

OR NEWSLETTER

Operational Research Society of New Zealand (Inc.)

Registered at C.P.O., Wellington, as a magazine

March 1991

New Members

A warm welcome to new members since the last newsletter:

Mike Kearney	Horticultural Economist	Nelson
Adrian Jurke	Student	Wellington

Conference Proceedings

Copies of proceedings from the 1990 conference (and previous years) are available to individual members for \$10.00 per copy from the Treasurer, Rona Bailey (P.O. Box 1335, Wellington, (04) 727-855 ext 862). Postage outside New Zealand is additional.

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News from the "new" President

February's been a busy month for the Society, and for me in particular as President. I'd always wondered what the President actually DID; now I'm finding out. I'm hoping future month's won't be so busy! I thought you may be interested in what your Council people actually do do, so here goes:

We had our first Council meeting for the year and my first as President. Welcome to those new on Council, and welcome back to old faces (oops - I should say "familiar faces" as I'm now one of the oldest on Council). It's a few years since we had a Council member assigned to Membership, and I looking forward to new initiatives from Cheryl McDonald in that Portfolio. This should include promoting the interests of existing members, and encouraging new ones. If you have any thoughts on this , contact Cheryl or me.

Several other matters came to hand: (some are reported on more fully elsewhere in the newsletter).

Dave Ryan has expressed concerns about the revised Student Paper Prize rules. While we have decided to keep with the new rules this year, we are printing David's letter and the response from Grant Read, and we welcome your views on this;

Merv Rosser recently retired from Auckland University, and the Council and Auckland Branch felt this was an appropriate time to bestow on him Honorary Life Membership of the ORSNZ;

NZIM asked what we could do for member organisations, so we wrote with our ideas on how they could help us better;

The Science Ministerial Task Force asked us to submit our ideas on the Crown Research Institutes that are to be set up, replacing DSIR, MAFTECH, the Forest Research Institute and the Meteorological Service.

So we duly did just that.

As I said, I hope the next few months are less work for me, but it's great to see the Society really thriving. I hope we are doing what you want us to do - if not let us know (and if we are, we'd also like to know!).

Happy OR'ing,

Vicky Mabin
President

**Associate Professor
Mervyn S Rosser's
Honorary Life Membership Presentation**

When Merv renewed his membership recently, he wrote a note asking whether there was a "retired rate".

Little did he know that Council had already agreed to Auckland Branch's proposal that Prof. Rosser be awarded an Honorary Life Membership, in recognition of his outstanding contribution to OR in New Zealand and the ORSNZ in particular. This is the very highest honour the Society can award, and it is only the second time it has been awarded.

Apart from Merv's considerable contributions to the academic world, he has made a great contribution to the Society. He has been a member and chairman of the Auckland Branch committee for many years. In these roles he has actively promoted the Society. He has helped to liaise with many overseas visitors and speakers, and has also served on the national Council, being President for 4 years.

The award was made at a surprise dinner organised to officially mark Prof. Rosser's retirement from the Department of Engineering Sciences at Auckland University. David Ryan and helpers organised a memorable evening's entertainment, which about 70 people attended. Guests included past and present members of Auckland University's Engineering Sciences and several other departments, students and ex-students, plus colleagues of Merv's from various places.

I was delighted to make the award personally, for I have known Merv since I first joined the Society in 1976, and was Secretary for 3 of the years that Merv was President. I remember well our attempts at using long distance conference calls for Council meetings. And of course those at the 1989 conference won't have forgotten Merv's vocal talents in the Auckland Branch's contribution to celebrate our 25 years.

Merv has been a member of the then TAM, and later ES, Department at Auckland for some 25 years and promoted the ORSNZ in many ways. He encouraged students and colleagues to join the Society. We are very grateful to Merv for his services to OR and ORSNZ, and are delighted to be able to recognise this through the award of Honorary Life Membership. We wish Merv and his wife Dorothy a long and happy retirement, and look forward to his continued involvement with the Society. Maybe we could start a new column in the newsletter, "News from our Hon. Life Members". *Vicky Mabin*

Your Council for 1990/91

The portfolios for this year are as follows:

President	V.J. Mabin
Vice-President, Professional Development	E.G. Read
Secretary	G. Eng
Treasurer, Publications, Library	R.N. Bailey
APORS Rep., Conference	H. Barr
International	H.G. Daellenbach
Newsletter	C.K. Daké
Newsletter Editor	R.J. Lermitt
Membership	C.M. McDonald
Student Affairs	T.K. Sarkar
Minutes Secretary, Circulation	V.H. Willis

Ex Officio

APJOR Editor	L.R. Foulds
APJOR Editor	J.L. Scott
Wellington Chair	M.J. Civil
Auckland Chair	J. Meyer
Canterbury Chair	K.J. Mayes

Council Changes

Bob Cavana, Andrew Smith and Frances Sutton left Council at the end of the 1989/90 term. Bob has been our President for the last two years and prior to that was Chairman of the Wellington Branch. Andrew has been on Council for a number of years and has held the International portfolio for that time as well as having served as Vice-President. Frances leaves Council after serving as the Education and Professional Development Officer. To these members, we say thank you for your sterling service and wish you well in all your future endeavours.

