MONASH News

Research, news and opinion from Monash University

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A great investment: beamline funding for the Australian Synchrotron at Monash.

Synchrotron beams with $5m boost

Science

Monash University has consolidated its commitment to the Australian Synchrotron, providing $5 million to fund beamlines in the machine and also establishing a cross-faculty centre with a focus on synchrotron science.

Vice-chancellor Professor Richard Larkins said the beamline funding acknowledged Monash's belief that the synchrotron was a vital piece of infrastructure that would allow Australian scientists and Australian industry to be competitive at the highest international level.

In 2001, the university announced it would make land available at its Clayton campus for construction of the Australian Synchrotron. Building of the synchrotron at the corner of Blackburn and Wellington roads began last year. It is due for completion in 2007.

A synchrotron is a particle accelerator that uses high-energy electrons to create bright, pinpoint beams of light. This high-intensity light is directed along beamlines to experimental stations where scientists examine the structure of matter at an atomic scale.

Professor Larkins said Monash was delighted to make the land available for the synchrotron and wished to take full advantage of the location of the synchrotron at its Clayton campus.

"We have appointed a professor of synchrotron science, Rob Lewis, and have devoted considerable resources to establishing a centre for synchrotron science, bringing together researchers from different disciplines who will develop the expertise to exploit the potential of the synchrotron," he said.

"This technology is so important to Australia's future as a knowledge nation strong in science and technology that over and above our commitment of the land on which the synchrotron is located and our internal investments in synchrotron science, we are now committing $5 million to the funding of the beamlines. We consider it a great investment not only in synchrotron science, but also in the future of Monash."

Professor Lewis said the Monash University Centre for Synchrotron Science would coordinate synchrotron research across the university.

"The idea is that the centre will have staff in different faculties and departments so in one sense it's a virtual centre, however it will also have a staffed central office," he said.

"The centre will have technical staff whose task will be to develop platform technologies for the synchrotron. For example, it will have a central instrumentation group developing technologies and measurement techniques such as detectors and optics that will assist Monash researchers in getting the best out of the synchrotron."

– Penny Fannin

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The high cost of monkey business

Accident research

Children are continuing to break their arms in playground falls despite the introduction of Australian safety standards, according to a new Monash University study.

While current playground safety standards have reduced the risk of head injuries, they are not stopping playful youngsters fracturing their wrists, elbows and arms in falls from equipment.

Dr Shauna Sherker, a research fellow at the Monash University Accident Research Centre (MUARC), studied more than 700 playground falls resulting in arm injuries. Her preliminary results indicate that the current safety standards should be reviewed.

The PhD study formed part of a National Health and Medical Research Council (NHMRC) project investigating playground safety, being managed by Dr Sherker's supervisor Professor Joan Ozanne-Smith.

Dr Sherker's study examined injuries to children under the age of 13 due to falls from equipment such as climbing frames, monkey bars and slides in Victorian schools and pre-schools.

The research team interviewed children in the playground about their falls and noted the height of the equipment and the depth and type of surface material.

Dr Sherker said almost 7000 children a year in Victoria were injured in playground accidents, costing the health system $10 million in direct medical costs. "The injury and subsequent visit to the emergency room – plus hospitalisation in nearly a quarter of the cases – is a traumatic experience for the child, family and playground owner," Dr Sherker said. "Arm fractures also have the potential to cause developmental problems if the break occurs before the growth plate has fully developed."

Monkey bars: injury risk. **Photo: AAP**

Dr Sherker's PhD research, 'Out on a limb: risk factors for arm fracture in children who fall from playground equipment', and the broader NHMRC research project were prompted by Australian and overseas data indicating arm fractures continue to occur frequently in playground falls. This is despite the introduction of safety standards in 1996 aimed at minimising head injuries.

Current Australian safety standards recommend a maximum equipment height of 2.5 metres and a minimum surface depth of 20 cm. But the study's preliminary results show consideration should be given to reducing maximum equipment height to 1.5 metres and ensuring the surface material – usually tanbark or recycled rubber – is maintained at a depth of 20 cm, instead of allowing it to deteriorate over time.

