

June 1999

Operational Research Society of New Zealand (Inc.), PO Box 6544, Wellesley St. Auckland, New Zealand http://www.esc.auckland.ac.nz/Organisations/ORSNZ/

# **EDITORIAL**

My daughter recently ordered a game through the local school book club, called "Beat the Clock." It claimed to be a quiz game played against a stopwatch but when it arrived the stopwatch didn't work. We wondered whether we should beat the clock. Instead we returned it. Beating the clock seems a desirable thing to do sometimes when the list of things to do grows ever longer and the hours in the day get shorter. A sign of old age, I hear you say! Fair enough! Of course these are also the normal sort of cogitations that one has at this time of year, as we whiz towards the mid-point. But it is especially pertinent today as I review what has (and has not) been sent in to the newsletter for this quarter's issue, as I get the impression that everyone else is too busy to stop and share a line with others. So in the next quarter, as part of the coming springtime and the lengthening days, I'd like you all to write something for the newsletter! OK?! Or at least talk someone else into doing so.

Something else I'd like to see more of is branch meetings. I've noticed for a while now that these appear to be a very rare species, and it's nation-wide apparently, not just Wellington. I wonder if our Society might run the risk of becoming a rare breed too if we continue this way. Do we want our Society to turn into a "virtual" society with only the newsletter and conference proceedings to keep us in touch with each other (with the exception of an annual conference which those who attend seem to enjoy)? There seems to be an increasing tendency for us to turn into islands of excellence with our computers and the Internet to keep us company. This seems odd to me, because I always thought that OR people liked getting together to swap new ideas. And branch meetings in the past in Wellington have always been well attended. So how about some more meetings? Does any one want more? Any ideas on how we might go about it? What sort of meetings? More social or more OR content? Please just drop me an email with your thoughts and I'll collate the comments for the next issue.

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Publication dates: March, June, September, December

Meetings Calendar for 1999 and Beyond

Deadline for submissions: on the 15<sup>th</sup> of February, May, August, November (for following month's issue) Send submissions as word attachments by email to Production Manager, Tricia.Lapham@vuw.ac.nz



What we DO have for you in this issue is plenty of news of conferences and advertisements of new products, as well as job and project opportunities, so it's quite fitting that we have a new Council policy on advertising, which is printed in this issue. Let us know your thoughts on that.

There are certainly plenty of conferences going on, some imminent, some with eminent people, and some with both. The international Systems conference (see the inside back page) looks to be one that combines eminent speakers with exciting topics, and is coming to Wellington very soon. Do check out the website to see the range of papers. Our own conference is of course coming up in December: quite probably the last OR conference of the millenium (at least by the popular definition of millenium).

There's a little bit of news: good to see Kiwis making the world headlines with the house-building feat. And as a final note, Michelle Baron is leaving us to go back to the USA where she has accepted an appointment with Pacific University, near Portland, Oregon. We at Victoria University will certainly miss her, and I'm sure many others from the ORSNZ will join me in wishing her and her husband Jim well as they return home.

And remember to send those contributions in.

# VICKY MABIN, Victoria University, email: Vicky.mabin@vuw.ac.nz

# ORSNZ POLICY ON ADVERTISING

Council passed the following policy on advertising in the Society newsletter:

Advertisements that are relevant to OR/MS are regarded as a good thing to encourage in the newsletter.

Advertisements that do not pertain to OR/MS will not be accepted for the newsletter.

Advertisements for OR/MS jobs submitted by ORSNZ members will be run in the newsletter free of charge. Non-members will be charged NZD50.00 for a half-page advertisement.

For advertisements for OR/MS services and products (software, services, books), the charges are as follows: A company will be charged NZD100.00 for inclusion of an already printed advertisement. The same charge applies to a half-page advertisement if ORSNZ is covering printing costs (i e part of the newsletter proper, not an included sheet).

For a corporate member of ORSNZ, there is a 50% discount on these fees.

