



CIAO Newsletter

Centre for Informatics & Applied Optimization

School of Information Technology & Mathematical Sciences

Edition Number 18 – Summer 2007-2008

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News

New Director of CIAO

We are delighted to announce that Associate Professor John Yearwood has been appointed as the new Director of CIAO and Professor of Informatics.

Professor Yearwood (pictured right) joined the University of Ballarat in 1989, and since then has had a distinguished and multilayered career within this institution.



He began as a Lecturer in Mathematics at the then Ballarat University College, quickly moving to become Head of the Mathematics Section, and by 1997 was a Senior Lecturer in Mathematics and Information Technology.

Professor Yearwood was appointed Deputy Director of CIAO at its inception in 2001, and took on the role of Acting Director when the Founding Director, Professor Alex Rubinov, became ill in early 2006.

His research interests include decision sciences, data mining and computational intelligence, and he is Leader of the Data Mining and Informatics Research Group (DMIRG) within CIAO. He has published more than 120 refereed research publications and supervised 12 research students to completion.

Over the past 18 years he has also served in the roles of Deputy Head of School and Acting Head, Research Higher Degrees Co-ordinator, Research Co-ordinator, Ethics Co-ordinator, and as a member of the ITMS Leadership Group.

Everyone at CIAO extends their congratulations and best wishes to John.

New Deputy Director of CIAO

Dr Andrew Stranieri (pictured right) has recently been appointed to the role of Deputy Director of CIAO, complementing his existing role of Research Co-ordinator for the School of ITMS.

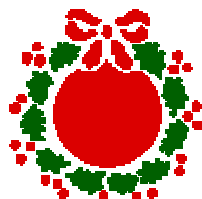
Congratulations Andrew!



From the Editors

Welcome to the Summer Edition of our CIAO Newsletter.

Very best wishes to you and your loved ones for the Christmas holiday season.



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Internet Commerce Security Laboratory (ICSL)

This new and exciting multi-million dollar project was officially launched on Wednesday 3 October 2007 at the Melbourne Cricket Ground, in Melbourne, Victoria.

We were fortunate to be joined by the Victorian Minister for Information & Communication Technology, the Honourable Theo Theophanous MP, who officiated at the event.

The ICSL will carry out research into internet commerce security, and focus on addressing some of the most critical issues, including management of identity, internet fraud, trust and the use of the internet.

New PhD Scholarships are included in the funding, giving research students the opportunity to work in information security and data mining, as well as undertake Laboratory engagement on a weekly basis.

This five-year project is the culmination of more than 18 months of negotiation with three key parties: Westpac Banking Corporation, IBM and the State Government of Victoria, through Regional Development Victoria (a business unit of the Department of Innovation, Industry & Regional Development).

Professor John Yearwood led the project negotiations, with the invaluable assistance of Mr Wayne Hurst and Mr Mal Vallance, from the Commercial Services Unit.

Pictured right (L to R):
Prof John Yearwood,
Victorian Minister
Theo Theophanous
MP at the MCG



Book Launch : Prof Sid Morris

We were pleased to host the launch "The Lie Theory of Connected Pro-Lie Groups", the latest book written by Professor Sid Morris (pictured right), on Monday 26 November 2007 at the Greenhill Enterprise Centre.



This book was officially launched by Prof Cheryl Praeger AM, the most prominent female Australian mathematician, who visited us from the University of Western Australia.

MaxiTRANS Training at UB

Fifteen employees from MaxiTRANS recently completed a seven-day industrial training program run by Mr Peter Martin, from the School of ITMS.

The final three days of this Six Sigma Quality Control Program took place in the computer laboratories here at UB.

So far approximately 40 MaxiTRANS employees have received this intensive training, which focuses on the need to collect and analyse appropriate data, in order to understand and improve processes and services within the organisation.

MaxiTRANS is Australia's largest manufacturer and supplier of trailing transport solutions, including the MaxiCube (temperature controlled and dry freight road transport), and is headquartered in Ballarat.