"The safety standards are voluntary, however playground owners – particularly schools, child care centres and local governments – recognise that they have a duty of care to the children who use the equipment, and generally a high level of compliance exists," Dr Sherker said. "Playground owners generally are doing everything they should be doing, and it's clearly not enough, so it's the standard itself that is not sufficient to minimise the risk of arm fracture."

Dr Sherker is presenting her study at the National Playground Conference in Sydney this month, organised by Kidsafe New South Wales Inc. The conference is exploring issues confronting the development of safe yet challenging and fun play environments.

Professor Ozanne-Smith said arm fracture was also the most common significant injury for many other sport and recreational activities and that MUARC was continuing to work in this important area of injury prevention research.

– Allison Harding

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Feast on the visual and performing arts at Monash

The *Satellite Cities and Tabloid Life* exhibition opening at the Monash University Museum of Art in May will feature high-impact images such as 'Ariane (sales manager) 2002', left, by photographic artist Selina Ou. For details of upcoming visual and performing arts experiences at Monash, see **page 6**.

Monash fosters strong links with overseas alumni

Monash graduates in London and San Francisco turned out in force to meet new vice-chancellor Professor Richard Larkins AO and Mrs Caroline Larkins at special events for alumni last month.

More than 170 graduates and other Monash supporters assembled at Australia House in London, across the road from the Monash University London Centre.

His Excellency Australian High Commissioner to the UK Michael L'Estrange opened the event and praised the work of the Monash London Centre in spreading the word about Australian education.

Professor Larkins, who commenced as vice-chancellor on 1 September 2003, spoke of his vision of excellence and diversity at Monash to an enthusiastic audience. "It was an outstanding event and we were overwhelmed by the attendance," he said. "It was delightful to connect with students from the 1960s as well as recent graduates, and we look forward to an even stronger event in the future."

In San Francisco, Professor Larkins hosted a joint alumni/internship dinner in recognition of the ongoing connection between Monash and IT giant Macromedia and meet with alumni working in and around Silicon Valley.

Professor Larkins met five high-achieving information technology students who had just completed a three-month internship at the US headquarters of Macromedia.

The program was established two years ago with the support of Monash graduate and Macromedia vice-president Mr Alan Ramadan.

The students, who were the top second-year IT students at Monash in 2003, worked in an IT role and were mentored by senior Macromedia staff.

The 2003/2004 participants were Ms Alissa Giarratana, Mr David Hamilton, Ms Andrea Matthies, Ms Shristi Sharma and Mr Phong Vu Tran.

- Karen Stichtenoth

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Vital connection: Vice-chancellor Professor Richard Larkins addresses the 170-strong crowd at Australia House in London.

New building a milestone for campus

Monash South Africa

An exciting new phase has begun at Monash University's campus in South Africa with the opening of a teaching and seminar building.

The new building, phase three in the development of the campus, is the largest of the teaching buildings on campus and provides extra teaching facilities as well as space that can be used by the local community.

It has been completed in time to accommodate increased student numbers for the 2004 academic year and includes three 60-seat seminar rooms, which can be used as lecture halls or for functions, and seven 25-seat tutorial rooms.

The building also has a student cafeteria, two computer labs, a media lab, 64 staff offices, three meeting rooms, a psychology observation lab and a psychology viewing room, as well as an open atrium with seating areas for students.

Monash South Africa pro vice-chancellor Professor John Anderson said the new building marked a significant milestone for the campus.

"That one extra building makes a big difference to this campus," he said. "It is a case of sufficient quantitative change makes a qualitative change. We now have a range of spaces for functions of up to 200 people and extra room for our students."

The building means that Monash South Africa can accommodate further growth for up to five years.

