NEWSLETTER

June 2005

Operational Research Society of New Zealand, Inc.
PO Box 6544, Wellesley St. Auckland, New Zealand, www.orsnz.org.nz

Contents

Newsletter publication dates are March, June, September, and December. Submissions deadline is the 15th of the month for the following month's issue. Send submissions by email to the Newsletter editor, Matthias Ehrgott, newsletter@orsnz.org.nz. Acceptable formats are plain text, word, or graphic formats jpg, tiff, and gif. Pdf or postscript documents are *not acceptable*.

Letter from the President

As many of you will already know, on May 13 Professor George Bernard Dantzig died at his home in Palo Alto, California. While it is sad to think that George is no longer with us, we can take the opportunity to remember his 90 years of life and celebrate his huge contributions to our subject. As one of the founding fathers of Operations Research, George Dantzig's name is known to all who have had the good fortune to meet the subject. There are few others for whom we can make this claim. His discovery of linear programming and the Simplex Method is well documented and even today it is hard to imagine a course in linear programming where George's important contributions are not acknowledged.

Over the past twenty five years or so, a significant number of New Zealand students have gone to Stanford to complete their PhDs in Operations Research. George and the Stanford Department have had a major influence on all of these students and I know how much they have appreciated the opportunities to get to know and work alongside George.

For all of us who had the good fortune to meet and know George, we will never forget his gentle kindness and his ability to put one at ease. I well remember an occasion back in 1990 when I was visiting Stanford with my wife and daughter. We were staying with Mike and Prue Saunders and after I had given a seminar in the OR Department, Mike arranged a dinner for us at a local restaurant in Palo Alto. George came to that dinner and spent the evening sitting next to my daughter, Jen. After the dinner Jen told us what a really nice old guy she had been sitting next to and how he had chatted to her right through the dinner. I can still remember Jen's surprised reaction when I told her how famous that "old guy" was and that everything I was doing at work absolutely depended on the discoveries that he had made when I was about five years old. Now we all have our own memories of a great man whose name will continue to live forever alongside the names of other famous mathematicians and scientists.

David Ryan

ORSNZ Visiting Lecturer Scholarships

ORSNZ invites nominations for ORSNZ visiting lecturer scholarships for visits to New Zealand between September 2005 and June 2006. Each visiting lecturer must give a talk on some topic likely to be of general interest to ORSNZ members at each of Auckland, Hamilton, Wellington, and Christchurch. Each visiting lecturer will be invited to write a guest editorial for the

society newsletter. The emolument of each scholarship is up to $1000. ORSNZ will not normally consider payment of additional costs to visiting lecturers.

Each candidate must be nominated by a current member of ORSNZ, "the champion". The nomination must include the CV of the nominated visiting lecturer, the date and location of the hosts of the visit, the name of the champion and an undertaking by the champion to coordinate a visit by the nominee to the four above named centres.

Enquiries concerning, or nominations for, scholarships should be sent to

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2005 – 40 Years of Operations Research in New Zealand

ORSNZ 2005 Conference

Wellington 2nd and 3rd December 2005

Celebrating 40 years of ORSNZ

"Reflecting Back – Looking Forward: 40 Years of OR in New Zealand"

This year's conference will be held in Wellington at the Pipitea Campus of Victoria University. Presentations to mark 40 years of ORSNZ will include a series of papers on the theme "Flavours of OR" and for the practitioners especially, "OR - Making sense of realities".

The printing of this newsletter has been generously sponsored by Hoare Research Software.

OR Around the Globe

Center for Operations Management
Department of Industrial Engineering of the University of Chile

Andres Weintraub

Our group of around 8 academics is within a large Department of Industrial Engineering, with about 28 academics, in areas that include economics, mostly microeconomics, information technology, organizational behaviour and leadership, and classical marketing areas such as finance and marketing. This can be seen as an integration of typical industrial engineering with many elements of a business school. Engineering in Chile is a 6 year career, following a European model which has proved very successful. Industrial Engineering is the top specialty among all engineering departments. Our engineering graduates are highly regarded by the market and get top salaries, even exceeding lawyers and doctors. We graduate about 180 industrial engineers every year. Within this department, our group is responsible for the operations research and operations management courses. Three of these courses are compulsory for all industrial engineers, two covering typical topics in operations research and one in operations management. In addition we have optional courses, like operations engineering.

Coordinated with the engineering degree, we have Master's Program in Operations Management, with about 30 students, and a PhD Program we just started in Engineering Systems, which has a common basic background in mathematical programming, microeconomics, stochastic models and three options, Operations Management, Transportation and Electrical Systems. This new program is carried out integrated with researchers from these departments.

