

# IIMS NEWS

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*Being the newsletter of  
The Institute of Information and Mathematical Sciences  
Assembled with care by Freda Anderson with the vital assistance of  
Merrill Bowers, the contributors and readers*

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*An interesting insight into the lives & interests of IIMS Staff*

*Thank you to contributors and readers*

## **From the Head of IIMS**



### **A Regular Visitor**

And so we begin the New Year with a flourish. There are already a number of visitors who have come and gone, or who are still with us (see below). This facet of the Institute's activities seems to be gathering force, and we are increasingly being seen as a source of

stimulation and/or a haven for serious research collaboration.

The Mathematics-in-Industry Study Group was successfully steered by Graeme Wake through a most stimulating week here on campus, many staff have taken part in conferences in NZ and elsewhere over the summer, Summer School students are completing their exams, while several sabbatical leaves have come to an end and our troops are re-gathering for the next semester, which is almost upon us.

Welcome to the New Year. I wish you all an enjoyable and satisfying time as you seek to reach aspirations already set, and seize new opportunities that arise, often without notice. We belong to an Institute in which we can take pride in the achievements of all of us, including our students. The successes of our postgraduate students in particular give us serious hope for the future of our disciplines, as these new researchers become colleagues and collaborators in our efforts to break new ground in science. If the postgraduate activity in seminars and their annual conference matches that of last year, then our health is assured. All indications are that 2004's successes will be exceeded this year.

The PBRF "bogey" will rise again soon – if the effect is for us all to appraise our own contributions and grasp our research responsibilities as academics, then good. Remember, however, that teaching still remains the main way of passing on knowledge from one generation to another and that it will always be a key and valued element of our University's *raison d'être*.

The balancing act between time and effort spent on our teaching, research, administration and community contributions will ever remain as the "trick". Our success will be measured by the way that we, as the IIMS team, achieve that balance as a group. Each of us has strengths that contribute to the life and vibrancy of the whole Institute, and we should take pleasure in recognizing and acknowledging each other's successes. No matter what the shape, colour or brightness of the various individual lights that we hold, it is the overall effect that our masters, our students, our peers and the community will notice. Shine on!

### **A leaving**

Lorri O'Brien will be leaving the Institute at the end of February. She has been with IIMS as IT Manager since late 1998 and, since that time, has given the Institute wonderful service. Her Computer Consultant group has grown to three, and she has taken a major role in various initiatives including establishment of the Sisters, the Helix and the Double Helix, as well as setting up various new Computer Engineering and postgrad labs associated with the new buildings and location rearrangements. Lorri has given us a great advantage with her technical and management skills, her knowledge of computing platforms and suppliers and her

liaison with ITS; she has also been a valuable member of the IIMS Executive Committee.

We wish you well in retirement, Lorri, as you and Chris head off for your Italian adventure. We will happily remember your good humour and cheerful disposition, and will follow your travels with great interest.

### **Welcome to three new staff:**

Dr Fakhrul Alam has joined the Computer Engineering group as a Lecturer. Fakhrul comes to us from NorthSouth University in Dhaka, Bangladesh. His study is IIMS3.19.

Dr Alona Ben-Tal has taken up her Lectureship in Mathematics, and can be found in IIMS3.17. Alona has just completed a period as an NZ S&T Postdoc Fellow with the Bioengineering Institute at the University of Auckland.

Welcome to Dr Napoleon Reyes, who has joined IIMS as a Lecturer in Computer Science. Napoleon is from the Philippines. His study is QA2.40.

[Also, Guan Yue Hong (IS) is taking a year away in Singapore, and will be back at the beginning of 2006. Megan Richardson (IS) is on maternity leave until mid-June - congratulations to Megan and Tony on the arrival of James Anthony on 18 February!]

### **Also welcome to some visitors:**

Dr Geoff Mercer, an applied mathematician, is spending the first half of the year with us on sabbatical leave from the University of New South Wales (ADFA in Canberra) and is working in IIMS3.05.

Professor Colin MacLachlan from the University of Aberdeen is here for 3 months, working with Gaven Martin; Colin is based in IIMS2.13 with the Maths Postdocs.

Dr Henning Rasmussen, who has been part of the Visiting Professors in Applied Mathematics team at KAIST in Korea with Graeme Wake, is around for a couple of months, based in IIMS3.32.

Patrick Ion, from Mathematical Reviews, is visiting Shaun Cooper.

### **Representation**

Dave Parsons is one of the 10 elected Academic Staff Representative members of the College of Sciences Academic Board for 2005.

## Best-dressed!

The wonderfully-catered Absolute Catering morning tea on Monday 20 Dec, produced some competition winners with IIMS connections:

On the day, included in the "best-dressed" were: 2nd - Christie James, Facilities (with an IIMS connection through Heath) and 3rd - our very own Dennis Viehland!

## Another TIF

Congratulations to Tom Moir, who has been successful in getting a TIF (a Technology New Zealand sponsored Technology in Industry Fellowship) grant worth \$25k. \$20k of this goes to a Masters student Shalvin Prasad and the remaining \$5k to IIMS for local support for the project. The Fellow will develop a hand-held vibration monitoring system for a company called Vibration Consultants Ltd of Auckland. The system will be able to predict when there is wear in the bearings of a rotating machine (e.g. a turbine generator, air conditioning motor, etc.).

