

**ORSNZ  
ANNUAL REPORT 2006**

**President's Report**

**Membership**

In the following table which details the current membership of ORSNZ (including comparative figures for 2003, 2004 and 2005), we also report in parenthesis the number of members with subscriptions remaining unpaid. Nineteen of those with unpaid subscriptions are two years in arrears

|                           | 2006     | 2005     | 2004 | 2003 |
|---------------------------|----------|----------|------|------|
| Corporate Sponsors        | 0        | 0        | 2    | 3    |
| Corporate Members         | 3 (1)    | 5 (2)    | 5    | 5    |
| Corporate Representatives | 6        | 5        | 8    | 7    |
| Life Members              | 1        | 1        | 2    | 2    |
| Standard Members          | 62 (17)  | 77 (13)  | 91   | 94   |
| Members (overseas)        | 8 (8)    | 17 (5)   | 8    | 14   |
| Members (no branch)       | 11 (5)   | 16 (2)   | 12   | 13   |
| Retired Members           | 5        | 5        | 5    | 4    |
| Student Members           | 26 (18)  | 35 (19)  | 41   | 51   |
|                           |          |          |      |      |
| Total Membership          | 122 (49) | 161 (41) | 174  | 193  |

The figures in this Table continue to give cause for serious concern and I suggest that we should focus on a review of membership to understand the trend and encourage others working in the area to join the Society. To paint a more positive picture, we can be encouraged by the active participation of younger student members of the Society but it is important that we maintain their interest in both the subject and the Society.

**Finances**

See Treasurers Report.

The 2006 accounts show a healthy state of affairs even though our membership figures are down.

Last year I paid tribute to the work of our Treasurer and our Auditor for their sterling work in tidying up the financial affairs of the Society. Once again I would like to take this opportunity to record the Society's appreciation of the ongoing efforts of John Paynter as treasurer. In his Report, John has raised a number of matters that seem to result in extra and unnecessary work for the Treasurer.

**Conferences**

The 40<sup>th</sup> ORSNZ conference was held at Victoria University of Wellington in December 2005. It proved to be an outstanding success as the Society celebrated its 40<sup>th</sup> birthday in the city where the Society was first established. The conference was

well organised by an enthusiastic team led once again by Vicky Mabin. The Young Practitioner Prize competition attracted nine excellent entries and for me these presentations proved to be a highlight of the Conference. But it was excellent to see so many present with long associations with the Society but equally it was also very encouraging to see so many young people with an OR focus early in the careers. For the record, I am including the official photograph of all of those who attended our birthday conference.



According to the official conference cycle, the 2007 conference is scheduled to be held in at the University of Waikato followed by the 2008 conference in Auckland.

In early September I was invited to make my first visit to South Africa to give two plenary talks at their annual OR Conference in Pietermaritzburg. I found ORSSA to have much in common with our own Society and the OR activities in South Africa (at least those reported in presentations at the Conference) to be very similar to those that occur here in New Zealand. Certainly there is a healthy focus on applications particularly in the areas of supply chain management and logistics. Perhaps the most interesting observation for me was the friendships that were rekindled amongst ORSSA members at the conference – this is also one of the special features of our own annual conference.

### **Visitors**

The ORSNZ Visiting Lecturer from February to May 2006 was Professor Raimo Hamalainen from the Systems Analysis Laboratory at the Helsinki University of Technology.

I would like to inform ORSNZ members about the visit to New Zealand in 2007 of Professor Mike Trick from the Tepper School of Business at Carnegie Mellon University (see <http://mat.gsia.cmu.edu/trick/>). Mike will be well known to many of you through his OR homepage and probably also as a past President of INFORMS

and a current VP of IFORS. We will be making sure that during his time in NZ Mike has the opportunity to visit each of the ORSNZ Branches and universities.

### **Newsletter**

Once again I do want to acknowledge the work of our Newsletter Editor. The Newsletter Editor's job is often a thankless task so I take the opportunity to express our thanks to Matthias Ehrhoff.

### **Council Meetings**

No formal Council meetings were held, although email communications were made on matters.

### **Hans Daellenbach Prize**

The Hans Daellenbach Prize has been awarded in 2006 for the third time. The Prize Panel decided that the Prize should be awarded to Professor Andy Philpott of the Department of Engineering Science at the University of Auckland in recognition of his substantial contributions to OR both nationally and internationally. The Society extends its warm congratulations to Andy.

The Prize panel is recommending some small changes to the rules governing the Hans Daellenbach Prize. These rule changes will make it much easier for the Conference organisers to prepare the conference programme and include the Prize winner's Plenary Lecture in the conference programme.

David Ryan  
President

### **Treasurer's Report**

The funds available at the start of the period were \$27,756.17. The funds at the end of the period were \$31,000.84. There is an excess of receipts over expenditure of \$3,244.67. This is mainly due to the conference, interest earnings and, as well as the effort to minimise costs.