In terms of research, our approach is similar to the corresponding group at the University of Auckland. We integrate frontier applications, which have high impact in industry and government with methodological developments, which are often needed to solve these applied

problems. In terms of applications we have worked in the areas of forest management, developing systems that are used by the forest industry in Chile to schedule daily transportation, harvesting and machine location. Some of these systems are also used by forest firms in other countries, including Brazil, Argentina, and South Africa. Our work with the forest industry was awarded the Edelman Prize from INFORMS in 1998.

OR, mining, school lunches and soccer

We are also working with the mining industry, developing systems to support long range planning of mineral extraction and investment in infrastructure. These systems are already in use in some mines. A very successful project, led by Rafael Epstein, was in supporting the process of awarding bids to catering firms by the Education Ministry to provide meals for over a million lower income school students. A combinatorial options approach which has been in use since 1998 has resulted in yearly savings of 40 million US. This work won the IFORS Developing Countries Prize Competition in Edinburgh 2002. Other projects include evaluating bank loans to scheduling the 2005 professional futbol season.

Our aim is to develop new knowledge in these projects, and thus most of the projects lead to publications. In a recent survey by Interfaces, we tied with the University of Auckland in papers related to OR applications published in Interfaces and Operations Research.

Our methodological research is oriented to combinatorial problems and integer programming, data mining and increasingly stochastic models. We are reasonably funded through personal research funding from our National Research Agency, with whom we also have two large projects which fund university - industry developments, one in mining, the other for supply chain and retail in a supermarket chain. We have also a research fund, in a group which includes transportation and a group of mathematicians, in Complex Engineering Systems. Finally, we get funding from industry and government agencies for applied projects.

Our group publishes a journal, Ingeneiria de Sistemas, in Spanish, which publishes mostly OR and OM applications.

We place high importance in creating international links. In particular, we have had a significant cooperation with the University of Auckland, through visits and joint research with David Ryan. A student of ours Juan Pablo Vielma worked in a thesis which included David Ryan and Andres Weintraub. and spent a month in Auckland in 2003, We hope this relation will develop fully, through more exchanges of academics and students, in particular considering the similarities in research philosophy between both our groups.

Andres Weintraub

People

Nicola Petty reports that Min and Max are making their way into the big wide world: A notice about Max and Min was added to the Mathematics Community page of TKI (Te Kete Ipurangi: The Online Learning Centre) on the 24 May 2005 http://www.tki.org.nz/e/community/maths/

OR Pioneer George B. Dantzig Dies May 13, 2005

Inventor of Simplex Method Was 90

Hanover, MD, May 17, 2005 – The Institute for Operations Research and the Management Sciences (INFORMS®) mourns the death of George B. Dantzig, the inventor of the ground breaking Simplex Method for allocating resources, who died in Palo Alto on May 13 at age of 90 following a brief illness.

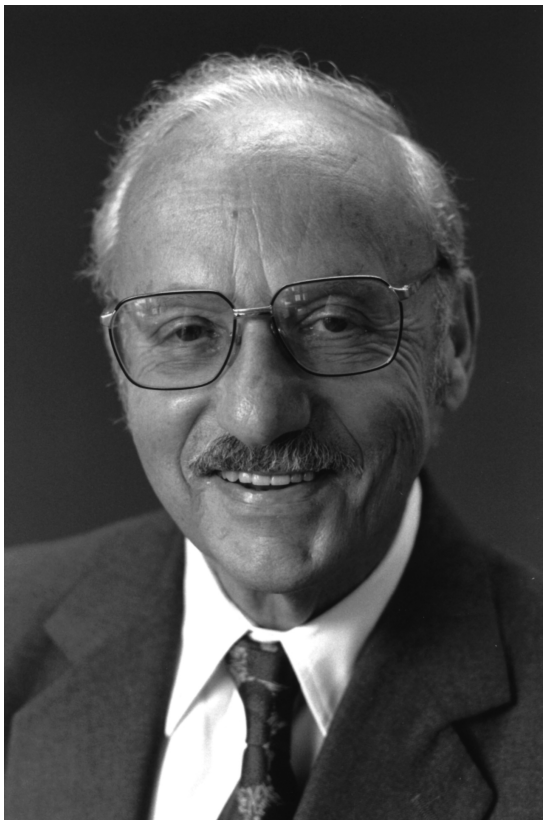
"George Dantzig stands as a tall founding pillar of operations research, said Richard C. Larson, President of INFORMS and a Professor at MIT.