Stage three of the campus's development coincides with a growth in course offerings in the School of Arts at Monash South Africa. This year, the school will offer French classes at first-year level under an agreement with Alliance Française and will also provide African literature courses at first-year level.

– Diane Squires

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"A big difference": Professor John Anderson outside the new building.

Looking forward to his new role: Mr Max Delany, the newly appointed artistic director of the Monash University Museum of Art.

New artistic director for Monash Museum

Visual arts

Prominent visual arts figure Mr Max Delany has been appointed artistic director of the Monash University Museum of Art (MUMA) and will take up his role in late March.

MUMA is home to the Monash Collection, which includes an outstanding array of contemporary Australian art. An extensive exhibitions program reaching a range of local, national and international audiences is mounted by MUMA each year.

Mr Delany, a Monash graduate and the current director of Gertrude Contemporary Art Spaces in Melbourne, said he was looking forward to the challenges of his new role. "Monash has a long and distinguished history of exhibitions and programs and one of the country's most important collections of contemporary Australian art," he said.

"The role will allow me to build upon these significant public programs and to become involved with the activities of students and staff at Monash, as well as the broader arts and general communities."

Mr Delany has been heavily engaged in developing contemporary art, presenting exhibitions, publications, cultural exchange and public projects for museums and contemporary art spaces at a national and international level over the past 10 years.

Previously the curator at the Heide Museum of Modern Art in Melbourne from 1995–99, he has contributed essays to a wide range of journals and participated on a number of advisory committees.

Monash vice-chancellor Professor Richard Larkins said he was delighted with Mr Delany's appointment.

"We are extremely fortunate to have someone of Max's ability to continue building the Monash tradition of supporting the visual arts," Professor Larkins said.

The appointment was also welcomed by Professor John Redmond, chairman of the MUMA committee and dean of the Faculty of Art and Design.

"Monash is fortunate to have someone of the calibre and experience of Max Delany to drive its vision for the visual arts," Professor Redmond said.

"I'm confident he will make a strong contribution to Monash's reputation of pre-eminence in the arts field."

Briefly

Research growth a priority

Monash's new deputy vice-chancellor (research), Professor Edwina Cornish, arrived last month with a desire to enhance the university's international reputation for quality research and research training.

Professor Cornish, who was previously deputy vice-chancellor (research) at the University of Adelaide, said she would like to see Monash build on its research strengths. "The university has a breadth of research excellence that's attractive to someone in my position, and with infrastructure developments such as the synchrotron and the Monash STRIP, it's an exciting time to be here," she said. There is a sense of energy and a 'can do' attitude at this university. Monash has been at the frontier of doing things differently, which is increasingly important given we now live in a world that requires universities to be more innovative in the way they do research."

Back to the future for new law dean

This year promises to be one of change and challenges for Monash Law as the faculty welcomes its new dean, Professor Arie Freiberg, and celebrates its 40th anniversary.

Professor Freiberg's appointment as Law dean sees him return to Monash, where he previously taught for 15 years. He comes to Monash from the University of Melbourne, where he was dean of the Faculty of Arts.

Since he began work in January, Professor Freiberg has established several goals, one of which is to raise the public profile of the Law faculty in its landmark year. "We have outstanding academic staff doing really interesting work, and it is important for us to be seen in the community, speaking at seminars, at schools and to the media," he said.

Monash appoints new STRIP executive director

The first stage of the Monash Science Technology Research and Innovation Precinct (STRIP) has recently been completed, and the university has appointed Dr Elane Zelcer as the executive director to manage and develop the precinct.

The Monash STRIP, at the university's Clayton campus, will enable business, industry and the community to access the research, technology and education skills of the university, and the university to harness the expertise of business and industry.

Dr Zelcer returns to Monash having gained experience in extracting technologies from universities through her roles as CEO of Montech and Thrombogenix/Kinacia (a spin-off from Monash's Department of Medicine at Box Hill Hospital) and more recently through her work with venture capital company ES Group Ventures and patent attorney firm Watermark.