2005 conference made a profit, as other than the banquet and miscellaneous expenditure all other costs were covered by VUW School of Management. Other expenditure (e.g. branch) was under budget due to the low level of activity in the branches during the year.

The \$15,000 term deposit is continuing to be rolled over (matures 3 Jan 2007) and a short term one set up for \$10,000 as well. Hence interest income is up.

We still have a surplus from the MinandMax project of \$676.15 (the production of a poster and brochures to promote Operations Research in schools). i.e. nothing was spent in this financial year

Liabilities from the previous year include two expired student travel cheques and \$450 for printing additional Conference 2005 proceedings for postage overseas.

There continue to be minor problems with the BNZ bank. It seems that the only way to get credit card receipts processed is to send them to Merchant services instead of our Branch (University of Auckland, a virtual branch now). We are using pre-numbered deposit books in order to persuade the bank to use our reference numbers on the statements, so we can track the transactions.

In the Summer School period a student enhanced the subscription system, based on designs done as part of the project work in the database class.

This created batches (a bit more work when we enter each transaction) that enable us to record when they are deposited in the account. We can now reconcile the account each period. In addition it allows us to easily identify unrecorded transactions and to forecast the future bank balance. At present however it treats all accounts (we now have three, refer to the previous paragraph) as one.

We wish to tidy up some more aspects of the database and have a student project planned to interface with the conference registration system and another to send the credit card receipts directly to BNZ Merchant Services.

In the meantime it is urged that branches and conference organisers etc send in invoices in a timely fashion so that they can be processed in the correct period, that members pay subs on time to avoid excess postage and time spent reconciling accounts and that when members receive cheques from the society for reimbursements or prizes, that they bank them as soon as possible.

John Paynter  
Hon. Treasurer

### **Auckland Branch Report**

The Auckland Branch of ORSNZ continues to be active on many fronts. On March 29<sup>th</sup> the Auckland Branch held its annual meeting. The meeting was well attended, not only by University staff, but by a number of our alumni, who had joined ORSNZ as student members and now work in the City. This demonstrates the value of student membership as a way of renewing the Society.

The Branch Meeting was presented with a very thought-provoking talk from 2006 ORSNZ Visting Lecturer Professor Raimo Hamalailen from The Helsinki University of Technology. The talk described a suite of software systems developed by Raimo and co-workers for helping make decisions with multiple objectives. Many of these systems are available on the web, and are in continual use by academics and industries. It was a pleasure hosting Raimo in the Department of Engineering Science, and he has contributed well to the Department, as well as becoming a key crew member on Wednesday-night yacht races.

The Department of Engineering Science had a good group of final-year undergraduate project students this year. Many of the students focusing on OR will present in the Young Practitioner Prize at Christchurch.

The Electric Power Optimization Center continues to be active. On April 28, they hosted a one-day invited workshop, Supply-Function Equilibrium Modelling of Electricity Markets, that was attended by experts from Europe, the US, and Australia. Details can be downloaded from <http://www.esc.auckland.ac.nz/EPOC/SFEworkshop2006.html>. In early September they hosted the Fifth EPOC Winter Workshop. Details can be downloaded from <http://www.esc.auckland.ac.nz/EPOC>.

The Branch celebrates the success on November 4 of our corporate sponsor Optima Corporation in winning the Pricewaterhouse Coopers Hi-Tech Innovation of the Year prize for the SIREN software system for ambulance simulation.

Andy Philpott  
Auckland Branch Chair

### **Wellington Branch Report**

There have been four branch meetings held in Wellington this year, as well as numerous other events organised by Victoria University of Wellington, the Royal Society of New Zealand, and Wellington Statistics Group, to which ORSNZ members have been invited.

First we arranged a seminar by two visiting scholars from Germany: Professor Dr Johannes Ruhland and Sabine Freund, from Friedrich Schiller University, Jena, Germany, on “Data Mining and Customer Relationship Management using Point\*Wizard”.

The next two meetings were by ORSNZ Visiting Lecturer Professor Raimo Hämmäläinen, Director of the Systems Analysis Laboratory, Helsinki University of Technology, Finland. The first talk was on Systems Intelligence, at the downtown campus, and the second on Decision support tools at the Kelburn campus. Raimo left us with many fascinating ideas to challenge our old ways, reinterpret what we teach, do and write, and provided much encouragement.

Professor John Norman from Sheffield University’s Management School, UK, paid us a brief visit in July and gave a talk on the Effective use of OR in Developing Tactics and Strategy in Sport, to a small but keen audience including some seasoned runners like Bruce Benseman. Tales and photos of running England’s peaks gave us a new appreciation of how lucky we are here, while the ideas of predicting times depending on how long and how high the climb, were interesting and could be translated to many different environments including our own.