"He was the first to formulate the general linear programming problem and to investigate its mathematical properties. This led him to invent the Simplex Method and to develop algorithmic refinements that enabled its reduction to practice. These seminal contributions helped to create the field of mathematical optimization as one of the two or three most important domains of operations research. His many other contributions to mathematical modeling and optimization helped to lay the groundwork for many to follow — both in applications and theory. He will be remembered with respect and admiration by all of us."

In recognition of his work, President Gerald R. Ford in 1975 presented Dantzig the nation's highest science award, the National Medal of Science. He received numerous other awards, as well, including what is now the INFORMS John von Neumann Theory Prize.

Dantzig's vision of modeling economic systems became the most widely used technique of its kind for the efficient allocation of resources in industry and government.

Before Dantzig's research, economists trying to "optimize" the way they assigned staff and other resources had only disappointing mathematical tools that fell short of successfully solving real-world problems.



George B. Dantzig

His contribution was the development in 1947 of linear programming. His formulation of linear programs as mathematical models for efficient allocation of resources and his development of a unique algorithm – the Simplex Method – to solve them was a seminal event in the development of mathematical programming as a scientific method for optimally managing resources.

"Dantzig's numerous accomplishments span the field of operations research and management science," said John R. Birge, who studied with Dantzig. Dr. Birge is Professor of Operations Management and Neubauer Family Faculty Fellow at the University of Chicago Graduate School of Business and a former president of INFORMS. "He extended the domain of mathematics from descriptive models to transformational tools by introducing the concept of an objective to improve the systems in which we work and live. Each of us has benefited from the advances that his work made possible. We will continue to feel his influence for many years to come."

The invention of the computer coincided with his research and became a signification coincidence. When it awarded Dantzig an honorary doctorate in 1976, the University of Maryland issued a statement, writing "His development of linear programming in 1947, occurring almost simultaneously with the development of the first computers, led to an explosion of economic, environmental, and statistical applications. As an example, the iron and steel industry has used a Dantzig programming method to evaluate iron ores, explore the additional of coke ovens, and select products. The Federal Energy Administration is using his method to evaluate energy policy alternatives, and linear programming has also been used or suggested for use to control water and air pollution…"

His work led to the growth of operations research in the 1950s. Operations research, known as the "science of better," is the discipline of applying advanced analytical methods to help make better decisions.

Dantzig contributed to the development of many other areas of operations research, including all major areas of mathematical programming, quadratic programming, complementary pivot theory, convex programming, stochastic programming, and game theory.

Like a fictional character in the film "Good Will Hunting," the young George Dantzig once solved a problem on a blackboard that had stumped veteran mathematicians.

As a graduate student at the University of California Berkeley in 1939, he arrived late in class one day and copied two problems from a blackboard. After struggling with what he thought was a difficult homework assignment, he submitted his work to the eminent statistician Jerzy Neyman. Six weeks later on a Sunday at 8 AM, Neyman excitedly awoke Dantzig to say he had

written an introduction to Dantzig's paper. It turned out that Dantzig had found solutions to two famous, previously unsolved statistical problems.

In lieu of flowers, the family requests that donations be made to an INFORMS prize named in his honor: The George B. Dantzig Dissertation Award, INFORMS, 7240 Parkway Drive, Suite 310, Hanover, MD 21076, phone: 1-(800) 4 INFORMS, informs@informs.org.

Richard C. Larson, INFORMS president

NZIMA Workshop on Mathematical Models for Optimizing Transportation Services

From April 19-22, 2005, mathematicians, traffic modellers and operations research practitioners gathered in Auckland for a workshop on Mathematical Models for Optimizing Transportation Services. The workshop, which was hosted by the Department of Engineering Science, was jointly funded by the New Zealand Institute of Mathematics and its Applications (NZIMA) and the Operations Research Group of the University of Auckland as part of a thematic programme in optimization supported by NZIMA.

The theme of the workshop was optimization of transportation services with a focus on three broad topics of major importance: transportation planning under uncertainty, optimizing the design of transportation systems, and pricing and revenue management. The workshop ran over four days with approximately half a day being devoted to each of the focus areas. A special session was also held on the use of modeling, optimization, simulation and other mathematical tools for improving the efficiency of emergency services (ambulance, fire, police).

Milk Collection and Auckland's Traffic Jams

A novel feature of the conference was the addition of two special panel discussions that were sponsored respectively by the dairy company Fonterra (New Zealand's largest corporation) and the Auckland Regional Transport Authority (ARTA). The panel discussions were introduced and led by researchers at these organizations, who gave fascinating descriptions of their transportation issues. For example Fonterra must collect milk from 15,000 farms each day, a challenge for any vehicle routing software. A major issue debated by the panel was the effect of uncertainty on the routing techniques and how to accommodate these in planning robust schedules. The ARTA discussion was also lively with uncertainty in origin-destination forecasts emerging as a key concern for planners.

