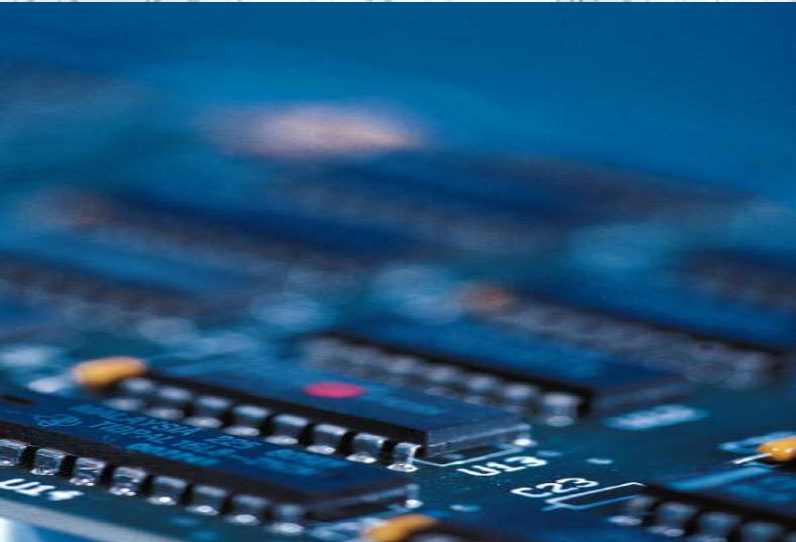


CIAO Newsletter

Centre for Informatics & Applied Optimization
Graduate School of Information Technology & Mathematical Sciences, University of Ballarat





CIAO Director: Professor John Yearwood

<<< Pictured left (L to R): Professors John Yearwood, Jon Borwein & Sid Morris

Borwein presents Rubinov Lecture

CIAO was delighted and privileged to welcome Professor Jon Borwein as guest speaker at this year's Alexander Rubinov Memorial Lecture.

The 2009 Lecture - the second in the series - was held on 9 November 2009 at Ballarat's Brewery Lecture Theatre.

This annual event is held to honour the late Professor Alexander Rubinov, the Founding Director of CIAO.

More than 70 people attended the event, including his two sons Mika and Eldar, academics from other universities, local secondary school teachers and numerous UB personnel.

Guest speaker Professor Borwein's topic for the evening was "The Computer as Crucible: The End of Theory?".

His book of the same name deals with experimental mathematics, which utilises computers to run computations.

These computations are sometimes no more than trial and error tests which look for patterns, to identify particular numbers and sequences, and gather evidence in support of specific mathematical assertions.

This process can be likened to the work of contemporary chemists, who mix various substances together in a crucible and heat them to a high temperature to see what will happen.

Similarly, today's experimental mathematician puts a potent mix of numbers, formulas and algorithms into a computer in the hope that something of interest emerges.

Professor Borwein is Laureate Professor in the School of Mathematical & Physical Sciences at the University of Newcastle, New South Wales.

He is also the Director of CARMA, the Centre for Computer Assisted Research Mathematics and its Applications.

Professor Borwein first encountered Professor Rubinov in 1980 by reading his book titled "Mathematical theory of economic dynamics and equilibria".

Professor Rubinov wrote this book with Professor V. Makarov; it was published in 1973 and subsequently translated into English in 1977.

Professor Borwein first met Professor Rubinov in person in 1997 in Newcastle, New South Wales, and they went on to become collaborators and good friends.

~ ~ ~

Note: CIAO now has a dedicated web page for this event - including audio and video records - which can be found at: http://www.ballarat.edu.au/ard/itms/CIAO/Workshops/arubinov_memorial_lecture.shtml.

New Optimization Assoc Professors

Congratulations to Dr Adil Bagirov and Dr Zhiyou Wu on their recent appointment to the newly created roles of Associate Professor in Optimization.

Both appointments are highly deserved, and provide a new and important opportunity for leadership with CIAO.

Dr Bagirov (below R) came to Ballarat from Azerbaijan in 1999, to undertake a PhD under the supervision of the late Professor Alex Rubinov.

He has worked within CIAO since 2002, published extensively, and has been awarded two large Australian Research Council (ARC) Discovery Grants to undertake further research in nonsmooth optimization.

