NEWSLETTER

MODELLING & SIMULATION SOCIETY OF AUSTRALIA AND NEW ZEALAND INC (MSSANZ)

The Society for Computer Simulation International

International Association for Mathematics and Computers in Simulation

Japan Society for Simulation Technology

URL:http://cres.anu.edu.au/~tony/mssanz.htm

July, 2000

PRESIDENT'S COLUMN

The 14th Biennial Meeting of MSSANZ Inc, MODSIM 2001, will be held at the Australian National University in December next year. The theme on "Integrating Models for Natural Resources Management" is challenging and timely. Fortunately we have managed to obtain the excellent services of our past MSSANZ Secretary, Fred Ghassemi, to be Convenor.

There are many items reported in this Newsletter including Reports on MODSIM 99, the Biennial medallists and Student Award Winners. Deepest thanks go to Les Oxley and his team for organising MODSIM 99 and heartiest congratulations to all the awardees whose research and commitment to the Society help make MSSANZ and its MODSIM Conferences valuable to society.

Several initiatives were passed at the AGM in Hamilton. One is the affiliation of the Japan Society for Simulation Technology (JSST) and the Society for Computer Simulation International (SCS) with MSSANZ. This adds to our very successful, long term affiliation with the International Association for Mathematics and Computers in Simulation. We look forward to strong collaboration with JSST and SCS in the years ahead.

Another exciting initiative is the introduction of Early Career Research Excellence Awards in our usual three categories: General, Natural and Socioeconomic Systems. Commencing next year, these will be awarded biennially, typically for researchers no more than 10 years out from the completion of their highest degree. A huge proportion of our membership of over 500 fit into this category. Along with our ongoing Student Awards, the ECREs are aimed to encourage, promote and reward excellence and service in this area of our membership.

Biennial Medallists, ECREs and Student Prizes will be awarded at MODSIM 2001. Three Fellows will be selected this year, nominations for which are due at the end of August. Hoping to see you at MODSIM 2001.

Tony Jakeman

INTERNATIONAL ENVIRONMENTAL MODELLING AND SOFTWARE SOCIETY

This new international Society was constituted at the ECOSUMMIT 2000 meeting in Halifax last June. Its aims in a nutshell are to promote the integration of environmental modelling and software across

CONTENTS

disciplines. IEMSS will be seeking affiliation with MSSANZ Inc. and will hold its Biennial Meetings in the years between MODSIM Conferences. The first Biennial Meeting of IEMSS is in Lugano, Switzerland in June 2002, convened by Andrea Rizzoli (andrea@idsia.ch). If you wish to receive more information about IEMSS contact its Secretary, Rebecca Letcher (rebecca@cres.anu.edu.au).

INTERNATIONAL CONGRESS ON MODELLING AND SIMULATION

MODSIM 2001

CALL FOR PAPERS

Theme:
Integrating Models for Natural Resources Management Across Disciplines, Issues and Scales

Venue:
The Australian National University, Canberra, ACT, Australia
Date: 10-13 December 2001

CALL FOR PAPERS ON:

- Water resources, oceanography, climate and the atmosphere
- Global change, ecology, agriculture, forestry, and fisheries
- Socio-economic systems, demography, business and tourism
- Econometrics, economics, statistics, risk and uncertainty
- Information systems, decision analysis and computing
- Industrial, mining and operation research
- Medical research, public health and epidemiology
- Any aspects of modelling and simulation

Note that selected papers will be invited for publishing in international journals.

DEADLINES

Abstracts (300 words) by 28 February 2001
Acceptance of abstracts by 30 March 2001
Final papers (6 x A4) by 31 July 2001

KEYNOTE SPEAKERS

Professor Clive Granger -University of California, San Diego, United States
Recent developments in linear and non-linear time series analysis

Professor Ann Harding -National Centre for Social and Economic Modelling, University of Canberra
New advances in micro simulation modelling: improving social and economic policy

Professor Louise Heathwaite - Department of Geography, University of Sheffield, United Kingdom
Modelling nutrient export from agricultural land: approaches, scales and end-users

Professor Anthony Jakeman - CRES and Director, Integrated Catchment Assessment and Management Centre (iCAM), ANU
Integrated assessment and decision support for catchment issues

Professor Hugh Possingham - Department of Applied and Molecular Ecology, University of Adelaide, South Australia
Ecological modelling: using population models to help decision making

Please see the Congress website or contact Congress Secretariat for details on style and format.