Dryland salinity research surprise

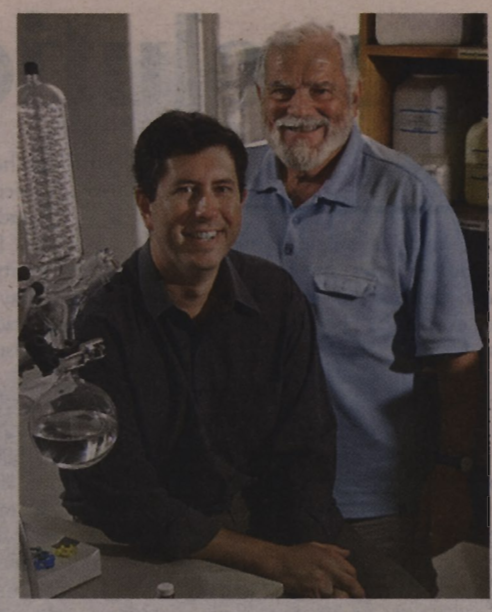
A Monash University researcher has discovered that dryland salinity – one of Australia's most pressing environmental problems – does not happen as people thought.

Dr Ian Cartwright, reader in the School of Geosciences, said nearly 5.7 million hectares in Australia were currently affected by, or at risk of, dryland salinity. His findings, presented at a conference in Bendigo last month, could change the way affected areas are managed.

It was thought that dryland salinity occurred because rising water tables dissolved ancient salt deposits in rocks and soil. But chemical testing in affected parts of Victoria has revealed that evaporation rather than dissolution of salt is the dominant process.

Dr Cartwright said his research endorsed methods – such as planting trees – that lowered the water table. The areas most at risk were those with shallow water tables, regardless of whether there was any salt in the soil, he said.

Dietary supplements under the microscope



Helping consumers make better choices: Dr Steven Langford (left) and Dr Gordon Troup. **Photo: Greg Ford**

Science

The claims of companies that manufacture dietary supplements and herbal remedies should be independently scientifically investigated to help consumers make better choices, say Monash University researchers.

The importance of independent testing was revealed last month when a Taiwanese study of the herbal anti-depressant St John's wort found that the concentration of hypericin, the active ingredient in the product, was not always as stated on the label. The researchers found that the concentration of hypericin varied from just 2.9 per cent of what was stated on the label to 114 per cent.

The Monash researchers, who have previously studied the antioxidant activity of five different whiskies, have now investigated the antioxidant efficiency of two pine bark extracts, one derived from French Maritime pine bark and manufactured in Germany and the other from the New Zealand native pine, *Pinus radiata*, and made in New Zealand.

Phenolic antioxidants are believed to protect human cells from the damage caused by unstable molecules in the body, called free radicals. Free radical damage has been associated with cancer and premature skin ageing.

Red wine is famously known as an effective antioxidant, but people concerned about the effects of alcohol have turned to other antioxidants, such as pine bark.

Dr Gordon Troup, from the School of Physics and Materials Engineering, and Mr Irwin Cheah and Dr Steven Langford, from the School of Chemistry, used two scientific tests to measure the antioxidant activity of the two pine bark samples. The research was presented at the 28th Annual Condensed Matter and Materials Meeting in Wagga Wagga, New South Wales, last month.

One test used electron paramagnetic resonance (EPR) spectroscopy, which picks up a signal from the free radicals that have been stabilised by antioxidants.

"If a compound has phenolic antioxidants in it, it should give you an EPR signal," Dr Troup said. "The strength of this signal is an indication of the concentration of the phenolic molecules and therefore of the antioxidant action of the substance."

The other test was a chemical technique that measured antioxidant efficiency by creating free radicals and then examining how efficiently antioxidant preparations caused the concentration of free radicals to fall.

Testing found that French Maritime pine bark's efficiency was 55 per cent, compared to *Pinus radiata* at 53 per cent. By way of comparison, vitamin E has an efficiency of 93 per cent. Commercially, French Maritime pine bark is known as Pycnogenol and *Pinus radiata* pine bark as Enzogenol.