For both members and non-members, there is no charge for inclusion of a text article (up to 0.5 page) that may help to advertise OR/MS products/services.

Any other technical articles (e g describing the use of a product in a real application) are welcome and will be included at no charge at the editor's discretion.

The editor of the newsletter retains the right to include or decline any articles or advertisements submitted to the ORSNZ newsletter, for publication.

## ANDY PHILPOTT, Auckland University, email:a.philpott@auckland.ac.nz

# MATRIX ANALYTIC METHODS CONFERENCE

The 3rd International Conference on Matrix-Analytic Methods in Stochastic Processes will take place in Leuven, Belgium during July 12-14, 2000. The scope of this conference includes development of the methodology as well as related algorithms, implementation and applications in communications, production and manufacturing engineering; it also includes computer experiments in the investigation of specific probability models. Anyone interested in presenting a paper at this conference should email an abstract as soon as possible to Peter Taylor (ptaylor@maths.adelaide.edu.au) or to Malcolm Faddy (M.Faddy@math.canterbury.ac.nz).



#### SYSTEMS RESEARCH MODELLER

AgResearch is a Crown Research Institute that conducts research and development for the pastoral based food industries of New Zealand. The AgSystems Group within AgResearch is charged with integrating new technologies into the food supply chain. This group seeks a systems research modeller who has a strength in operations research methodology. A practising background in the agricultural and/or food industries would be desirable. The position will appeal to a person who wishes to combine research delivery and the management of a research team. The applicant will need an interest and/or ability in managing clients and projects.

The work will involve construction of models that optimise the production and financial performance of agricultural systems and supply chains. The person will have experience in the use of mathematical programming tools for process optimisation; and in simulation studies. An understanding of statistics would be a distinct advantage. This is a senior research position, therefore team leadership and project management will be expected.

The position is located at Ruakura Research Centre, Hamilton. It is part of a mathematical modelling and systems research team that has international standing in the area of Systems Research and Development.

Applications in the form of a CV (including two referees) with covering letter should be sent to Kelly Barker at AgResearch, Ruakura Research Centre, Private Bag 3123, Hamilton, New Zealand; email: barkerk@agresearch.cri.nz; tel: 0064 (0)7 838 5312; fax: 0064 (0)7 838 5117. Kelly can provide a detailed Job Description on request. Applications should be received by 25 June 1999.

# GRADUATE RESEARCH PROJECTS AVAILABLE

# 1. OFFER CONSTRUCTION AND RESERVOIR OPTIMISATION FOR HYDRO-ELECTRIC GENERATORS

#### 2. OFFER OPTIMISATION FOR HYDRO-ELECTRIC RIVER CHAINS

The Department of Engineering Science at the University of Auckland is seeking students for two graduate research projects. These projects are to be funded by Mighty River Power (formerly ECNZ-Northern Generation) who run the Waikato river system. The aim of these projects is to investigate improvements in the modelling of price-making behaviour for a hydro generator offering power into the Wholesale Electricity Market. The level of funding will be approximately the same as a GRIF Award (currently \$18,000 per annum).

The first project focuses on the medium-term reservoir planning problem in a price-making environment. This seeks the optimal tradeoff between releasing water now and saving it for later generation.

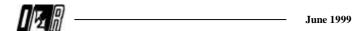
The second project will focus on the short-term river planning problem in a price-making environment. This seeks the optimal half-hour generator offers and daily river flows to maximise revenue while satisfying hydraulic and resource constraints.

These projects are available for 18 months as two separate Masters of Engineering thesis projects, or ideally as a combined research topic over 36 months for a student working towards a PhD.