REGISTRATION

Registration fee, which includes 10% Goods and Services Tax, entitles the participants to: opening reception; bound proceedings; all lunches, morning and afternoon teas; Congress bag; pen and notepad; acces to all sessions; and Congress dinner.

Title:_____

Family Name_____First Name_____

Organisation_____

Address_____

_____

_____

State_____ Country_____Postcode_____

Phone_____ Fax_____

Email _____

Registration before 30 June 2001:

- MSSANZ members (AUS$550)
- Non-members (AUS$605)
- Students* (AUS$275)

Registration after 30 June 2001:

MSSANZ members (AUS$605)
- Non-members (AUS$655)
- Students* (AUS$330)

*Students should provide proof of their University enrolment.

No. of delegates _____ Amount in AUS$_____

Payment by cheque to MSSANZ _____

Or by MC_____ BC_____ VISA_____

Cardholder Name_____

Card number_____

Expiry Date_____

Signature_____

For further information contact:

Congress Secretariat
Dr Fred Ghassemi
C/- Centre for Resource and Environmental Studies
The Australian National University
Canberra ACT 0200 Australia

Phone: +61 2 6249 0653
Fax: +71 2 6249 0757
Email: fredg@cres.anu.edu.au
URL: http://cres.anu.edu.au/~tony/modsim2001.htm

MODSIM 99 CONGRESS OPENING ADDRESS BY PROFESSOR MICHAEL SELBY, DEPUTY VICE-CHANCELLOR, UNIVERSITY OF WAIKATO, NEW ZEALAND

Good morning and welcome to the MODSIM 99 International Congress. It is my pleasure to welcome you to New Zealand, if you have come from overseas, to Hamilton and The University of Waikato.

In these opening comments I would like to discuss with you two matters: the first is the difficulties that the earliest modellers had before the age of computers, and to reflect on their achievements; the second is to consider the ways in which modelling might develop in the future so that it can provide better information for people who are concerned with policy making.

One of the earliest examples of modelling is provided by Milutin Milankovitch who was appointed to his first position as a university Professor in 1911, at the University of Belgrade. He immediately started to investigate areas of science in which he could make a significant contribution, and spent 3 years developing his scientific plans which were to lead to a study lasting for 30 years, and the solution of one of the major problems in the natural sciences.

Milankovitch decided that he would develop a mathematical theory to explain the climates of the earth. His first objective was to describe the geometry of earth's orbit around the sun and to show how that geometry had evolved over the past ages. He was particularly concerned to understand how variations in the earth's orbit have affected the solar radiation received in the atmosphere. He did this in spite of the views of climatologists of the time, that it was pointless to undertake mathematical theoretical work when there was a perfectly good record of temperature and rainfall from many parts of the world. Milankovitch, however, recognised that, from the work of earlier scientists, that there were three orbital properties which determine how the sun's radiation is distributed over the surface of the earth. The first of these is the eccentricity of the orbit which has a periodicity of 100,000 years, the second is the tilt of the earth's axis of rotation with a period of 41,000 years, and the third is the precession of the equinoxes with a period of 21,000 years.

Milankovitch set out to calculate these three sets of orbital data and eventually carried his calculations back for 650,000 years before the present. He was able to present some of his earliest work in papers which received almost no notice in the wider scientific community, because he published in obscure journals and in the Serbian language. There are messages here for all young scientists that if they wish to be known they must publish in one of the leading languages and in the top international journals.

Milankovitch finally published, in 1941, the work which was to have enormous importance for understanding earth's changing climates. The significance of his work was recognised by only a very few people initially, but from oxygen isotope analysis of cave sediments, particularly stalactites and stalagmites, and the record left in the skeletal remains of plankton which had fallen to the ocean floor, and then formed an accumulating record which could be sampled with coring tubes, it was realised that the pattern of the oxygen isotope record could be compared with the Milankovitch radiation curves. Immediately then it was evident that there was a climatic record to be read from the sedimentary record and that the sedimentary record itself could provide a long history of climatic variations.

