

MSSANZ NEWSLETTER

November 2008



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MODSIM09 Key Dates

- Deadline for abstracts
31 December 2008
- Deadline for early bird fee
13 March 2009
- Deadline for lodgement of
final paper
13 March 2009
- Deadline for final
registration for authors
12 June 2009

18th IMACS WORLD CONGRESS MODSIM09 CALL FOR PAPERS

Cairns Convention Centre - Cairns, Australia
13 - 17 July 2009

Scientific Program Co-Chairs: Drs Bob Anderssen & Roger Braddock
Convenors: Drs David Mayer & Neil Gribble

<http://www.mssanz.org.au/modsim09/>

ABSTRACT SUBMISSION DEADLINE: 31 December 2008

MODSIM09 will be held in Cairns, Northern Queensland, Australia from 13 - 17 July 2008 at the Cairns Convention Centre (CCC), in conjunction with the 18th IMACS World Congress.

The CCC is a world class meeting venue adjacent to both the town centre and the cruise terminals, enabling opportunities to visit the Great Barrier Reef and/or Rainforest regions as day tours. These delightful locations offer scenic wonders in conjunction with the exceptional conferencing facilities at the CCC.

Respected International Advisory Board and Technical Committee have been organised. Details of these are on the conference website, which provides an excellent resource for delegates and presenters. <http://www.mssanz.org.au/modsim09/>.

Planning for the conference is well underway with more than 70 sessions proposed. The conference Streams, to which sessions proposals and papers can be submitted, are:

[Applied and Computational Mathematics](#)
Roger Braddock, Griffith University

[Biological Systems](#)
Bob Anderssen, CSIRO Mathematical and Information Sciences, and Markus Hegland, The Australian National University

[Computer Sciences](#)
Andrea Rizzoli, Istituto Dalle Molle di Studi sull'Intelligenza Artificiale, and David Swayne, Guelph University

[Economic and Financial Systems](#)
Michael McAleer, University of Western Australia, and Les Oxley, University of Canterbury, NZ

[Engineering and Applications](#)
Yaping Shao, University of Cologne, and Voratas Kachitvichyanukul, Asian Institute of Technology

[Environment and Ecology](#)
David Pullar, University of Queensland, and Alexey Voinov, University of Vermont





Global Change and/or Natural Hazards

Mark Howden, CSIRO Sustainable Ecosystems, and Giulio Iovine, National Research Council, Italy

Participatory Decision Making and Modelling Social Systems

Claudia Pahl-Wostl, University of Osnabrueck, and Blair Nancarrow, CSIRO Land and Water

Water Resources

Shahbaz Khan, UNESCO, and Robert Argent, Bureau of Meteorology, Australia

As with MODSIM07, the Web-Based Conference Management Tool (WCMT) is being used. WCMT allows for streamlining of the review and submission process for session organisers, reviewers and paper presenters.

We would also like to draw members' attention to some important deadlines including: the revised Abstract Submission Deadline of 31 December 2009 and the Paper Submission Deadline of 13 March 2009.

The practice of including a one-page abstract for each paper in a printed volume of abstracts will be continued. Abstracts allow authors to communicate details of their research findings to delegates.

Fully reviewed seven-page paper proceedings will be provided on CD ROMs to all delegates upon registration in Cairns. Papers will be made available for downloading from the MSSANZ website following the Congress.

An electronic Conference Brochure is available at <http://www.mssanz.org.au/modsim09/> under 'Download Flyer'. We encourage you to download this and distribute it widely amongst your colleagues and students.

We are keen to obtain feedback or suggestions from MSSANZ members to ensure the success of MODSIM09.

Finally, we look forward to your involvement in MODSIM09 as delegates, paper presenters and/or session organisers. It's bound to be a great forum to learn about each other's modelling and simulation endeavours, to exchange ideas, to catch up with old friends, and to make new friends in the beautiful surrounds that Northern Queensland, Australia offers.

Bob Anderssen
Roger Braddock
David Mayer

President's Report

Welcome to our newsletter for 2009.

As you will see when reading it, our Society is going from strength to strength. First of all, our next MODSIM in Cairns, as a Congress with the 18th World Congress of the International Association for Mathematics and Computers in Simulation (IMACS), has attracted some 70 sessions and several workshops.

By the way, members are welcome to propose other workshops to r.braddock@griffith.edu.au but please do so as soon as possible. In the newsletter you will also find profiles of our 2007/08 Award winners.

The MSSANZ Management Committee is particularly pleased with the quality of our Early Career Researchers and students, a reflection of the number of these people participating in our Society and biennial meetings. We had over 90 students participate at MODSIM07!

Our Web-based Conference Management Tool (WCMT) has been given an upgrade and I would like to thank Treasurer, Lachlan Newham, for masterminding this as well as acting as Coordinator of all our Streams for IMACS-MODSIM09. I think you will appreciate the enhanced utility of WCMT.