Coming on to Council are Hans Daellenbach, Chris Daké and Cheryl McDonald. Hans needs no introduction having been an ex officio member of Council in his capacity of Editor of New Zealand Operational Research and latterly, the Asia-Pacific Journal of Operational research through the 1970s and 1980s. His experience and contacts will undoubtedly come in useful in the International portfolio. Both Chris and Cheryl have served terms on the Wellington Branch. Chris will assist Jonathan in putting together the newsletter. Cheryl takes on the membership promotion portfolio.

Gary Eng

International Events What's on around the world



N.B. The editor has some extra details on these events if you are in a hurry to get further information.

MUGA 12 - Theme: LP Modelling & Scheduling
Kuala Lumpur, Malaysia

5-7 May 1991

Vicky Mabin, DSIR Physical Sciences, Box 1335, Wellington,
can supply further information.

DSS-91: Information Technology for Managers and Executives
Manhattan Beach, California, USA

3-5 June 1991

Contact: TIMS, 290 Wesminster St., Providence, RI 02903, USA
☎ +1 - 800 - 343 - 0062 or +1 - 404 - 274 - 2525

Statcomp/Biostats 91
Coolangatta, Australia

1-5 July 1991

Contact: Dr. R.J. Wilson
Dept of Mathematics, University of Queensland
Queensland, 4072, Australia
Phone (07) 365 3328 Fax (07) 870 2272

IFAC 9th Symposium on Identification and System Parameter Estimation
Budapest, Hungary

1-6 July 1991

Contact: Dr Margit Zierman, Levay u. 9/A, H-1022 Budapest, Hungary

TIMS XXX - SOBRAPO XXIII

Joint International meeting

The Institute of Management Sciences/Brazilian Society of OR
Rio do Janeiro

15-17 July 1991

Contact: Julie Eldridge, TIMS, 290 Westminster St.
Providence RI 02903 USA

The European Congress on Operational Research

EURO XI

Aachen, Germany

16-19 July 1991

“Operational Research methods for supporting high technologies in the
emerging Europe”

Contact: Prof. Dr H.J. Zimmermann
Operations Research
Templegraben 64, RWTH Aachen
5100 Aachen, Germany

14th International Symposium on Mathematical Programming
Amsterdam, The Netherlands

5-9 August 1991

Contact: 14th International Symposium on Mathematical Programming
Paulus Potterstraat 40
1071 DB Amsterdam, The Netherlands

APORS '91: 2nd Conference of the Association of Asian-Pacific OR Societies
Beijing, China

27-30 August 1991

Theme: OR: Making Decisions for Winning Victory.

The Second Announcement and Registration forms for this conference are
available from Hugh Barr, DSIR Physical Sciences, Box 1335, Wellington.
Conference registration is \$US270 if paid before 1 May, and \$US320
thereafter.

Performance Measurement for Manufacturing Excellence
2nd International Conference of the Belgian Production and Inventory
Control Society (PICS-Belgium)
Holiday Inn Crowne Plaza, Antwerp, Belgium

29 & 30 August 1991

Contact Vicky Mabin, AMG, DSIR, Box 1355, Wellington ☎ (04) 727-855, for
further details.

15th IFIP Conference on System Modelling and Optimisation
Zürich, Switzerland

2-6 September 1991

Contact: Dr. K. Frauendorfer
Institute for Operations Research
University of Zürich
Moussonstrasse 15
CH-8044, Zürich, Switzerland

IFIP CAPE '91. Computer Application in Production and Engineering
Bordeaux, France
10-12 September 1991

Contact: CAPE '91 Conference Secretariat
Université de Bordeaux I
Laboratoire GRAI
351 Cours de la Libération
33405 Talence Cedex, France

INCOM '92
7th IFAC/IFIP/IFORS/IMACS/ISPE Symposium on Information Control
Problems in Manufacturing Technology
Toronto, Canada
25-28 May 1992

Deadline for submission of draft papers: 30 August 1991

Contact: Mrs Nicole Léger
INCOM '92
National Research Council of Canada
Montreal Road
Ottawa, Ontario, Canada K1A 0R6

Professor W.W. Cooper to visit

Professor W.W. Cooper from the University of Texas, Austin will be visiting the Department of Management, University of Canterbury as an Erskine Fellow during June. Professor Cooper is well-known internationally for his extensive work on goal programming, etc., done jointly with Professor A. Charnes. Since the late 1970s he and Professor Charnes have pioneered Data Envelopmental Analysis, a new approach to evaluate the relative operational and cost-efficiency of each of a collection of decision making units, such as individual branches of an organisation. This has found wide application in many areas of industry and government.