My own experiences of modelling began in the mid-1960s when it was realised that there was a major problem of soil erosion in the Central Volcanic Plateau of New Zealand, which at that time was being developed for farmland out of scrub. It was found that deep gullies were carving up the newly developed farms and depositing substantial quantities of pumice in the lakes formed behind the dams built to generate hydro-electricity. I had a number of research catchments from which, over a period of 3 years, I collected over half-a-million data units, all derived from paper charts on clockwork recorders. This was essentially done at a time when mechanical calculators were the most common form of calculator available. I was fortunate that by the time I came to complete analysis of my data, the University of Auckland had a main-frame computer. Such was the computing capacity of the time that I needed 24 hours of continuous running time, this was granted to me one Easter on Easter Saturday and Easter Sunday, as long as the work was carried out continuously through the night by a generous colleague. The difficulties of computing were of course greatly increased by the fact that all of the data had to be on punched cards, and my nightmare preceding the time on the computer was in travelling to Auckland with two long drawers filled with cards which could easily be bounced out of sequence.

The results of the research were to contribute to the control of soil erosion and made a minor contribution to New Zealand's part in the International Hydrological Decade. The advantages that we now have through the availability of enormous computing power mean that we can tackle some of the major problems which face the world, at the present time, resulting from the huge increases in human population, and the modification of the natural environment which is a consequence both of the growth in population and the increases in demands for natural resources and manufacturing capabilities.

If we look ahead to what mathematical modelling and simulation can provide for the future, I suggest we need to think beyond the types of programmes which we can see commonly presented at the type of conference which you are attending today. It is a feature of the well-presented, and excellently edited, 4 volumes which you have as your conference proceedings that virtually all of the papers are dealing with single bodies of knowledge and investigation, I have in mind papers on individual watersheds, on particular singular components of the national economy, on particular crops and how they might yield under changed circumstances of soil or climate.

The decision makers of the future have to work in far more complex systems than can be described in single studies. They need, for their purposes, an understanding of the interactions of all of the components of the natural environment with those of the social and economic situations with which they have to deal. The effects, therefore, of climatic change; changes in ocean currents; effects of storm and other extreme natural events; the transport systems, water supply and other infrastructure which are required for manufacturing, processing and production; the effects on the labour force; the demands for housing and all other aspects of production need to be linked to a clear understanding, of the effects of production on the natural environment, and on the demands for increasing wealth and personal time. We are all aware that computer power, new industry, aggregation of industry and settlement, have led to major problems in traffic flow and in enhancing lifestyles. It is not until we can recognise that all of these factors need to be integrated in a careful study, so that if politicians are to make sound judgements they can do so on the basis of knowledge rather than dogma.

I suggest to you then, that in this age when we have the mathematical powers of our intellects coupled with the powers of computing, we should now start to focus on meeting the needs of the decision-makers of the future. This will not be easy, it will require integrated studies from people working in large teams, from the points of view of many disciplines, to achieve what I have suggested.

In conclusion then, I hope to have reminded you of some of the difficulties on our predecessors, but left you with a challenge for the future in which you, and your successors, over the next, perhaps 20 years, will need to focus your efforts. Thank you for your attention and I wish you well for a very successful and enjoyable conference.

Michael Selby

Footnote: MODSIM 2001 embraces Professor Selby's challenge with its theme of "Integrating models for natural resources management across disciplines, issues and scales".

INTERNATIONAL CONGRESS ON MODELLING AND SIMULATION, HAMILTON, NEW ZEALAND, 1999

Overview

The newly expanded Society, the Modelling and Simulation Society of Australia and New Zealand (MSSANZ) met for the first time outside of Australia. About 200 delegates made their various ways to and from Hamilton for the 4-day New Zealand experience, 6-9 December 1999. For many it was their first visit to New Zealand with the Meeting attracting delegates from 24 countries. The weather was almost perfect, not too hot and only a few minutes of rain. This was important with lunches; planned in spillover onto the adjacent sun-soaked balcony. The normal MODSIM areas of interest were well represented and many 'old' friends and familiar faces supported the Meetings.

Delegates received a conference 'opener' at a local vineyard, 4 volume bound proceedings (1150 pages), conference dinner (with pre-dinner drinks) and 'entertainment', sightseeing trip, lunch, morning and afternoon teas, multi-functional conference satche), and hotel/motel pick-up service. Although the blue tea shirts were not a new innovation at MODSIM (although the new logo certainly was), the availability of the Proceedings on CD-ROM was. At NZ$25 extra, the CD had many takers and its future at MODSIM seems set, especially as it allowed many presenters to demonstrate the full-colour versions of their research papers. A special thanks should be extended to the MODSIM 99 Administrator Jenny Cunningham, who was responsible for the compilation, layout and design of the CD-ROM. Jenny seemed to receive a number of complements from delegates over the 4 days of the Meetings on her organisational skills (and cool-headed approach to potential crises) – all were well deserved.