To apply for either of these options interested students should write to Dr Andy Philpott, Department of Engineering Science, University of Auckland, Private Bag 92019, Auckland or email to a.philpott@auckland.ac.nz. before July 12, 1999, sending a copy of a recent curriculum vitae, and the name and email address of one academic referee. Please state in your application whether you wish to be considered for a PhD award or for a Masters award. More details of the projects are available from Andy Philpott's web site www.esc.auckland.ac.nz/Philpott

## ANDY PHILPOTT, Auckland University, email:a.philpott@auckland.ac.nz





#### OR in the New Millenium

# ORSNZ 99 CALL FOR PAPERS

The 34<sup>th</sup> Annual Conference of the Operational Research Society of New Zealand Friday 10<sup>th</sup> and Saturday 11<sup>th</sup> December 1999

Hamilton, New Zealand

#### VENUE AND CONCEPT

The conference will be held in the spacious, garden campus of the University of Waikato, Hamilton, New Zealand. We are using the "work-end" concept, for busy people to conference Friday and part of Saturday, allowing get-away time for a pre-Christmas break.

ORSNZ 99 also dovetails neatly with the MODSIM (Modelling and Simulation) conference (http://www.mngt. waikato.ac.nz/depts/econ/modsim99.html) which ends on Thursday, 9<sup>th</sup> December 1999.

#### **THEME: OR in the New Millenium**

Well, we guess that was pretty predictable but given our discipline's consciousness for its form and future, we would like to make future directions a conscious theme. At least one of our key speakers will address this issue, a forum on the theme will be organised. Further we will encourage each paper to have a small comment on future directions, be it just for their work, perhaps their subject area or, better still, for OR in general.

#### INVITED KEYNOTES

Professor Michael Rothkopf Professor John Taplin

Rutgers University The University of Western Australia

New Jersey, USA Perth, Australia

Title: "The Evolution of Operational Research"

Title: "Simulation Models of Traffic Flow"

#### **STUDENTS**

Full-time students who are speaking at the conference are eligible for travel grants in aid if travelling within New Zealand from outside Hamilton. Applicants for these travel grants are asked to note this information on their abstract submission.

#### **PAPERS**

The conference welcomes submissions of paper abstracts (of up to 300 words) from interested participants. Submissions in plain text, Microsoft Word or LaTeX may be emailed to orsnz99@waikato.ac.nz or mailed to ORSNZ, Department of Management Systems, University of Waikato, Private Bag 3105, Hamilton, New Zealand

The closing date for acceptance of abstracts is **16 August 1999**. Authors of papers will be notified regarding acceptance of their papers by **27 September 1999**. Authors of accepted papers will be required to submit a full-length paper (up to 10 single-space typed pages) for publication in the Conference Proceedings which is issued to all participants and to all ORSNZ members. Authors are also encouraged to submit postscript (.ps) or Adobe Acrobat (.pdf) versions of their papers for inclusion in the conference archive. The deadline for submission of full papers is **25<sup>th</sup> October 1999**. Guidelines for style and format of the full paper will be sent at the time of acceptance. Speakers will have about 20 minutes to present their paper at the Conference, plus five minutes for questions from the audience.

#### **CONTACT**

All enquiries to either: ORSNZ 99

or: Email: orsnz99@waikato.ac.nz
Web site: www.mngt.waikato.ac.nz/orsnz99

#### **ORGANISING COMMITTEE**

Dr John Buchanan Professor Les R Foulds
Dr Chuda Basnet Dr Jim L Corner
Dr John L Scott Dr Andrew Philpott

#### IMPORTANT DATES

Abstract :16 August 1999 Full-paper submission: 27 October 1999

#### REGISTRATION

Print registration form from the web, or send us a note and we will mail one to you.

Preparations for the ORSNZ99 continue in earnest. Friday 10<sup>th</sup> and Saturday 11<sup>th</sup> December are the conference dates. So far we have had a positive response from sponsors, we have two international guest speakers and a determination to encourage a practical focus at the conference. There will be a panel discussion on practical OR in New Zealand.

The important date is for the submission of abstracts – **16 August**. All contributions relating to OR will be considered. We expect this conference, the last New Zealand (and perhaps the world) Operations Research Conference of the Millennium, to be a great success.

