IIMS NEWS

Massey University

Newsletter compiled by Michelle Campbell

September/October 2008

Message from the Head of Institute

In the last IIMS News we celebrated the success of our bids for Massey PhD scholarships. Success continues to 'stalk' us! We are graduating and taking on new PhD students like there is no tomorrow (must get a list out), we have two MURF grants (good to get), two highly valued (kudos and financial) Marsden grants, a very prestigious Royal Society Medal (courtesy of one of our affiliated (!) colleagues), and multiple nominations for Lecturer of the Year (a total of seven this year so far). Do let me know if I have forgotten anything. There have also been movements on the staff side, Chris Volinsky, who joined us a Visiting Professor in Statistics came and went (and did a terrific job for us) before some of us really got to know him, we have welcomed Prof Boris Pavlov, previously at the University of Auckland, who is associated as a visitor with the NZIAS, and Mick Roberts has been co-opted to full membership of the NZIAS.

Oh, and Tanya has been safely delivered of a very bonny boy (Gaven is working on the MOU to affiliate him to the NZIAS!).

Although it gives me a lot of pleasure to relay all of this news I may perhaps be forgiven for gloating over another appointment. By the time you read this Dr Marti Anderson from the University of Auckland will have accepted our offer of the Chair of Statistics here at Albany to replace Jeff Hunter. This is the second or third attempt to fill this post. We began the current round of advertising, shortlisting, offering, interviewing, and negotiating in April and at last we are there. Robert Anderson and Nigel Long have provided tremendous support during this period and we owe them our thanks for their help in reaching this excellent conclusion.

Many people (including the entire Statistics group) have met Marti and realised how fortunate we are to attract her to Massey. She joins us at the beginning of February 2009 and I'll ask her to write a column for IIMS News so that she can tell you her interests and vision. In a nutshell she uses novel statistical techniques to study ecological phenomena and that promises to open up some exciting collaborations with colleagues across the campus and at Palmerston North. Marti will bring a large Marsden grant and her research team including staff who work on Auckland City Council contracts looking at the effect of the environment on species in Auckland's estuaries. Between now and joining us, however, she is overseas a lot including a couple of weeks in Antarctica so doubtless she will be pleased to return to Aotearoa.

Later this month we welcome Dr Peter Bath from the University of Sheffield. Peter and I have been involved for many years in the annual International Symposium on Health information Management Research (iSHIMR). This is the 13th year for iSHIMR and we are pleased to host it at IIMS and Massey, the first time it has been held in the Southern hemisphere.

It's a very busy time at the moment but I hope you are all working on your plans for taking holiday so that we can reduce our leave liability!

Inside this months issue

Message from the HoI	pg 1
Interesting world statistics	pg 2
Loud shirt day Interesting Quotes	pg 3
Astronomy News By Ljiljana Skuljan	pg 4 & 5
Dates in History By Chris Scogings	pg 6 & 7
Research at IIMS	pg 8 & 9
Top Undergraduate Awards in CS & IT	pg 10
Staff News	pg 11
Adventures in South Korea - By Graeme Wake	pg 12
Spring "to-do" List	pg 13

Something to ponder

Live as if you were to die tomorrow.

Learn as if you were to live forever.

- Gandhi -

Interesting World Statistics

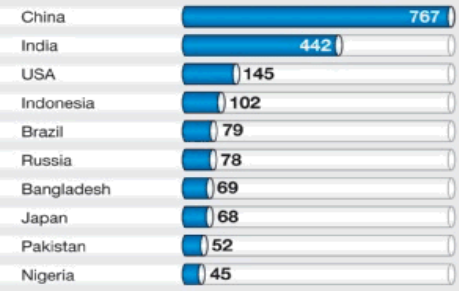
Countries with the Greatest Population

million people

Source: www.watchmojo.com according to US Census Bureau, International Database (2005 estimates)
Photo: © bilderbox.com © grafikdienst.com

Top 10 Nations with the Largest Workforce

in millon eligible workers

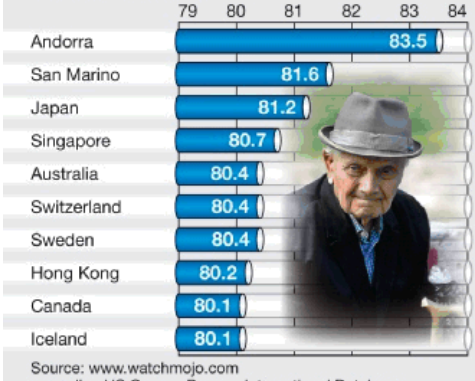


According to Food and Agriculture Organization of the United Nations, measured as those aged between 15 and 64 who are employed and unemployed