Six Keynote speakers gave inspiring talks. They comprised **Joe Baker**, Environment ACT (Australian Capital Territory), Australia; **John Butcher**, University of Auckland; **Gary Koop**, University of Edinburgh, Scotland; **Axel Lehmann**, University of

Munich, Germany; **Kimio Morimune**, Kyoto University, Japan and **John Taplin**, University of Western Australia. Kimio was also the recipient of the MSSANZ Socio-Economic Medal. The Natural Systems Medal was awarded to **Wolfgang Flugel** and **David White** received the General Systems Medal. For the first time long standing contributors to the Society, **Fred Ghassemi**, **David McDonald** and **Abdel El-Shaarawi** were awarded The three Biennial Fellowships of the Society.

The Proceedings

The Reverend Sonny Melbourne (University Chaplain) performed a Maori "Karakia" (blessing) for the Meetings prior to Deputy Vice-Chancellor Professor Michael Selby's opening address. His speech is reported in full in this Newsletter, so little more will be said except that everyone who attended was impressed by its relevance and delivery. It was simply superb.

Keynote #1 was **Axel Lehmann.** Despite one of the longest non-stop trips to the Meetings, Axel seemed fresh and the presentation was very well received. His session was entitled *"Experiences and Trends in Combining AI and Simulation"*.

Six parallel sessions, morning tea and lunch on the balcony later, **Kimio Morimune** presented the second keynote lecture on an influential area of econometrics – the unit root test. As well as a world-class expert in econometrics, Kimio is a gentleman and perfect ambassador for his institution and country.

Two more equally packed parallel sessions and the indulgence of cream scones and tea left some delegrates thinking about a 'breather' – they had to wait as coaches were ready to transport them 15 kilometers to Villagrads Vineyard to experience fine New Zealand wines and a hot and cold buffet. This was the delegates' first exposure to the Meetings photographer who later posted a range of photographs on a web page.

It seemed that the indulgences of many were in evidence on day 2 which started at 8:30 am with keynote #3, **Joe Baker** of Environment ACT. ACT is clearly a leader in such Reports and with Joe at the helm it is obvious why.

Two sets of parallel sessions scheduled by the organisers led to a later lunch (1:00 pm) followed by a further intense set of sessions in the early afternoon. **John Taplin** was given the task of capturing his audience at the end of a long day and prior to the MSSANZ AGM scheduled for 6:00 pm. His session on Modelling the Complex Choices made by Car Tourists was yet another excellent exposition by a world expert in their field. Taking what sounds like a potentially mechanical issue, John drew the audience in and demonstrated the power of modelling and his obvious expertise.

The AGM was followed by a free evening for delegates. After two days of intense presentation and observation, many delegates seemed to relish some freedom to explore the compact high street of Hamilton (Victoria Street) which offered any array of cuisines, although "Armadillos" and "Iguana" seemed to attract a well deserved "cluster" of delegates.

Wednesday continued the tradition of MODSIM by involving a 'day away' from the main venue, in this case the sulphurous charms of the nearby (100 kilometers) Rotorua. This geothermal wonderland of geyers, hot pools and yes, sulphur, provided an ideal getaway from the dairy-country of Hamilton. The aptly named Millennium Hotel hosted the delegates for the day with scientific sessions in the morning and scenic trips following the buffet-style lunch. **Gary Koop**, University of Edinburgh presented the sole keynote speech of the day on Modelling Economic and Environmental Efficiency. Continuing the theme of 'world-class experts' in their field, Gary (who was recently ranked in the World Top-10 of most cited authors in econometrics) presented an excellent integration of the best of econometrics, economic modelling and environmental data.