The organisation has been proactive in striving to continually improve their processes. To this end, training participants have been deliberately selected from various levels within the organisation, including from their suppliers.



MaxiTrans employees calibrating Mars Bars under the watchful eye of Mr Peter Martin (pictured above, standing)

New Staff Member

We welcome Dr Sitalakshmi Venkatraman as a Senior Lecturer in E-Commerce and Software Engineering.

Sita has recently moved to Ballarat from New Zealand, where she spent three years as a Senior Lecturer at Victoria University of Wellington.

She obtained a Master of Science (Mathematics) and a Master of Technology (Computer Science & Engineering) from Indian Institute of Technology in Madras, and a Doctoral Fellow (PhD) in the area of Parallel Computing from National Institute of Industrial Engineering in Bombay. In addition, she has a Master of Education from The University of Sheffield, in England.

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Sita's research work mainly focuses on efficient models/solutions for Information Systems. She has more than 25 international research publications in topics such as parallel algorithms, decision support systems, IT management and mobile computing. Most recently, her research interests are in the e-commerce security and m-business areas.

Dr Sita Venkatraman
(pictured right)



Maxine was Alex's PA, and is therefore perfectly placed to provide the necessary guidance and administrative support to ensure the smooth running of this important initiative.

Pictured right:
the late Professor
Alex Rubinov



Twenty Years of Service



Congratulations to Mr Peter Martin (pictured left), who was recently recognised for more than twenty years of service to the University of Ballarat.

Peter is an enthusiastic and dedicated ITMS lecturer, and also conducts statistical consultancy and training for industry.

News from:

CIAO Research Groups

Mathematical Analysis & Optimization Research Group (MAORG)

Group Leader:
Dr Adil Bagirov
(pictured right)



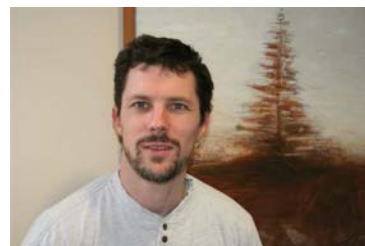
Annual Rubinov Memorial Lecture

Planning is currently under way to establish this annual event, to honour the late Professor Alex Rubinov, the Founding Director of CIAO.

A working party has been established comprising two MAORG Members, Dr Adil Bagirov and Dr David Yost, together with Professor John Yearwood and Ms Maxine Kingston.

Data Mining & Informatics Research Group (DMIRG)

Group Leader:
Dr Peter Vamplew
(pictured right)



New DMIRG Leader

Dr Peter Vamplew has recently been appointed as the new Leader of DMIRG. He joined UB in December 2005 from the University of Tasmania.

Dr Vamplew has already made a solid contribution to our School in the areas of research, undergraduate lecturing, commercial project collaboration, and research student supervision. He has also just completed a stint as Honours Co-ordinator for 2007.

He will bring a dynamic and energetic approach to the role. Congratulations and thank you Peter.

New DMIRG Deputy Leader

We also congratulate Dr Richard Dazeley on his appointment to the role of Deputy Leader of DMIRG.

Dr Dazeley (pictured right) joined UB at the beginning of 2007, after completing his PhD at the University of Tasmania.



He has previously lectured at the University of Tasmania in Australia and in China, and brings valuable industry experience to the Deputy role.

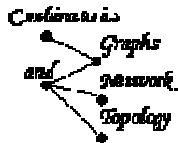
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Combinatorics, Graphs & Network Topology (CGANT)



Group Leader:
Prof Mirka Miller
(pictured right)



Virtual Reality & Simulation Laboratory (VRSL)

Laboratory Leader:
Dr David Stratton
(pictured right)



CGANT Research Day – November 2007

CGANT held this important event on 4 November 2007 at the Caro Convention Centre, Mt Helen Campus.