The first day of the workshop was notable for a public television appearance by Mike Florian who was asked to comment in a broadcast interview about a hotly debated proposal to introduce tolled highways to Auckland. A clip of his interview can be downloaded from www.esc.auckland.ac.nz/Transportation.

The workshop had over 80 registrations and was truly international in flavour with participants and speakers from Australia, Canada, Chile, China, Denmark, Germany, India, Israel, the Netherlands, Norway, Singapore, Spain, Sweden, USA and New Zealand. Most presentations from the conference are available on the conference website www.esc.auckland.ac.nz/Transportation.

Professor Marston Conder of NZIMA opens the Workshop

Workshop participants before the beginning of the closing session

Andy Philpott, Matthias Ehrgott, David Ryan

Chapter News

Auckland News

The main event in the last couple of months in Auckland was of course the NZIMA Workshop on Mathematical Models for Optimizing Transportation Services. A report on this event is found elsewhere in the newsletter.

In the first semester, the Department of Engineering Science hosted an ORSNZ function to introduce the society to students. Students from our Year 3 and 4 OR courses attended to get free beer and fill out membership forms. This was a very popular event, and one that we intend to repeat each year.

Andrew Mason was a keynote speaker at the INFORMS practice meeting in Palm Springs in April. He gave a detailed account of all the practical OR models that have been developed in the Engineering Science Department. Andrew's focus these days is on commercialization of his ambulance simulation code SIREN, of which we are sure to hear more.

David Ryan and Matthias Ehrgott will represent Auckland at the IFORS meeting in Hawaii, where Matthias is cluster chair for Multicriteria Decision Analysis. He will then continue on to attend a workshop on Optimization in Medicine in Coimbra, Portugal.

Andy Philpott has just returned from a one-week trip to Sydney visiting AGSM. He is due to depart again shortly for a DICOPT workshop on dynamic pricing to be held at Rutgers in August.

Andy Philpott

Canterbury News

Just as the Super 12 trophy returned to its rightful home, Don McNickle and Shane Dye have now returned back to Christchurch from their study leave. Although not officially "Back on deck" until the 1st July, it is good to see them back in the country. Both have had a very productive time away. However with the coming is also some going – from July 1st John Raffensperger and Nicola Petty start their study leave. Fritz is intending to stay in the country and continue to work on his research into water markets. Nicola is intending to complete her PhD on resource allocation for special education.

The position for the Chair in Management Science closed on the 31st May. We are now in the process of short listing candidates and arranging interviews. Watch this space for updates on this important position for not only the University of Canterbury but also for Operations Research in New Zealand.

Min and Max have been unleashed on Maths classrooms around the country. Posters and Brochures on OR have been sent to schools and Nicola has been receiving some very favourable feedback on them. Nicola is also going to be at the New Zealand Mathematics Teachers Association conference in September to present a seminar entitled "Meet Min and Max the O.R. Heroes".

Ross James

Wellington News

The Wellington group is now into planning for this year's conference on 2nd and 3rd of December. It is to be held at VUW's Pipitea campus on the Old Government Buildings site. This will be a very convenient location both for Wellington residents and those from out of town, with easy access by public transport to the night spots.

In the mean time we've had a meeting where Arun Elias told us about the consultation and decision making processes that can help with solving major public works problems. Wellington's Transmission Gully or Northern Motorway project were the subject of his study, carried out for his PhD. Initially, there was some concern that the motorway project would be built before the PhD was complete! This concern seems hard to believe now. The project involved identifying stakeholders, and identifying the roles of the various groups. The interaction of these stakeholders is clearly a major study area, in which OR techniques can contribute a great deal. An interesting conclusion from Arun's work is that group model building is a useful way of determining conflicts and the underlying assumptions of the various people involved. The project has influenced the Wellington Regional Council's planning process, in particular resulting in some additional feedback loops. Perhaps the 400 kV electricity transmission proposal for the Waikato might have proceeded differently if this type of strategy had been applied.

Hugh Barr gave us a very lively series of lessons in May covering an unusually varied range of subjects. We were expecting a talk on flood plain management, but got a lot more. Hugh began with a little about flood plain management, which is quite topical here, given the floods in the Manawatu and some more localised floods we have had this year. (Be wary of real estate in Waiwhetu.) Water supply issues were covered, where there has been some controversy over who should pay – to what extent should water supply infrastructure be funded by debt, to be paid off over the life of the assets. Should the debt have the same life as the benefits? There were some political as well as financial lessons here. In a discussion on the application of decisions trees to suburban rail service planning, we learnt about the effect of Rogernomics on our trains - another interaction of politics and OR. Given the importance of trains to those of us in the outer suburbs, it is good to know that some scientific techniques have been applied to their management. Hugh ended with a short philosophical discussion on managing the planet for survival, making this one of the widest ranging talks I've heard at an OR meeting.