## Robert McKibbin

## News of the people

by Merrill Bowers



Merrill Bowers collates this material on general news relating to IIMS people.

## Hatching:

Lil and Graeme Wake are really excited that their only daughter Jenny (and Gordon) Sell is going to make them grandparents (for the fourth time) in July. It is Jenny's first baby - she is a senior nurse in paediatrics at Waikato Hospital - and Graeme has delayed his 4 weeks in Korea (doing applied mathematics, what else???) starting 26th July so as to be a good and helpful granddad - AGAIN!!!



## And...

As mentioned in the HoI column Megan & Tony are now parents. James Anthony Richardson at a whopping 10lb 4 ozs.

## And...

Jo Ramsay is soon to be a Mother! Jo and Kevin Ramsay are expecting their first baby in August, and are delighted at this news.

## From Vanessa:

Sebastian age 14 months walked for the first time on Tuesday, 25 January at 4.15pm.

## From Howard Edwards

My two offspring have both been awarded Doctoral Scholarships from the University of Auckland, Paul in Sociology and Sarah in Political Science. A nice Christmas present for them (and for me!).

## Hokyoung Ryu reports that

Mr. Cha and Mr. Park from TTA (Telecommunication Technologies Association), which is the Korean-Japanese joint Government agency, have visited IIMS on 23-27, January. They have discussed some issues to evaluate ubiquitous computing systems, which is currently being carried out by Dr. Hokyoung Ryu, Dr. Heath James, and Dr. Guan Yue Hong. Afterwards, they enjoyed the great Auckland weather on Long beach.

## Miracle

by Sena



Sena spotted this photo after the horror of the Boxing Day Tsunami.

This is a famous sacred place in Galle, Sri Lanka. Some people may have 'taken heart' at the site of this figure still standing.

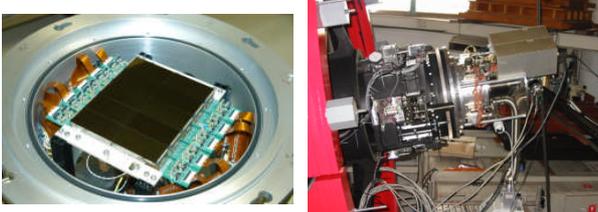


## How an exploding star resurrected the Moa

by Ian Bond



Last December, the largest telescope in New Zealand together with what is possibly the world's largest digital camera was opened at the Mt John Observatory in the South Island. This came about as the result of a long-standing partnership between New Zealand and Japan, and astronomers from both countries are naturally very excited about this new toy.

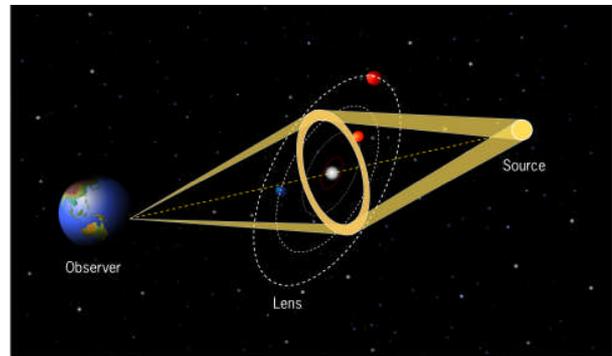


It all started at around the time our ancestors made the transition from Homo Erectus to Homo Sapiens. In the Large Magellanic Cloud, a satellite galaxy, about 170,000 light years away... "light years away, an old massive star lost the battle in supporting itself against its own gravity and exploded as a supernova. The light from this event finally arrived on Earth on Feb 23, 1987 where it was first detected by a Canadian astronomer working in Chile. About 5 hours later, a NZ amateur astronomer, Albert Jones in Nelson, became the 2<sup>nd</sup> person to discover the event.

At the time, supernovae were thought to be cosmic ray powerhouses – engines capable of accelerating sub-atomic particles up to tennis ball energies. New Zealand happened to be geographically well placed to observe this event.

A group of four scientists from Tokyo's Institute for Cosmic Ray Research sent a telegram (e-mail was about to catch on in a big way at the end of the 1980s) to Phil Yock of The University of Auckland's Physics Department requesting collaboration in installing a cosmic ray detector array in New Zealand. Within months the facility was set up at in the Black Birch mountain range about 100 km south of Blenheim and the JANZOS (Japan and New Zealand Observations of Supernova 1987A) was born.

The JANZOS project ran until around 1995. No evidence of cosmic ray emission from the supernova was detected, but a valuable scientific partnership between New Zealand and Japan had been forged.



In 1993, two papers appeared in Nature, reporting the first detections of a new phenomenon known as gravitational 'microlensing'. It had been theorized that our Galaxy is surrounded by a halo of low mass stars that form a significant component of the "dark matter" known to pervade galaxies. These stars, that were dubbed MACHOs (Massive Compact Halo Objects), are too faint to be detected directly, but can be found by using them as naturally occurring lenses on visible stars in the background. The debate rages on today whether or not the first microlensing detections are due to MACHOs, and whether or not MACHOs do indeed exist. However, in microlensing, a new and powerful tool for exploring the Galaxy had become available.

