

**ORSNZ  
ANNUAL REPORT 2005**

**President's Report**

**Membership**

During the past year the ORSNZ Membership List has been reviewed and those with two or more years of unpaid subscriptions have been removed. In the following table giving the current membership of ORSNZ (including comparative figures for 2003 and 2004), we are also reporting in parenthesis the number of members with subscriptions remaining unpaid at the date of this report.

	2005	2004	2003
Corporate Sponsors	0	2	3
Corporate Members	5 (2)	5	5
Corporate Representatives	5	8	7
Life Members	1	2	2
Standard Members	77 (13)	91	94
Members (overseas)	17 (5)	8	14
Members (no branch)	16 (2)	12	13
Retired Members	5	5	4
Student Members	35 (19)	41	51
<b>Total Membership</b>	<b>161 (41)</b>	<b>174</b>	<b>193</b>

The figures in this table do give us continuing cause for concern. They perhaps reflect the reduced focus for Operations Research in CRIs and some universities. To paint a more positive picture, we can be encouraged by the very active participation of younger members of the Society as represented in the number of entries in this year's Young Practitioner Prize competition.

**Finances (Treasurer's report attached)**

The 2005 accounts show a healthy state of affairs even though our membership figures are down.

Once again I would like to take this opportunity to record the Society's appreciation of the efforts of John Paynter as Treasurer. John has continued to work with our Auditor to bring the accounting procedures to a high standard. His continuing attention to detail means that we can have confidence in the financial situation of the Society. We must also acknowledge the significant contributions of Paul Rouse as Auditor.

**Conferences**

The 39th ORSNZ Conference was held at the University of Auckland. The Council would like to thank the organising committee under the sponsorship of the Department of Engineering Science, and also the generous financial contributions of our sponsors Charles River Associates (principal sponsor) and Optimal Decision Technologies Ltd. This Conference was organised and held in conjunction with the IJIE (International Journal of Industrial Engineering) Annual Conference under the careful guidance of ORSNZ member Prof. Steven Butt of Western Michigan

University. The economies of scale we achieved through this larger joint conference helped in generating a small profit for the society.

This year, the 40th ORSNZ conference is to be held at Victoria University of Wellington. According to the normal conference cycle, the 2006 conference is scheduled to be held in Christchurch followed by the 2007 conference at Waikato.

During April, 2005 a Workshop on Mathematical Models for Optimising Transport Services was held at the University of Auckland. The Workshop was organised as part of an ongoing thematic programme funded by the New Zealand Institute for Mathematics and its Applications. In total, eleven international speakers accepted invitations to present papers at the Workshop. All of these people spoke very highly of the quality of the Workshop and the participation of business and industry representatives. I believe the success of this Workshop has raised the international recognition of Operations Research activities in New Zealand. On behalf of the Society I would like to acknowledge the efforts of Andy Philpott and Matthias Ehrgott in the organisation of this very successful Workshop.

In July along with a number of other members of ORSNZ, I attended the IFORS 2005 Conference in Hawaii. At this Conference I represented the Society at the official IFORS Board of Representatives Meeting.

### **Visitors**

Professor Oli Madsen visited New Zealand to attend the 2004 ORSNZ Conference where he presented a Plenary Lecture.

### **Newsletter (Newsletter Editor's report attached)**

As Newsletter Editor, Matthias Ehrgott has continued to ask, persuade, demand, cajole and browbeat members for copy for our Newsletters. With his powers of persuasion Matthias has published three newsletters this year with one more to come. Matthias has also organised some sponsorship of the Newsletter by Hearne Research Software who contribute to the costs of printing and distribution. The Newsletter Editor's job is often a thankless task so I take this opportunity to express our thanks to Matthias. I would like to say that I am sure it will get easier next year but as the number one offender, I hesitate to make promises that are not easy to keep!

### **Council Meetings**

No formal Council meetings were held, although email communications were made on matters such as the production of the Min/Max brochure, conference planning and the selection of representatives to attend the upcoming APORS meeting in January.