I have suggested to Hugh that he repeat some of the material for a talk at this year's conference in Wellington – if he does present, I would highly recommend that session.

Tom Halliburton

Waikato News

Professor Lyn Thomas visits MSYS

MSYS was privileged to host Lyn Thomas of the University of Southampton, U.K, who is one of the top exponents of operations research in Britain. Lyn spoke on inventory and production models for small firms. Inventory and production models have traditionally sought to maximize profit or minimise costs. While these are sensible objectives for well established companies with good reserves of capital, small firms have a very different objective - to survive. He discussed how changing the objective to one of maximising the probability of survival affects the inventory and production decisions of such firms. He showed that for the basic inventory problem, small firms should be more cautious than large ones, even though they cannot afford to be too cautious. An extension of the newsboy problem, to represent small firms which have bought franchises, was then considered as well as models of small production companies which have to set both inventory and production levels. In the former case the small firm still needs to be cautious unless it is has hardly any capital, when it should take substantial risks. In the latter case, the firm should usually, but not always, match inventory and production levels.

MSYS and manufacturing management

Chuda Basnet, Paul Childerhouse, LesFoulds, and Valerie Martin have been researching, from a global perspective, issues that are currently being faced by New Zealand organizations seeking to sustain and improve their supply chain management processes. They have found that what differentiates supply chain management competitiveness is the way that products and services are designed, created, and transported. Paying attention to customers and knowing what will delight them is an important beginning. However, when many competitors in a subsector become customer-focused, the key to competitiveness is supply chain management capability. What differentiates leaders from laggers in this case is the ability to provide, in a consistent and sustainable fashion, products and services that reflect less tradeoffs between: quality, price, speed of transportation, and agility. Their recent journal article discusses these and other current issues in supply chain management, with illustrations of where they have been utilized with success by practicing New Zealand supply chain managers.

John Scott in the UK

John reports, "Many of us are visual learners. Looking at how well we are served by problem solving processes is one piece of work I've now finished. I've also been playing around in the border between the regions of qualitative and quantitative and am quite excited about what it has revealed. Have also done further work on Reflection, which has come to the notice of the organizers of this year British Operational Research Society conference, and my name is one of three on an invitation to give a keynote address on this.

But there have also been "lighter" moments. While checking in at Stansted airport Iwas asked if I had scissors etc. Oh, thinks I "Yes, in my sponge bag"; will put them into the suitcase being checked in. Unlock padlock in narrow space between two check-in queues; jostled; keys fall into my open hand luggage. Quick look, but cannot see them. Give it away; only a cheap pair of scissors anyway. Check in completed. Queue at x-ray is a mile long and time is now getting on. Pretend I'm the partner of a lone female near head of queue. Proceed up to the X ray and notice perspex bin of confiscated items which includes a multi-tool (Leatherman). Now in bottom of my hand luggage … is also one of same, which has gone several times around the world; always handy for borrowed bikes & rented flats. Could drop out of the queue, but what to do; time marching on; missing the flight possible. Decide to stay in queue. Again; it's only a tool; can get another one. Belt stops while my bag is being X-rayed. "Your bag? Come with me please (sic) sir". "I know what caused it", says I. "Sorry. We need to inspect everything", comes the reply". Final item found - one multi-tool. "I'm coming back in three days. Can I pick it up?" I ask. "We used to allow that, but not enough people came and collected, so we have stopped that", is the reply. "I might be able to let you post it though", says the officer. My hopes are lifted. "I'll need to ask my supervisor though". Off he goes. Supervisor does not come to see me. Answer predictable. Back to telling myself it's only a tool, let it go. Officer takes it out of its pouch. "Oh, it is a nice one; pity", he says, trying to be nice. I sigh. He turns and takes it away, then stops and turns back. Hopes lifted again. "Would you like to keep the pouch?" Sigh. I look away and wave the back of my hand in a dismissive gesture. The best I can offer. And the scissors that started it all? I walk away with those. They got measured and were declared OK. Funny old world that we live in.