Source: www.watchmojo.com
Photo: © bilderbox.com © grafikdienst.com

Top Ten Countries with Highest Life Expectancy

Indication in years



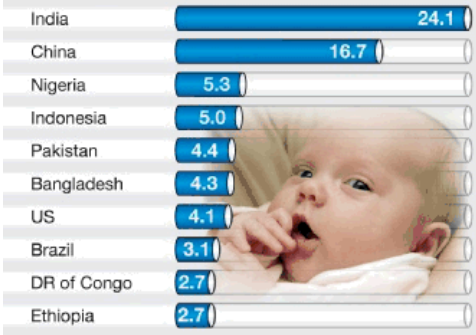
Source: www.watchmojo.com
according US Census Bureau, International Database
Photo: © bilderbox.com © grafikdienst.com

TOP TEN Popular Dream Cruises

Source: www.watchmojo.com according to Touring Magazine
Photo: © bilderbox.com © grafikdienst.com

Countries with the Most Births Per Year

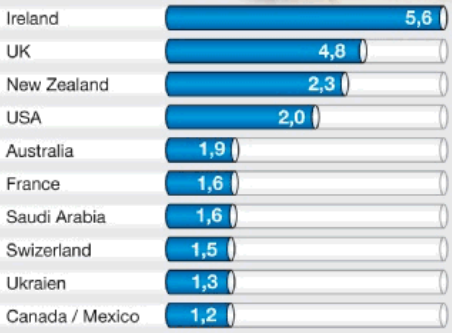
million births in 2005



Source: www.watchmojo.com
according to US Census Bureau, International Database
Photo: © bilderbox.com © grafikdienst.com

Bread Consumers

kg per capita

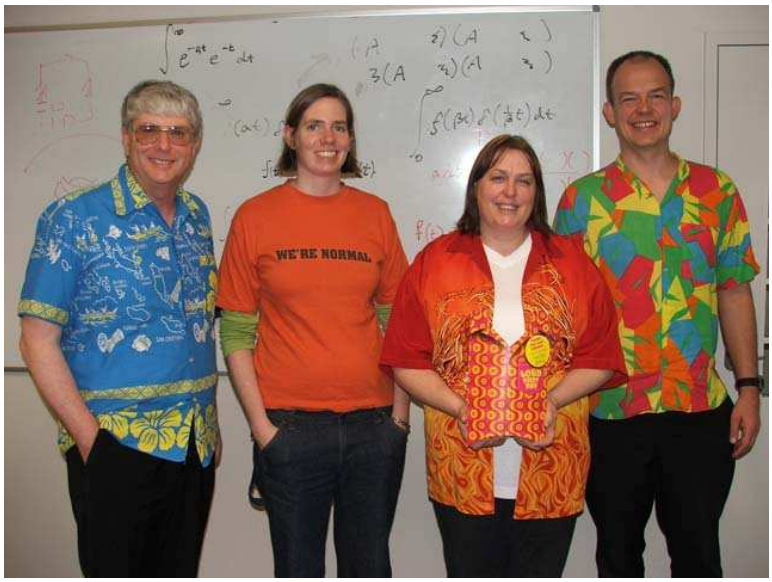


Source: www.watchmojo.com,
According to Euromonitor (2004 data)
Photo: © bilderbox.com © grafikdienst.com

Loud Shirt Day 2008

Thanks to all the IIMS staff who at short notice got on board and supported the hearing house (www.hearinghouse.co.nz) it was great to see all our staff looking bright and bubbly. IIMS got two special mentions for Massey Albany's loudest shirts and they were Winston Sweatman and Tong Liu. As you can see from the photo's below our staff really did stand out on the day.

Again thank you to everyone who made donations, $370 was raised in total.



From left to right: Barry McDonald, Beatrix Jones, Colleen Van Es and Winston Sweatman

Above: Tong Lui

Interesting Quotes

1. Research is what I'm doing when I don't know what I'm doing. **Wernher von Braun**

2. As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality**. Albert Einstein**

3. Arithmetic is numbers you squeeze from your head to your hand to your pencil to your paper till you get the answer**. Carl Sandburg**

4. God does not care about our mathematical difficulties; He integrates empirically. **Albert Einstein**

5. One cannot escape the feeling that these mathematical formulas have an independent existence and an intelligence of their own, that they are wiser than we are, wiser even than their discoverers. **Heinrich Hertz**

6. Science is organized knowledge. Wisdom is organized life. **Emmanuel Kant**

7. Freedom without discipline is absolute misery. Discipline without freedom is suffocating.

Orderliness is monotonous and chaos is stressful. This is the dilemma of life: Everyone is looking for perfect balance.

Perfect balance is like a razor's edge. It can only be found in the self. **Sri Sri Ravi Shankar**

Astronomy News

By Ljiljana Skuljan

For most of the 19th century Newton's reflecting telescopes were the ideal instruments for observations, easier and cheaper to build than the large refractors. However they had one major problem: the metal mirrors were heavy, needed periodic repolishing and their reflection reduced brightness.

At that time, glass mirrors with a metal backing, like the mirrors typically found in homes were already being made and used. However those mirrors would not work in telescopes. The light would bend as it travelled through the glass, bounced off the metal backing and travelled through the glass again, blurring the image.

In the 1850s, a German chemist named Justus von Liebig made a new kind of mirror. He used a newly discovered chemical reaction to cover the surface of a piece of glass with a thin film of silver. The silver could easily be polished to create a mirror.