The break for lunch led seamlessly to a well-deserved afternoon of sightseeing. Faced with a choice of two tours, tour #1 comprised visits to the Whakarewarewa -–where in New Zealand a 'Wh' is pronounced "F" – Thermal Reserve and Rainbow Springs Trout Sanctuary. Tour #2 comprised a visit to a geothermal power station and nearby prawn farm (benefiting from the same hot water sources). Many returned to the hotel foyer tired, but well satisfied with these world-class attractions – they needed the rest for the dinner and "entertainment" to follow. Another drinks and nibbles session preceded the awards ceremony and subsequent buffet-style conference dinner, both of which were held 'poolside' at the Millennium Hotel. Many of the delegates thought this was it, but were to be pleasantly surprised by the "Magically Maori" entertainment group performance.

Apart from the singing and dancing of the traditionally dressed Maori warriors and women, the entertainment involved 'audience participation'. There was no shortage of people wishing to participate in an All Black-like Maori 'Haka" and some of the exploits were also captured on film and the images made available through the meeting's web page.

The final morning of the final day is sometimes regarded as a 'graveyard' for the keynote speaker and contributed sessions alike. However, a carefully constructed programme and the attractions of **John Butcher** as the keynote speaker, lead to very little attrition on the final. The organisers had also advertised a "final free" drink. John's keynote showed how technical issues can be presented to a multi-disciplinary audience and his passion for the subject matter was both obvious and infectious.

Overall, the organisers seemed to have exceeded most people's expectations for a MODSIM Meeting. New innovations including the CD-ROM version of the proceedings and the web page of photographs, seemed to be successful. The usual stories of who did what, when seemed to circulate with the inevitable blurring of fact and fiction. However, the

story of the conference taxi-bus driver arriving in his pyjamas to take delegates back to Auckland airport seems to be true, and show the lengths the new Zealanders went to in order to ensure the success of MODSIM 99.

Les Oxley, Convenor of the MODSIM 99 Congress

BIOGRAPHICAL SKETCH OF THE MSSANZ BIENNIAL MEDALISTS FOR 1999

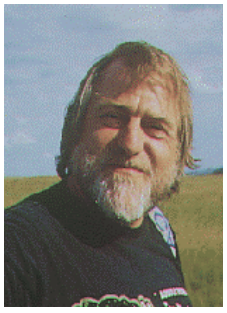
1. Dr David White
GENERAL SYSTEMS CATEGORY

Dr David White has been a number of the society since 1976 and is well know to many of its members. He has been unselfish and dedicated to promoting the aims of the society and organising numerous sessions.

For over 30 years David has made several outstanding contributions to modelling and simulation of natural systems. In the last six years David's skills have had a dramatic impact on policy decisions, particularly at the national level in the primary industries, in areas as diverse as: climate change, risk management, and the monitoring and assessment of severe droughts. In the last two years he has used models and analytical techniques to solve a range of complex issues for a number of large organisations.

Citation by Malcolm McPhee
Department of Agriculture, NSW

2. Professor Wolfgang Flügel
NATURAL SYSTEMS CATEGORY



Professor Flügel was born in 1949 in Germany. He completed his M.Sc. at the University of Freiburg in 1974. He completed his PhD in 1978 establishing a field experimental site to study hillslope hydrology and interflow dynamics. The field experimental site was designed as a nucleus for hydrological process studies in south west Germany. Professor Flügel received funding from the German Research Association until 1985 when he left the University of Heidelberg to extend his research in the fields of semi-arid hydrology and salinity in South Africa. Over the period from 1985 to 1990 he was at the Hydrological Research Institute, Department of Water Affairs, in Pretoria, as Assistant Director and later on as Senior Specialist Scientist. In January 1990 he accepted a position as Professor of Geohydrology at the University of Bonn, concentrating on the regional modelling of hydrological dynamics and associated solute transport. In September 1994, he accepted the position of Head and Chair of the newly established Department of Geoinformatics, Hydrology and Modelling at the University of Jena, in Germany.

Professor Flügel is the author of more than 80 publications in internatIonal journals, conference proceedings, and book chapters, covering a wide range of topics in hydrological modelling, applications of GIS, Remote Sensing and other techniques. Moverover, he has been an enthusiastic member of the MSSANZ since 1993.

Citation by Dr Fred Ghassami, Centre for Resource and Environment Studies, The Australian National University, Canberra.

3. Professor Kimio Morimune
SOCIO-ECONOMIC SYSTEMS CATEGORY

Professor Kimio Morimune was born in 1946. He received his Bachelor and Masters in Economics from Kyoto Univeristy. He also has a Masters in Statistics and PhD in Economics from Stanford University. From October 1975 to 1986 he was Associate Professor at Kyoto University, and in 1986 was promoted to Professor at the same University.