The Research Day included the following presenters:

- ✓ Professor Dalibor Froncek, University of Minnesota: Group Products and Graph Decompositions
- ✓ Dr Sanming Zhou, University of Melbourne: Classification of a family of finite symmetric graphs
- ✓ Prof Jan Kratochvil, Charles University, Prague: Telledomination in chordal graphs revisited
- ✓ Mr Ondra Suchy, Charles University, Prague: Clustered Planarity: Small Clusters in Eulerian Graphs
- ✓ Mr Dafik, UB: On D-regularity of Digraphs of Defect Two
- ✓ Mr Guillermo Pineda-Villavicencio, UB: Superconnectivity of Regular Graphs with Small Diameter
- ✓ Mr Jianmin Tang, UB: On the Non-existence of Odd Degree Graphs of Diameter 2 and Defect 2

CGANT Conferences & Workshops

CGANT has recently been involved with organising and managing the following events:

- ☞ IWONT 2007, Pilsen, Czech Republic, September 2007 (Professor Mirka Miller Co-Chair).
- ☞ IWOCA 2007, Lake Macquarie, November 2007 (Professor Mirka Miller Member of Steering Committee, PC Members included Dr Joe Ryan, Dr Zhiyou Wu, Dr Prabhu Manyem) .
- ☞ IWOGL 2008, Harbin, China, January 2008 (Professor Mirka Miller Co-Chair, Dr Joe Ryan PC Member).
- ☞ IWOCA 2008 Nagoya, Japan, September 2008 (Professor Mirka Miller Co-Chair, Dr Joe Ryan PC Member).

Teaching & Learning Incentive Grant

Dr Richard Dazeley, Mr William Harvey, Mr Chris Nelson and Dr Peter Vamplew have received a University of Ballarat Teaching and Learning Incentive Grant.

Funds totalling \$10,106.70 will be used for developing materials to support the use of the Virtual Reality Laboratory for teaching in the 3D modelling, computer graphics and games engines units at ITMS.

Completion of Masters

Congratulations to VRSL Member Mr Chris Nelson, who has recently completed and submitted his Masters Thesis on the topic "Virtual Seven Valleys".

Health Informatics Laboratory (HIL)



Laboratory Leaders
(pictured left, L to R):
Mr Chris Lynton-Moll,
Dr Andrew Stranieri

The Health Informatics Laboratory has held its inaugural meeting, to discuss research interests among Laboratory members and future grant applications.

The HIL has identified the following areas of interest for its initial research projects:

- Health Seven 7
- Complementary Alternative Medicine
- Health Education
- Support Systems in Health
- Evidence-Based Medicine
- Health Mining

Approximately ten initial meetings have been held with industry groups in Ballarat, Melbourne and interstate.

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Internet Commerce Security Laboratory (ICSL)

Laboratory Leader:
Prof John Yearwood
(pictured right)



New Laboratory

This new Laboratory has been created within CIAO, as a result of the new Internet Commerce Security Laboratory project (see page 2). It will supercede the Information Security Cluster, previously known as INSECT, whose members will join ICSL.

Professor John Yearwood is the new Laboratory's Leader.

Collaborative Centre for eHealth



CCeH Manager
(pictured right):
Mr Chris Lynton-Moll



Current Projects

The following projects are currently under way:

- Queensland Health eONI
- Investigations into and development of an intelligent decision support system for general practitioners, in home-based sleep disorder diagnosis.
- Structured Reports for Radiology Reporting: project to deliver a series of structured radiology reports, to be incorporated into radiology information systems to facilitate structured reports.
- HL7 training course for Medical Directors
- Two year contract to deliver HL7 Education and Training packages for HL7 Australia.
- HL7 training course for NSW Cancer Institute.

Commercial Projects

Mr Bruce Ridge
Business Development
Manager
(pictured right)



Welcome to our new Business Development Manager, Mr Bruce Ridge.

Current Projects

Solar Cities – Central Victoria Greenhouse Alliance

CIAO is part of the Central Victorian Greenhouse Alliance, the successful tenderer for this project.

CIAO will provide assistance and support to develop the evaluation component of their Solar Cities submission to the Department of Environment and Heritage, Australian Greenhouse Office.