In 1856 and 1857, German astronomer Carl August von Steinheil and French doctor Leon Foucault realized that von Liebig's method would be perfect for telescope mirrors. Previously, it had been too expensive to make telescope mirrors out of silver, but this chemical technique used so little silver that cost was no longer an issue. Astronomers had an inexpensive, lightweight, glass mirror that reflected 50 percent more light than metal mirrors had. The silver still tarnished, but it was easier to replace the silver coating than it was to polish a metal mirror.

Now that astronomers could make giant mirrors, they started to plan and build huge telescopes with mirrors up to 5 metres in diameter. At this point some other factors when building telescopes also became important.

Increasing the size of the mirrors allow telescopes to collect more light, but also improves their resolution. Resolution is the ability to see detail in an object. A telescope with high resolution will be able to see two points of light as being separate from one another. A telescope with low resolution will blur the two points together into a single point of light. However the resolution is also degraded by atmospheric turbulence (also the cause of the twinkling of stars), enormously magnified in a telescope image. To avoid these obstacles, astronomers began building these giant telescopes on high mountains, where the air was thin enough that the twinkling effect caused by atmospheric distortion was reduced, and the lights and pollution of cities were far away.

Photography was another factor motivating astronomers to move telescopes to high areas. Photography allowed astronomers to create a fast and accurate record of their observations without drawing everything they saw. It also provided a way for astronomers to observe objects that were too faint to be seen by the human eye. No matter how faint, a photograph will record all the light it is exposed to. Even a light too dim to make a mark at first will eventually make one if the exposure continues for a long enough time. At that time all the big telescopes started using photography.

In addition to the photographic cameras astronomers started adding new scientific instruments to their old telescopes. Soon they were building new telescopes with instruments in mind. These instruments, called spectrometers, were designed to break up the light from stars and planets so astronomers could analyze it further. Soon, the quality of the instruments would be as important as telescopes themselves. Today's research telescopes don't have eyepieces, just cameras and instruments where the eyepieces used to be.

At the beginning of the 20th century, the biggest telescopes were built in the US. American astronomer George Ellery Hale was responsible for most of them. Hale not only contributed to astronomy by building four of the world's largest telescopes, he also founded an astronomical society, started the "Astrophysical Journal", and was the first person to be officially called an astrophysicist.

In 1908 George Hale organised construction of the 1.5 m reflecting telescope at Mount Wilson Observatory, California (Figure 1). The telescope was built by George W. Ritchey and used for photography and spectroscopy. Its observations were used to demonstrate that most stars at the same temperature have the same brightness. In the future, many large reflectors followed Ritchey's example and were built with a similarly flexible design. In fact, it can be said that this reflecting telescope was really the first modern telescope.

In 1918 The Hooker 2.5 m reflector was completed at the same observatory (Figure 2). Once it was installed, the entire telescope weighed 100 tons. All motions of the telescope and its dome and shutters were electrically controlled by 30 motors. The Hooker telescope became the biggest in the world and with its massive mirror, could reveal the true vastness of the Universe for the first time. Edwin Hubble used this telescope to establish that "spiral nebulae" are in fact galaxies outside our own Milky Way and that they are moving away from us, indicating that the Universe is expanding.

Once again American astronomer George Ellery Hale organised construction of an even bigger, 5 metres in diameter, reflector at Mt Palomar Observatory (Figure 3). This telescope had an aluminium-coated glass mirror - material that, unlike silver, does not tarnish. Every now and then, however, the mirror needs to be re-coated to keep it shiny. The telescope was completed in 1948. Hale has never seen the finished reflector. He died in 1938. In honor of his endless work, patient leadership, and dedicated vision, this powerful telescope, still used today, bears his name. One of the famous discoveries from this telescope was the visible evidence of quasars very bright objects at very great distances that were later found to be supermassive black holes at the centers of distant galaxies.

By the middle of 20th century telescopes were beginning to resemble the ones astronomers use today. While there was less atmospheric distortion on the mountain tops than in the cities, there was still enough to cause blurriness. The solution to the blurry images would have to await another leap in technology.

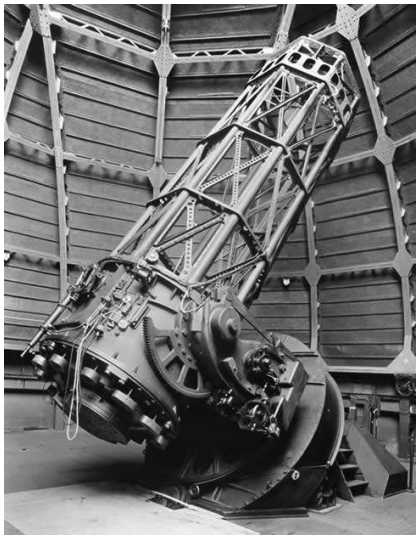


Figure 1: 1.5 m Reflector from Mt Willson Observatory (US): The first modern telescope.