Dr Bagirov has also won and worked on large scale optimization projects with industry, including Woodside Energy and Grampians Wimmera Mallee Water.

Dr Wu (below L) joined UB in 2005, following roles at Chongqing Normal University in China, Nanyang Technological University in Singapore, and the University of New South Wales.

Since arriving at UB she has been awarded an Alexander von Humboldt Fellowship, and a large ARC Discovery Grant to undertake further research into global optimization and its applications.

Their appointments begin on 1 Jan 2010.



Dr David Yost is currently a Senior Lecturer in Mathematics and Deputy Head of the Graduate School of Information Technology & Mathematical Sciences.

He was recently promoted to Level D, and will officially become an Associate Professor on 1 January 2010. One month later he will step down as Deputy Head of School, after three very full years in the role.

Dr Yost joined UB in July 2003, after more than twenty years of significant international experience.

He began his academic career in 1980 as a Research Fellow at La Trobe University in Melbourne.

This was followed by six years at the Australian National University in Canberra, first as a Queen Elizabeth Fellow, and then as a Research Fellow.

Dr Yost was awarded an Alexander von Humboldt Fellowship in 1988. This involved a two-month language course in Göttingen, Germany, then collaboration with a research group at the Free University of Berlin for two years. He was subsequently employed for a semester as a Guest Professor at the Free University of Berlin.

Dr Yost then spent almost four years in Italy as a Visiting Professor in Milan, where his son was born in 1992. During this period, he also found time to teach at the University of Milan's Como branch, and at Milan Polytechnic.

The next four years were spent as a visiting academic at the University of Lyon 1 in Lyon, France. This was followed by several months visiting Chulalongkorn University, the oldest university in Thailand.

Dr David Yost Staff Member Profile



Dr Yost then took a 12-month position as Visiting Professor at the University of Extremadura in Spain, followed by a four-year term as Assistant Professor at King Saud University in Saudi Arabia.

Dr Yost is a member of MAORG, CIAO's Mathematical Analysis & Optimization Research Group. He is an active researcher in the mathematical areas of functional analysis, convexity and optimization, and has published more than 40 journal papers and conference papers.

He has a Bachelor of Science in mathematics and statistics (Hons 1) from the University of Melbourne, a Master of Science from the Australian National University in Canberra, and a PhD from Edinburgh University in Scotland.

In June 2005 Dr Yost was invited to speak at "Contemporary Ramifications of Banach Space Theory", a Conference held at the Hebrew University of Jerusalem.

In July 2007 he was a plenary speaker at the Eighth International Conference on Fixed Point Theory and Its Applications, held at Chiang Mai University in Thailand.

In July 2009 he was an Invited Speaker at the Ninth International Conference on Fixed Point Theory and Its Applications, FPTA2009, at the National Changhua University of Education in Taiwan.

Over the past 30 years Dr Yost has taught a wide variety of mathematical analysis courses - from First Year to Postgraduate level - for students of Mathematics, Computer Science, Physics and Engineering.

Topics covered have included Calculus, Functional Analysis, Metric Spaces, Differential Equations, Schwartz Distributions, Functions of Several Variables, Lebesgue Integration in one dimension, Measure Theory and Complex Analysis.

In 1987 he was awarded the Lester R. Ford Award from the Mathematical Association of America.

Dr Yost has undertaken numerous professional services during his career to date, including being a member of the Editorial Committee for *Extracta Mathematicae*; a member of the Advisory Board for the *Arab Journal of Mathematical Sciences*; Associate Editor of the Bulletin of the *Australian Mathematical Society*; and a Reviewer for *Mathematical Reviews* and *Zentralblatt*.

He is also an INTREADER for the *Australian Research Council*.

Dr Yost has supervised two Masters and two PhD students to completion, most recently Peruvian-born Mr Daniel Morales Silva.

He is married, has a teenaged son and continues to enjoy international travel, including regular trips to Thailand for family holidays.

Shanghai Visitor

Prof Liansheng Zhang

CIAO recently hosted a visit from Professor Liansheng Zhang from the Department of Mathematics at Shanghai University, Shanghai, China.

Professor Zhang spent a month in Ballarat as a guest of Associate Professor Zhiyou Wu and Dr Fusheng Bai, with whom he has had a long association.