So in 1995, a new Japan-New Zealand collaboration was born and was called MOA (Microlensing Observations in Astrophysics). The MOA group comprised Nagoya University and the National Astronomical Observatory of Japan together with New Zealand's Auckland, Victoria, and Canterbury Universities. Interestingly, the idea to use the name, MOA, came from the Japanese. None of the New

Zealanders had the insight to come up with a good name.

In the first phase of the project, a 9 megapixel CCD mosaic camera was constructed by the Japanese and attached to the existing 0.6m telescope at Mt John. This was later replaced with a 24 megapixel camera in 1998. In mid 2002, as a result of hard lobbying, our Japanese partners announced that they had been awarded ~\$NZ7m to build a new telescope and camera in New Zealand. It then took a remarkably short time to complete the construction of this by the end of 2004. This facility boasts a 1.8 m diameter mirror together with an 80 megapixel CCD camera.

Now we have the most powerful facility in the world to explore the galaxy using nature's lenses. But what are these lenses? They can be anything that has mass and hence gravity, not just MACHOs. Most of the observed gravitational lensing events observed so far are due to single stars moving across the line of sight of the background star.



However, planets orbiting the lens stars can betray their presence by introducing perturbations in the observed "light curve" of the background star. By analyzing these signals, it is possible to derive information about the planet's mass and orbit. In 2003, the first convincing detection of an extrasolar planet by this technique was found by MOA and a Polish-US microlensing team known as OGLE. The two teams jointly reported the discovery of a giant planet around 1.5 times the size of Jupiter in an orbit around a probable red dwarf star about one third the mass of the Sun. At 17,000 light years, this currently holds the distance record amongst known extrasolar planets.

The detection of extrasolar planetary systems is now recognized as the most exciting application of microlensing. In particular, microlensing is the only currently accessible technique with the

capability of detecting Earth mass planets. In 1998, MOA reported the possible detection of an Earth sized planet, but the signal strength was very weak – right on the edge of detectability. With the new telescope, MOA plans to provide much more opportunities for the detection of Earth mass planets.

From low mass planets, we can move to the other extreme of the mass spectrum and use microlensing to search for isolated black holes in the Galaxy. Black holes are thought to form when massive stars collapse in on themselves producing a highly dense object with a gravitational field so strong that not even light can escape. The number of black holes in the Galaxy is unknown, and with the new MOA telescope we aim to obtain the first measurement.

Microlensing can probe even more exotic objects. Weird and wonderful things like retro-MACHOs, planets made of diamond, Earth mass dark matter haloes, and even negative-mass wormholes have been taken seriously in the scientific literature. The prosaic part of me says that it is unlikely we will find such objects. However, if they are really out there, then MOA is in a position to detect them.

From distant worlds to black holes to wormholes in space. This is the stuff of science fiction becoming a reality and this is what makes scientific research worthwhile and exciting.

More information on the MOA project can be found at <http://www.physics.auckland.ac.nz>.

## **Mort**

**by Tony Meyer**



**Death comes to us all. When he came to Mort, he offered him a job.**

Being Death's apprentice is a good job: board and lodging, free use of the company horse and you don't even need time off for your grandmother's funeral. Looking like a skeleton is not compulsory, either, and you get to meet interesting people, although, of course, not for very long. All in all, it's a job for life. Well, nearly. It would have been if Mort had remembered that he wasn't supposed to rescue princesses. After that it all began to go dead wrong...

The campus drama group, MADSODS (Massey @ Albany Drama, Singing, Operatic and Dance Society) is proud to present Terry Pratchett's comedy "Mort" (adapted for the stage by Stephen Briggs) as their eighth annual semester one performance.

For this year's performance, I have teamed up with MADSODS, and have used "Mort" as a vehicle for testing my PhD research into synthetic actors. It's actually the rehearsal stage that's of interest for my work - I'm concerned with getting the performance of the synthetic actors to improve from run to run, and the ability of the temporal constraint network to handle the real-time demands of a complicated script.

There are nine synthetic actors in the cast of "Mort" - but they all play very small roles (they're often just in part of one scene). The idea is that these are roles that wouldn't necessarily be of interest to a human actor and including them might make casting the play difficult (here we would have needed at least three more human actors for the nine roles).

The actors speak (thanks to a customized version of the University of Edinburgh's Festival system), listen (recognition via the Microsoft SAPI, and audio parameters from a in-house front-end to tkSnack), watch (via a couple of webcams, Intel's OpenCV and a few simple in-house vision routines), and can be seen (on a projected screen, via a customized version of the University of Southern California's Gamebots interface to Epic's Unreal Tournament 2003).

The part that's really of interest to me, though, is the heart of the system, which ties these disparate parts together, and provides the synthetic actors with the ability to learn and develop their performance.

Anyway, in the end, it's great to have something concrete that people can come and see. It just about makes up for having to work with people (much less reliable than computers) and real-time, non-deterministic, runs, rather than more straightforward simulations I could throw at helix...