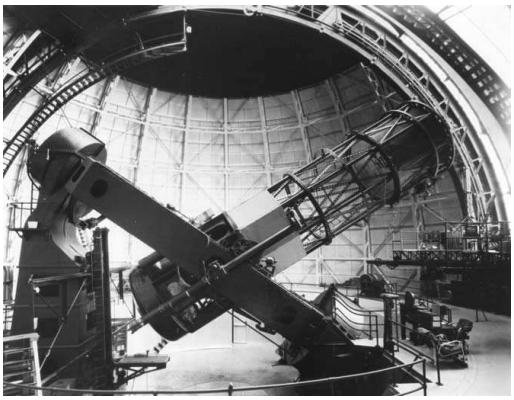


Figure 2: 2.5 m Reflector from Mt Willson Observatory used by Edvin Hubble for discoveries which opened the way to modern

Figure 3: The Hale 5 m Reflector from Mt Palomar Observatory (US) was the largest in the world until 1975.

Dates in History

By Chris Scogings

The Hundred Years War – 1337 to 1453

In 1066 William of Normandy became King of England. This led to a situation where the King of England owned lands within the realm of the King of France. Fighting over these territories led to centuries of warfare between France and England. Each was aided by the enemies of the other. The English were assisted by the autonomous regions within modern-day France that were hostile to the French kings, the principal of these being Aquitaine (whose inhabitants were descended from the Visigoths) and Burgundy – both regions that had become established due to Attilla the Hun (see IIMS News July/August 2008). Burgundy was an extremely useful ally as it generated immense wealth from the linen trade through the great Cloth Hall in the city of Ypres in its province of Flanders. (The Cloth Hall was completely destroyed by German artillery fire in World War I.) The French were assisted by the Scots who signed the "Auld Alliance" in Paris in 1295 – a formal treaty that lasted nearly 300 years. The French also made use of mercenaries, many from Switzerland and Italy.

The English took advantage of a minor French civil war over who should be the next King and invaded France in 1337. Neither side gained an advantage in the early years of the war but in 1346 England won the decisive battle of Crecy in which heavily armoured French knights were cut down by English longbows. Many French nobles died – perhaps up to one third. The longbow was up to 2m (6ft 6in) long with a draw weight of over 650N (archers today usually work with a draw weight of 250N but the modern record is 900N). It took 20 years to train a good archer – a fact recognised by King Edward I who banned all sport on Sundays except archery. Skeletons of archers reveal enlarged left arms and bone spurs (indicating extra muscle growth) on left wrists and right fingers. Various arrow heads were used such as "broadheads" (standard arrow heads) used for hunting and "bodkin" heads (long, thin and heavy) that could smash through chain mail. Full plate armour was rarely penetrated but knights were defeated by shooting the horse and then stabbing the heavily armoured knight as he floundered in the mud. Arrows could often only be removed by forcing them right through the body after which barley and honey were applied to the wounds to ward off infection.

In 1347 the English captured Calais which they would hold until 1558 and also beat King David II of Scotland at the battle of Neville's Cross near Durham. These victories led to a partial peace until 1369. It was also difficult to wage war at this time because the Black Death decimated European populations from 1348 to 1356. From 1369 to 1415 there was intermittent warfare with losses to the English who were distracted in Spain, Ireland and Scotland. But in 1415 the English returned to France under King Henry V. At the battle of Agincourt a French army of at least 20,000 was again defeated by 5,000 English (including many Welsh) archers with longbows. After most horses had been shot French knights in armour weighing up to 30kg waded slowly forward across 200m of mud and were decimated by the English. It was the greatest victory of the Hundred Years War and allowed the English and Burgundians to take over large areas of France. By 1429 the English were besieging the great city of Orleans and France appeared to be on the brink of total disintegration.

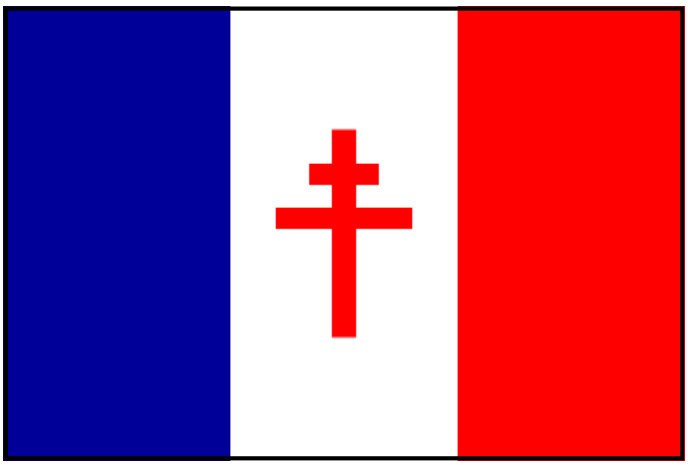
Unexpectedly the dispirited and disorganised French army attacked, drove the English back and lifted the siege of Orleans. The French leaders, desperate and willing to try anything, had placed a teenage peasant girl called Joan of Arc at the head of the army. Joan was able to rally the demoralised troops to such an extent that they swept the English before them. She was wounded several times, leading at least one charge with a severe arrow wound in the neck. Joan was later captured and tried for heresy by the English. The trial was regarded even at the time as a sham – merely a convenient way of disposing of a dangerous opponent. The main charge was heresy because Joan had claimed that God had told her to defeat the English. The trial attracted great attention and demonstrated her amazing intellect. At one stage she was asked if she knew she was in God's grace. This was a trick question as the Church held that no one could be certain of being in God's grace. Thus if Joan answered yes she would convict herself of heresy but if she answered no she would be admitting that her claims of doing God's will were false. She answered "If I am not in His grace, may God put me there; and if I am, may God so keep me." When the court heard this reply they were momentarily stunned into silence.