### **The Science of Better Campaign**

Many of you will be aware of the Science of Better Campaign developed initially by INFORMS to promote Operations Research to executives and senior management of organisations that could benefit from the use of our problem structuring and solving methods and tools. This year I have attended presentations at the IFORS meeting in Hawaii and also the recent Operational Research Society Conference in Chester where aspects of the Science of Better Campaign were discussed. Already the Operational Research Society in the UK has adapted the campaign to put it in a British or even European setting. The opportunity exists for us to consider adapting

the material to better reflect our place in the world. I would welcome your ideas on this matter.

David Ryan  
President  
15 November 2005

### **Vice President's Report**

#### **New Conference Web Site**

Running the last conference in Auckland reminded us of how much work these conferences generate for the organisers. To help address this, we have purchased a certificate and set up a secure Web site for the ORSNZ. The first service we are delivering through this is a Web-based system for conference registration and payment. The computing skills of our secretary Hamish Waterer have been instrumental in implementing this new site using open-source code developed at the University of Auckland. We hope that this site will relieve some of the burden of running this and future conferences, and prove to be a useful platform for providing increasing functionality to our conference registrants.

As well as developing the new web site, Hamish has provided many hours of support to the society in his role as secretary which we are most grateful for.

#### **MinandMax.org.nz**

With financial support from a number of sources including the ORSNZ, Nicola Petty and Shane Dye of Canterbury have made a great contribution to the visibility of OR in NZ through the launch of [minandmax.org.nz](http://minandmax.org.nz), a web site designed to provide "information about operations research, how it is used in business and industry and where to study it at New Zealand." The minandmax campaign includes posters and booklet for schools and resources for teachers. We look forward to seeing the benefits of Nicola and Shane's hard work.

Andrew Mason  
Vice President  
15 November 2005

### **Treasurer's Report**

The funds available at the start of the period were \$20,201.31. The funds at the end of the period were \$27,756.17. There is an excess of receipts over expenditure of \$7,554.86. This is mainly due to not making a loss on the conference and an increase in membership fees in 2003, from \$50 to \$70, and the continued drive that resulted in receiving past fees owing, as well as an effort to minimise costs.

The 2004 joint conference was designed to return a small profit with the IJIE contribution towards costs. Other expenditure (e.g. branch) was under budget due to the low level of activity in the branches during the year.

In this year there was out of period expenditure to pay for costs associated with previous conferences (\$427.32, for 2002). The situation re GST for previous years had been rectified in the previous year, although the Society could consider deregistering. All other outstanding items to do with finances have also been resolved. E.g. Engineering Science (UoA) paid the society \$427.32 as an adjustment from expenses associated with the 2001 and 2002 conferences. As of this year, funding for the Min and Max project is being managed by the Society. Of the contributions made by Auckland and Canterbury universities, we have \$676.15 remaining to be spent. The Society has also conditionally agreed to contribute up to \$3500 to continuing costs associated with this project.

There continue to be minor problems with the subscription system. These were mostly brought about from the direct debits being paid to the BNZ bank account from the University of Auckland. There was no associated reference number with the transactions, so we could not determine on whose behalf they had been paid. Procedures have been put into place to rectify this. Over the summer period we may augment the system to record the reconciliation of the transactions as they are recorded by the bank. We have also adopted a reimbursement form (a copy is at the web site) to control and account for expenditure.

A \$15,000 term deposit was set up for 6 months and rolled over on October 10 2005 for a further 6 months at 6.85%pa.

We have not yet transferred our account to the National Bank (it has a branch on the Symonds St campus). This could simplify banking.

John Paynter  
Hon. Treasurer

### **Auckland Branch Report**

The highlight for us this year was the New Zealand Institute of Mathematics and its Applications (NZIMA) Workshop on Mathematical Models for Optimizing Transportation Services held in Auckland in April (see [www.esc.auckland.ac.nz/Transportation](http://www.esc.auckland.ac.nz/Transportation)). Air New Zealand, Fonterra and the Auckland Regional Transport Authority (ARTA) were all sponsors of this event, with special sessions in the conference being devoted to problem areas of interest to them. We had a stellar lineup of international speakers, including Gilbert Laporte, Ellis Johnson, Oli Madsen, H. Paul Williams, Michel Gendreau, Huei Chen Huang and Michael O. Ball, to name a few. One of our distinguished speakers, Michael Florian, made it onto national TV talking about transportation.