Shows (approximately 2 hours long) are Saturday 12th March @ 8pm, Sunday 13th March @ 2pm, Saturday 19th March @ 8pm, and Sunday 20th March @ 5pm. Tickets (\$10, or \$5 for students, thanks to ASA sponsorship) can be purchased from the ASA office in the Atrium, or from the door.

**For more information see**

<http://www.madsods.gen.nz/mort>.

I hope to see you all there!

***While I think of it....***

***by Barry McDonald***



I often find students mix up the words "affect" and "effect". This is not just a grammar thing as "effect" can have a technical meaning in Statistics and students need to learn the right word. So in the Q&A section at the end of a study guide, I have the following 'bonus English question'

What is the different between affect and effect?

Answer: The verb 'affect' means to change, often negatively (e.g. the headache affected her exam performance) whereas the verb 'effect' means to bring into being (usually, bring a positive change into being e.g. the new CEO effected a major improvement in staff morale). The noun 'effect' means a result, (e.g. the effect of the rise in interest rates was an inflow of foreign exchange) whereas there is no noun 'affect' that I know about.

The adjective 'effective' means having power to bring something into being or bringing a change (e.g. He was a very effective teacher, because his students learned a lot). The word 'affect' also has a less-used meaning of pretending (e.g. the trickster affected the manners of a member of the nobility) and an 'affective disorder' refers to a type of delusional insanity. 'Affection' is warm feelings towards someone or something, which we hope is not based on a delusion!

In statistics, an 'effect' usually refers to the amount by which a mean changes when going from the control group to a treatment group (or possibly from the grand mean to a treatment group) e.g. the 'weekend effect' for a certain supermarket might be described as a 60% increase in hourly sales compared to the average weekday.

Perhaps others might like to contribute common errors or howlers they have seen.

**Regards, Barry**

## **Next month in history**

### **by Chris Scogings**



#### **13 February 1945 The bombing of Dresden**

The Royal Air Force began World War II with the admirable intention of bombing only military targets and avoiding civilian casualties. However, they were forced to bomb at night and it soon became apparent that it was impossible to hit a specific factory or building with any accuracy. Most bombs were miles away from the target and sometimes the wrong city was bombed! On the 16th October 1940, the British Government decided that if the weather and other factors made it impossible to bomb specific targets, the bombers should drop their loads anywhere in the city. They also agreed that the British public should not be informed of this. Thus the strategy of 'area bombing' was born.

It soon became obvious that the bombing campaign was having very little effect - during the entire war British bombing reduced German war production by about 3 per cent. Sir Arthur Harris, chief of Bomber Command, decided that German civilians should become the main target. In a letter of 25th October 1943, Sir Arthur stated that the aims of Bomber Command were "the destruction of German cities, the killing of German workers and the disruption of civilised community life throughout Germany". In particular, houses would be destroyed by incendiary bombing (fire raids). This was known as the 'de-housing policy'.

In Dresden the sirens sounded at 9.40pm on the night of 13th February 1945 but no one was greatly concerned. The city had endured 170 false alarms and a rumour had spread that the British were leaving Dresden unscathed to become the post-war capital of Germany. People were more concerned about the advancing Russian army, then only 120km away. The population was normally around 600,000 but had doubled due to an influx of evacuees. The station was crammed with over 2000 refugees, including many children, anxious to escape the Russians and trains left regularly for western Germany.

At 10.15pm, 245 Lancaster bombers arrived over the city. Their target was the ancient medieval centre of the city where the houses were clustered close together. The pathfinders accurately marked the market square and most

of the bombs fell nearby. The ancient wooden houses burst into flame and the fires merged into a massive firestorm. Within its confines 75 per cent of all property was totally gutted and temperatures reached 1000 degrees C. As the flames sucked in all surrounding oxygen, they created raging winds that picked up furniture, vehicles and people and hurled them into the inferno.

By 10.30pm the bombers had left and fire brigades and medical teams from all over south-eastern Germany began to converge on Dresden. But Bomber Command knew their job and they had planned the raid meticulously. Three hours later, at 1.30am, when the original fires had taken firm hold and the rescuers were busy in the streets below, the main force of 529 Lancasters arrived. They carried more incendiaries to start new fires and high explosives to prevent any attempts at fire fighting. While they were guided by the inferno in the city centre, their targets were the surrounding suburbs. The second attack took the Germans by surprise. The sirens were out of action and the warning had to be delivered by runners.

People died in the fires. People suffocated in air raid shelters when all oxygen was sucked out. People drowned when they jumped into reservoirs to avoid the flames. Bodies were glued to the roads where the tarmac had melted to a depth of several inches and then hardened again. Five years before, the British had accused the Germans of bombing hospitals. In Dresden, the RAF destroyed all nineteen hospitals and the maternity clinic where 45 expectant mothers were killed. The station was unaffected in the first attack but was hit badly in the second and most refugees waiting there were killed.

One of the last pilots to leave wrote in his log book: "2.15am. There was a sea of fire covering some 40 square miles. The heat could be felt in the cockpit (at 20,000 feet). The sky was vivid in hues of scarlet and white and we could still see the glare of the holocaust 30 minutes after leaving." They were 200 miles away before the glow from Dresden faded.