Hans Daellenbach can be contacted for further details.



International Abstracts in Operations Research

A leaflet advertising *International Abstracts in Operations Research* is enclosed.

ORSNZ can obtain *IAOR* at much cheaper rates than those quoted in the leaflet. There are currently two options:

- members can order direct from Macmillan Press for £30.
- ORSNZ can place a bulk order for £24 per subscription.

A renewal form for the *IAOR* subscription is included each year with the annual report, posted in November. Subscriptions are not automatically renewed, so must be renewed every year by returning the form.

It is too late to order for 1991, but if you want to *IAOR* in 1992, look out for the application form next November. Contact the Treasurer (address on page 1) for further information.

Letter to the Editor

The Student Paper Prize

From *Dr David Ryan*

Dear Editor,

I have read with interest and surprise the ORSNZ Annual Report in which the past President outlines activities under the heading of Student Affairs. We are informed that Council has modified the rules of the Student Paper Prize "in order to encourage a wider participation in the competition". As a past Convener of the Student Paper Prize and an active promoter of the prize here in Auckland I am concerned first that these rule changes were made without apparent discussion or consultation and second that is difficult to understand why or how the modified rules will actually encourage more students to enter. In fact it is possible to argue that the changes are more likely to have exactly the opposite effect. My reading of the annual report and my past association with the prize suggest that the real reason is to make the assessment easier. If this is correct then perhaps the Council should be honest and say so. Whatever the reason for the changes, I believe that they have significantly modified the Student Paper Prize as we have known it in the past and as a result there are a number of issues which should be raised and discussed even at this stage.

The changed rules now require a student to submit, in addition to the full report, "a 4-6 page summary paper with supporting work as appropriate". The final year students I am involved with will have already made extraordinary individual efforts to complete their projects, prepare official project reports and make oral presentations by middle to late September. It is unrealistic to expect these students, who may well have taken up permanent or summer employment or travelled overseas, to prepare yet more material in summary form to satisfy the Student Paper Prize Rules some four or five months after completing their projects. It is also unrealistic to expect students to present their papers for judging at Conference almost a full year after completing their project work. Even if a student is able to attend, it is difficult to imagine that the same enthusiasm for the project can be regenerated almost a year after the work's completion.

The quality of student project work carried out in New Zealand is often outstanding and the project reports, prepared as part of formal academic requirements, deserve to be judged in their own right. The award of a Prize for the best student paper should certainly not have to wait until almost a

full year after completion of the project. By all means let us award a prize for the best student paper at Conference in August but we must retain a promptly judged Student Paper Prize which recognizes the outstanding quality of some of the student projects prepared in New Zealand each year. And of course we can hope (and even expect) that as in the past, the Student Paper Prize winner will also present a paper at Conference and therefore be eligible to win a further award for that oral presentation.

D.M. Ryan
Department of Engineering Science
University of Auckland

Dr Grant Read replies:

David raises some quite legitimate points, and, as the original instigator of the changes, I feel it is appropriate that I should comment.

First, there probably was insufficient consultation. The original proposal was, I believe, circulated to all council members, and the matter was discussed at length at last August's council meeting, at which all Branches were represented. I believe it has also been discussed at other meetings, and informally with several individuals. As a result several changes were made. But I should apologise to David, on behalf of the Sub-Committee which was set up to make the changes, that we did not think to consult him, and take advantage of his years of experience with the prize.

Second, I quite agree with David that the primary reason for the changes was not to "encourage wider participation". I am not sure where that phrase came from, but I presume it referred to the fact that entry is now open to all students, including on-going MSc and PhD students, not just to those doing final year honours/masters projects.

I also agree that a major motivation was to make the judging easier, and I would hope more broadly based, both in terms of the range of the people involved, and the range of information available to them (report + paper + presentation).

With regard to the effort required, I know the students work hard on the reports submitted to their Universities and sponsors, as do all other OR practitioners and academics who present papers at Conference. In my experience they do it to get good grades, or for other rewards, rather than with an eye to the student paper prize.