Professor Zhang and Associate Professor Wu are currently working a book to be titled "Global Optimization: Theory and Methods - the approach from local to global", to be published in late 2010.

While here Professor Zhang (pictured right) also presented a keynote address at the Fourth Australia-China Optimization Workshop 2009, titled "New simple exact penalty function for constrained minimization".



Research Group News

MAORG: Mathematical Analysis & Optimization

Leader: Assoc Prof Adil Bagirov



MAORG has hosted a steady stream of research visitors during 2009, and is looking to continue this trend in 2010.

Recent visitors have included Associate Professor Joydeep Dutta, Professor Evgeny Nurminskiy and Mr Bun Theang Ong.

Associate Professor Bagirov took the role of Master of Ceremonies at the recent Annual Rubinov Lecture, which was well received and well attended. Plans are now underway for the 2010 Lecture.

Several important conferences have taken place over recent months, which MAORG Members have attended and presented at:

~ 20th National Conference of Australian Society for Operations Research, September 2009, Gold Coast

Associate Professor Bagirov presented a talk titled "Codifferential method for global minimization of piecewise linear functions".

~ 53rd Annual Meeting of the Australian Mathematical Society, Adelaide, South Australia, September 2009

Dr Zari Dzalilov presented a talk titled "Application of optimisation based data mining techniques to a tobacco control dataset".

~ IX International Seminar in Optimization and Related Areas, Lima, Peru, October 2009

Associate Professor Bagirov was an Invited Speaker and his talk titled "Codifferential methods in nonsmooth optimization".

DMIRG: Data Mining and Informatics

Leader: Dr Peter Vamplew (below)
Deputy Leader: Dr Richard Dazeley



DMIRG has established a seminar series in place of the previous monthly group meetings.

The series is being coordinated by Dr Richard Dazeley, DMIRG's Deputy Leader, and presenters so far have been:

> Dr Liping Ma:
"Support Vector Machines"

> Mr Mika Rubinov:
"Hierarchical connectivity and criticality in large scale networks of spiking neurons"

> Ms Armita Zarnegar:
"Measuring Dependency in Gene Regulatory Network Construction".

Discussions have also been held about inviting Commonwealth Scientific & Research Organisation (CSIRO) alternative energy researchers to present a colloquium in 2010.

An application for support from the Smart Water Fund is being prepared by Professor John Yearwood and Dr Peter Vamplew.

This is an opportunity for collaboration with Central Highlands Water. The research will involve data mining of community opinions towards water usage issues, as obtained from online sources.

Two applications are also being prepared for the current UB-Deakin Collaboration funding round.

Topics to be researched are sleep apnoea and anomaly detection.

Visitors to CIAO

CIAO recently hosted the following visits:

> Associate Professor Joydeep Dutta, Department of Mathematics & Statistics, Indian Institute of Technology, Kanpur, India

Associate Professor Dutta (pictured below) visited CIAO as a guest of Dr Adil Bagirov while on a six-month sabbatical, spending most of this time at UniSA in Adelaide, South Australia.

His major research areas are optimization theory and variational analysis, with specific interest in convex and nonconvex optimization, vector optimization, bilevel programming and abstract convexity.

While here he presented a seminar titled "Is Bilevel Programming a Special Case of Mathematical Programming Problems with Complementarity Constraints".



> Professor Evgeny Nurminskiy, Russian Academy of Sciences, Far East Branch, Vladivostok, Russia

Professor Nurminskiy (pictured below) visited CIAO for a week as a guest of Dr Adil Bagirov, after first visiting Charles Sturt University in New South Wales.

His research interests include non-smooth optimization, variational inequalities, transportation equilibrium and stochastic programming.

During his visit he presented a seminar titled "Fejer processes with diminishing disturbances".



Research Laboratory News

ICSL: Internet Commerce Security

Director: Assoc Prof Paul Watters



ICSL hosted a high-level delegation from a law enforcement agency in October 2009, with a view to formally joining ICSL as full members.

A formal programme of work around **Fraud Detection** will commence at ICSL in 2010.

There are a number of different approaches to detecting fraud that will be investigated, including various types of **anomaly/outlier detection**, as well as rule-based, fuzzy and time-delay techniques.