Lectures organised by Victoria Management School to which ORSNZ members were invited included: Dr Ofer Zwikael: “The effectiveness of Project Team Development Practices” in September, and Professor RP Suresh, Visiting Professor from the Indian

Institute of Management (Kozhikode), teaching Operations Management at VMS during 2005: “Using Six Sigma in the Service Industry”, in October.

Many ORSNZ members attended a very successful Operations Management Symposium in June, hosted by Victoria Management School on behalf of the Australia and New Zealand Academy of Management. Current hot topics around supply chain management and alternative approaches to OM were debated. Clay Whybark was one of the keynotes, providing a lively potted history of developments in OM over the past few decades.

ORSNZ members also attended a SmartNet seminar in August, some funded by their own organisations and also courtesy of RSNZ’s sponsorship. This seminar/workshop was presented by Mary-Alice Arthur on the subject of Appreciative Inquiry and provided a thought-provoking alternative view to our ‘problem focussed’ traditional OR approaches.

Vicky Mabin  
Wellington Branch Chair

### **Christchurch Branch Report**

The year started with the Christchurch Branch hosting past graduate Dr Peter Crosbie in March. Peter gave a seminar on the work he does in financial risk management. The seminar was a fascinating insight into the world of international financial risk management. Peter is an Operations Research Honours graduate from the class of 1985. He then went on to do a PhD at Purdue and worked for KMV, the authors of the software for evaluating loan portfolio risk used by most banks. Peter now works as a consultant and yachtsman.

In June, Operations Research Senior Lecturer Nicola Petty successfully defended her PhD Thesis “Using Student Perceptions to Evaluate the Effectiveness of Education for High School Students with Vision Impairment”. Dr Petty is already attracting research funding from her work.

In August, we hosted Dr Duncan Shaw of Aston University, in the U.K. Duncan gave seminars on problem structuring methods for business and a simulation model to aid England in resource allocation, when planning for multiple, near-simultaneous disasters. Duncan gave a fascinating account of the process and technology he uses to facilitate businesses and other groups to better understand issues they face and look at ways forwards to address those issues.

The Christchurch Branch is currently playing host once again to Hsiao-Fan Wang, from National Tsing Hua University in Taiwan. She visited us last year and has been welcomed back again for a period of several months. Hsiao-Fan was an ORSNZ visiting lecturer in 2003. She will be attending the ORSNZ Conference this year.

Dr Shane Dye was recently awarded the Kuhn Prize for an exceptional paper from the past three years in Naval Research Logistics. The prize was shared jointly with his co-authors Dr Asgeir Tomasgard of Norway and Dr Leen Stougie of the Netherlands.

Wiley, publishers of the Naval Research Logistics flew the authors to Pittsburgh to receive the prize, a bound copy of the award winning paper, at an awards dinner.

Dr John Raffensperger has recently recruited two new PhD students, Ranga Prabodaue and Ruzelau Khalid, to work on issues involved in developing water markets.

Our newest Operations Management Lecturer, Dr Pavel Castka, recently completed a six month reign as the acting Director of our MBA Programme. The position has now been taken up by Dr P. Venkateswarlu, another of our Operations Management Lecturers.

Shane Dye  
Christchurch Branch Chair

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

Since the 2004 conference three issues of the newsletter have been published. The December newsletter was sent for printing January 20, the March one on May 8, the September one on September 14. They should have arrived in members' letterboxes about two weeks later. The June edition was skipped for lack of material.

We had two paid job adverts in the September issue and the arrangement with Hoare Research Software, who print the newsletter in exchange for a free ad on the back cover is still in place.

Special thanks this year go to Stuart Donovan and Richard Lusby who contributed excellent articles on their visits to Manila and Copenhagen, respectively. These two were also the only original contributed article this year, which brings me to the usual request:

**Send me articles. Without your contribution the newsletter will die!**

It doesn't have to be much: An abstract of a recently completed PhD, conference announcements, interesting work you're currently doing, visitors to your university. All welcome!

Matthias Ehergott  
Newsletter Editor

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

The main excitement in the international arena was the APORS 7<sup>th</sup> Triennial Conference of APORS (*Association of Asian-Pacific Operational Research Societies*), in January in Manila, which Stuart Donovan attended on our behalf, and as our nominated "Young Scholar" sponsored by IFORS, ORSNZ, the OR Society of Phillipines, and the Department of Engineering Science, Auckland University. Stuart

won the prize for the 'Best Applied Paper' for his work on Wind Farm Optimization. Our hearty congratulations to Stuart.