I accept that some students will not submit their work for the student paper prize because of the higher requirements, although I hope that this will not discourage too many of the best students.

But I also note that there were about 6 “student papers” presented at the 1990 conference, of which only 2 were submitted for the student PAPER prize, this seems anomalous. But it also underlines the fact that there are students prepared to submit papers to conference, and that the old regulations obviously did not suit everybody’s tastes and/or work schedules either.

Thus I expect that the nett result of the changes will be that about the same number of papers will be submitted, but by a somewhat different group of students, and perhaps for different reasons.

But these matters, while important, are not really the key questions which the OR Society should focus on. The Society must first decide what aspects of student endeavour it wants to encourage by having a Student Paper Prize. Then the competition should be designed to achieve those objectives, and appropriate resources devoted, to ensuring that those objectives are met.

In this regard, I believed the new regime would be an improvement “...because it (would) encourage the students to develop new skills and to participate actively in the Society (and be) a far more realistic introduction to OR in the real world, or academia...” I accept all of David’s criticisms, but I stand by my judgement.

David quite rightly observes that student project work is often outstanding, particularly in terms of technical quality, and frequently in terms of the project reports produced. But I believe the Universities are well able to provide sufficient inducement, in the form of honours, scholarships, etc. to maintain standards of technical excellence and thesis style reporting.

Thus I suggest the distinctive role of the Society should be to encourage and help students to make a successful transition from being students, whose prime aim is often, quite rightly, to “get the thesis finished”, into being responsible OR professionals and academics.

Increasingly we find that the key to successful implementation is succinct and convincing written, and especially oral, presentation at a high managerial level. Like it or not, our professional standing and contribution often stands or falls on this one tedious little detail. Similarly, promotion criteria suggest that the most important skill in the academic world is the ability and perseverance to write academic papers.

Thus the new-look student paper prize was designed to encourage students to develop their written and oral presentation skills, to bring their work out of their university departments into the broader academic and professional OR community and to encourage active participation in the society.

It is unfortunate that some students will be prevented from participating by circumstances outside their control, but the fact that others will find it too difficult or tedious to prepare a 4 page report and come to Conference is an interesting and disturbing reflection on the value they place on their own work, and also on the OR Society and Conference.

I would like to think that the honour of winning the Student paper prize is far more important than the dollars involved, but the low monetary value attached to the prize also makes a clear, though I hope erroneous, statement about the value the Society places on encouraging the professional development of students. Efforts are now underway to attract sponsorship, both to raise its profile, and to provide a more attractive prize.

My hope was that, by giving the competition a more prominent place in the Society's annual calendar, and by requiring students to decide whether they are ready to make the effort to contribute as responsible professionals, we would all be forced to take this aspect of professional development, and incidentally our profession itself, more seriously. The fact that someone has taken the trouble to write is a healthy sign in this regard.

Finally, I would be quite happy to accept David's proposal that there be two prizes, one for the best student PROJECT, judged under the old rules, and one for the best PAPER judged under the new rules.

E.G. Read
Department of Management
University of Canterbury
(Vice-President and former Student Affairs officer)

Dr David Ryan comments:

I am pleased to have the opportunity to comment briefly on Grant's response to my letter. Many of the arguments Grant advances in justifying the changes to the rules for the Student Paper Prize are valid and worthy of our support. The Society should certainly encourage and promote excellence in written and oral presentation skills and in this context the award of a prize for the best student paper submitted to and presented at Conference is

entirely appropriate. I am disappointed however that this prize has been "created" in place of the previous prize which recognised excellence in student project work. (By the way, the "old" prize has always been open to Masters and Doctoral students - this is not new!). While it is true that student project work is rewarded in an academic sense, I can see no sensible reason for the Society to decide that it does not need to recognise and reward that form of student endeavour. It is after all pretty nearly impossible to capture in four pages of a summary paper the equally important technical details which should be contained in a carefully prepared project report. I hope Council will give serious consideration to the suggestion that a prize should continue to be awarded for excellence in project work.

D.M. Ryan

We call a temporary halt to this correspondence at this point, since the size of the newsletter must remain bounded. However others are most welcome to comment. Perhaps some student (or former competition entrant) would like to comment? Ed.



Science Magazine Seeks Information

The "New Zealand Science Monthly" provides an informative, readable look at New Zealand science and technology. It is read by everyone from secondary school students to academics, and aims to provide information of substance in a non-technical manner. The magazine covers a broad range of subjects in a variety of ways - including feature stories, opinion pieces, conference announcements, new technology developments and book reviews.

They would welcome submissions from researchers, engineers and interested parties about their work, their ideas and their concerns. These could range from copies of abstracts to conference proceedings, from information for feature articles to letters to the editor. This is a chance to reach the general public and assure them that science is alive and kicking in New Zealand.