Congratulations to Dr Liping Ma, Professor John Yearwood and Associate Professor Paul Watters on winning the **Best Paper Award** at the recent **Anti-Phishing Working Group (APWG) Conference on eCrime** in Tacoma, Washington, USA.

The awarded paper is titled "**Establishing phishing provenance using orthographic features**".

It deals with phishing clustering, using the modified global k-means technique developed by Associate Professor Adil Bagirov.

Scholarship applications with ICSL for Semester 1, 2010 closed in October.

More than **250 enquiries** were received, and processing of applications for ranking is currently being finalised.

HIL: Health Informatics

Leader: Dr Andrew Stranieri



HIL is planning to host a **business process modelling workshop** in early 2010.

The aim is to frame a research project with **Grampians Integrated Cancer Services (GICS)** and software vendors and consultants **Pallas Athena**.



Plans for a **sleep apnoea** collaborative project with the **Austin Hospital** in Melbourne in 2010 are also firming up, which is very pleasing.



A **Memorandum of Understanding** for joint project collaboration with **Endeavour College of Natural Therapies** has now been signed, following negotiation by Dr Chris Turville.

We recently said a sad farewell to **Ms Jane Gilbert**, who has formally taken the **Australian Healthcare Management System (AHML)** over from the University of Ballarat.

Jane was a hard working and respected member of staff at UB, and we wish her every success in the future.

Kyoto Visitor

> **Mr Bun Theang Ong**, **Kyoto University**, **Kyoto, Japan**

Mr Ong (pictured below) is a **PhD student** who recently spent two weeks with CIAO as a guest of Dr Adil Bagirov.

His PhD topic is "**Stopping criteria for genetic algorithms in global optimization**".

While here, Mr Ong had discussions and worked with Dr Adil Bagirov and other MAORG researchers on **global optimization problems**.



Staff Promotions

UB recently held an academic promotion round, and we are delighted to report the following results:

Promoted to Academic Level D:

> Dr David Yost

Promoted to Academic Level C:

> Mr Frank De Luca (below L)

> Dr Alexander Kruger

> Dr Siddhivinayak Kulkarni (below R)

> Dr Charlynn Miller



Promoted to Academic Level B:

> Dr Richard Dazeley (below L)

> Mr William Harvey

> Mr Sasha Ivkovic

> Mr Sunam Pradhan

> Dr Nadezda Sukhorukova (below R)



Business Development Manager Mr Justin Poole



Commercial Projects

Self Assessment of Patient Needs - GICS Grampians Integrated Cancer Service

This is a project CIAO is running in conjunction with Professor Anthony Love from UB's Department of Psychology.

It will allow patients to make an assessment of their needs and options in relation to dealing with their cancer treatment, by using an online tool that has been developed at UB.

CIAO Personnel:

Dr Andrew Stranieri & Dr Alyx Macfadyen

3-D Tractor Accident Simulations Victorian Farm Safety Centre

This is a project with the Victorian Farm Safety Centre, to produce 3-dimensional simulations of accidents involving tractors for inclusion in a farm safety video.

While it is a modest project at present, the satisfactory completion of the video will be used to search for increased funding.

This would be used to extend the project, by developing interactive game-like products to support traditional video and training seminar presentations.

CIAO Personnel: Mr Grant Meredith

Travel Reports

St Petersburg State University, Russia

Earlier this year Dr Nadia Sukhorukova and Dr Julien Ugon visited Professor Vladimir Demyanov at St Petersburg State University, Russia for joint research in the area of nonsmooth optimization and its application to polynomial spline approximation.

The problem of polynomial spline approximation has been reformulated as a nonsmooth optimization problem, and nonsmooth optimization techniques have been used to solve this problem.

In particular, necessary optimality conditions

for polynomial spline approximation have been obtained. These conditions are stronger than the existing classical results.

At this stage, the results are interesting for the optimization research community. The approximation community acknowledged that the research direction is very important, and underlined that another important research direction is to develop an efficient algorithm for best polynomial approximation construction.

Changhua, Taiwan

Dr David Yost was an Invited Speaker and enthusiastic participant at the 9th International Conference on Fixed Point Theory and Its Applications, held on 16-22 July 2009 in Changhua, Taiwan.

The Conference was organised by Professor Lai-Jiu Lin, a leading "guru" in the optimization community, & also a participant at ICOTA6 held in Ballarat in 2004.