CIAO Personnel: J Yearwood, C Lynton-Moll, A Bani-Mustafa, P Martin

Research Group: DMIRG

Australian Defence Force: Anthropometry Project

CIAO is part of a consortium, collaborating with the University of South Australia, the Australian Sports Commission, Sinclair Knight Merz and SMS Defence Solutions (formerly Permian), to determine optimal fit of crew to air crewstations.

CIAO's responsibility involves integrating the scanned crewstations and the extracted body measurements in an interactive modelling program, to determine fit, reach and comfort.

Status: UB Deliverables completed and delivered, final meeting to be held in February 2008

CIAO personnel involved: J Yearwood, J Giri, C Turville, D Stratton, P Smith, E Matuschka

Research Group: VRSL

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Potential Projects

Sleep Apnoea

CIAO has identified a need to more expediently and adequately analyse the results from monitoring patients in sleep clinics. CIAO's expertise could assist in improving visualization and add automatic detection enhancing.

Discussions are currently under way with potential Australian and international industry partners with whom CIAO could collaborate.

CIAO personnel involved: J Ugon, N Sukhorukova, B Ridge

Research Group: DMIRG



Grants

Grants Awarded

Quality Use of Diagnostic Imaging (QUDI) Project

CCeH has been successful in winning the latest QUDI Project, which will take six months to complete.

Objectives: to develop a small number of radiology report templates, in a format that can be published to and downloaded from the Royal Australian & New Zealand College of Radiologists (RANZCR) website for integration into existing RIS systems.

Expected outcomes: used to inform College of development of standards practice, and inform the College's curriculum development program. Use of templates will contribute to decision making and optimal management of patients.

Value: \$75,000

CCeH Personnel: C Lynton-Moll, J Gilbert, E Dekker

Grant Applications: Submitted

Early Career Researcher Program

Applicant: Dr Long Jia (pictured right)

Topic: The development of an Intelligent Learning Environment for Traditional Chinese Medicine practitioners and students.



Conferences & Seminars

Conference Attendance & Presentations

51st Australian Mathematical Society Annual Meeting

Dr Adil Bagirov presented a paper titled "A secant method in nonsmooth optimization", 25-28 September 2007, LaTrobe University, Melbourne. Dr David Yost also attended this conference as a delegate.



HL7 Version 2 Technical Seminar

Mr Chris Lynton-Moll attended this seminar in Melbourne on 30-31 October 2007.

IWOCA 2007

Professor Mirka Miller, Dr Joe Ryan, and PhD students Mr Dafik, Mr JianMin Tang and Mr Guillermo Pineda Villavicencio attended the International Workshop on Combinatorial Algorithms at Lake Macquarie in New South Wales, on 5-9 November 2007.



INTERNATIONAL WORKSHOP
ON COMBINATORIAL ALGORITHMS

IWONT 2007

Professor Mirka Miller, Mr Jianmin Tang and Mr Guillermo Pineda Villavicencio attended the International Workshop on Network Topologies in Pilsen, the Czech Republic, in September 2007.



Mathematical Foundations of Computer Science (MFCS)

Professor Mirka Miller attended this conference in Cesky Krumlov, the Czech Republic, in August 2007.

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ITMS Colloquia

ITMS Colloquia Series 2007

Colloquia Co-ordinator:
Ms Maxine Kingston
(pictured right)



Recent presentations in the Colloquia Series were:

- o *Rethinking Algorithms - The Effects of Parallel Computing*
Prof Jenny Edwards, University of Technology, Sydney
- o *Thermodynamics and Kinetic Theory of Rubber*
Prof Ingo Muller, Technical University Berlin, Germany
- o *Groups, Probability, Algorithms: Computing with 'Giants'*
Prof Cheryl Praeger AM, School of Mathematics and Statistics, University of Western Australia

Visitors to CIAO

Recent visitors include:

- ✓ Professor Quan-fa Zhou, Vice-President,
Jiangsu Teachers University of Technology, China

Professor Zhou is part of the China/Australia Executive Leadership Program for Chinese leaders to learn how Australian universities are run. Most people in this program go on to be President of a University. His university is interested in articulation of courses with UB, in areas including IT.