The survivors simply could not cope with proper disposal of the dead. When normal burial proved too slow, two weeks after the raid, a huge grill of battered girders was built in the ruined market square, 500 bodies heaped on it in layers and then burnt. The ashes were deposited in a mass grave and the process repeated. The number of

dead will never be known – an accepted conservative estimate is 135,000. (In comparison, 75,000 were killed at Hiroshima and Britain lost 36,000 civilian dead during the entire war.)

The reasons for the bombing of Dresden remain unclear. One squadron was told that Dresden was a railway junction, another believed that they were attacking a German army headquarters and a third was informed that Dresden was an important industrial centre. The British public was never informed about what Bomber Command was doing during the war. At the Nuremberg Trials, when the Russians wished to add the bombing of civilian populations to the list of crimes against humanity, the British Government successfully objected. In Winston Churchill's lengthy war memoirs (1948) the entire bomber campaign receives less space than the sinking of a single ship (the Bismarck).

## **Research news and views**

**by Jeff Hunter**



In past columns I have included ideas and views of others. This month I thought I would explain a little of my research “philosophy”. In 2001 when I stepped aside from the Headship of the Institute I took, in effect, a full year’s leave. This was to re-engage my research activities that had been on the “back-burner” while I was committed to shepherding the Institute through its formative years. It was a few years since I had written a technical paper yet I had some unfilled objectives that I wished to get involved with. I had (and still have) the incomplete manuscript of a third volume of my books to complete but with the advent of PBRF it was important that I get back to publishing some research papers. How was I going to achieve that?

Early in my research career (whilst at the University of Auckland) I used to spend a couple of hours on a Monday morning in the university library scanning the latest papers for any recent work that was published in my research fields and generally keeping abreast of the latest developments. Of considerable importance were the review journals (in my area “Mathematical Reviews” and “Zentralblatt für Mathematik”). I would then make photocopies of those articles that I deemed important and filed them, according to the topic, in various

labelled file boxes in my office. Often there would be something that either triggered a new idea on something that I had worked on, or was contemplating working on. In more recent times this keeping up with the field is more easily accomplished from searching on the Internet. Go to the web page of someone you know who is working or has worked in the problem area you are interested in. Often they will have a preprint of a paper that can be downloaded. This will also have a list of references and you’re on your way to tracking down some of the key reference items! During my time at the University of Oxford in 2002 I knew that the Radcliff Science Library would have copies of some of the very early papers that I was interested in tracking down. I found them but I then needed to get photocopies. Before that was done I was informed of “JSTORE” – an archival repository for many journals available through web access where one could download pdf files of the paper for your own use. The printing of these files is superior to photocopying any journal article direct from the journal. (Massey now has access to this and it is a wonderful resource – try it out! If you want to see a list of all the journals available go to the Library “Databases A-Z” page, select JSTOR. Once in JSTOR, click on the BROWSE button at the top of the page.)

Much of my research has been in the fundamental areas of applied probability – new ways of tackling or solving old problems, the development of new models, or working on problems that needed new methods of attack. Because many of my ideas were self-generated and, because there were (and still are) relatively few of us working in this area in New Zealand, just about all of my research papers have been sole authored. Working in teams, or at least with the collaboration of a research student, is certainly a considerable advantage but it does require a common set of goals – to solve problems in a particular area.

Over the years I have kept a notebook sectionalized into various topics with a list of key papers that referred to that problem. This went with me wherever I went! In many instances as the result of my reading (and thinking!) new ideas started to emerge. This was the precursor to the next stage in my “research process”. This entailed putting the background material away and putting my own ideas to paper. Stored in one’s brain are concepts and approaches that others have taken but the important next stage is to really flesh out your

own approach. Nothing is better than putting pen (or pencil!) to paper in a quiet environment and seeing what evolves! You are often surprised and once you have the problem “tiger by its tail” it is difficult to put it aside. It often preoccupies your thoughts for many a day – the thought process is often ongoing – and the urge to continue grappling with the problem insatiable. Your partner often detects that you appear to be in a trance and non-communicative. The pleasure at solving the problem is however very satisfying. The write-up then begins with the introductory section often being the last part to be written. It is in this section that key literature results need to be integrated into your story as you link what you have done with what other have previously found out.

I have just been on my annual leave (actually writing this while relaxing one morning before the heat of the day compels a swim!) However in between times I sneak some time to engage on solving some problems that have been engaging my subconscious thought process for most of my time away!

Good luck with your pursuits. The net results are very satisfying and fulfilling. Enjoy!

## **Research at IIMS**

### **IIMS research news reported at November and December 2005.**

#### **Cat 1 - Refereed Journal Papers**

Ryu, H. & Monk, A. Analysing interaction problems with cyclic interaction theory. *Psychology*. 2(3), 304-330.

#### **Cat 2 – Book Authored by Staff Member**

Turban, E., King, D., Lee, J. & Viehland, D. (2004). *Electronic commerce 2004: A managerial perspective*. 3rd, Upper Saddle River, New Jersey: Pearson Education.