As always, our Engineering Science students made good progress on their Year 4 projects; some of this work will be presented in the Young Practitioner Prize competition. The project topics included:

- Supply Boat Routing for Statoil
- Portfolio optimization via stochastic dominance of benchmarks
- Optimal traffic light control with pedestrians.
- Optimisation of wind farm design

Unit commitment at Southdown power station  
A new model for dynamically relocating ambulances  
Comparison of LP models for radiotherapy planning  
Optimisation models to plan the development of the Hunua Quarry.

We had a large number of visitors this year including Eddie Anderson, Rudiger Schultz, Stein Wallace and his student Bjornar Aas (from Norway), ex-pat Shane Henderson (now a tenured professor at Cornell), Jesper Larsen (from Denmark), Andrew Miller (from Wisconsin), and Horst W. Hamacher and his student Stefan Ruzika (both from Germany), amongst others.

Along with all other programmes at Auckland University, the Engineering Science degree is undergoing major restructuring for next year which will see the introduction of General Education courses and more choice of courses within our program. At the same time, our Masters of Operations Research changes from an 18 month thesis-plus-courses program to a 1 year thesis-only degree. Next year will be a challenge as we implement these new initiatives.

Andy Philpott and Andrew Mason  
Auckland Branch Chair and acting Chair  
15 November 2005

### **Wellington Branch Report**

This year we started on a rebuilding of the local OR community with a number of ORSNZ meetings. Four meetings were held and drew twenty-plus attendees each and stimulating debate.

First up was a talk by Dr Juanita Neale Saxby on Multidisciplinary research methods for the Knowledge Economy, a good way to kick start the brains into conceptual thinking at the start of the year.

Dr Hugh Barr, a recent Wellington Regional Councillor, shared his experiences with his "View of Risk Management at the Wellington regional Council." Issues covered included risk management standards, flood protection, water supply, trains, asset management and sustainability issues and provided an insightful account of the issues faced by local authorities, and the decisions and decision processes adopted.

Dr Arun Elias, Victoria Management School, spoke on another topical Wellington issue, Exploring the debate around Transmission Gully using Stakeholder analysis and Systems Dynamics. Arun's talk showed how System Dynamics can be useful for exploring the often counter-intuitive behaviour of complex systems such as transport systems, and how various stakeholders' views may be incorporated.

Associate Professor Saji Gopinath, from the Indian Institute of Management, who was visiting Victoria Management School as a Teaching Fellow, described how agent-based simulation was used to design a supply chain of small enterprises in India, in a paper entitled "A Collaborative Agent Based Model for Intra-firm Co-ordination in Non-Dominant Player Supply Chains."

All the above seminars were organised jointly with Victoria Management School, which provided the venue, with the provision of refreshments being funded jointly by ORSNZ and VMS.

We had several other talks tentatively scheduled, some of which are now scheduled for the ORSNZ 40<sup>th</sup> Annual Conference that is being hosted by the Wellington Branch on December 2<sup>nd</sup> and 3<sup>rd</sup>. Other talks will be presented next year. Suggestions for prospective speakers are still welcome - please contact the committee.

The Committee has been strengthened this year by the welcome addition of Tom Halliburton, Energy Modeling Consultants Ltd, and more recently by Mark Johnston and Stefanka Chukova, both from the VUW School of Mathematics, Statistics and Computer Sciences, and by Mark Pickup, from the Electricity Commission. They joined existing members, John Davies, John Hayes, and Vicky Mabin (Chair).

The committee has been very busy organising the conference and we look forward to a wonderful turnout to help us celebrate our 40<sup>th</sup> Annual Conference.

Vicky Mabin  
Wellington Branch Chair  
14 November 2005

### **Christchurch Branch Report**

Once again this year has been a relatively quiet year for the Christchurch Branch of the ORSNZ. In December we had a seminar by Gerald Midgley from the Institute of Environmental Science and Research (ESR) entitled "Systemic Intervention: Developing Services with Young People (Under 16) Missing from Home or Care". In March Professor Ed Silver from the Haskayne School of Business, University of Calgary gave a seminar on "Some Ideas on Enhancing Research Productivity".