George Bernard Shaw found the dialogue so compelling that parts of his play *Saint Joan* are literal translations of the trial record. Inevitably Joan was found guilty of heresy (partly because she had worn armour and the Bible (Deuteronomy 22:5) forbids women to wear men's clothing). At the age of 19 she was burned at the stake in Rouen and her remains were destroyed and thrown into the Seine to prevent the collection of relics. Joan of Arc was recalled by both sides during World War II. The pro-German Vichy government produced a poster of British bombers attacking Rouen with the caption "They always return to the scene of their crimes". The Free French forces took as their symbol the cross of Lorraine (where Joan was born) in memory of her fight against foreign invaders. The cross of Lorraine is the symbol most commonly used to represent Joan of Arc and appears on many other flags and coats-of-arms.

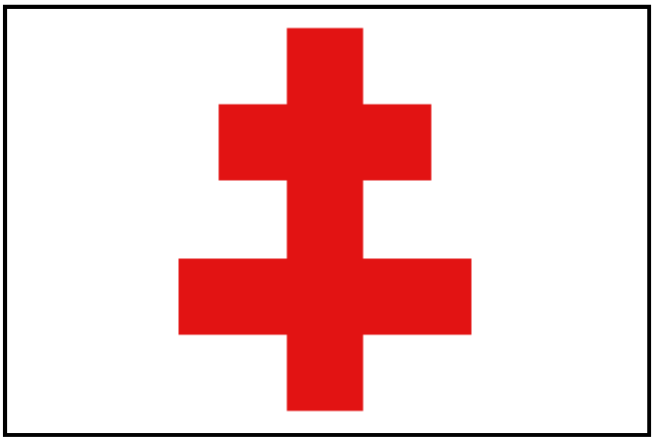
Inspired by Joan the French army won several battles. The most important was the Battle of Patay where the French knights finally got their act together and charged the English archers before they were able to set up proper defensive positions. The English general, Sir John Fastolf, escaped with a few men and was made a scapegoat (probably unfairly) for the loss of the battle. His name (thinly disguised by Shakespeare and others) became synonymous with corpulence, arrogance and cowardice. The loss of a large number of expert archers (who took so long to train) along with the introduction of guns steadily eroded the dominance of the longbows.

Gradually the French gained the upper hand. The independent duchies saw the writing on the wall and switched their allegiance from England to France. The last battle of the Hundred Years War was the siege of Castillon in 1453 when the English army was almost destroyed by cannon fire – the first time that guns made a significant difference to the outcome of a battle in Europe. France won the Hundred Years War (thanks in part to Joan of Arc) and thereby firmly established itself as a major power in Europe. But it was at an enormous cost. When the War began France had a population of about 17 million and England had 4 million. It has been calculated that the Hundred Years War, civil wars, marauding mercenary armies cum bandits along with plague and famine (both assisted by warfare) reduced the French population by at least 60%. On the English side the bitterness engendered by the war caused a rapid decline in the use of the French language which had been used by the nobility for 400 years. The loss of possessions in France also caused various other grievances that led directly to the Wars of the Roses – but that is a story for another time.

Above: The signature of Joan of Arc.
She was illiterate and dictated her letters but learned how to sign her name.



Above: The Cross of Lorraine on the flag of the Free French forces in WW2.



Left: The Cross of Lorraine on the flag of the city of Ieper (Ypres).

Research at IIMS

IIMS research outputs reported for August and early September 2008

Journal article

Begg, R.E., Wall, D.J.N., & Wake, G.C. (2008). The steady-states of a multi-compartment, age-size distribution model of cell-growth. *European Journal of Applied Mathematics*, 29, pp 435-458.

Korobeinikov, A., Norbury, J., & Wake, G.C. (2008). Long-term coexistence for a competitive system of partially varying gradient reaction-diffusion equations. *Journal of Nonlinear Analysis: Real World Applications*, 10, pp 93-103.

Whitworth, B., Banuls, V., Sylla, C., & Mahinda, E. (2008). Expanding the criteria for evaluating socio-technical software. *Transactions on systems, man and cybernetics, Part A., IEEE*, 38(4), 777-790. ISSN 1083-4427.

Ben-Tal, A., & Smith J.C. (2008). A model for control of breathing in mammals: Coupling neural dynamics to peripheral gas exchange and transport. *Journal of Theoretical Biology*, 251, pp 480-497.