Dr Yost gave his invited lecture "Lipschitz selections for multifunctions" on 18 July 2009 to a sizeable audience, and afterwards received a number of requests for copies of the presentation.

The real reason for attending was, as always, the opportunity to interact with other participants. There were around 150 delegates, making it is the largest conference in Dr Yost's general research area in 2009.

In particular, Dr Yost participated in research discussions with K. Goebel (Lublin, Poland), H. Hudzik (Poznan, Poland) and W. Lawton (Singapore), which led to invitations to visit them in 2010 and strengthen CIAO's research contacts.

Staff News

Post-Doctoral Fellow Appointment

Congratulations to Dr Shamsul Huda (pictured below) who was recently appointed to the contract position of Post-Doctoral Fellow within CIAO.

Dr Huda recently gained his PhD under the principal supervision of Professor John Yearwood, and brings research strength and enthusiasm to CIAO.



Seminars at UB

Recent seminars have been presented by:

> Associate Professor Joydeep Dutta, Indian Institute of Technology, Kanpur, India

Topic: Is Bilevel Programming a Special Case of Mathematical Programming Problems with Complementarity Constraints

> Professor Evgeny Nurminskiy, Russian Academy of Sciences, Far East Branch, Vladivostok, Russia

Topic: Fejer processes with diminishing disturbances

> Professor Anatoli Ivanov (pictured below), Pennsylvania State University, USA & Dr Musa Mammadov (UB)

Topic: Oscillation, Instability and Periodicity in Differential Delay Equations



Staff News

Outstanding Service Award - ACS

Congratulations to Professor Sid Morris (pictured below) who recently received this well deserved award from the Australian Computer Society.

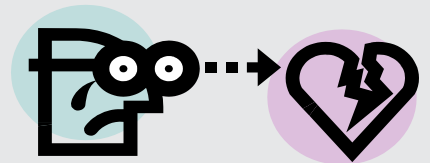
It has been awarded for "his outstanding contributions as Editor-in-Chief, Journal of Research & Practice in Information Technology 2003-2009".



More "Topology without Tears"

Professor Sid Morris' book is currently being translated into Arabic by PhD student Ms Alia Nuimat.

It is available at <http://uob-community.ballarat.edu.au/~smorris/topology.htm>.



Research Student Profile:

Mr Timothy Pokorny



Mr Tim Pokorny (pictured above) commenced his PhD in 2003 - successfully juggling work and part-time studies - and formally graduated on Wednesday 9 December 2009.

His PhD thesis topic was "AOP and HLA: A New Aspect on Distributed Simulation Development".

Underpinning the development of distributed simulations in the defence community, the High Level Architecture (HLA) has gained acceptance due in part to its support for a broad level of interoperability.

Aspect Oriented Programming (AOP) methodologies partition the development of a software system into a number of separate "aspects".

This research develops a method for combining AOP and HLA, leveraging the separation-of-concerns approach used by AOP to allow the creation of core models, free from simulation distribution semantics.

Through the use of automated tools, these models are then woven with a generic-HLA aspect, producing an HLA-enabled simulation component.

Using AOP in this manner removes the need for model developers to have an in-depth understanding of the HLA.

This helps to remove the prime factor restricting a broader uptake of distributed simulation technologies in the business community: development complexity.

Tim's Principal Supervisor was Dr Phil Smith and his Associate Supervisor was Dr David Stratton.

We wish Tim every success for the future.

Confirmation of Candidature

Congratulations to the following research students, who have recently successfully completed their PhD Confirmation of Candidature:

> Mr William Harvey (photo below)

Topic: Improving Pilot Competencies and Skills in Gaining a Private Pilot Licence with Personal Computer Flight Simulation Software

Principal Supervisor:
Dr Phil Smith

Associate Supervisors:
Dr David Stratton &
Dr Andrew Stranieri



> Mr Mamoun Alazab (photo below)

Topic: Forensic Identification of Hidden Malware

Principal Supervisor:
Dr Sita Venkatraman

Associate Supervisor:
Associate Professor
Paul Watters



PhD Student Graduation

Congratulations to the following PhD students on their graduation:

> Ms Alyx Macfadyen (photo below)