Stuart and Les to go a'gallivanting

Stuart Dillon is heading to Australia for six weeks in early July. During that time he will be presenting two papers, one at the Collaborative Electronic Commerce Technology and Research (CollECTeR) conference in Sydney in July, the other at the Australasian Business and Behavioural Sciences Association (ABBSA) Conference in Cairns in early August. The remainder of the time he will be hosted by the Griffith University Graduate School of Management at its Gold Coast Campus. Les Foulds will spend the rest of this year in the Logistics Centre at Molde University College, Norway, and the first half of next year at the Western Australian Centre of Excellence in Industrial Optimisation, in Perth. In between he'll make shorter visits to Universities in Hawaii, Vancouver, Toronto, Athens, St Andrews, Dubai, and Singapore.

Les Foulds

Puzzle Corner

A car travels downhill at 72 k.p.h. (kilometers per hour), on the level at 63 k.p.h.., and uphill at only 56 k.p.h.. The car takes 4 hours to travel from town A to town B. The return trip takes 4 hours and 40 minutes. Find the distance between the two towns.

Send solutions to Les Foulds lfoulds@waikato.ac.nz.

Les Foulds

Self-Plagiarism in OR?

Some weeks ago John Paynter and Ines Winz brought to my attention an article called "Self-Plagiarism in Computer Science" [1]. They suggested it may be of interest to ORSNZ members – just recall our ongoing discussion about the proceedings of the annual conference and subsequent submission to journals. Well, I read it and thougt that a lot of what Collberg and Kobourov talk about sounds quite familiar.

According to the paper, "self-plagiarism occurs when authors reuse portions of their previous writings in subsequent research papers". They recount some anecdotes from their personal experience and the result of an experiment. In this experiment they conducted an automatic search of publications found on computer science websites of 50 schools and found

- pairs of conference publications with common introduction and/or related work sections that do not reference each other,
- pairs of conference publications with over 50% common text that do not reference each other,
- pairs of nearly identical conference and journal articles of the same paper, where the journal version does not reference the conference version.

They also did a survey among colleagues and the answers make quite interesting reading.

But Computer Science is not OR. For instance, many (most?) Computer Science conferences have a true refereeing process for submitted papers and thus refereed proceedings volumes, whereas most OR conferences don't. Is self-plagiarism not a problem in OR? My experience on the editorial board of some journals suggests otherwise. It happened several times that I sent a paper for review and got the response "I have just reviewed that same paper with a slightly different title for journal XYZ." Just recently, an email from a colleague who refereed a paper for me asked "Has that paper been accepted in your journal? It has nowbeen submitted to my journal." – it had been accepted for mine. Another reviewer informed me that "the authors have previously published paper ABC. The current paper is a worse version of paper ABC." As these cases of self-plagiarism have been detected by coincidence, I guess parallel submission to several journals must be quite common in OR. That suggests that providing guidelines of what is acceptable and what is not in journals won't make a difference – after all submission of a paper comes with the declaration that the work is not submitted anywhere else at the same time. Collberg and Kobourov ask "should paper reviewers become plagiarism police?"

What is acceptable "reuse" and what is not? Collberg and Kobourov suggest that recasting technical reports as conference papers and journal versions of conference papers (with appropriate referencing) are ok. In OR another case mentioned in the paper is probably very important, too: The publication of results in both OR journals and journals in areas of application. Personally I think it is quite important to do that in order to get OR into the various scientific communities where it is useful.

To close, here is the final statement of the Collberg/Kobourov paper.

"*It is our belief that we should hold ourselves to the same high standards as our students. Many professors use tools [...] to detect plagiarism among students. Similar tools would be useful to detect self-plagiarism among academics*."

[1] C. Collberg and S. Kobourov. Self-Plagiarism in Computer Science. Communications of the ACM 48(4): 88-94, April 2005.

Please feel free to send me your comments.

Matthias Ehrgott

Notice Board

2005 Medals and Awards Administered by Royal Academy

The following suite of medals and awards is being offered in 2005 by the Academy Council of the Royal Society of New Zealand.

- Hector Medal - Mathematical and information sciences
- Te Rangi Hiroa Medal - Social and economic policy and development
- R. J. Scott Medal - technologies associated with biological, food, natural products processing & medical practice technologies
- Hamilton Memorial Prize for beginners in scientific or technological research in New Zealand
- Hatherton Award for the best scientific paper by a PhD student at any New Zealand University in physical sciences, earth sciences and mathematical and information sciences

The closing date for applications and nominations is Friday, 5 August 2005. Electronic copies of the information and application forms are available from awards@rsnz.org. Copies are also available on the Society's website http://www.rsnz.org/awards/academy_awards/forms.php.

I look forward to receiving nominations for these prestigious medals and awards.

Judy Lyons (Mrs)
Administration Officer - Academy Council

New Book

Matthias Ehrgott, Multicriteria Optimization - Second Edition.