Thornley, S., Bullen, C., & Roberts, M. (2008). Hepatitis B in a high prevalence New Zealand population: A mathematical model applied to infection control policy. *Journal of Theoretical Biology*. **Accepted**.

McKibbin, R. (2008). A simple deterministic model for volcanic ashfall deposition. *Australia and New Zealand Industrial and Applied Mathematics Journal*, 49(2008), pp 325-336.

Journal article – professional publication

Ben-Tal, A. (2008). Mathematical models for the cardiorespiratory system. *New Zealand Science Review*, 65 (1), pp 16-18.

Journal - editorial

Ryu, H., Parsons, D., & Norris, T. (2008). Editorial: *International Journal of Mobile Learning and Organisation*, 2(2), 99-102.

Full paper in published proceedings

Norris, A.C., Stockdale, R.S., & Sharma, S. (2008). Mobile health: Strategy and sustainability. In the Proceedings of the 6th *International Conference on Information Communication Technologies in Health (ICICTH Samos 2008),* (pp 151-157), July 11-13, Samos Island, Greece.

Scogings, C., & Hawick, K. (2008). Altruism amongst spatial predator-prey animals. In S. Bullock, J. Noble, R. Watson, & M. Bedau (Eds.), in the Proceedings of the 11th International Conference on the *Simulation and Synthesis of Living Systems*, (pp 537-544), August 5-8, Winchester, UK, MIT: Cambridge, Massachusetts. ISBN: 978-0-262-75017-2.

Wilton, D. (2008). The relationship between IS strategic planning and enterprise architectural practice: Case studies in New Zealand enterprises. In W. Huang & H. Teo (Eds.), in the Proceedings of the *12th Pacific Asia Conference on Information Systems (PACIS 2008),* (pp532-543), July 3-7, Suzhou, China.

Abstract in published proceedings

Jones, B. (2008). Bayesian parentage analysis using multiple imputation. In Abstract Proceedings and presentation at the *New Zealand Statistical Association 2008 Conference*, p 22, September 1-2, Hamilton, NZ. **(and poster)**

Fitch, M. & Jones, B. (2008). A comparison of methods to represent interactions in microarray data. In the Abstract Proceedings and a presentation at the *Australian Statistical Conference / New Zealand Statistical Association Conference Statistical Connections (ASC NZSA 2006),* July 3-6, Auckland, NZ. **(and poster)**

Wake, G.C. (2008). Mathematics in agriculture and its impact on health. In the proceedings of the *European Consortium for Mathematics in Industry* (ECMI2008 London), June 30 - 4 July, University College London, London, UK. **(and poster)**

Wake, G.C. (2008). A distributed-delay DE (DDDE) model for the nitrogen cycle in pasture. In Proceedings of the *15th Biennial Conference of the European Consortium in Industry*, (pp 85 & 87), June 30 - July 4, University College London, UK.

Poster presentation - Conference

Edwards, H. (2008). Graduate courses in Bayesian Statistics: Results of an online survey. Poster presented at the Conference of *International Society for Bayesian Analysis (ISBA 2008),* July 21-25, Queensland, Australia. http://www.isba2008.sci.qut.edu.au/schedule2008/shtml

Javed, Y., Norris, T., & Stockdale, R. (2008). Key IT-based capabilities for disaster management and related promising technologies. Poster presented at the *2nd Australasian Natural Hazards Management Conference,* July 28-31, Wellington, NZ.

Oral Presentation – Conference contribution

Jones, B. (2008). Bayesian parentage analysis using multiple imputation. In the Conference of *International Society for Bayesian Analysis (ISBA 2008),* July 21-25, Queensland, Australia.

Oral presentation – professional

Hunter, I., Norris, T., Whiddett, D., Waldon, J., & McDonald, B. (2008). Better care, without compromising privacy: *The consumers' viewpoint. Health Informatics New Zealand Seminar: Beginning to Understand Health Information Privacy*, February 29, Wellington. NZ.

Oral presentations to a University

Hunter, I., Norris, T., Whiddett, D., Waldon, J., & McDonald, B. (2008). The current health care information environment in New Zealand: Patient attitudes towards sharing health information. In the *7th Annual Electronic Health Records Summit*, May 26-27, Wellington, NZ.

Roberts, M. (2008). The mathematics of plagues, epidemics and pandemics. ESR *Seminar*, July 4, Wellington.

Wake, G.C. (2008). Spontaneous ignition: Assessment of cause. *Seminar*, May 8, Department of Mathematics, the University of Auckland, NZ.

Wake, G.C. (2008). Functional differential equations arising in cell-growth, *Special Seminar*, Department of Mathematics, Mahidol University, June 10, Mahidol University, Nakhon Pathom, Thailand.

Wake, G.C. (2008). Industrial mathematics initiative in the southwest pacific. *Seminar*, June 11, King Mongkut's University of Technology Ladkrabang, Bangkok, Thailand.

Wake, G.C. (2008). Spontaneous ignition: Assessment of cause. *Seminar*, June 11, KMITNB, Bangkok, Thailand.