All details on our website www.mngt.waikato.ac.nz

## JOHN BUCHANAN, Waikato University, email:jtb@mngt.waikato.ac.nz

# MASTER PRODUCTION SCHEDULE (MPS) FACILITATOR

Fletcher Challenge Forests, Japan Housing Business Unit, is seeking a talented and capable graduate to facilitate the implementation of the Master Production Schedule (6 month contract).

Based in Rotorua and reporting to the Quality and Scheduling Manager – Waipa Sawmill, the MPS Facilitator will primarily be responsible for:

- Facilitating the implementation of the MPS at Waipa Sawmill
- Training of others in the use of the MPS

Ideally you are one who is dedicated to providing an uncompromising level of professional service. You are very well organised and can communicate effectively with all types of people. You are familiar with Linear Programming. You are proficient in MS Office software especially Microsoft Excel and Microsoft Access and have a good understanding of general information technology.

This role requires the incumbent to possess maturity, professionalism, and a high degree of organisational ability. The role requires a self-starter who can work well with limited supervision. No sawmill experience is necessary. You will form part of a team of 3-5 people.

Applications, which will be treated with confidence, close on Friday, 25 June and should be forward to: Nico Jansen, HR Services Manager, Fletcher Challenge Forests, Private Bag 3031, Rotorua or email:nico.jansen@fcf.co.nz

## OR WEB PAGES

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I am compiling a list of web pages providing – public access – to OR teaching/learning – ware. This list will eventually appear on the IFORS web site (http://www.ifors.org) as well as on the tut OR's web site (http://www.tutor.ms.unimelb.edu.au). Please advise me of a list of the URLs of such pages in your department/school/faculty and/or other links that you use. Contact by email: m.sniedovich@ms.unimelb.edu.au

# MOSHE SNIEDOVICH, Monash University, Melbourne



#### FASTEST HOUSE IN THE WORLD: KIWIS SET WORLD RECORD

Did you hear about the attempt to break the World Record for building a "Habitat for the Humanities" home? The previous record of 4 hours and 39 minutes was set by a group in Tennessee. The most recent attempt took place in Auckland with a cast of 150 Kiwis co-ordinated by John Parr. The team John used was little more than half the size of the Tennessee team, and the house built was one bedroom bigger. John developed, polished and executed a Critical Chain¹ schedule, building a house in 3 hours 44 minutes and 59 seconds. This is an example of a project where most people would be sure that dramatic improvements aren't possible. The Critical Chain approach was used to reduce the project time by 20%. CNN covered the event on the news the same weekend and the documentary was shown around the world, screening here on TV3 on Easter Monday. Watching the documentary, you'd hardly have realised that the method used was much different to Critical Path, so it was good to hear more from John himself.

# Here's more of the story from John Parr himself<sup>2</sup>:

We broke the Habitat World Record for building a house. 3 hr 44 min 59 seconds. Took nearly 55 minutes off the old record.

We started with a wooden floor, with the wall panels lying on top, and the ceiling on the foundations of the next house to be built, next door. Both started together and the roof was complete except for roofing iron, lifted a metre off the foundations by a crane while the sheathing and painting was finished on the walls. Once the roof was on the walls, it was fit bath, toilet etc, paint walls, ceilings, lay carpets, fit doors and hang curtains. Fitting the bathroom was a Critical Chain<sup>3</sup> task for which we'd allowed 30 minutes, and at 25 minutes they said that the time to completion was 30 minutes!!!! But that is what the Project Buffer is for, and yes, we absorbed 30 minutes of the Project Buffer<sup>4</sup>.

On the outside while the roofing iron was put on, decks and steps were constructed, a front path laid, letter box and clothes line installed, wooden fence constructed around the perimeter, 3 trees planted and lawns levelled and grassed. A dedication ceremony was held and the keys presented to the new owner. What a day!!