Welcome also to our new MSSANZ Office Manager, Stephanie Bennett. Among several duties, she has been responsible for the production of this newsletter. Fond farewell to Susan Kelo and heartfelt thanks to her for managing the Office so capably for over a decade.

While we will not have a Special Issue of the Society's main publishing organ, Environmental Modelling and Software, emanating from MODSIM09, authors will be welcome to submit revised versions of their Congress Proceedings papers to the journal. If you do so, please indicate in the covering letter uploaded to <http://ees.elesvier.com/envsoft/> and in a footnote on the first page of the paper that "A preliminary version of this work was presented at IMACS-MODSIM09 in July 2008." And I will be happy to offer advice on the focus of any revisions to ensure it meets the aims and scope of EMS.

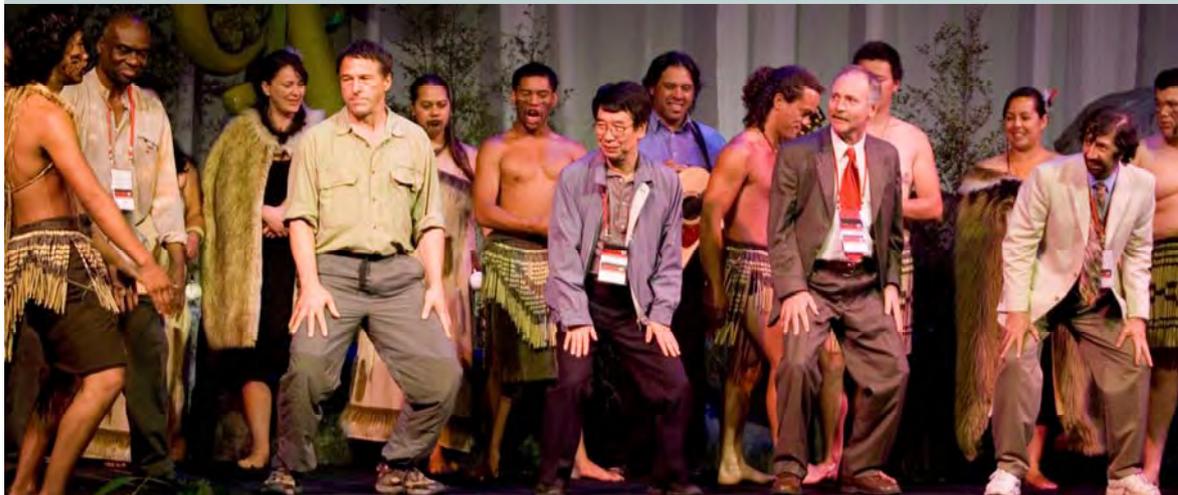
Looking forward to meeting you in Cairns.



Tony Jakeman - President

Report on MODSIM07 Conference, Christchurch, New Zealand

<http://mssanz.org.au/modsim07/>



Keen performers of the Haka during the Gala Dinner night

MODSIM07 attracted over 470 delegates from 26 countries, who descended on Christchurch in December 2007 to experience MODSIM the kiwi way!

The success of the conference was due to a number of factors; the fantastic efforts of the session organisers, the wonderful daytime catering by Mark and his team from 'Seven' café, the convenience of the venue and the event management by Liz Duston and her team.

A big thanks also go to Sue Kelo and Sue Cuddy for their efforts on the registration desk and Vince Bidwell and Steven Tucker who were part of the local organising committee.

The conference was held in the pleasant environs of the University of Canterbury and was opened by the Deputy Vice-Chancellor, Professor Ian Town. Professor Town briefly welcomed delegates in Maori and spoke on a number of highly relevant issues for the conference theme, including the use of supercomputing in general and the University of Canterbury's "Blue Fern" computer, in particular.

Monday's keynote speaker, Dr Brent Clothier, set the scene for the conference with an interesting talk on the prospects, problems and pitfalls of modelling the soil-plant atmosphere system. The keynote speakers for the next three days provided further interesting presentations, with Professor Peter Robinson discussing developments in analysis of spatial data, Dr Randy Butler talking about the National Center for Supercomputing Applications and its capabilities for research, and Dr Karan Singh discussing the progress and challenges in global public health.

Building on the tradition of MODSIM05 and previous MODSIM's, MODSIM07 had a fully packed social calendar, commencing with a pre-congress meet and greet, held at the historic Ilam Staff Club on Sunday. It was a fabulous warm evening with almost everyone choosing to sit outside and enjoy the gardens. This was also a great opportunity for delegates to re-meet friends and colleagues and to start building new links and networks.

On Monday night, a cocktail function sponsored by SGI was held at the stunning Christchurch Art Gallery. Steve Reinhardt from SGI in Australia spoke briefly on the latest software developments from SGI and their application to researchers. At the conclusion of the event most delegates chose to stay in the city and enjoy the local restaurants for the evening.

On Wednesday night the conference dinner was held at the Christchurch Convention Centre, which was superbly decorated in a NZ theme fitting in with the conference theme of Land, Water & Environment.



