate per night	No. of Rooms	No. of Units	Fax Number
<b>HOTELS/SERVICED MOTELS</b>				
Coachman Palmerston North	NZ\$74-NZ\$124	42	16	66692
Quality Inn Palmerston North	86-125	154		68604
<b>MOTELS</b>				
Avenue Motel	67-94		8	66618
Awatea Park Motel	66-88		12	66755
Cherry Court Motel	59-66		4	66482
Coachman Palmerston North	74-96		19	66692
	101 (Villas)		7	
Kauri Court Motel	77		12	66040
Motel Tokyo	70-80		10	67071
Rose City Motel	77-104		26	65085

Meals are available at the Staff Club (number 93 on the attached campus map), the Student Centre (number 82) and the Options Café in the commercial complex (number 91). There are no restaurants off-campus within walking distance.

## ABSTRACTS

If you plan to give a talk, please send an abstract on A4 paper by October 31, if you have not already done so. Abstracts should be double-spaced, with a 2cm margin all round. The title should be centred at the top of the page, followed by the author's name (centred) and affiliation (centred).

## **PROCEEDINGS**

The proceedings of the conference will be published in the Australasian Journal of Combinatorics. The cost of your copy of the proceedings is included in the registration fee. If you wish to have your paper published in the proceedings, please submit it to one of the organisers at the conference. All papers submitted will be refereed.

## **GENERAL INFORMATION**

Although the conference is being held during a relatively warm month, occasional imperfections in the weather may be experienced. Participants are therefore encouraged to bring warm and rainproof clothing. The normal maximum and minimum temperatures for December are 21<sup>0</sup>C and 12<sup>0</sup>C.

The power supply is 240V at 50Hz.

## **REGISTRATION**

In the first circular you were asked to indicate whether you were likely to attend the conference. You are now asked to return the attached form, stating definitely that you will attend this conference, and whether you will contribute a paper. The registration fee is \$NZ160, with a reduction to \$140 if it is paid by September 30. These figures are reduced to \$150 and \$130 respectively for CMSA members. For full-time students the fee is reduced to \$70.

There will be an opportunity to register at an informal social gathering at the Staff Club from 6pm until 9pm on Sunday, December 2. A further opportunity to register will be provided from 8.00am onwards in the foyer of the Agriculture and Horticulture Lecture Theatre Block (number 31 on the map), the building in which all the lectures will be held.

The organisers would be very grateful for the return of the registration form with the registration fee (and deposit for hostel accommodation) as soon as possible.

If you require any further information, please write to: Dr Charles Little, Department of Mathematics and Statistics, Massey University, Private Bag, Palmerston North, New Zealand. He can be contacted by telephone at (063)69-099, extension 7443, by computer at C.Little@massey.ac.nz and by facsimile at 0011 64 63 505 611.

## **ACKNOWLEDGEMENTS**

The organisers wish to thank the Royal Society of New Zealand, the New Zealand Mathematical Society, Bennett's University Book Centre Ltd. and Advantage Computers Ltd. for financial assistance, and the British Council for a generous contribution towards the airfares for Douglas Woodall.

**SIXTEENTH AUSTRALASIAN CONFERENCE ON  
COMBINATORIAL MATHEMATICS AND  
COMBINATORIAL COMPUTING**

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Electronic mail address: \_\_\_\_\_

Will you attend the conference? \_\_\_\_\_

If so, will you present a contributed paper?

Title: \_\_\_\_\_

Co-author(s): \_\_\_\_\_

Do you require university hostel accommodation?