Topic: An Interaction Framework for 3D Environments Using Structured Reasoning

Principal Supervisor: Dr A Stranieri
Associate Supervisor: Prof J Yearwood



> Mr Asef Nazari Ganjehlou

Topic: Derivative Free Methods for Nonsmooth and Global Optimization with Application in Cluster Analysis
Principal Supervisor: Dr Adil Bagirov
A/Supervisor: Dr Musa Mammadov

> Mr Shamsul Huda (photo right)

Topic:
Hybrid Training Approaches to Hidden Markov Model Based Acoustic Model for Automatic Speech Recognition
Principal Supervisor: Prof J Yearwood
Associate Supervisors: Dr Adil Bagirov and Dr Eldar Hajilarov



> Mr Bahadorreza Ofoghi (photo right)

Topic: Question Answering Enhancement via Encapsulated Frame Semantics
Principal Supervisor: Professor John Yearwood
Associate Supervisor: Dr Liping Ma



> Mr Guillermo Pineda Villavicencio (photo below)

Topic: Improving Upper & Lower Bounds on the Order of Large Graphs Under Degree & Distance Constraints
Principal Supervisor: Prof J Yearwood
Assoc Supervisor: Prof Mirka Miller



> Mr Tim Pokorny (photo below)

Topic: AOP and HLA: A New Aspect on Distributed Simulation Development
Principal Supervisor: Dr Phil Smith
Assoc Supervisor: Dr David Stratton



Research Publications

Book Chapters: Submitted/Accepted

Sun, Z. (2009) Decision making in multi-agent web services based on soft computing, Marketing intelligent systems using soft computing, Springer Berlin (A).

Sun, Z., Finnie, G., & Yearwood, J. (2009) Case based web services. In: Lee, I (ed.) Encyclopedia of E-Business Development & Management, Hershey PA: IGI, USA (A).

Sun, Z. & Yearwood, J. (2009) Demand Driven Web Services, Service Intelligence and Service Science, IGI, USA (A).

Book Chapters: Published

Finnie, G. & Sun, Z. (2009) Negotiation, trust and experience management in e-supply chains. In Hunter, M.G. (Ed): Strategic Information Systems: Concepts, Methodologies, Tools and Applications, Hershey PA: IGI, USA, pp. 236-257.

Giri, J. & Rubinov, A.M. (2009) Some nonlinear Lagrange and penalty functions for problems with a single constraint, Optimization: Structure and Applications, Chapter 3, pp.41-54.

Sun, Z., Han, J., Dong, D. & Zhao, S. (2009) Engineering of experience-based trust in e-commerce, Handbook of Research on Complex Dynamic Process Management: Techniques for Adaptability in Turbulent Environment, pp. 342-367.

Journal Papers: Submitted/Accepted

Osman, D., Yearwood, J. & Vamplew, P. (2009) Automated Opinion Detection: Implications of the Level of Agreement Between Human Raters, Information Processing and Management (A).

Jagodick, J., Yearwood, J. & Courvisanos, J. (2009) The Processes of ICT Diffusion in Technology Projects, Innovation: Management, Policy & Practice (A).

Kelarev, A.V., Yearwood, J.L., Watters, P., Ma, L., Abawajy, J.H. & Pan, L. (2009) A Grobner-Shirshov Algorithm for Applications in Internet Security, Southeast Asian Bulletin of Mathematics (A).

Journal Papers: Published

Bagirov, A.M., Rubinov, A.M. & Zhang, J. (2009) A multidimensional descent method for global optimization, Optimization, Vol. 58, No.5, pp.611-625.

Dmitruk, A.V. & Kruger, A.Y. (2009) Metric regularity and systems of generalized

equations, Optimization, Vol. 58, Issue 5, pp.561-584.

Dzalilov, Z. & Ouveysi, I. (2009) Mathematical Models for Failure Reconfiguration of Telecommunication Networks, Part 1, Optimization, Vol. 58, Issue 5, pp.483-504.

Dzalilov, Z. & Ouveysi, I. (2009) Mathematical Models for Failure Reconfiguration of Telecommunication Networks, Part 2, Optimization, Vol. 58, Issue 5, pp.505-520.

Guo, X., Sun, Z. & Zhao, X. (2009) A hierarchical structure for the engineering of computing thinking, Journal of Computer Science (in Chinese) Vol.36, No.4, pp.64-67.