Don Kulasiri, Liz Duston and Les Oxley.
Don and Les were the Co-convenors of MODSIM07.
Liz ensured the smooth running of the event.

MSSANZ aims to promote, develop and assist in the study of all areas of modelling and simulation.

The society's main activity is organising the MODSIM biennial conferences of Modelling and Simulation (the first in 1974). These conferences are highly regarded and well attended and attract strong student representation through the award of student prizes and subsidised registration.



The evening commenced with a traditional Maori Welcome and MSSANZ President, Professor Tony Jakeman, took up the Maori challenge on behalf of all the delegates. Once seated, we were treated to a showcase of Maori song and dance, with some fortunate attendees getting the opportunity to learn and perform the Haka on stage, a very entertaining spectacle!

Wednesday night also saw the presentation of the 2007 Biennial Medals to Professor Peter Robinson, Professor Roger Braddock and Professor Shahbaz Khan. The Early Career Research Excellence (ECRE) Awards went to Dr Steven Tucker, Dr Jenifer Ticehurst, Dr Carl Smith and Dr Riaz Shareef.

MSSANZ also made the following members, Fellows of the Society: Dr Andre Zerger, Dr Robert Argent, Dr Christine Lim, Professor Al Bartolucci, and Dr Santhad Rojanasoonthon.

Recognition and encouragement of students is a key objective of MSSANZ and on Thursday afternoon at the congress closing, student prizes and commendations were awarded across the streams. Congratulations to all the winners and a special thanks to the people who assessed and judged the presentations.

Preparation for the MODSIM07 Special Issue of the Mathematics and Computers in Simulation journal is well underway and approximately 30 expanded papers from MODSIM07 will appear in this issue. However all the MODSIM07 papers are available from the MSSANZ website.

(<http://www.mssanz.org.au/modsim07>)

We thank those of you who attended MODSIM07 for making it such an amazing success and look forward to meeting you all again in Cairns, Australia for MODSIM09.

Les Oxley and Don Kulasiri
Convenors

2008 Fellows

Dr David Mayer

Professor Masahito Kobayashi

Dr Frank Scrimgeour

Awards 2008 Fellows

At the 2003 AGM, an Awards Committee was established as a regular Committee of the Society to manage the nomination and selection process for Fellowships, Biennial Medals and ECRE prizes. The Committee is composed of Fellows of the Society, currently Dora Marinova, Les Oxley and Tony Jakeman (Chair). The committee makes recommendations to the executive, most recently on 2008 Fellows. Fellows are recognised for their unselfish dedication to the aims of the society as well as for their contributions to modelling and simulation.

The 2008 Fellows are:

Dr David Mayer (Queensland Department of Primary Industries)



Raised on a small farm outside Brisbane, David completed his BSc at Griffith University and then a PhD at the University of Queensland.

He was initially employed as an actuarial statistician and in 1980 he joined DPI as a biometrician.

David's career has seen the production of a book and 70 journal papers on agricultural systems and research. It has also included roles such as expert witness, modelling consultant and international trainer.

He joined MSSANZ in 1982, was convenor of their 1991 biennial conference, and is co-convenor of the Cairns Congress in 2009.

On a personal note, he remains the oldest leader in the local Boys Brigade Company, and this year competed in the interstate Masters indoor cricket titles.

Professor Masahito Kobayashi (Yokohama National University)

Professor Masahito Kobayashi graduated in 1980 and was awarded a Ph.D. in 1987, both from the University of Tokyo. He taught at Kyoto University for seven years and has moved to Yokohama National University.



He has been interested in the theory of econometrics and has published several articles in *Econometrica*, *Journal of the American Statistical Association*, *Journal of Econometrics*, *Econometric Theory*, and *Journal of Time Series Analysis*.

His recent research has focused on state-space modelling of financial data and some papers are to appear in *MATCOM*.

He is also interested in bird watching and wine, which explains, at least partly, why he loves Australia and New Zealand.

2008 Fellows continued ...

Dr Frank Scrimgeour (University of Waikato)



Professor Frank Scrimgeour is Dean of the University of Waikato Management School. He is a leading environmental economist, has contributed to regional, Maori and national policymaking on issues ranging from carbon taxes to resource valuation. He is currently president of the New Zealand Association of Economists, and a former president of the New Zealand Agricultural Economics and Resource Society.

Frank joined the University of Waikato as a lecturer in 1989. He was Director of the Management Research Centre and chaired the Economics, Finance and Tourism departments. He served as Acting Dean of Waikato Management School before becoming Dean in 2008.

He holds a BAgSc(Hons) from Lincoln College, a Doctorate in Agricultural and Resource Economics from the University of Hawaii and a BD from Melbourne College of Divinity.

Frank has participated in World Bank panels on agriculture and natural resources, and is currently working with New Zealand's kiwifruit and dairy industries to identify factors for future success. He is also an adviser to Katolyst, the Waikato regional development agency, on the region's economic performance and prospects.



Biennial Medals

Biennial Medals go to outstanding contributors to modelling and simulation over a sustained period and who have a record of service to the Society. Medallists automatically become Fellows of the Society.