Springer ISBN 3-540-21398-8
XIII + 323 pages
http://www.springeronline.com/sgw/cda/frontpage/0,11855,5-40109-22-29184360-0,00.html

Decision makers in many areas, from industry to engineering and the social sector, face an increasing need to consider multiple, conflicting objectives in their decision processes. In many cases these real world decision problems can be formulated as multicriteria mathematical optimization models. The solution of such models requires appropriate techniques to compute so called efficient, or Pareto optimal, or compromise solutions that - unlike traditional mathematical programming methods - take the contradictory nature of the criteria into account. This book provides the necessary mathematical foundation of multicriteria optimization to solve nonlinear, linear and combinatorial problems with multiple criteria. Motivational examples illustrate the use of multicriteria optimization in practice. Numerous illustrations and exercises as well as an extensive bibliography are provided.

In the new edition a section on optimality conditions has been added. Additional scalarization techniques have been introduced and the chapters on multiobjective linear programming and multiobjective combinatorial optimization have been extended and spread over several chapters. A "Notes" section has been added to each chapter for further links to relevant literature and recent developments. The bibliography has more than doubled.

Contents

Matthias Ehrgott

Journals – Calls for Papers

OR Spectrum -- Quantitative Approaches in Management
Special Issue on Biomedical Informatics and OR

During the past decade our society has rapidly grown into an information-driven society. Information breeds new theory, methods, and technology for creating and measuring success. Biological and medical data are of particular importance in that they can lead to discovery of knowledge that can help us better understand and deal with our life and nature.

Biomedical informatics is a relatively new and emerging multidisciplinary research area that can generally be defined as the application of mathematical, statistical, and computational tools in analyzing biological and medical information. With the advances in genetic and medical research producing a vast amount of information everyday and supported by the advent of powerful computing hardware, OR today finds itself potentially, if not already, playing a significant role in advancing biomedical informatics: OR researchers have created 'mathematical, statistical and computational tools' for practical problems and can apply and develop theory, models, and algorithms for better solving questions and meeting challenges posed by biomedical informatics research today.

This special issue of *OR Spectrum* will provide a forum for timely and in-depth presentation of the state and opportunities of OR research in the emerging research field of biomedical informatics. Specifically, we solicit high quality and **practical** contributions on development, use, and application of OR theory, models, and algorithms for biomedical problems. Topics of interest include (but are not limited to):

- Comparative genomics
- Gene expression analysis and identification
- Microarray design and prediction
- Phylogenetics
- Pharmacogenomics
- Protein folding and structure prediction
- Protein identification
- Disease studies
- Medical diagnosis and prognosis
- Cancer treatment
- Models of epidemics
- Reviews and pilot and case studies

Submission Guideline:
Submit your paper via e-mail (pdf or ps format) by **December 1, 2005** to one of the two special issue editors. The submitted papers must not have been previously published or be currently under consideration for publication elsewhere. All papers will be reviewed according to the standards of *OR Spectrum*. The format of manuscripts for *OR Spectrum* can be found in "Instructions for Authors" page of the journal on

http://www.or-spectum.de.

Please feel free to contact the editors with any questions.

Important Dates:
Submission Deadline: December 1, 2005
Author Notification: June 1, 2006
Camera-ready Due: October 1, 2006
Target Publication Date: January 2007

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Matthias Ehrgott

Conference Announcements

Association of Asia-Pacific Operational Research Societies
January 16-18, 2006 Manila, Philippines

With the theme Operations Research: *Optimising 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. The conference will provide a forum where:

* Researchers could present their findings dealing with the theoretical, computational, and application aspects of operations research;
* Practitioners could share their experiences on the problems, methodologies and outcomes of applying OR to solve real-world problems;
* OR workers could discuss pertinent academic-, theoretical- and application- oriented issues;
* Decision-makers could gain an insight into the experiences of others who have benefited from the use of OR in the public and private sectors.

Important Dates
- On-line submission for abstracts starts February 15, 2005
- Deadline for abstract submission June 15, 2005
- Notification of acceptance July 15, 2005
- Deadline for early registration September 1, 2005
- Deadline for author registration (for inclusion in Abstract book) December 1, 2005

For additional information please contact Organizing Chair, Elise del Rosario, elise@jgdelrosario.com or Program Chair, Professor Han Chun Kwong, hanck@pc.jaring.my

After a successful APORS Conference in India in 2003, APORS has landed in the Philippines! APORS 06 will be held in the heart of the commercial and business district in Metro Manila from January 16 to 18, 2006.