The Christchurch Branch has also continued to support of the Min and Max campaign which this year saw brochures and posters sent to most New Zealand Secondary Schools. In September Nicola Petty and Shane Dye also attended the New Zealand Association of Mathematical Teachers conference in Christchurch and ran a session promoting OR to mathematics teachers and providing examples that they could use in their own teaching.

Ross James  
Christchurch Branch Chair  
28 October 2005

### **Newsletter Editor's Report**

Since the 2004 conference four issues of the newsletter have been published. They were sent for printing December 7, April 14, June 22, September 19. They are usually posted to members about two weeks later. The late date of the March Newsletter was

caused by delayed submission of regular columns. The collaboration with HRS, who print the newsletter in return for a free ad on the last page is working well.

A notable event was that Australian OR Society reprinted David Ryan's "Letter from the President" on G.B. Dantzig in the newsletter of the Melbourne chapter. This followed praise from across the Tasman by Dudley Foster: "The June edition of the ORSNZ June Newsletter has some fantastic copy, including an Obituary of George Dantzig, reproduced from INFORMS - and also a more personal note on George Dantzig from David Ryan - and a very interesting piece entitled 'Self-Plagiarism in OR?'"

The biggest editorial worry is, as always, the lack of contributions. Therefore, special thanks to David and Vicky for asking for permission to reprint articles by others, Vicky for providing conference announcements, Fernando Beltran for actually **writing** an article, and Les for the puzzle corner.

I would like to have more contributions to "OR around the globe": If you collaborate with people overseas ask them to write a page or half a page about their group. I'd like to announce OR Masters or PhD theses. Please let me know about them. Book announcements etc. are also welcome.

Matthias Ehrgott  
Newsletter Editor  
27 October 2005

### **Liaison Officer's Report**

IFORS held its 17<sup>th</sup> Triennial Conference in Hawaii in July. This provided a great opportunity for members of the international OR community to debate and learn about OR in the relaxed surroundings of the Hawaiian Hilton Village. Further details can be found at [www.informs.org/conf/IFORS2005](http://www.informs.org/conf/IFORS2005). Seven New Zealanders were present – including David Ryan, Vicky Mabin, Andrew Mason, Matthias Erghott, Alastair McNaughton, Fernando Beltran, Michael O'Sullivan, and Inguruwatte Premachandra. They convened sessions, gave papers, and chaired sessions, attended IFORS and APORS meetings on your behalf, and generally represented the ORSNZ, as well as conducting an ad-hoc ORSNZ Council meeting. It was good also to catch up with expat New Zealanders including Michael Saunders.

We are sorry to record the deaths of two 'founding fathers' in the OR world – George Dantzig and Pat Rivett, both of whom made substantial contributions to OR in their very different and distinct ways. Dantzig is well known for his invention of LP, and Rivett for engineering the transfer of OR from military uses to industry, establishing it in industry and academia, developing OR knowledge in the UK, and building trans-Atlantic links. He was also one of the early instigators of what has become known as soft OR.

The Science of Better campaign, promoted in last year's annual report, has gathered strength in the past year, with formal presentations at IFORS, INFORMS and ORS conferences, as well as elsewhere. It has been customised to the local audiences in

the UK and USA, and is available on both websites, though with interesting differences. It is of course available for use in NZ and is open to customisation for our local audiences.

Coming up next year, APORS (the Association of Asia-Pacific Operational Research Societies within IFORS) - the Regional Grouping within IFORS that we belong to - is holding its 7th APORS CONFERENCE in January 16-18, 2006, in Manila, Philippines. With the theme Operations Research: Optimizing Resources for Outstanding Results, the conference seeks to bring together OR researchers, academicians and practitioners, whose collective work has sustained continuing OR contribution to decision-making. APORS has recently announced a Young Scholars Programme, which provides sponsorship for a young OR person from each of the member countries. We invite applications from members who are interested and available to go to the Philippines in January to this forum, to work with other young scholars from around the region, and benefit from this invaluable networking experience, designed by APORS and generously subsidised by IFORS.

Vicky Mabin  
Liaison Officer  
7 November 2005