A great experience for the 150 on the construction team plus a lot of extras for crowd control, etc. Thanks to Gavin Weeks from the Goldratt Office in Auckland for his help in recording task completions. Thanks to the guys at ProChain<sup>5</sup> for constructing a special Task Sheet in record time which detailed notes, resources and Predecessor and Successor tasks and resources so that the Team Leaders could pass on tasks from one to the other without "management" having to tell them what to do.

Worked very well.

#### JOHN PARR, email: mentor@clear.net.nz

<sup>&</sup>lt;sup>1</sup> Critical Chain is the project management approach developed by Eli Goldratt, described in his 1997 book "Critical Chain", published by North River Press. Some other references are:

Lynch, William E. & Newbold, Robert. "A Practical Approach For Implementing Critical Chain Management." *APICS - Constraints Management Symposium: Proceedings*, 1998: 64 - 67.

Newbold, Robert C. 1998. *Project Management in the Fast Lane: Applying the Theory of Constraints*. St Lucie Press / APICS Series on Constraints Management: Boca Raton, Florida.

Leach, Larry. 1999. The Critical Chain Project Manager's Field Book. Quality Systems: Idaho Falls, ID

<sup>&</sup>lt;sup>2</sup> With footnotes added by your editor - hope they help explain the method a little!

<sup>&</sup>lt;sup>3</sup> The critical chain is essentially the sequence of critical tasks taking into account the critical path and any other activities using constrained resources that will affect the total project time.

<sup>&</sup>lt;sup>4</sup> In Critical Chain, rather than add a buffer to each individual task, a combined buffer (called the project buffer) is allowed at the end of the project. The project buffer is considerably smaller than the sum of individual buffers under normal project management methods.

<sup>&</sup>lt;sup>5</sup> ProChain is an add-in to Microsoft Project that performs the scheduling component of Critical Chain. [SMTP:blynch@prochain.com].

# WESTERN DECISION SCIENCES INSTITUTE 29<sup>th</sup> ANNUAL MEETING KAPALUA, ISLAND OF MAUI, HAWAII

**April 18 – 22, 2000** 

This conference attracts participants from around the world. It is an opportunity to meet leaders in all fields covered by the conference.

#### Scope

Competitive papers are invited in, but not limited to, accounting, business and instructional applications on the www, business, law and ethics, business policy and strategy, consumer behaviour and marketing mix, finance, global business, innovation education, management and organisational behaviour, management information systems, management of quality, management science and quantitative methods, marketing management and strategies, production and operations management, public policy, small business/entrepreneurship and student papers.

All papers are double blind refereed and are published in the official conference proceedings.

#### **Information**

The latest information about programe schedules, registrations and hotel reservations will be made available on the WDSI web page: http://misnt.calpoly.edu/wdsi

All paper submissions from Australia and New Zealand should be forwarded directly to:

Professor Miles Nicholls, School of Business & Graduate School of Management, Swinburne University of Technology, PO Box 218, Hawthorn, Victoria 3122, Phone 0061 3 9214 8605 Fax: 0061 3 9819 0949, email: mnicholls@swin.edu

# NEW ZEALAND STATISTICAL ASSOCIATION 50<sup>th</sup> ANNIVERSARY CONFERENCE

Victoria University, Wellington 4 - 7 July 1999

The programme is starting to firm up and has three broad themes: history and education; risk; and datamining. Risk will be a common thread, running through much of the Conference, with specialisations to medical, environmental, insurance and economic risks. The history and education sessions will be concentrated on Monday 5 July, while the final day Wednesday 7 July is being jointly organised with the New Zealand Society of Actuaries. Invited speakers include the Government Statistician (Len Cook), Garry Tee, Jane Watson, Brian Easton, Alan Agresti, Bruce Weir and Joe Gani. A special lunch will be held on Monday in connection with the launch of Stan Robert's book on the development of Statistics in New Zealand. Long standing members of the Association are especially invited to attend. The Monday evening will feature a forum on issues facing the future of Statistics in New Zealand, while the Association's AGM and the Conference dinner will be held on the Tuesday. Details about the Conference are regularly updated on the website http://www.mcs.vuw.ac.nz/stat/nzsa99