Copies of writers' guide-lines are available on request as are free evaluation copies of the magazine itself.

Write to: Vicky Hyde, Editor,
New Zealand Science Monthly
P.O. Box 19-760
CHRISTCHURCH 8005
☎ (03) 845-137 Fax: (03) 845-138

I.F.O.R.S.

INTERNATIONAL FEDERATION OF OPERATIONAL RESEARCH SOCIETIES

letter from the president

OPERATIONAL RESEARCH AND NEW TECHNOLOGY

Organizations around the world are struggling to come to grips with four major issues: intensifying global competition, a changing workforce, changing rules of competition, and new technology. The one of these that appears to be having the greatest impact on OR is new technology.

OR has a history of coping with and adjusting to technology change. We have become used to spending a great deal of effort to shoehorn our work into the limited technology of the day. Much of our advancement owes as much to technological improvements as it does to conceptual leaps from within OR.

What was true in the past, however, does not reflect the present. The powerful networked workstation of the 1990's is to OR like a blank sheet of paper to the artist; it provides us with space for creativity and new directions. Technological constraints have become technological opportunities that are already being exploited as evidenced by, for example, the surge of interest in user interfaces and computed-generated graphics, and group DSS.

Technological change is, however, rarely painless. We, like every other organization, must face some tough issues. The toughest is to recognize this and leave our baggage behind.

I would like to see us start a dialogue about what we should discard. To start things off, I suggest we no longer automatically reward work that improves algorithmic efficiency; there are obvious measurement problems resulting from the variety of hardware/systems available. More importantly, however, in the eyes of most decision makers, saving CPU time is not very valuable any more - how can we pay a great deal of attention to an objective that most of the world (including our customers) thinks is trivial? Finally, since most data entry is now done interactively, traditional measures of algorithmic efficiency which emphasize minimum computation time are no longer very meaningful; since the user cannot enter data in zero time, a fast algorithm which cannot start until the entire problem has been entered may well be less "efficient" than a slower procedure that can compute as the user enters the problem.

Another consequence of technological change that is particularly challenging and requires more of our attention is the increasing computer literacy of senior

management. This trend will continue - computers are more and more in evidence at all levels of our education system. Further, the rapid expansion of management education programs has resulted in a large number of senior managers who not only know what OR is, but understand what we do, and may even be capable of doing some serious modelling themselves.

OR has largely ignored the computer/OR literate manager [although I have heard concerns that some of our best work is no longer identified with OR (e.g. PERT/CPM), and others are concerned that the decision maker with the spreadsheet may render much of what we do obsolete]. Our end-users will continue to become increasingly computer literate; the issue for OR is how to react to this.

Two directions that our response should take are to encourage the modeller/decision maker, and to exploit the emerging literacy among our customers. One idea I like to encourage and support the decision maker/modeller is "end user OR"; an obvious parallel to end user computing. Is there a role for 'OR centres' where decision makers can go to obtain advice on their modelling efforts from user-friendly operational researchers? Are there "OR hotlines" in our future? How else can OR encourage and provide assistance and quality control on decision maker modelling?

Exploiting the computer literate decision maker leads us towards symbiotic decision maker/computer interactive problem solving systems. While there is some overlap here with DSS, there is an opportunity to think in broader terms. Executives make more than one decision, and spend much of their time on tasks not involving decision making. We should think less about individual decisions and more about the content of the executive's workstation. What about a job support system: a suite of several DSSs plus executive information system, spreadsheet, word processor, date book program, *etc.* all working from a standard interface?

OR provides us a very good training for general management - we should not be surprised when our best practitioners are promoted and become our customers. We should also not be surprised if these new decision makers are no longer very interested in what we do. An important part of the technology challenge we now face is to learn how to adapt what we do in order to provide more value to technologically sophisticated users.

Peter C. Bell - IFORS V-P
Western Business School,
University of Western Ontario,
London, CANADA N6A 3K7



NZPICS

First Joint Conference of ORSNZ and NZPICS

**Operations Research and
Operations Management**

Helping Business to Survive and Thrive in the 90s

26, 27 and 28 August 1991

Victoria University of Wellington, New Zealand

First Call for Papers

This year the 27th Annual Conference of the Operational Research Society of New Zealand (ORSNZ) is being organised jointly with the New Zealand Production and Inventory Control Society (NZPICS). It will feature papers from leading practitioner and academics, and many case studies in the production and inventory control areas. Plan to attend, and present a paper.

Further details of the conference will be available shortly, and will be sent in a separate notice.