Osman, D., Yearwood, J. & Vamplew, P. (2009) Weblogs for Market Research: Finding More Relevant Opinion Documents using System Fusion, Journal of Online Information Review, Special Issue on Web Mining for E-Commerce & E-Services, Vol.33, Issue 5, pp 873-888.

Wu, Z.Y., Yang, Y.J. & Bai, F.S. (2009) Filled function method for quadratic programs with binary constraints, Optimization, Vol. 58, Issue 5, 2009, pp.585-598.

Sun, Z., Hu, J., Dong, D. & Zhao, M. (2009) Optimization Strategies for Logical Inference, Journal of Hebei Normal University (Natural Science) (in Chinese), No.2, pp.141-144.

Conference Papers: Submitted/Accepted

Alazab, M., Islam, M. & Venkatraman, S. (2009) Towards Automatic Image Segmentation Using Optimised Region Growing Technique, AI'09, 22nd Australasian Joint Conference on Artificial Intelligence, Melbourne, 1-4 Dec 2009 (A).

Layton, R. & Watters, P.A. (2009) Determining provenance of phishing websites using automated conceptual analysis, APWG E-crime Research Summit 2009, Washington, USA.

Lobo, D., Watters, P.A., & Wu, X. (2009) RBACS: Rootkit Behavioral Analysis and Classification System, International Conference on Knowledge Discovery and Data Mining, WKDD 2010 (S).

Ma, L. Torney, R., Watters, P.A. & Brown, S. (2009) Automatically Generating Classifier for Phishing Email Prediction, International Workshop on Information Assurance and Security Management,

IASM 2009 (S).

Stabek, A. & Watters, P.A. (2009) Quantification of Cyberscam Business Processes using Hierarchical Clustering of Static Features, Financial Cryptography 2010 (S).

Vamplew, P., Dazeley, R., Barker, E. & Kelarev, A. (2009) Constructing stochastic mixture policies for episodic multi-objective reinforcement learning tasks, AI'09, 22nd Australasian Joint Conference on Artificial Intelligence, Melbourne (A).

Watters, P.A. (2009) Why Do Users Trust the Wrong Messages? A Behavioural Model of Phishing, APWG E-crime Research Summit 2009, Washington, USA.

Watters, P.A., Kuh, D., Latham, S., Shah, I., & Garwood, K. (2009) Enabling Access to British Birth Cohort Studies: A Secure Web Interface for the NSHD (SWIFT), IEEE International Conference on e-Health Networking, Application and Services, IEEE Healthcom 2009 (S).

Webb, D., Yearwood, J., Vamplew, P., Ma, L., Ofoghi, B. & Kelarev, A. (2009) Applying Clustering and Ensemble Clustering Approaches to Phishing Profiling, AusDM09, Australasian Data Mining Conference 2009, Melbourne, 1 Dec 2009 (A).

Wu, Z. (2009) Optimality conditions and optimization methods for weakly concave programming problems with mixed variables, First World Congress on Global Optimization in Engineering & Science 2009, Hunan, China (A).

Conference Papers: Published

Alazab, M., Venkatraman, S. & Watters, P. (2009) Digital forensic techniques for static analysis of NTFS images, Proceedings of International Conference on Information Technology (ICIT2009) IEEE Computer Society, 3-5 June 2009, Jordan.

Bruck, S. & Watters, P.A. (2009) Cybersickness and anxiety during simulated motion: Implications for VRET, 14th Annual International CyberTherapy & CyberPsychology Conference (CT14) 2009.

Ma, L., Yearwood, J. & Watters, P.A. (2009) Establishing Phishing Provenance Using Orthographic Features, APWG E-crime Research Summit.

Sun, Z., Dong, D. & Han, J. (2009) A demand-driven web service lifecycle, International Conference on New Trends in Information & Service Science, NISS2009.



Centre for Informatics & Applied Optimization
Graduate School of Information Technology & Mathematical Sciences, University of Ballarat
Email: e.matuschka@ballarat.edu.au ~ Tel: (+61) 3 5327 9949 ~ Fax: (+61) 3 5327 9966

Photograph by Elizabeth Matuschka: colours of changing seasons, Mt Helen Campus, Ballarat, Victoria, Australia