Professor Peter Robinson (London School of Economics and Political Science)

Peter M Robinson is currently Tooke Professor of Economic Science and Statistics at the London School of Economics. He held a Leverhulme Trust Personal Research Professorship between April 1998 and March 2003.

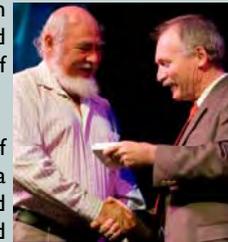


He is a Fellow of the Econometric Society, a Fellow of the Institute of Mathematical Statistics, a Fellow of the British Academy and an Elected Member of the International Statistical Institute, and was awarded the honorary degree of Doctor Honoris Causa by Universidad Carlos III, Madrid. He has served as Co-Editor of *Econometric Theory* and *Econometrica*, and is currently Co-Editor of the *Journal of Econometrics*.

He has published over 160 articles in journals, including *Econometrica* and the *Annals of Statistics*, and is the editor or co-editor of two books.

Professor Roger Braddock (Griffith University)

Professor Braddock has active research interests in Mathematical and Computer Modelling of Environmental Systems.



This includes formulation of the model, its treatment as a mathematical system, and solution using analytic and computer simulations. He has applied this expertise to groundwater flow problems and the transport of contaminants and pollutants.

He is also working in Earth Systems, such as Tsunamis and the optimal design of detection systems, modelling of chemical processes for hydrogen separation as a fuel, and the sensitivity analysis of model outputs.

Biennial Medal winners

Professor Peter Robinson
Professor Roger Braddock
Professor Shahbaz Khan

Biennial Medals continued ...



Professor Shahbaz Khan (UNESCO)

Professor Shahbaz Khan in 2008 is on leave from CSIRO to serve as Senior Programme Specialist and Chief of Sustainable Water Resources Development and Management Section, UNESCO Paris.



Prior to this he led the Irrigation Systems research group, within the Hydrology research program, and led the Rural Water Use research stream of CSIRO's Water for a Healthy Country flagship. He was also Professor of Hydrology in Charles Sturt University's School of Environmental Sciences and Director of the International Centre of Water at Charles Sturt University.

Shahbaz has an outstanding multidisciplinary background through formal education and acquired skills in water law and policy, water management, water engineering, economics and integrating consumptive use with environment, life and policy.

He has a wealth of national and international management experience in land and water research, consultancy and management through his work in developing and developed countries.

Professor Shahbaz receives world recognition dealing with a range of issues in land use management, surface and groundwater hydrology and has developed mathematical models of groundwater flow and contaminant transport, surface-groundwater interactions, tile drainage, flood forecasting and storm drainage.

Early Career Research Excellence (ECRE) Awards

Early Career Research Excellence (ECRE) Awards commenced in 2001 and are normally awarded to researchers who obtained their PhD less than seven years ago.

Dr Steven Tucker

Steven Tucker is a Senior Lecturer of Economics at the University of Canterbury in New Zealand. He joined UC in 2002 after completing a BA in economics at the University of Colorado, Boulder and an MS and PhD in economics from Purdue University. He is the Associate Editor of New Zealand Economic Papers and co-editor of New Zealand Economic Papers: Special Issue on Experimental/Behavioural Economics.



Steven Tucker specializes in experimental and behavioural economics, and is interested in how social norms and fairness considerations govern decisions of economic agents. Since 2003, he has published six papers in international peer-reviewed journals.

Steven Tucker is currently working on examining transactions involving trust and trustworthiness. Another area of interest is in the bidding behaviour in laboratory asset markets, with a particular interest in whether the extremely robust result of bubble formation in these asset markets may be a function of the unforgiving nature of the double auction institution. Shortly, he is starting a new research agenda on insurance contracts.

Dr Jenifer Ticehurst

Jenifer completed her PhD in 2004 on investigating hillslope hydrology as it effects locating tree belt plantations to utilise excess water.



She then joined the Integrated Catchment Assessment and Management (iCAM) group at the Australian National University.

Jenifer's research interests include soil science, hydrology, agricultural systems and modelling, and more recently integration techniques and decision support tools for natural resource management.

Jenifer's key research projects have included the development of decision support tools to assist in the sustainable management of coastal lakes in NSW, and using Bayesian networks to assist Australia's NRM regions in targeting their investments to better meet their natural resource management targets. A current project investigates the impacts of climate and land use change on water yield in the upland Murray River Catchments using several modelling techniques.

Early Career Research Excellence Award Winners

Dr Steven Tucker

Dr Jenifer Ticehurst

Dr Carl Smith

Dr Riaz Shareef

Early Career Research Excellence Awards continued ...