FRANCES KRSINICH, Secretary, NZSA, email: Frances\_Krsinich@stats.govt.nz

# PRODUCTION MANAGEMENT AND INDUSTRIAL ENGINEERING INTERNATIONAL CONFERENCE

Every two years Catholic Faculty of Mons (B) organises abroad an international conference on production management and industrial engineering. This year we are hosted by the Strathclyde University in Glasgow, Scotland. The complete programme can be found on our web site: <a href="http://message.fucam.ac.be/~cregi/conferences.html">http://message.fucam.ac.be/~cregi/conferences.html</a>

DIANA RAULIER, Conference Secretary, email:raulier@message.fucam.ac.be





# AUSTRALIAN MATHEMATICAL SOCIETY 43<sup>rd</sup> ANNUAL CONFERENCE AND JOINT MEETING WITH THE AMERICAN MATHEMATICAL SOCIETY

# Melbourne, Australia 11 – 16 July, 1999

Registration for the meeting is now possible. For registration details as well as information about accommodation and social functions, Contact:

KLAUS ECKER, Conference Director, at http://www.maths.monash.edu.au/~ams99

# 2<sup>nd</sup> ANNUAL CONFERENCE OF BRIDGES MATHEMATICAL CONNECTIONS IN ART, MUSIC AND SCIENCE

## July 30 - August 1 1999

Suggested topics – Fractals, Math and Music, Tessellations, Geometry in Quilting M.C. Escher Work, Math and 3-Dimensional Art, Origami Mathematics and Architecture, Computer-Generated Art Math and Art in Culture, Art in Hyperbolic Geometry.

For more information contact: Professor Reza Sarhangi, Bridges, Southwestern College, 100 College Street, Winfield, KS 67156. email:sarhangi@jinx.sckans.edu or web http://www.sckans.edu/~bridges/

# INFORMS-KORMS Seoul 2000 ASEM Convention Center, Seoul, Korea, June 18-21, 2000

#### **CALL FOR PARTICIPATION**

INFORMS and KORMS (Korean Operations Research and Management Science Society) will hold a joint international conference June 18-21, 2000, in Korea. The conference theme is "Information and Knowledge Management in the 21st Century." The conference will be held in ASEM (Asia-Euro Summit Meeting) Convention Center, newly built and located in the busiest business district in the southern part of Seoul.

Detailed information can be obtained at http://www.korms.or.kr/informs/.

As conference Chair, I strongly invite your association members to join the event to meet renowned scholars and practitioners in our field of interest and enjoy the foremost academic festivity in the East Asian region at the dawn of the new millennium

I strongly encourage you to participate in INFORMS-KORMS 2000. Scholars interested in clusters/sessions or in presenting a paper can contact the program chair, Prof. Sang Hyung AHN (shahn@snu.ac.kr) at Seoul National University. Your kind co-operation to distribute this information to as many members/scholars as possible is greatly appreciated. We look forward to welcoming you to Seoul next year.

#### DONG-WAN TCHA, email:tchadw@sorak.kaist.ac.kr

Friends and Colleagues,

I would like to invite you to organize a session of 3 to 5 speakers in the "Tabu Search" cluster, at the forthcoming INFORMS-KORMS Seoul 2000 International Meeting, in Seoul, Korea, June 18-21, 2000.

If you can accept, please let me know at your earliest convenience, and I'll send you additional information, including deadlines and submission forms.