- ✓ Professor Liu Ping, Director, International Office,
Harbin Engineering University, China

Professor Ping was accompanied on this visit by Miss Zhina and two HEU Graduates, Ms Pang Bo and Mr Zhou Zhonchen.



Recent visitors to CGANT include:

- ⇒ Professor Dalibor Froncek,
University of Minnesota Duluth, USA
- ⇒ Professor Jan Kratochvil,
Charles University, Prague, Czech Republic
- ⇒ Professor Costas Iliopoulos,
Kings College London, UK
- ⇒ Dr Kiki Sugeng, UI, Jakarta, Indonesia
- ⇒ Ms Mania Roswitha, Sebelas Maret University,
Surakarta, Indonesia
- ⇒ Ms Diari Indriati, Sebelas Maret University,
Surakarta, Indonesia
- ⇒ Mr Ondra Suchy, Charles University,
Prague, Czech Republic

Staff News

Promotion to Level B



Congratulations to Ms Kathleen Keogh (pictured left), who recently received a well deserved promotion to Lecturer Level B.

Farewell to Staff

- o Farewell to Dr Rana Ghosh and Dr Moumita Ghosh, who have moved to new positions in Sydney. Very best wishes for the future to you both.
- o We also bid farewell to Mr Wayne Hurst, who has been our Business Development Manager for four years. Wayne has moved to another position within UB, and will continue to work from the Mt Helen Campus.

Pictured right:
Mr Wayne Hurst



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Welcome to New Staff

- ✓ We welcome Ms Marcia Cooper, who has recently been working as PA to the ITMS Head of School. Ms Shannon Bell will return to this role in January 2008, following 12 months' Maternity Leave.
- ✓ Welcome also to Ms Sharon Martinich and Ms Kellie Osborn, who are working as Administrative Officers in the ITMS International Office.

Welcoming New Babies

- Congratulations to Ms Julie Howes and her partner Steve Ellis on the arrival of their first child, a daughter named India Morgan Ellis.
- Congratulations to Ms Theresa Watson and her husband Michael Watson on the birth of their second child, a daughter named Scarlett Tess Watson.
- Congratulations to Dr Chris Turville and his wife Kylie (both ITMS staff members) on the arrival of their first child, a daughter named Lucinda Dax Turville.



Pictured above (L to R):
Ms Kylie Turville, Dr Chris Turville

Post-Graduate News

New PhD Rubinov Scholarship

A new PhD Scholarship has been created and will be offered for the first time in 2008, in honour of the late Professor Alex Rubinov.

The award will be known as the Alex Rubinov Research Scholarship. It will be offered on an annual basis to a new mathematics student of suitable calibre, who wishes to undertake research in the area of optimization.

New Higher Degrees Research Co-ordinator

We welcome Dr Phil Smith back to this role; he previously held the position several years ago.

Awards at UB Research Conference 2007

Warm congratulations to the following research students, who received awards at the recent UB Research Conference:

- ✓ Ms Nargiz Sultanova:
Most Outstanding Full Conference Paper
- ✓ Mr Desmond Lobo:
First Prize, Best Oral Presentation
- ✓ Mr Lance Burns:
Second Prize, Best Oral Presentation
- ✓ Mr Karim Mardaneh:
Second Prize, Best Oral Presentation
- ✓ Ms Armita Zarnegar:
Best Poster Display



Pictured above (L to R):
Ms Nargiz Sultanova, Mr Desmond Lobo, Mr Lance Burns



Pictured above: (L to R):
Mr Karim Mardaneh, Ms Armita Zarnegar

Theses Submitted

The following students have recently submitted their theses for examination:

Student: *Mr Dafik*
Degree: PhD
Topic: Structural Properties and Labeling of Graphs

Principal Supervisor: Professor Mirka Miller

Assoc Supervisor: Dr Joe Ryan

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Publications

Journal Papers : Submitted / Accepted

Bagirov, A. & Nazari Ganjehlou, A. (2007) An approximate subgradient method for unconstrained, nonsmooth nonconvex optimization, *Mathematical Methods of Operations Research* (accepted).