Number of people: M \_\_\_\_\_ F \_\_\_\_\_

Arrival Date: \_\_\_\_\_

Departure Date: \_\_\_\_\_

Do you wish to be met at the

Airport? \_\_\_\_\_ Flight \_\_\_\_\_ Date and Time \_\_\_\_\_

Railway Station? \_\_\_\_\_ Date and Time \_\_\_\_\_

Newman's bus depot? \_\_\_\_\_ Date and Time \_\_\_\_\_

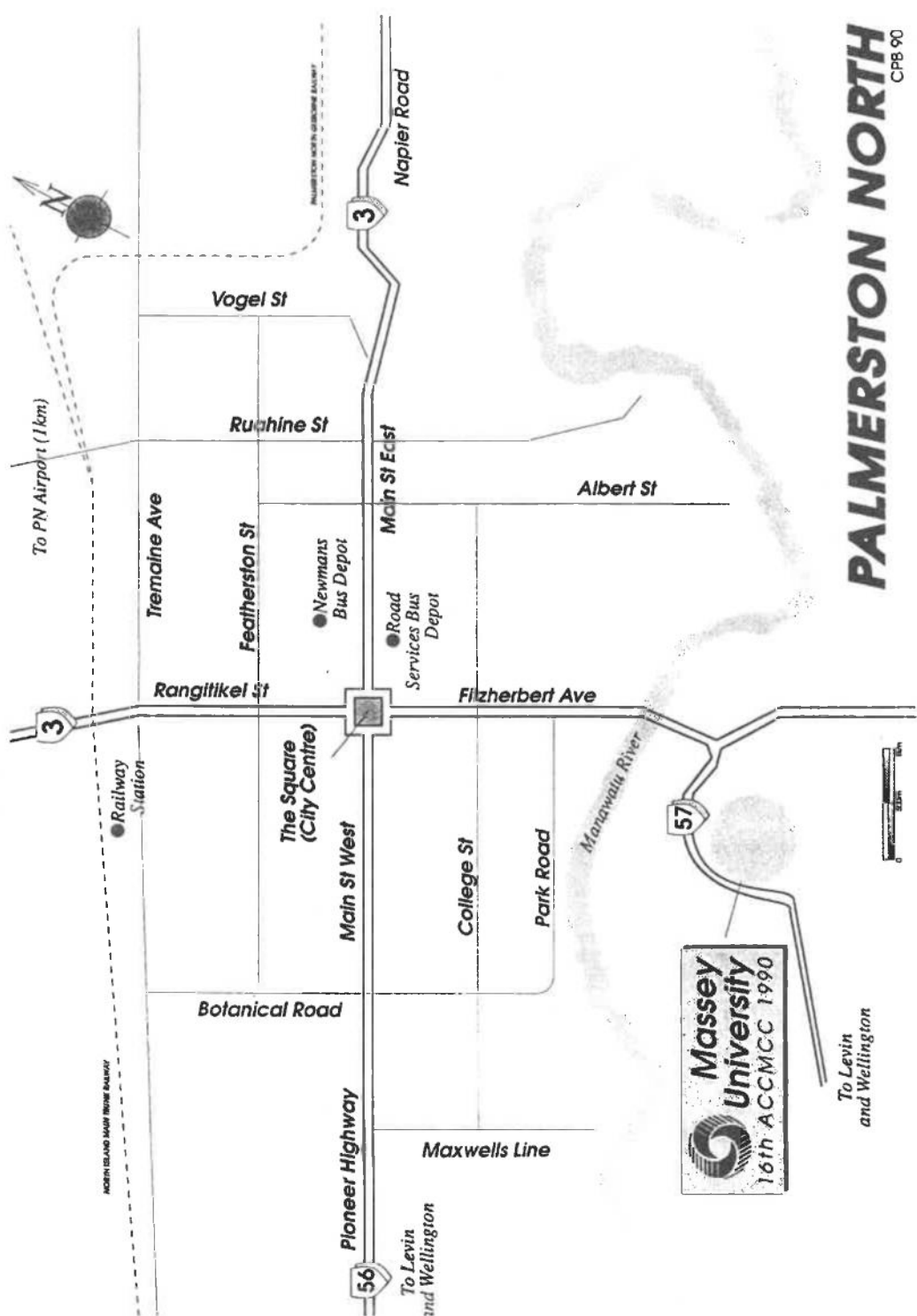
NZR Road Services bus depot? \_\_\_\_\_ Date and Time \_\_\_\_\_

Are you likely to attend the conference dinner? \_\_\_\_\_ How many people? \_\_\_\_\_

Are you likely to participate in the excursion? \_\_\_\_\_ How many people? \_\_\_\_\_

**Please return this form, with your registration fee and deposit for  
hostel accommodation, to:**

Dr C. Little  
Department of Mathematics and Statistics  
Massey University  
Private Bag  
Palmerston North  
NEW ZEALAND