# FRED GLOVER, email:fred.glover@colorado.edu



# 17th International Conference of the SYSTEM DYNAMICS SOCIETY& 5th AUSTRALIAN NEW ZEALAND SYSTEMS CONFERENCE

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# CONFERENCE INFORMATION: July 20-23, 1999 - Wellington, NEW ZEALAND

**SYSTEM DYNAMICS & SYSTEMS THINKING** - This conference is expected to attract more than 200 experts and practitioners from around the world, specialising in system dynamics, systems thinking and other systemic methodologies.

**PROGRAMME** - The main theme of the conference is "Systems Thinking for the Next Millennium." Sub-themes will examine the applications, contributions of and the linkages between systems thinking, scenario planning and strategic simulation. This theme may be addressed through the perspectives of:

- System dynamics
- Hard, soft and critical systems
- Adaptive and strategic planning
- Organisational learning and research
- Chaos and complexity
- Philosophy of systems thinking

- Action learning and research
- Community systems research
- Community and soft OR
- Management science methodologies
- Cognitive processes in systems thinking and learning
- Systems methodologies

In other areas of interest, parallel sessions and some plenary sessions will cover the range of work being done by systems thinking and system dynamics practitioners worldwide.

Over 250 abstracts for paper presentations, workshops and tutorials sessions have been submitted. Among the presenters are:

**Professor RICHARD BAWDEN** from Michigan State University, USA, a leading figure in systemic development, who will give the Fred Emery address entitled 'Systems Thinking (and Action) from the New Millennium: Learning from the Future'.

**Professor PETER CHECKLAND**, a Professor of Systems at Lancaster University who will give a keynote address entitled 'Soft Systems Methodology?'

**Professor GEOFF COYLE**, currently a visiting Professor of Strategic Modelling at the University of South Bank, UK who will give a keynote address entitled 'Qualitative Modelling System Dynamics or When is it Too Dangerous to Quantify?'

**Professor BOB FLOOD**, currently a visiting Professor at Monash University, Australia and Lincoln University Campus UK, who will give a keynote address entitled 'Rethinking the 5<sup>th</sup> Discipline: Learning within the Unknowable'.

Please visit the conference website for the full programme.

Information on travel, the partner's program, speakers, the conference schedule and the programme design will be updated on the conference website.

#### **CONTACTS**

#### Conference chair

Bob Cavana, Victoria University of Wellington, PO Box 600, Wellington, New Zealand E-mail: Bob.Cavana@vuw.ac.nz\_Telephone: +64 4 463 5137 Facsimile: +64 4 463 5253

#### Program chair

Jac Vennix. University of Nijmegen PO Box 9104, 6500 HE Nijmegen, The Netherlands E-mail: J.Vennix@maw.kun.nl\_Telephone: +31 24 361 6291 Facsimile: +31 24 361 2351

#### **Conference Managers:**

Margaret Stevenson-Wright, Conference Manager Australasia Executive Programmes, Graduate School of Business & Government Management, Victoria University of Wellington, PO Box 600, Wellington, New Zealand E-mail: Margaret.Stevenson-Wright@vuw.ac.nz\_Telephone: +64 4 496 5452 Facsimile: +64 4 496 5459

Roberta L. Spencer, International Conference Manager

System Dynamics Society Milne 300-Rockefeller College, SUNY-A Albany, NY 12222 USA E-mail: system.dynamics@albany.edu\_Telephone: 518 442-3865 Facsimile: 518 442-3398

#### FOR MORE INFORMATION AND UPDATES PLEASE VISIT THE WEBSITE AT:

http://www.vuw.ac.nz/gsbgm/isdc99



#### MEETINGS CALENDAR FOR 1999 AND BEYOND

5th International Conference of the Decision Sciences Institute: 4 - 7 July 1999, Athens, Greece Contact: http://www.dsi99.athens.aueb.gr

ASOR National Conference: 4–7 July 1999, Gold Coast, Queensland, Australia Email:asor@fsc.qut.edu.au or http://www.math.fsc.qut.edu.au/asor