Dr Carl Smith



Carl Smith is a lecturer in Systems Studies within the School of Natural and Rural Systems Management at the University of Queensland (UQ). In 1993, he completed a degree in land resource science and then in 1998 completed a PhD in agriculture and geography at UQ. From 1999 to 2001 he worked as a research fellow with the Department of Geomatics at the University of Melbourne and from 2001 to 2003 worked as a resource scientist with the Department of Natural Resources and Environment, Victoria. In 2003 Carl took up a post-doc research fellow position at UQ working within the CRC for Tropical Savannas Management. In 2007 Carl commenced his current position as a lecturer at UQ.

Carl currently specialises in the use of Bayesian Networks in natural resource management decision support. Most of his recent work has been within developing countries in South East Asia, building Bayesian Network decision support tools with farmers and natural resource managers. In Australia, his work has focused on the application of Bayesian Networks and GIS to wildlife management, weed management and conservation planning.

Carl recently completed a project to develop an internet-based Bayesian Network decision support toolkit called DBL Interactive (<http://www.decisionbasedlearning.org/DBLiWebSiteDev/>). In 2008 Carl became a member of the editorial board for Environmental Modelling and Software.

Dr Riaz Shareef



Dr. Riaz Shareef is a part-time Research Fellow at Edith Cowan University in Western Australia and works at the Office of Energy in the Government of Western Australia. He holds BA (Hons) Business and IT (W'ron), MA International Economics (Sussex) and PhD in Economics (Econometrics) (UWA). His main areas of research are international tourism demand in Small Island Tourism Economies (SITEs), tourism demand analysis, tourism and Value-at-Risk (VaR), tourism finance, country risk ratings and applied time series econometrics.

Dr Shareef has published six peer-reviewed journal articles, one book chapter, one discussion paper for the World Bank and fourteen papers in edited conference proceedings and transactions. Over the last four years he has attended seven conferences in Australia and overseas, of which he has made eight conference presentations. Dr. Shareef's recent publications have appeared in *Tourism Management*, *Tourism Economics*, *International Journal of Tourism Research*, and *Mathematics and Computers in Simulation*.

Riaz has been invited to be a founder member of the International Association of Tourism Economics (IATE).



Student Award Winners

Sander Janssen

Eve McDonald-Madden

Jakin Ravalico

Student Awards

Students presenting the best papers at Biennial conferences are awarded a cash prize and Certificate Commendation 2007 awards went to:

Student Award Winners

Sander Janssen



After finishing his Master degree at Wageningen University, Sander Janssen is undertaking his PhD again at Wageningen University, as a joint project between the Business Economics group and the Plant Production Systems group. His PhD concerns integrated assessments, integration between disciplines and bio-economic farm models. He has a particular interest for research that transcends disciplinary boundaries and thus achieves innovative outcomes or insights.

Eve McDonald-Madden

Recently completing her PhD in The Spatial Ecology Lab at the University of Queensland. Eve's research is essentially applied theoretical ecology focussing on integrating optimal monitoring strategies into a decision theory approach for wildlife management and conservation planning.



Eve is interested in the use of this framework for evaluating the ecological and economic costs and benefits of adaptive management in conservation for threatened species management, invasive species control, land acquisition for reservation and zoning of conservation areas.

Her paper entitled "Should I spread my risk or concentrate my efforts: is triaging of a subpopulation ever the best decision?" was presented at the Natural Resources and Biodiversity Management Session during MODSIM07.

Jakin Ravalico

Jakin Ravalico who is studying her PhD at the University of Adelaide had her paper presented in the Sensitivity of Models and Simulations session. The paper titled "MORE Sensitivity Analysis of the MSM-BIGMOD River Murray Flow and Salinity Model" impressed the judges to take out this award.





Student Award Commendations

Nicholas Car

Nicklas Forsell

Ling Li

Maki Matsuka

Daniel Pagendam

Robert Pipunic

Paraskevi Thomas

Student Commendations

Nicholas Car

Nicholas Car is a PhD student with the CRC for Irrigation Futures studying through the University of Melbourne. He is based at the CSIRO's Land & Water Irrigation Research Labs in Griffith, NSW, where his research area is Irrigation Informatics which looks at the use of data and information in irrigation management decisions. Nicholas is now particularly interested in how IT systems may enable people to make better irrigation management decisions.



As well as working on the technical challenges associated with how data and information are presented to, and used by irrigators, he also tries to quantify aspects of the broader social setting within which irrigation decision making occurs that have so far not been included in formal irrigation models or decision support systems.

Robert Pipunic

Robert is in the final stages of his PhD research under the supervision of Associate Professors Jeffrey Walker and Andrew Western in the Department of Civil and Environmental Engineering, The University of Melbourne. His work has focussed on applying data assimilation techniques for improving the predictive ability of hydrologic land surface models. In particular, his research is aimed at demonstrating how observations from various satellite platforms may be able to inform and improve land surface models so they can be used with greater confidence for applications such as water resource planning or numerical weather prediction.

Robert is part of a team that was recently awarded funding under the ARC Linkage scheme for a three year project. The project begins in early 2009 and will focus on using data assimilation as a tool to improve land surface model structure and on transferring these techniques to water industry stakeholders.