New statutes for APORS – APORS President Elise del Rosario led a revision of APORS Statutes, which were duly approved by the APORS Council on August 31, 2006. Prof. Tatsuo Oyama of Japan has been appointed to represent APORS in the IFORS Administrative Council and act as APORS regional Vice President of IFORS.

In January 2006, Vicky Mabin commenced her term as Asia Pacific Editor for the International Transactions in Operational Research, an official journal of the International Federation of Operational Research Societies, IFORS.

Vicky Mabin has also been very busy as Asia Pacific Editor for ITOR, the International Transactions in Operational Research, the flagship journal of the International Federation of Operational Research Societies (IFORS). She has been very grateful for all the support given by colleagues who have already reviewed papers. Offers of help to referee are also welcome. She would welcome high quality papers, which once accepted generally see publication within a few short months. See for example the ITOR January issue with 2 papers from NZ, the lead article being C. B. Basnet, L. R. Foulds, and J. M. Wilson, Scheduling contractors' farm-to-farm crop harvesting operations. This issue is a free sample copy at present – check it out at <http://www.blackwellpublishing.com/journal.asp?ref=0969-6016&site=1>

Vicky Mabin  
Liaison Officer

### **ORSNZ Young Scholar Report**

#### **APORS 2006: Optimizing Resources, Outstanding Results**

Manilla, the bustling capital of the Philippines, was the stage for the 2006 conference of the Asia Pacific Operations Society (APORS). With its theme of “Operations Research: Optimising Resources, outstanding results,” APORS 2006 drew together operations researchers from around the region for three days of intense academic discussion and pleasant socialising.

In her opening speech, Gloria Macapagal-Arroyo (President of the Philippines), extended an informed welcome to conference delegates, and outlined her vision for the role of operations research in the Philippines. With her personal background in OR, the President’s speech was indeed an auspicious beginning to the conference.

In the subsequent plenary talk, Thomas Magnanti, IFORS President and Dean of Engineering at MIT, emphasised the magnitude of savings gained from the recent application of operations research techniques throughout business and industry. There were numerous highlights amongst the general contributions. One of these was Albert Stahel’s presentation about his simulation work of the “Shock and Awe” strategy employed by the United States during the recent illegal invasion in Iraq. This was a fascinating introduction to applications of OR in the realms of military strategy. No less interesting was Peter Bell’s lucid overview of revenue management, which

discussed how astute companies are increasingly using OR to maximise their income streams. He floated the idea of supermarkets raising grocery prices in busy periods to both increase profits and encourage higher weekday utilisation.

Many papers at the APORS conference were dedicated to discussing OR applications in a globalised economy. This has helped me to better understand New Zealand's position in this economy. In short, New Zealand is a country with high land and labour costs at the end of a relatively expensive transport route. To put it in terms operations researchers are familiar with, in the emerging global economy, New Zealand's economy has a negative reduced cost and is in danger of being removed from the basis. I believe that knowledge gained from many specific operations research problems can offer valuable insight into broader socio-economic issues. This is an insight that operations researchers need to share with the society in which we operate.

Two prizes were awarded for papers presented at APORS 2006. 'Best Theoretical Paper' was awarded to Geoffrey Ang Chua, while I am pleased to report that I received the 'Best Applied Paper' for my work on Wind Farm Optimization.

As well as observing regular conference presentations, I was part of a group of young operations researchers from around the Asia Pacific region. We were allocated our own presentation streams, with each Young Scholar allowed fifteen minutes to present their work and fifteen minutes of involved audience discussion. Topics ranged from optimization of workforce size, developing efficient menu systems for mobile phones, and investigating the impact of tax reform on industry performance.

However, outside the conference venue, the elegant nature of mathematical structures paled amidst the chaos that characterises Manila. While the hustle and bustle was somewhat appealing, the air pollution caused by traffic congestion meant that hotel windows on the seventeenth storey were permanently locked shut. Not so pleasant for those of us who enjoy our foot powered frolics! The host city provided its own lessons for conference guests by reminding us that many things that we take for granted in New Zealand will never be available to large proportions of the world's population.

On the brighter side, Filipino culture appears to be alive and kicking. There is an abundant supply of local fashion designers producing clothes of a high quality and unique style. Music and dancing erupted spontaneously, with a young boy dancing with a manikin in the window of a clothes store providing a hilarious diversion. Local food in general was excellent, with banana smoothies being a personal favourite.

In looking forward to the next APORS conference in Malaysia in 2009, I hope that operations research devotees in New Zealand will make the most of this opportunity for regional academic cooperation. It provided me with valuable exposure and experience to the world of operations research.

I would like to acknowledge the following individuals and institutions that helped me reach APORS 2006: IFORS, Operational Research Society of New Zealand, Department of Engineering Science, Drs Rosalind Archer and Hamish Waterer.

Stuart Donovan  
ORSNZ Young Scholar