# PALMERSTON NORTH

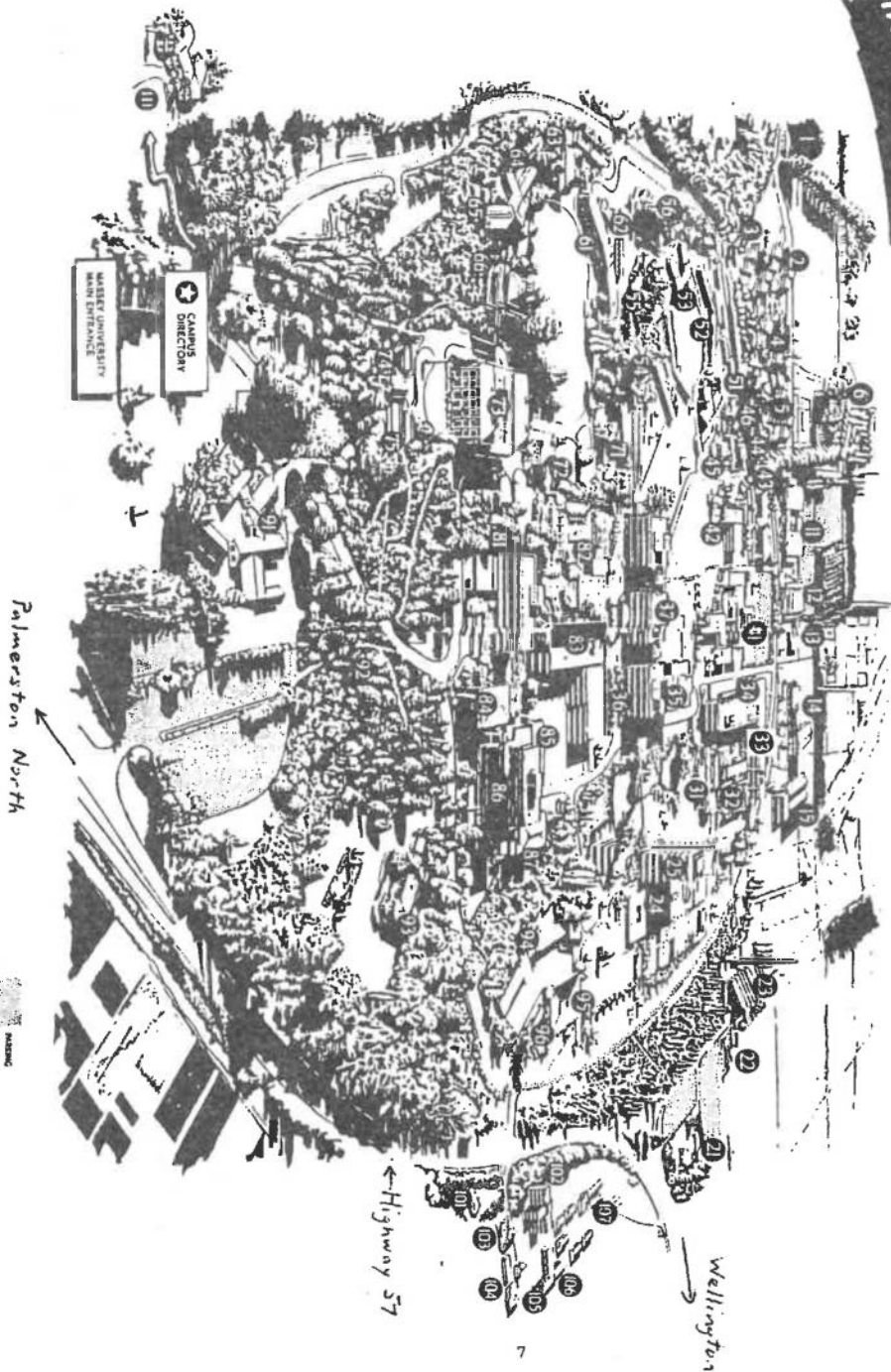
CPB 90



To Levin  
and Wellington



# UNIVERSITY MAP



Palmerston North

Highway 57

Wellington