Professor Morimune has made an outstanding, insightful and rigorous contributions to modelling and simulation, especially in relation to econometrics and statistics, and has been unselfish in his dedication to promoting the aims of the Society. Professor Morimune has been an active participant at the last four biennial MODSIM congresses, starting in 1991.

Citation by Professor Michael McAleer,
University of Western Australia

BIOGRAPHICAL SKETCH OF THE MODSIM 99 STUDENT PRIZE WINNERS

1. Peter Johnson
GENERAL SYSTEMS CATEGORY

Peter Johnson's degrees consisting of: Bachelor, Honours (1st Class), Post Graduate Diploma, and Master of Applied Science were undertaken at Lincoln University, New Zealand. Prior to commencing his Master Degree studies, he worked as a research technician with the Wool Research Organisation of New Zealand.

Since completion of his Master's degree, he has been at Telecom New Zealand as a database marketing and service provision analyst. His main work areas are: data mining; modelling for network demand, capacity planning and service provision. Current areas of his interest are applied statistics and discrete event simulation.

2. Scott Wooldridge
NATURAL SYSTEMS CATEGORY

Scott Wooldridge completed his undergraduate degree in B.E. (Environmental) with 1st Class honours in 1996 at the University of Newcastle, Australia. Then in 1997 he started his industry funded Ph.D. research at the same University.

His current research consists of investigating the spatial and temporal variability of hydrological behaviour in a regional-scale catchment located in Eastern Australia. Utilising a spatial GIS data-base along with a simple semi-distributed modelling approach, the research has attempted to provide insight into land surface types whose contrasting runoff characteristics can be detected from regional streamflow records. Such information is invaluable for impact assessment of land-use change. The research also addresses the temporal impact of the ENSO phenomenon on key hydrological processes, and utilises the contrasting behaviour to provide additional information for model calibration and validation.

3. Peter Verhoeven
SOCIOECONOMIC SYSTEMS CATEGORY

Peter Verhoeven undertook his undergraduate degree in chemistry at the University of Western Australia and completed his Honours degree in computer modelling at Murdoch University in 1990. He is currently enrolled in the Ph.D. program at the Economics Department at the University of Western Australia. His research area is Financial Econometrics and his research topic; is volatility modelling, in particular the modelling of outliers and extreme observations. Peter Verhoeven is a lecturer at the School of Economics and Finance at Curtin University.

RECIPIENTS OF STUDENT COMMENDATION LETTERS

Apart from three student winners who have received cash prizes and commendation letters, the following students have received commendation letters for their excellent presentations:

Li Zhe – General Systems Category
Nanyang Technologicla University
SINGAPORE

Teemu Kokkonen – Natural Systems Category
Helsinki University of Technology
FINLAND

Adam Liedloff – Natural Systems Category
CSIRO Wildlife and Ecology
Winnellie, Darwin, Australia

Zhengriu Zhu – Socioeconomic Systems
University of Waikato
New Zealand

Clinton Watkins – Socioeconomic Systems
University of Western Australia
Nedlands, WA ,Australia

NEW WEB SITE

MSSANZ has developed a new web site, accessible at http://cres.anu.edu.au/~tony/mssanz.htm

Features include a description of the Society, in particular its aims and affiliated societies, details on conferences, conference proceedings and the Newsletter, and a listing of Fellows, Medallists, Student Prize winners and Early Career Research Excellence Awards. There are also hyperlinks to a page advertising upcoming conferences, and another to the membership application, updating and fee payment form. At present, this has to be printed off and mailed to our Secretary, Michelle Scoccimarro, but it has been designed so that it can be readily modified in the near future to handle on-line applications and subscription payments. Another future development will be on-line access to the Society's past Newsletters.

Web pages will soon be developed to provide information on the Society's next biennial conference (MODSIM 2001) to be held in Canberra, 10-13 December, 2001. The web page address is:

http://cres.anu.edu.au/~tony/modsim2001.htm.

We encourage members to make use of the Society's new web site, and to feel free to email suggestions for its future development to dwhite@acslink.aone.net.au

David White
Communications Officer

MSSANZ MEMBERSHIP

Membership fee for the MSSANZ is AUS$22 (including 10% GST) for two years. Members receive a AUS$50 reduction in their registration fee at the next Biennial Conference and do not pay a membership fee for the next two years.