#### **Cat 4 – Chapter in Book**

Messom, C.H. (2004). Vision controlled humanoid toolkit, In Negoita, Howlett and Jain (Eds), *Knowledge-Based Intelligent Information and Engineering Systems*, 1(3213), (pp 218 – 224), Lecture Notes in Artificial Intelligence, Berlin Heidelberg: Springer Verlag.

Messom, C.H. (2004). “8051 C-Programming”. In Sen Gupta & Chew (Eds), *Embedded Programming with CygnalTM, Field-*

*Programmable mixed-Signal micro-Controller*, 1, (pp 111-132), Palmerston North, New Zealand: Massey University Press.

Viehland, D. (2004). Strategic information systems for competitive advantage. In Turban, E., McLean, E., and Wetherbe (Ed), J. *Information technology for management*, 4th, (pp 89-124), Hoboken, New Jersey: John Wiley & Sons

#### **Cat 5 – Refereed paper in a conference**

Messom C.H., Sen Gupta, G., & Ahmed, N. (2004). Real-time image processing for biped robot control. O'Driscoll (Ed). In the proceedings of Eleventh Electronics New Zealand Conference, 1, (pp 29-33), November, Palmerston North, New Zealand: Massey University Press, ISBN 0-476-01106-X.

Parsons, D. & Cranshaw. M. (2004). Mobile information systems in a 3G - WLAN World: Many rich clients who know where they are. Proceedings of ACIS 2004. December 1-3, Hobart, Tasmania.

Ryu, H., & Monk, A. (2004). A Brief account of low-level interaction problems using cyclic interaction theory. Proceedings of OZCHI 2004. ISBN 1 74128 079, November 22, Wollongong, AUS.

Ryu, H., Monk, A. (2004). An interaction model: from a user model to an environment model. Proceedings of OZCHI 2004, ISBN 1 74128 079, November 22, Wollongong, AUS.

Seal, J., Sen Gupta, G., Barnes, G., & Messom, C.H. (2004). Post-match analysis program for robot soccer. Mukhopadhyay and Sen Gupta (Eds), Proceedings of the Second International Conference on Autonomous Robots and Agents, 1, (pp 39-43), December, Palmerston North, New Zealand: Massey University Press, ISBN 0-476-00994-4.

Sen Gupta, G., Messom, C. & Demidenko, S. (2004). Vision assisted measurement for optimization of robot motion and position control functions. Proceedings of the IEEE Instrumentation and Measurement Technology Conference, 1, (pp 297- 302), May, Como, Italy: IEEE Publishers, ISBN 0-7803-8248-1.

Sen Gupta, G., Messom, C., & Demidenko, S. (2004). State Transition Based (STB) role assignment and behaviour programming in collaborative robotics. Mukhopadhyay and Sen Gupta (Eds), Proceedings of the Second

International Conference on Autonomous Robots and Agents, 1, (pp 385- 390), December, Palmerston North, NZ: Massey University Press, ISBN 0-476-00994-4.

Shakir, M., & Viehland, D. (2004). Business drivers in contemporary enterprise system implementations. N. C. Romano (Ed), Proceedings of the 10th Americas Conference on Information Systems, (pp 103-112), August 5-8, New York City, New York, Atlanta, Georgia: Association for Information Systems.

Shibl, R., Pain, D., & Fielden, K. (2004). Trust and complex health information systems: strategies for managing? Proceedings of QualIT - 1st International Conference on Qualitative Research in IT & IT in Qualitative Research, November 24-26, Griffith University, Brisbane.

Viehland, D. (2004). Assessing business risk in mobile commerce strategy. B. Cusack (Ed), Proceedings of the 2004 IT Governance International Conference, (pp 43-49), November 15-16, Auckland, New Zealand: Auckland University of Technology

Viehland, D. (2004). Knowledge dissemination in an extra-organisational community of practice. Elliot, S., Williams, M., Williams, S., & Pollard, C. (Eds), Proceedings of the 15th Australasian Conference on Information Systems, December 1-3, Hobart, Tasmania.

#### **Cat 6 – Non-refereed Journal Paper / Article**

Parsons, D. (2004). Java phones - not just for games. Telecommunications Review, 22, (p 21)

Ryu, H. (2004). Modelling Human-computer interaction. RLIMS, 6, (pp 31-40). [iims.massey.ac.nz/research/letters/](http://iims.massey.ac.nz/research/letters/)

#### **Cat 7 – Non-referred Paper in Conference Meeting Proceedings**

Viehland, D. (2004). Where is the money? The search for a killer application in ubiquitous computing. Elliot, S., Williams, M., Williams, S., & Pollard, C. (Eds), Proceedings of the 15th Australasian Conference on Information Systems, December 1-3, Hobart, Tasmania

#### **Cat 9 – Other Research / Technical Publications**

Ryu, H., Hong, G.Y., & James, H. (2004). A research on quality assessment technique for ubiquitous software and middleware. PR57798 Final report, TR No. 2004-01, (pp 1-116), Auckland, Massey University.