To emphasize the regional nature of this conference, we have, for the first time, worked out an arrangement where MSOR Society of Malaysia President, Prof. Han Chun Kwong chairs the technical program while the ORSP takes charge of the local arrangements. Even with these two societies though, APORS will not be complete without your participation.

We have organized three panel discussions on each day of the 3-day conference. These panel discussions will be on OR in Business, OR in Governance and OR Education.

National Contributions will be showcased in semi-plenary sessions and are automatically considered for the awards to be given on the last day of the conference.

APORS 06 welcomes proposals to organize sessions. Note that Prof. Han has to receive abstract submissions and session proposals on or before June 15, 2005.

We are hopeful that this Conference will bring out a stronger APORS and we need your wholehearted support for this. See you at the APORS Council meeting!

Elise del Rosario,President, APORS

Australia and New Zealand International Business Academy (ANZIBA) Conference 2005

The 2005 Australia and New Zealand International Business Academy (ANZIBA) Conference will be held in Melbourne on 10 - 11 November 2005 and hosted by the Department of Management and by the Asian Business and Economics Research Unit (ABERU http://www.buseco.monash.edu.au/units/aberu/) of Monash University.

Key Note Speakers:

- Klaus Meyer, Research Professor of International Business, Copenhagen Business School
- Shuming Zhao, Dean and Professor at the School of Business at Nanjiing University and the school of Graduate Studies at Macau University of Science and Technology.

Please find the ANZIBA2005 Call For Papers at the ANZIBA web site:
http://www.monash.edu.au/cmo/anziba05

Meetings Calendar

New Zealand

40th Annual Conference of the Opertaional Research Society of New Zealand, Wellington
2 – 3 December 2005
www.orsnz.org.nz

11th Annual ANZSYS Conference, Christchurch
5 – 7 December 2005
http://isce.edu/ISCE_Group_Site/web-content/ISCE%20Events/Christchurch_2005.html

Asia Pacific

8th ISAHP, University of Hawaii, Honolulu, USA
8 – 10 July 2005
http://www.isahp2005.net

17th Triennial Conference of the International Federation of Operational Research Societies 2005, Honolulu, Hawaii
11 – 15 July 2005
http://www.informs.org/Conf/IFORS2005/

First South Pacific Conference on Mathematics, Noumea, New Caledonia
29 August – 2 September 2005
http://www.univ-nc.nc/Recherche/labo/erim/lastconf/confsp.htm

18th National Conference of the Australian Society for Operations Research, Perth, Australia
26 – 28 September 2005
http://www.maths.curtin.edu.au/asor05/

Australia and New Zealand International Business Academy (ANZIBA) Conference 2005, Melbourne, Australia
10 – 11 November 2005
http://www.monash.edu.au/cmo/anziba05

IFSR 2005 The First World Congress of the International Federation for Systems Research, Kobe, Japan
14 – 17 November 2005
http://ifsr2005.jtbcom.co.jp/index.html

International Conference on Operations Research Applications in Infrastructure Development and 2005 Annual Convention of Operational Research Society of India (ICORAID-2005-ORSI), Bangalore, India
27 – 29 December 2005
www.mgmt.iisc.ernet.in/~orsibc

7th APORS Conference, Manila, Philippines
16 – 18 January 2006
http://www.orsp.org.ph/apors/

International

17th Mini-EURO Conference "Continuous Optimization in Industry", Pecs, Hungary
29 June – 1 July 2005
http://www.cs.elte.hu/opres/Pecs05EUROmini/h_about.html

5th Annual MOPTA Conference Modeling and Optimization: Theory and Applications, Windsor, Canada
25 – 27 July 2005
http://www.uwindsor.ca/mopta

International Joint Conferences on Artificial Intelligence, Edinburgh, Scotland
30 July – 5 August 2005-06-22
http://ijcai05.csd.abdn.ac.uk/

The 6th Metaheuristics International Conference (MIC 2005), Vienna, Austria
22 – 26 August 2005
www.mic.2005.org

Operations Research 2005, International Conference of the German Society for Operations Research, Bremen, Germany
7 – 9 September 2005
www.or2005.uni-bremen.de

10th Meeting European Working Group on Transportation and 16th Mini-EURO Conference, Poznan, Poland
13-16 September 2005
http://euro2005.cs.put.poznan.pl/

MOPGP'06 7th International Conference on Multiobjective Programming and Goal Programming, Tours, France
12 – 14 June 2006
http://www.univ-valenciennes.fr/ROAD/MOPGP06/

MCDM 2006 – The 18th International Conference on Multiple Criteria Decision Analysis
19 – 23 June 1006
Chania Greece
http://www.dpem.tuc.gr/fel/mcdm2006/

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