Nicklas Forsell

Nicklas Forsell is a PhD student at the Swedish University of Agricultural Sciences, and at the French National Institute for Agricultural Research. He presented a paper on forest management under risk of wind-damage at MODSIM07. He will defend his thesis in 2009 entitled "Markov Decision Processes Approaches for Complex Forest Planning under Uncertainty".



Ling Li

Ling Li started her PhD in Statistics at Macquarie University in 2005. Her thesis is entitled "Statistical analyses on Multilevel Structured Medical Data". She is expecting to submit her thesis next year (2009). Ling's research is focussed on modelling and simulation methods and applications to medical statistics.



Ling presented a paper entitled Aggregation Gain or Loss? Modelling the Effects of Group Variables on Binary Responses during the Statistical Methods for Analysis of Public Health Data session of MODSIM07.

Maki Matsuka

Maki Matsuka is a PhD student at Griffith University. Maki presented a paper titled: Numerical study of hydrogen permeation flux in $\text{SrCe}_{0.95}\text{Yb}_{0.05}\text{O}_{3-\alpha}$ and $\text{SrCe}_{0.95}\text{Tm}_{0.05}\text{O}_{3-\alpha}$ (II) at MODSIM07.



Currently, she is in her third year of research, working on fabrication and testing of dense ceramic membranes (such as $\text{SrCe}_{1-x}\text{Yb}_x\text{O}_{3-\alpha}$) to improve the hydrogen flux of the membranes for the application in hydrogen separation from coal/waste gasification syngas.

Daniel Pagendam

Daniel is a MASCOS PhD scholar at the University of Queensland under Professor Phil Pollett. He is interested in inference and experimental design for Markov processes that are widely used in population biology. His research will aid researchers to design more efficient experiments and monitoring programs in fields such as ecology and epidemiology. Prior to commencing his PhD, Daniel completed a bachelor degree in Environmental Science and subsequently completed a Masters degree in statistics whilst working for the Queensland Department of Natural Resources and Water as a modeller.



Paraskevi Thomas

Paraskevi Thomas is a research student working towards her PhD in Mathematics at the University of South Australia. The aim of her project is to develop generic mathematical models and computer simulations of urban stormwater harvesting systems. The capture and reuse of stormwater is essential in reducing demand from the River Murray. Models created for the management and risk assessment of stormwater harvesting systems are to be applied within the City of Salisbury, in the Northern Adelaide region of South Australia.



MSSANZ Treasurer's report

The major activity of MSSANZ since the production of the last regular newsletter was the Christchurch conference in 2007. The financial management of the conference was of the highest standard. The convenors of the conference, Les Oxley and Don Kulasiri and event manager Liz Duston are to be congratulated for their hard work in this respect.

MSSANZ remains in a strong financial position in 2008. A modest profit was made in the 2007-08 financial year as a result of returns from the 2007 conference and interest earned on a series of term deposits. MSSANZ's funds are held predominantly in term deposits at the Commonwealth Bank. These investments ensure the long-term financial viability of MSSANZ and support the running of the office. MSSANZ has no liabilities.

In the 2007-08 financial year, our largest expenditures have been in further development of the Web-based Conference Management Tool (WCMT), advertising and venue-related expenses associated with the pending 2009 Congress in Cairns.

The financial statements continue to be audited on an annual basis by Canberra-based firm Les Ellis and Associates. Financial statements are available on request. Please contact me via email (lachlan.newham@anu.edu.au) or telephone (02) 6125 8129 to obtain these statements or to discuss any aspect of the financial management of MSSANZ.

Lachlan Newham
Treasurer, MSSANZ



2009 Biennial Medallists and ECRE Awards

CALL FOR NOMINATIONS

Nominations open 1 January 2009 and close 31 March 2009 for the Biennial Medallists and Early Career Research Excellence Awards.

Categories

The Society awards Fellowships, Biennial Medals, Early Career Research Excellence Prizes, Student Prizes for Best Paper and Presentation, and Student Commendations for Excellent Paper and Presentation. Fellows are awarded in every even-numbered year. Biennial Medals, Early Career Research Excellence Prizes, and Student Prizes and Commendations are awarded in every odd-numbered year to coincide with the Biennial Conferences. The next set of awards will be presented at the MODSIM09 Congress in Cairns.

Biennial Medals

Biennial medals recognise "exceptional research contributions to modelling and simulation and for promoting the aims of the Society."

Any member of the Society may be nominated for a Biennial Medal. The proposer and seconder must be members of the Society and self-nomination is not permitted. The Awards Committee assesses the nominations and makes recommendations to the Management Committee for approval.

Early Career Research Excellence Awards

ECRE awards recognise "early career research excellence in modelling and simulation." An early career researcher should have graduated with a PhD degree or equivalent within seven years of being nominated for the award.

As for Biennial Medals, any member of the Society may be nominated. The proposer and seconder must be members of the Society and self-nomination is not permitted. The Awards Committee assesses the nominations and makes recommendations to the Management Committee for approval.