Bai, F.S., Mammadov, M., Wu, Z.Y. & Yang, Y.J. (2007) A Filled Function Method for Constrained Nonlinear Equations, *Pacific Journal on Optimization* (accepted).

Miller, C. & Gleeson, L. (2007) Metropolitan university campuses: Serving the needs of adult students?, *Journal of Continuing Higher Education* (accepted).

Nelson, C. (2007) The Seven Valleys: Capturing the Numinous in a 3D Computer Game Engine, *Leonardo Transactions* (submitted).

Stranieri, A. & Yearwood, J. (2008) Enhancing Learning Outcomes with an Interactive Knowledge-based Learning Environment providing Narrative Feedback, *Journal of Continuing Education and Life Long Learning: Special Issue on Interactive Learning Environments* (accepted).

Wu, Z.Y. & Sun, C.R. (2007) An Unconstrained Convex Programming Approach to Semi-infinite Convex Programming, *Mathematical Methods of Operations Research* (accepted).

Journal Papers : Published

Baca, M., Jendrol, S., Miller, M. & Ryan, J. (2007) On irregular total labelings, *Discrete Mathematics*, Vol.307, pp.1378-1388.

Baca, M., Lin, Y., Miller, M. & Youssef, M.Z. (2007) Edge-antimagic graphs, *Discrete Mathematics*, Vol.307, pp.1232-1244.

Balbuena, C., Jiang, T., Lin, Y., Marcote, X. & Miller, M. (2007) A lower bound on the order of regular graphs with given girth pair, *Journal of Graph Theory*, Vol.55, No.2, pp.153-163.

Keogh, K., Sterling, L. & Venables, A. (2007) *A Scalable and Portable Structure for Conducting Successful Year-long Undergraduate Software Team Projects*, *Journal of Information Technology Education*, Vol.6, pp.515-540, Informing Science Institute, California, USA.

Nguyen, M.H., Miller, M. & Gimbert, J. (2007) On mixed Moore graphs, *Discrete Mathematics*, Vol.307, pp.964-970.

Sugeng, K.A. & Ryan, J. (2007) On several classes of monographs, *Australasian Journal of Combinatorics*, Vol 37, pp.277-284.

Venkatraman, S. (2007) Autonomic Mobile Agent Architecture for Multimedia Applications – Perspectives and Challenges, *Association of Computing Machinery New Zealand*, Vol.3, No.1, pp. 2-13.

Venkatraman, S. (2007) A Framework for Implementing TQM in Higher Education Programs, *Journal of Quality Assurance in Education*, Vol.15, No.1, pp. 92-112.

Wu, Z.Y., Lee, H.W.J., Bai, F.S. & Yang, Y.J. (2007) A filled function method for constrained global optimization, *Journal of Global Optimization*, Vol.39, pp.495-507.

Yost, D. (2007) Some indecomposable Polyhedra, *Optimization*, Vol.56, Nos.5-6, pp.715-724. Issue dedicated to the memory of Prof A.M. Rubinov.

Conference Papers : Submitted / Accepted

Deb, A. & Kulkarni, S. (2007) Human Perception based Image Retrieval using Emergence Index and Fuzzy Similarity Measure, *Third International Conference on Intelligent Sensors, Sensor Networks and Information Processing, Melbourne, Australia*, 3-6 December 2007 (accepted).

Macfadyen, A. & Stranieri, A. (2007) *Dramatic flow in interactive 3D narrative*, IE 2007 Australasian Conference on Interactive Entertainment, Melbourne, 3-5 December 2007 (submitted).

Nguyen, M., Miller, M. & Pineda-Villavicencio, G. (2007) On the non-existence of even degree graphs with diameter 2 and defect 2, *ACM International Conference Proceeding Series*; Vol. 240, *Proceedings of Fourteenth Australasian Symposium on Theory of Computing*, Vol.66 (accepted).