CALL FOR NOMINATIONS FOR 2000 BIENNIAL FELLOWS

Nominations are required by August 31, 2000 for the Biennial Fellows of the Modelling and Simulation Society of Australia and New Zealand Inc. in three

categories (see below). They will be presented at the MODSIM 2001 Congress in Canberra. Any person who has been a member of MSSANZ Inc. since December 1997 may be nominated.

Nomination should be made by another member of the Society, who is required to make the case in writing to the President. Nominations must reach him by August 31, 2000 and should stipulate the category. **Category 1 is Natural Systems, Category 2 is Socioeconomic Systems and Category 3 is General Systems.**

Criteria for Awards

There shall be two essential criteria for the Award of Medals. They shall be: unselfish dedication to promoting the aims of the Society, and outstanding contributions to modelling and simulation over a sustained period, with particular emphasis on the previous 4 years. Selection panels will normally comprise the President plus two other Society members.

Presentation

The Society's Fellow awards for 2001 will be presented at the biennial conference in Canberra (MODSIM 2001).

CALL FOR EARLY CAREER RESEARCH EXCELLENCE (ECRE) AWARDS 2001

For the first time nominations are required by July 31, 2001 for the MSSANZ ECRE Awards.

There will be one award in each of the three designated areas of the Society, namely General Systems, Natural Systems, and Socioeconomic Systems. These awards will be presented at the MODSIM 2001 Congress which will be held in Canberra, 10-13 December, 2001.

The MSSANZ ECRE Awards are intended to recognise research excellence by early career members of the Society who have made significant contributions to modelling and simulation. For the purposes of the ECRE Awards, an early career researcher is defined as a member who has obtained their highest degree qualification in the ten years prior to being nominated for the ECRE Award. The awards are not normally intended for established researchers, such as Full or Associate Professors (or their equivalent in non-university research organisations).

In considering the nominations, the ECRE Award Committee will take account of the impact of an individual's overall research contributions, including the degree of insightfulness and rigour of their scientific work. The nomination is expected to be based, in general, on more than one specific research contribution. Where the nomination is based on joint research, a clear and detailed explanation is required of the nominated early career researcher's contributions to the published paper(s).

ECRE Awards Committee

The ECRE Awards Committee will be chaired by the President of the Society. Only current members of the society may be members of the ECRE Awards Committee. Panels will normally comprise the President, one other member of the Management Committee of the Society, and two other Society members. There will be no more than three ECRE Awards presented at any Biennial Congress. Members of the Management Committee may not be nominated for the ECRE Awards during their terms of office. Previous winners of the ECRE Awards are also ineligible for further nomination.

MANAGEMENT COMMITTEE OF MSSANZ Inc.

President: *Anthony Jakeman*
Centre for Resource and Environmental Studies
The Australian National University
CANBERRA ACT 0200
Telephone: +61 (02) 6249 4742 - Fax: +61 (02) 6249 0757
Email: tony@cres.anu.edu.au

Vice-President*: Michael McAleer*
Email: mmcaleer@ecel.uwa.edu.au

Secretary: *Michelle Scoccimarro*
Integrated Catchment Assessment & Management Centre (iCAM)
C/- Centre for Resource and Environmental Studies
The Australian National University
CANBERRA ACT 0200
Telephone: +61 (02) 6249 5013
Fax: +61 (02) 6249 0757
Email: michelle@cres.anu.edu.au

Treasurer & Administrator: *Susan Kelo:*
susank@cres.anu.edu.au

Public officer: *Tom Beer*: tom.beer@dar.csiro.au

Communications officer: *David White*:
Fax: +61 (02) 6255 2455
Email: dwhite@acslink.aone.net.au
http://www.acslink.aone.net.au/asit

Committee members:
***Peter Brooker*: pbrooker@geology.adelaide.edu.au**
***Kevin Burrage*: kb@maths.uq.oz.au**
***David Mayer*: davidm@ysun02.ari.dpi.gld.gov.au**
***David McDonald*: david.mcdonald@ml.csiro.au**
***Les Oxley*: loxley@waikato.ac.nz**
***Frank Scrimgeour*: scrim@waikato.ac.nz**