#### **Cat 14 – Addresses to Professional Bodies**

Cooper, S. (2004). Sums of squares and sums of triangular numbers. 2004 NZIMA, Conference in Combinatorics and its Applications, December 16, NZ Institute of Mathematics and its Applications, Taupo, NZ.

Messom, C.H. (2004). Introducing Fortran and C++ tools on the cluster. 3rd Parallel Computing Workshop, February 2, Helix user group and members of the public, Massey University, Auckland, NZ.

Messom, C.H. (2004). Introduction to Linux and tools on the helix cluster

Bioinformatics Workshop on Parallel Computing, International Bioinformatics Conference, September, Bioinformatics Practitioners, Massey University, Auckland, NZ.

Sweatman, W.L. (2004). The symmetrical collinear four-body problem. Workshop on Scientific computation, bifurcation theory, and geometric mechanics, December 1, NZIMA, Leigh, NZ

Sweatman, W.L. (2004). Symmetrical interplay orbits in the one-dimensional four-body problem. New Zealand Mathematics Colloquium 2004, December 8, NZMS, Dunedin, NZ.

Sweatman, W.L. (2005). A numerical investigation of the symmetrical one-dimensional four-body problem. ANZIAM05 Applied Mathematics Conference, February 1, ANZIAM, Napier, NZ

Viehland, D. (2004). Developing and implementing an e-commerce strategy. University of Auckland Executive Programmes Short Course, October 28-29, Auckland, NZ.

Viehland, D. (2004). Ubiquitous computing. November 17, New Zealand Electronics Institute, Auckland, NZ.

#### **Cat 15 – Extension Activities**

Messom, C.H. (2004). Competition Judge. First New Zealand Robocup competition. Robocup New Zealand, November 6, MOTAT, Auckland, NZ.

#### **Cat 18 – Professional Consultancies**

Viehland, D. (2004). Optimising business value through mobile computing. Vodafone, New Zealand, December 14



## Something of interest on the Massey website

submitted by Dennis  
Viehlend



Just up on the Web:

<http://mindset.massey.ac.nz/>

All those things that we know are true!

## Laughter lines

submitted by David Wilton



## Oldies but goldies...

### Are ya havin' a Bad Day????

Well, then, consider this.....

*In a hospital's Intensive Care Unit, patients always died in the same bed, on Sunday morning, at about 11:00 a.m., regardless of their medical condition.*

*This puzzled the doctors and some even thought it had something to do with the supernatural. No one could solve the mystery as to why the deaths occurred around 11:00 a.m. on Sunday, so a worldwide team of experts was assembled to investigate the cause of the incidents.*

*The next Sunday morning, a few minutes before 11:00 a.m., all of the doctors and nurses nervously waited outside the ward to see for themselves what the terrible phenomenon was all about. Some were holding wooden crosses, prayer books, and other holy objects to ward off the evil spirits.*

*Just when the clock struck 11:00, Pookie Johnson, the part-time Sunday sweeper, entered the ward and unplugged the life support system so he could use the vacuum cleaner.*

*Still think you're having a bad day.....consider this.....*

*The average cost of rehabilitating a seal after the Exxon Valdez Oil spill in Alaska was \$80,000.00. At a special ceremony, two of the most expensively saved animals were being released back into the wild amid cheers and applause from onlookers.*

*A minute later, in full view, a killer whale ate them both.*

*And you STILL think you're having a bad day????*

*A woman came home to find her husband in the kitchen shaking frantically, almost in a dancing frenzy, with some kind of wire running from his waist toward the electric kettle. Intending to jolt him away from the deadly current, she whacked him with a handy plank of wood, breaking his arm in two places. Up to that moment, he had been happily listening to his Walkman.*

*Feeling better?*

## Life on the computer help desk

*Tech Support: "I need you to right-click on the Open Desktop."*

*Customer: "Okay."*

*Tech Support: "Did you get a pop-up menu?"*

*Customer: "No."*

*Tech Support: "Okay. Right click again. Do you see a pop-up menu?"*

*Customer: "No."*

*Tech Support: "Okay, sir. Can you tell me what you have done up until this point?"*

*Customer: "Sure, you told me to write 'click' and I wrote 'click'."*

*Customer: "I received the software update you sent, but I am still getting*

*the same error message."*

*Tech Support: "Did you install the update?"*

*Customer: "No. Oh ... am I supposed to install it to get it to work?"*

*Customer: "I'm having trouble installing Microsoft Word."*

*Tech Support: "Tell me what you've done."*

*Customer: "I typed 'A:SETUP'."*

*Tech Support: "Ma'am, remove the disk and tell me what it says."*

*Customer: "It says '[PC manufacturer] Restore and Recovery disk'."*

*Tech Support: "Insert the MS Word setup disk."*

*Customer: "What?"*

*Tech Support: "Did you buy MS word?"*

*Customer: "No."*

Customer: "Do I need a computer to use your software?"

Tech Support: "(?!%#\$)"

Tech Support: "Okay, in the bottom left hand side of the screen, can you

see the 'OK' button displayed?"

Customer: "Wow. How can you see my screen from there?"

Tech Support: "Type 'A:' at the prompt."

Customer: "How do you spell that?"