Wake, G.C. (2008). Modelling of cancer treatment. *Seminar*, June 20, University of Leeds, UK

Wake, G.C. (2008). Modelling of cancer treatment. *Seminar Series*. Centre for Mathematical Medicine, Fields Institute, July 7, Toronto, Canada.

Wake, G.C. (2008). A model for phenotype change in a stochastic framework. *Seminar Series*. Centre for Mathematical Medicine, Fields Institute, July 9, Toronto, Canada.

Report for external body

Wake, G.C. (2008). *Review of School of Management and Geospatial Sciences, Royal Melbourne Institute of Technology*, June 3-5, Melbourne, Australia.

New Zealand Computer Society (Auckland Branch) Cups Presentation

Our Institute had one of its famous celebratory morning teas on August 14th to present the NZCS Cups for the IIMS top undergraduate students of 2007, within the disciplines of Information Technology (ex Systems) and Computer Science.

Tony Norris and Ken Hawick made the presentations, respectively, to Cindy Hart with the NZCS (Auckland Branch) Information Technology Cup and Daniel Playne with the NZCS (Auckland Branch) Computer Science Cup. (Cindy graduated with a BSc Information Systems and Daniel with a BSc Computer Science from Massey University, both in April 2008. Cindy and Daniel were awarded an IIMS scholarship in 2007. Daniel is also a Massey Scholar used in accordance with his IIMS scholarship.)

Please take the time to have a look at the cups that were presented. They are on display in their new 'pride of place' cabinets in the IIMS building opposite Reception and engraved with names of awardees and years awarded. Cindy and Daniel each keep a miniature of their cup and a certificate to remember the occasion.

Both these students have gone on to postgraduate study with IIMS in 2008. They are individuals with whom we are very fortunate to have an association.

Cindy is an international student from Calgary, Canada, who came to NZ in 2003 to study. Cindy is currently completing an Honours degree in Information Technology and lives in Devonport on the North Shore.

Daniel was born in Auckland and has lived on the North Shore for most of his life. He was homeschooled until the age of 16 when he started studying Computer Science at Massey University Albany. Since mid-2007 he has gone on to gain an Honours degree and is now a PhD candidate in CS.

The NZCS is the professional body of ICT professionals in New Zealand, and works with industry, academia, Government and the wider community to achieve its mission of increasing the standards and professionalism of the NZ ICT industry via a range of initiatives.

http://www.nzcs.org.nz/about/

Thanks to the support of this organisation our students are recognised and encouraged by such awards as the NZCS (Auckland Branch) Cup.

Staff News

Left: Judy Le Heron and her husband Richard went to the UK in mid July to celebrate their daughter Erena's graduation with a PhD in Geography from the University of Sheffield. She was awarded a Bright Futures Doctoral Scholarship in September 2004 and passed her viva in January 2008. Her thesis title is "Making film-landscapes and exploring the geographical resonances of The Lord of the Rings and Whale Rider". This photo shows Erena with her husband Chris and her proud parents

Right: Tanya Evans (relief teacher in mathematics for Gaven Martin on Tues and Thurs); have a new addition to there family.

Message from Tanya reads:

"Michael Cyril Evans came out into this world on Sat 27 2008 (I could've taught for another week) after 1 hour labour. We are doing well."

Congratulations to Chris Messom, Brian Whitworth, Shaun Cooper and Frederick Lam who have been nominated for ASA Lecturer of the Year Award.

Looks like IIMS owns this award!

Brian Whitworth has had a paper accepted for computing magazine, The IEEE flagship journal— Congratulations.

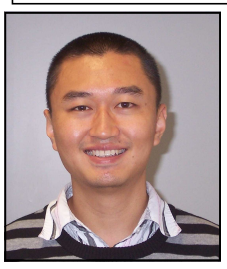
http://brianwhitworth.com/ChannelEmail.pdf

Brian was also interviewed by *Anthony Doesburg* for the NZ Herald in September, see article below:

http://www.nzherald.co.nz/technology/news/article.cfm?c_id=5&objectid=10533050&pnum=2

Carlo and Alona are collaborating on the ***Complexity reduction in neural models*** project with Dr Jeffrey Smith from the National Institutes of Health USA and Prof Yannis Kevrekidis from Princeton University.

Mick's project on ***Modelling a virus that doesn't (yet) exist*** is with his long-term collaborator, Prof Hans Heesterbeek, at the University of Utrecht. Congratulations to all involved



A warm welcome to Yan Ou, our new IT Consultant. Yan is from Zheng Zhou province in China and was a lecturer at the Zheng Zhou University for the past few years. Yan is no stranger to Massey as he has done his degree from Massey University and knows quite a few of the lecturers. Having seen Yan in action while setting up the Machine Vision lab with Hardik and then the Second Life Lab by himself, I can safely say that he is an asset to this institute. He will also be taking up the administration of the VMware ESX cluster which I have finished setting up this week.—Rushad Irani—IT Consultant