Student Prizes

Student presentations are evaluated by either the session organiser or at least one member of the Student Awards Committee. No less than 5% and no more than 15% of students will be awarded commendations. The commendation takes the form of a certificate and cash reward.

Students awarded commendations will be selected on the basis of the quality of their presentations. Students who have submitted their thesis (honours, Masters or PhD) in the six months prior to MODSIM are also eligible but they must notify the chair of the Student Awards Committee as early as possible.



Nomination Procedure

Written nominations should be sent directly to the Chair of the Awards Committee (Tony Jakeman), accompanied by a written statement and a curriculum vitae of the nominee. The deadline for nominations is the 31 March 2009.

Medallists automatically become Fellows of the Society, and are entitled to use the post nominal "FMSSANZ".

Presentation

The awards will be presented at the Biennial Congress, MODSIM09.

Members

The Society has more than 1,000 members from 50 countries, including Australia, Canada, China, France, Germany, Italy, Japan, New Zealand, the Netherlands, South Africa, Spain, Switzerland, Thailand, the United Kingdom and the United States. Members are from a wide range of professional disciplines including mathematics, hydrology, agricultural science, economics, engineering, atmospheric science, ecology, computer science and many others.

Newsletter Production

This newsletter has been produced by the MSSANZ Inc. office at iCAM, The Australian National University. Stephanie Bennett has compiled the newsletter from material provided by Lachlan Newham, Susan Cuddy, Tony Jakeman, Liz Duston and others. Where the Society did not have photos or biographies of award winners, these were sourced from the web.

MODSIM09 Contacts

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MSSANZ and IMACS bring together a broad spectrum of scientists who apply various mathematical modelling, simulation, statistical, engineering, spatial and computer science methodologies and skills in solving practical problems coming from a wide range of endeavours including environmental and global change modelling, water resources management, health care, biological simulation and engineering. For them, the practical matter under investigation and the available data are the driving forces behind the methodology chosen for the task, or in developing techniques required to analyse new models.

Papers appearing in the proceedings may be selected for publication in special issues of the following journals post-congress:

- Applied Numerical Mathematics
- Mathematics and Computers in Simulation
- Environmental Modelling and Software

REGISTRATION

The registration fee includes opening reception, volume of abstracts, CD of proceedings, all lunches, morning and afternoon teas, Congress bag, pen and notepad, access to all sessions and the Congress dinner. Registration fees are GST-inclusive.

EARLY BIRD

- Student: \$450
- Non-student: \$750

Cut-off date Friday 13 March 2009.

REGULAR

- Student: \$550
- Non-student: \$850

Payment required prior to publication in the Congress Proceedings. Proof of student status must be supplied to obtain the discounted student rates.

STUDENT PRIZES

All student authors are eligible to be assessed for student prizes.

CONGRESS DEADLINES

- Abstracts submitted** Wednesday 31 December 2008
- Acceptance of abstracts** Friday 9 January 2009
- Final papers submitted** Friday 13 March 2009

CALL FOR PAPERS, SESSIONS AND WORKSHOPS

We invite submission of high quality abstracts and papers on all aspects of modelling and simulation. Accepted papers will be included in the Congress Proceedings CD and will be made available from the MSSANZ website following the Congress. An author of each paper will give an oral presentation at the Congress.

New session and workshop proposals must be submitted as soon as possible to r.braddock@griffith.edu.au.

PAPER SUBMISSION AND REVIEW

The submission and review process will be handled exclusively using WCMAT, an on-line conference management tool accessible through the Congress website. Acceptance of publications is via a two step process.

The first step is the submission of a concise abstract to a relevant session or workshop. Following approval of the abstract, a 7-page paper (optional for workshops) formatted in accordance with the instructions to authors is required. The paper will be reviewed by at least two independent reviewers and will require revision before publication.

PLENARY SPEAKERS

PROFESSOR MATASHIA BOLAND

University of Newcastle, Australia. **Operations Research**

Matashia Boland is Professor of Mathematics at the University of Newcastle, a position she took up in 2008 after 13 years at the University of Melbourne. Professor Boland has research interests in integer programming, column generation, constrained shortest paths and transportation and logistics. Her applications are wide ranging including open-pit mine scheduling, airline planning, and international shipping. She has research collaborations with BHP-Billiton and CTT Pty Ltd.

PROFESSOR JON CHAPMAN

Oxford University. **Applied Mathematical Modelling**

Jon Chapman held positions at Stamford and Oxford, before becoming a Royal Society University Research Fellow in 1995 and the Oxford Professor of Mathematics and its Applications in 1999. His research interests centre on mathematical modelling and asymptotic analysis for applications in industry and the physical and biological sciences. He has been awarded the SIAM Richard C. Dierman prize, the Whitehead Prize of the London Mathematical Society, and the inaugural SIAM Julian Cole Prize.