Conference Papers : Published

Balbuena, C., Tang, J., Marshall, K. & Lin, Y. (2007) Superconnectivity of regular graphs with small diameter, *Proceedings of the eighteenth IWCOA conference*, Lake Macquarie, New South Wales, pp.35-38.

Dafik, Miller, M., Iliopoulos, C. & Ryjacek, Z. (2007) On diregularity of digraphs of defect two, *Proceedings of the eighteenth IWCOA conference*, Lake Macquarie, New South Wales pp.39-48.

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Delpachitra, I. & Venkatraman, S. (2007) Biometric-Enabled Solutions in Banking Environments – A Case Study, *Proceedings of 11th Pacific Asia Conference on Information Systems (PACIS2007)*, 2-6 July, New Zealand.

Hughes, S. & Venkatraman, S. (2007) The Influence of E-Government Strategy on the Development of an Information Systems Strategic Plan for a State Sector Organisation, *Proceedings of 4th Conference on Qualitative Research in IT & IT in Qualitative Research (QUALIT2007)*, 18-20 November 2007, New Zealand.

Marcote, X., Balbuena, C., Lin, Y. & Miller, M. (2007) Un nuevo resultado sobre la conectividad de las jaulas con cintura par, *Avances en Matemática Discreta en Andalucía*, Editores: J.C. Camacho, M. Cera, P. García-Vázquez, J.C. Valenzuela, pp.47-54.

Newnham, L. & Miller, C. (2007) Student perceptions of podcasting to enhance learning and teaching in an information systems course, in I. Smith & I. Falconer (eds.) *ALT-C 2007, Beyond Control: Learning technology for the social network generation*, 14th International Conference, Research Proceedings, 4-6 September 2007, Nottingham, England, United Kingdom.

Nguyen, M., Miller, M. & Pineda-Villacencio, G. (2007) On the non-existence of odd degree graphs of diameter 2 and defect 2, *Proceedings of the eighteenth IWOCA conference*, Lake Macquarie, pp.143-150.

Osman, D., Yearwood, J. & Vamplew, P. (2007) *Using corpus analysis to inform research into opinion detection in blogs*, Australasian Data Mining Conference: AUSDM 2007 and Twentieth Australian Joint Conference on Artificial Intelligence AI-07, 2-6 December 2007. Published in *Data Mining and Analytics 2007, Conferences in Research and Practice in Information Technology*, Vol. 70, pp.65-75.

Tang, J. Balbuena, C., Lin, Y. & Miller, M. (2007) An open problem: (4;g)-cages with odd $g \geq 5$ are tightly connected, *ACM International Conference Proceeding Series*; Vol. 240, *Proceedings of the Thirteenth Australasian Symposium on Theory of Computing*, Vol.65.

Venkatraman, S., Hoehle H., Scornavacca E. & Yoong, P. (2007) Developing and Testing a Mobile Facsimile System – The Case of a ClikiFax, *Proceedings of Global Mobility Roundtable Conference (LA-GMR2007)*, 1-2 June 2007, Los Angeles, USA.

Research Reports : 2007

- 2007/01 Uniform approximation by polynomial splines of the highest defect: necessary and sufficient optimality conditions and their generalizations, Nadezda Sukhorukova, February 2007.
- 2007/02 Optimization approach to clustering: the choice of a similarity function, A.M.Rubinov, N.Sukhorukova & J.Ugon, March 2007.
- 2007/03 Some Indecomposable Polyhedra, David Yost, March 2007.
- 2007/04 Predicting Stock Market Index Trading Signals Using Neural Networks, C. D. Tilakaratne, S. A. Morris, M. A. Mammadov & C. P. Hurst, July 2007.
- 2007/05 Effectiveness of Using Quantified Intermarket Influences for Predicting Trading Signals of Stock Markets, C.D.Tilakaratne, M.A.Mammadov, S.A.Morris & C. P. Hurst, July 2007.
- 2007/06 Development of Neural Network Algorithms for Predicting Trading Signals of Stock Market Indices, Chandima D. Tilakaratne, Musa A. Mammadov & Sidney A. Morris, August 2007.

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