Tech Support: "What's on your screen right now?"

Customer: "A stuffed animal that my boyfriend got me at the grocery store."

Tech Support: "What operating system are you running?"

Customer: "Pentium."

Customer: "My computer's telling me I performed an illegal abortion."

Customer: "I have Microsoft Exploder."

Customer: "How do I print my voicemail?"

Customer: "You've got to fix my computer. I urgently need to print a document, but the computer won't boot properly."

Tech Support: "What does it say?"

Customer: "Something about an error and non-system disk."

Tech Support: "Look at your machine. Is there a floppy inside?"

Customer: "No, but there's a sticker saying there's Intel inside."

Tech Support: "What does the screen say now?"

Customer: "It says, 'Hit ENTER when ready!'"

Tech Support: "Well?"

Customer: "How do I know when it's ready?"

A plain computer illiterate guy rings tech support to report that his

computer is faulty ...

Tech: What's the problem?

User: There is smoke coming out of the power supply.

Tech: You'll need a new power supply.

User: No, I don't! I just need to change the startup files.

Tech: Sir, the power supply is faulty. You'll need to replace it.

User: No way! Someone told me that I just needed to change the startup and it will fix the problem! All I need is for you to tell me the command.

10 minutes later, the User is still adamant that he is right.

The tech is frustrated and fed up.

Tech: Sorry, Sir. We don't normally tell our customers this, but there is an undocumented DOS command that will fix the problem.

User: I knew it!

Tech: Just add the line LOAD NOSMOKE.COM at the end of the CONFIG.SYS.

Let me know how it goes.

... 10 minutes later:

User: It didn't work. The power supply is still smoking.

Tech: Well, what version of DOS are you using?

User: MS-DOS 6.22.

Tech: That's your problem there. That version of DOS didn't come with

NOSMOKE. Contact Microsoft and ask them for a patch that will give you the file. Let me know how it goes.

... 1 hour later:

User: I need a new power supply.

Tech: How did you come to that conclusion?

User: Well, I rang Microsoft and told him about what you said, and he started asking questions about the make of power supply.

Tech: Then what did he say?

User: He told me that my power supply isn't compatible with NOSMOKE

**People puzzle**

*submitted by someone*



**Last Month**

**No. 1**

**Thanks for your smile, Nikki Luke**

**No. 2**

**Yep and the grin belongs to Tom Moir**

**Merrill gets the honourable mention.**

**She was the first with the correct answers.**

**This Month**

**So, who is in this month's photo?**

**Note the deckchair and non PC doll!**



**The first correct answer emailed to [f.anderson@massey.ac.nz](mailto:f.anderson@massey.ac.nz) gets an honourable mention in next month's newsletter.**

## Notices

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### Mort by Tony Meyer

(Please see Page 5 for more details.)

Shows (approximately 2 hours long) are Saturday 12th March @ 8pm, Sunday 13th March @ 2pm, Saturday 19th March @ 8pm, and Sunday 20th March @ 5pm. Tickets (\$10 or \$5 for students, thanks to ASA sponsorship) can be purchased from the ASA office in the Atrium, or from the door.

For more information see <http://www.madsods.gen.nz/mort>.

I hope to see you all there!

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### 14<sup>th</sup> International Workshop on Matrices and Statistics

29 March - 1 April 2005  
Massey University, Albany Campus  
Auckland, New Zealand

IWMS 2005 is being organised by the Institute. Academic staff should consult the Workshop Website <http://iwms2005.massey.ac.nz> for details of the conference activities. Listed on the web are the talks to be given by over thirty researchers from many countries in the World.

Each daily session will start with a presentation by one of the four Keynote speakers:

**Professor C R Rao**, Pennsylvania State University, U.S  
[Statistical Proofs of Matrix Theorems](#)

**Professor Shayle Searle**, Cornell University, Ithaca, New York, U.S.  
[Reflections on a Fifty Year Random Walk amidst Matrices and Statistics](#)

**Professor Eugene Seneta**, University of Sydney, Australia  
[Coefficients of Ergodicity in a Matrix Setting](#)

**Professor George Seber**, University of Auckland, New Zealand  
[Things my mother never told me about Matrices](#)

Professor C.R. Rao is among the world leaders in statistical science over the last six decades. His research, scholarship and professional services have had a profound influence in theory and applications of statistics. Technical terms such as, *Cramer-Rao inequality*, *Rao-Blackwellization*, *Rao's Score Test*, *Fisher-Rao Theorem*, *Rao distance and orthogonal arrays (described as "new manthra" for industries)* appear in all standard books on statistics. Two of his papers appear in *Breakthroughs in Statistics* in the last century. He is the author of 14 books and about 350 research papers.

He has received many international honours. Rao was recently honoured by the President of the USA with the prestigious National Medal of Science "as a prophet of new age" with the citation, "for his pioneering contributions to the foundations of statistical theory and multivariate statistical methodology and their applications, enriching the physical biological, mathematical, economic and engineering sciences".

He has been designated as a Massey University Distinguished Visitor with the result that the Opening Session of the Conference, on Tuesday March 29, will be open to all Massey staff.

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