Adventures in South Korea

By Graeme Wake

The Korea Advanced Institute for Science and Technology (KAIST), Daejon has maintained its support of a team of Foreign Professors in Applied Mathematics since September 2002. The team is led by Graeme Wake from IIMS (pre-dating my coming here by a few months). This mechanism provided a means by which the five team members give senior input in teaching and research in Industrial and Applied Mathematics in KAIST by being in residence in rotation, in periods of a few weeks to up to four months, as individual circumstances permit. After the first two Team contracts (each being of duration three years) finished, the program was extended, showing that our hosts appeared to find the external input useful. Just recently it was extended two further years until August 2010. The team members are truly international. The new team includes Associate-Professors Bruce van-Brunt (from IFS in Massey Palmerston North) and Mark McGuinness (from Victoria University of Wellington), Professors Larry Forbes (from the University of Tasmania) and Tim Myers (from the University of Cape Town in South Africa). Previously two other (an Australian and a Canadian) Applied Mathematicians participated in the earlier contracts.

KAIST is one of several National Universities in South Korea: a country of 48 million people with a very advanced technological base. The students (mostly postgraduate) are among the best in the country and entry to KAIST is very competitive. A few foreign students attend now that all classes are given in English. The standing of KAIST is indicated by the fact that the previous University President was a Nobel Laureate (Bob Laughlin, from Stanford University in the US) in Theoretical Physics. The experience of being immersed in such a different culture has been challenging, but rewarding, for team members (and their partners in some cases) over the last six years.

Joint research has developed and KAIST has tried to encourage longer visits from team members where possible. Teaching is hampered slightly by the students' imperfect English, but this is changing rapidly, and is mitigated by their very high mathematical knowledge and ability. Prior to 2002 the curriculum in Applied Mathematics at KAIST resembled that of the US in the 1960s (where most of the Korean Faculty had done their Postgraduate training) and was recognized as needing rapid revision. This was the motivation for the creation of the team, which I (Graeme Wake) have been privileged to lead for eight years from 2002. I hasten to add that my time in residence there has been smaller than almost all the others. People liken it to my being a "captain on the bench or in the sin-bin"!!

In addition to teaching block courses in advanced Applied Mathematics, the team has led meetings entitled the Industrial Mathematics Initiatives and started a small Industrial Mathematics mini-Study Group activity. Also a group of about five post-graduate students from KAIST, usually accompanied by local Faculty, attend the ANZIAM Mathematics Study-Group each year. This has happened every year since 2004.

Team members are well-looked after by the KAIST Department members, provided with well-appointed on-campus apartment housing, and an excellent work environment. Post-graduate students often provide practical support. All costs are met, including a generous (in NZ terms) stipend. The social environment is interesting: Daejon being a city of about one million people. There is very little crime (compared to NZ even), and the most popular mode of transport around the campus and nearby is that of bicycles. The hardest obstacle is of course the climate extremes: an icy -20 degrees Centigrade in winter (the Daejon river freezes over); and a 100% humidity with +40 degrees Centigrade being quite frequent in summer, with everything in between. Koreans are a deeply religious people and Christianity seems more obviously prevalent than even in NZ (the most dominant religion is of course Buddhism). The cost of living is similar to that in NZ, and academic salaries are higher. Opportunities exist for foreigners to work in the Korean Universities as they are going through a period of rapid globalization. The work ethic is strong and frequently staff work into the evenings and weekends in their offices on campus. Thus 12 hour days are common. Open link to view the extreme climate :

http://img524.imageshack.us/my.php?image=gwpo6.jpg

Spring 'to-do' list: — Spring Garden Maintenance

Every season brings a different set of chores in the garden. Spring is an exciting time for gardeners as preparations are made for the bounty and beauty of the garden as it awakes from winter hibernation. It can also, however, be a bit overwhelming to know how to prioritize your gardening time at this time year. Here is a helpful list of chores that should be tended to in the spring.

Pruning

For early blooming shrubs such as forsythia and viburnum, prune them as soon as blooms have passed. Early spring is also an ideal time to prune your roses.

Deadheading
Remove spent flowers from bulbs, but leave the rest of the plant as is for the time being.

Weeding
Pull weeds from your beds and borders before they have a chance to take hold and spread.

Composting
Tend to your compost if it has been neglected over the winter. If you do not have a compost bin, spring is a great time to start one.

Plant
Spring is a great time to add new plants to your garden. Be sure, however, that all threat of frost has past. Plant such things trees, shrubs, hardy annuals, and summer blooming bulbs.

Fertilize & Mulch
Fertilize and mulch beds and borders. Spring is also a good time to fertilize fruit trees. If you applied heavy winter mulch for protection from the cold, you will need to clear it away.

Staking
Stake plants that may be prone to wind damage during the unpredictable spring weather.

Lawn Care
Spring is the best time to start a new lawn from seed. For established lawns, you should start mowing in the spring, but don't initially cut the grass very short for the first few times.

Of course, whether you start these chores in early, mid, or late spring depends on the climate where you live, taking in to account such factors as when the threat of frost has past or when the ground is thawed enough to dig. I hope these tips will give you a good idea as to where to focus your attention in your garden this spring. Enjoy!