New Zealand Statistical Association 50th Anniversary Conference: 5 – 7 July 1999, Victoria University, Wellington New Zealand. Contact: Conference Secretary, PO Box 1731, Wellington, New Zealand E mail:NZSA99@mcs.vuw.ac.nz Web page: http://www.mcs.vuw.ac.nz/

6th International Conference of the United Kingdom Systems Society, 5 – 9 July 1999, Lincoln Campus, University of Lincolnshire and Humberside United Kingdom

Contact: Doreen Gibbs, Lincoln School of Management, Lincolnshire and Humberside University, Brayford Pool, Lincoln LN6 7TS, United Kingdom. Tel: 01522 886 202 Facsimile: 01522 886 email: ukss99@lincoln.ac.nz Web page: http://www.lincoln.ac.uk/lsm/ukss99/

Australian Mathematical Society 43<sup>rd</sup> Annual Conference/The American Mathematical Society, 11-16 July 1999, Melbourne, Australia. Registration details: http://www.maths.monash.edu.au/~ams99

17th Conference of the International System Dynamics Society and 5th Australia New Zealand Systems Conference: 20 - 23 July 1999, Wellington, New Zealand.

Conference Manager: Margaret Stevenson-Wright, Graduate School of Business and Government Management, Victoria University of Wellington

Tel: 64 4 496 5452 Facsimile 64 4 496 5459 email: Margaret.Stevenson-Wright@vuw.ac.nz

IFORS '99 Beijing: 16 - 20 August 1999, Friendship Hotel, Beijing, China Contact: Ms Loretta Peregrina, IFORS Secretariat, Richard Ivey School of Business, University of Western Ontario, London, Canada N6A 2K7. Email:IFORS@Ivey.uwo.ca IFORS OR in development prize: contact Dr Elise Del Rosario, elisear@sanmiguel.com.ph

10th Mini Euro Conference, HCP'99, 20 – 24 September 1999, Brest, France Contact: Ghislaine Le Gall, Departement IASC, ENST Bretagne, BP 832, 29285, Brest cedex–France. Tel 33 2 9800 1425 Facsimile: 33 2 9800 1030 e mail:Ghislaine.LeGall@enst-bretagne.fr or http://www.iasc.enst-bretagne.fr/hcp99/

26th International Conference on Computers and Industrial Engineering, 8-10 December 1999, Melbourne, Australia

Contact: Paul Lochert, Monash University, PO Box 197, Caulfield East, Vic 3145, Australia Tel: 61 3 9903 2647 Facsimile: 61 3 9903 2227 e mail: p.lochert@sci.monash.edu.au

34<sup>th</sup> Annual Conference of the Operational Research Society of New Zealand. 10-11<sup>th</sup> December 1999, Waikato University, Hamilton, New Zealand

Closing dates for abstracts is 16 August 1999 and full paper submissions 27 October 1999. Contact: John Scott, email:ils@waikato.ac.nz or email:orsnz99@waikato.ac.nz

Western Decision Sciences Institute 29<sup>th</sup> Annual General Meeting, 18-22 April, 2000, Ritz Carlton Hotel, Kapalua, Island of Maui, Hawaii

Contact: Miles Nicholls, email:mnicholls@swin.edu.au or website:http://misnt.calpoly.edu/wdsi

INFORMS-KORMS International Conference, 18-21 June 2000, Seoul, Korea. Contact: Professor Sang Hyung Ahn, email:shahn@snu.ac.kr

Fifth Conference of the Asian-Pacific Operations Research Societies within IFORS(APORS' 2000), 5 – 7 July, 2000, Singapore. Details on http://www.comp.nus.edu.sg/~phuakh/apors Contact Programme chair, Pual KH Phua, email:phuakh@comp.nus.edu.sg

Matrix Analytic Methods Conference, 12-14 July 2000, Leuven, Belgium. Contact: Peter Taylor, email:ptaylor@maths.adelaide.edu.au or Malcolm Faddy, email: M.Faddy@math.canterbury.ac.nz