PROFESSOR FRANK DE HOOG

CSIRO Mathematics and Information Sciences. **Industrial Mathematical Modelling and Simulation**

Frank de Hoog is a mathematical scientist with extensive research and teaching experience. He has contributed to topics in the numerical solution of differential and integral equations, numerical transform techniques, computational linear algebra, solid mechanics, vibration of structures, stress analysis and rheology. A key feature of Frank's work is that it has involved extensive collaboration within university and industry sectors including Geologists, BHP, Comalco, Bluescope Steel, James Hardie, Calcelec, and TU Eindhoven.

PROFESSOR GEORGE HONDRIGER

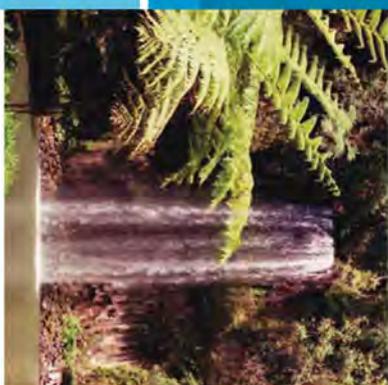
University of Virginia. **Hydrologic Context for Modelling Nutrient Cycles**

George Hondrieger is Ernst H Em Professor of Environmental Sciences at the University of Virginia. He is a Fellow of the Geological Society of America and the American Geophysical Union and an elected member of the National Academy of Engineering. His research focuses on understanding how hydrological and geochemical processes combine to produce observed stream dynamics. His current research on dissolved organic carbon dynamics extends modelling from individual catchments to regional scales.

PROFESSOR TERRY MILLS

La Trobe University Bendigo. **Mathematical Modelling in Health Care**

In 1975, Terry Mills was appointed to Bendigo Institute of Technology as a Lecturer after completing a PhD at the University of Florida. He was promoted to Professor of Mathematics at La Trobe University in 1993 and is now an Emeritus Professor. Since 1998 he has been an honorary Senior Research Fellow at Collaborative Health Education and Research Centre at Bendigo Health. This gives him the opportunity to apply ideas from mathematics to problems from Bendigo Health.



CAIRNS, NORTH QUEENSLAND

Cairns is a true tropical paradise in a unique environment – the only place in the world adjacent to two world heritage-listed attractions, namely the Great Barrier Reef and the Wet Tropics Rainforest. July sees a dry temperate climate, with an average of seven hours sunshine per day and a diurnal temperature range of 16 to 25°C (61 to 77 °F).

The congress may include a breakout half-day to take advantage of the many scenic attractions, including a cruise to Green Island, the Sycraft/Train circuit to the mountain village of Kuranda, and a tour of the rainforest areas.

VENUE AND ACCOMMODATION

The Congress will be held at the Cairns Convention Centre, a world class meetings venue adjacent to both the town centre and the cruise terminals. This venue has a non-smoking policy.

A range of accommodation options are available within a few minutes walk of the Congress venue.

The city centre is only 10 minutes away from the international airport.

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RELATED CONGRESS

Pacific Rim Mathematical Association Congress, Sydney 6-10 July 2009, www.primath.org

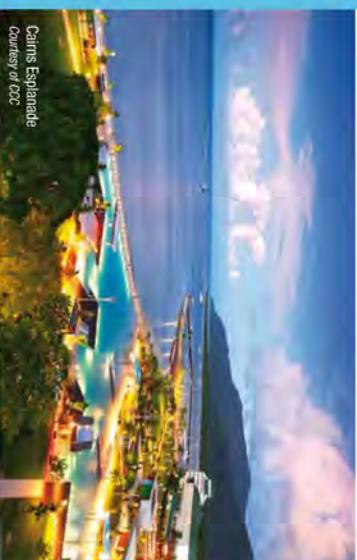


IMACS

The International Association for Mathematics and Computers in Simulation has been active for 52 years, and has run the very successful IMACS series of congresses, principally in the northern hemisphere. The society has stimulated and fostered interest in quantitative techniques and their application to real-world problems. www.research.rutgers.edu/~imacs/

MSSANZ

The Modelling and Simulation Society of Australia and New Zealand Inc. has been active since 1974, and has run the previous 17 MODSIM Congresses in Australasia. The society represents modelers with interests in using quantitative methods to address practical problems in industry, environment, science, societal and economics areas. www.mssanz.org.au/



Cairns Esplanade
Courtesy of CCC

18TH IMACS WORLD CONGRESS MODSIM09



CAIRNS, AUSTRALIA
13 – 17 JULY 2009



INTERNATIONAL CONGRESS ON MODELLING AND SIMULATION

Interfacing Modelling and Simulation with
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www.imacs-modsim-world-congress.org
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Mark Howden, CSIRO Sustainable Ecosystems

PARTICIPATORY DECISION MAKING AND MODELLING SOCIAL SYSTEMS

Chaida Pahl-Weed, University of Garmarueck
Blair Nancarrow, CSIRO Land and Water

WATER RESOURCES

Shahbaz Khan, UNESCO
Robert Argent, Bureau of Meteorology, Australia

The Congress will not be limited to these Streams. Expressions of interest are sought for potential session organisers from both IMACS and MSSANZ to suggest sessions outside of these streams.

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