"This study found that the two pine bark extracts were comparable medicines in effectiveness," Dr Langford said. "However, price is also a factor for consumers, and the *Pinus radiata* extract may be cheaper."

"There are good and bad supplementary extracts, and these pine bark extracts are two good ones," Dr Troup said. "But if one of the extracts had shown an efficiency of 2.9 per cent as was seen in the St John's wort study, we would have been a bit worried.

"These types of studies are not only of scientific and community interest. They also indicate that it is necessary for independent bodies to check manufacturers' claims about the contents and effects of their dietary supplements and herbal remedies."

– Penny Fannin

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"Large Holden cars are big sellers in the UAE and Saudi Arabia": Professor Brian Fildes. **Photo: Delwyn Hewitt**

Middle East road safety push

Accident research

The Monash University Accident Research Centre (MUARC) campaign for safer roads, vehicles and driver behaviour is expanding into the Middle East.

MUARC, a world leader in road safety research and initiatives, is assisting the United Arab Emirates University (UAEU) to establish a Traffic Safety Research Centre at its main campus in Al Ain.

Professor Brian Fildes, chair of road safety at MUARC, said the most important initial task was to establish reliable data on the number and types of crashes that lead to injuries and death on UAE roads.

"There is a high accident rate, and crashes tend to be severe and often related to fatigue, speeding and road hazards such as animals – however, accurate data collection is a vital starting point," he said.

Professor Fildes said MUARC would assist the UAEU to set up the cross-faculty research institute, provide training for investigators, supply equipment for conducting crash inspections, and monitor the process and quality of the data received.

He said the concept for the institute developed as a result of his discussions and visits to the UAE over several years to promote the possibility of establishing a research centre with links to Monash. The institute's first project, which already has the support of the UAE government, will examine the on-road performance and crashworthiness of Holden vehicles exported to the UAE from Australia.

MUARC itself has had a long and successful research collaboration with Holden in Australia, providing them with valuable input into the design of their Commodore models.

"The large Holden cars are big sellers in the UAE and Saudi Arabia, and the company recognises that it's time to evaluate their performance on the roads – particularly the large freeways – in those countries," Professor Fildes said.

"The detailed in-depth analysis of crashes involving Holden vehicles is a significant initial project for the new research institute, and MUARC will be assisting them throughout the study."

Monash deputy vice-chancellor Professor Stephen Parker and Professor Fildes are travelling to the UAE this month for the March 15 signing of the historic memorandum of understanding with the UAE University to set up the institute.

Professor Parker said Monash University had a growing number of links with the UAE.

"This project by our highly successful Accident Research Centre will strengthen and deepen them, to the benefit of Monash staff and students generally," he said. "I hope MUARC and its collaboration with Holden can make a contribution to road safety in the UAE in the same way that it has done in Australia."

– Allison Harding

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Western influence on African flirts

Communications

Western influences in the media appear to be making young Africans question their traditional beliefs and values when it comes to flirting, research at Monash South Africa has found.

The research, by communications lecturers Dr Linda Venter and Ms Franzel Du-Plooy-Cilliers, aimed to explore the flirting techniques used in traditional African cultures and to examine the interaction between different cultural groups with regard to accepted flirting behaviour.

Forty young people aged 18 to 25 from Sotho, Zulu, Tswana, Tsonga and Sepedi communities took part in the study.

The findings were presented at the Transformation in Politics, Culture and Society Conference in Vienna in December and will lead to further research in the area.

Dr Venter said that while flirting was not common in many traditional African cultures, young people were adopting Western flirting methods to attract members of the opposite sex.

"According to both female and male participants in our study, females usually make the first move but it is done in very subtle ways, such as making eye contact with the male, smiling and looking away," she said.

"This is interesting because it is against the cultural norm in most African cultures for a female to approach a male. In most African cultures, strong eye contact is also seen to be aggressive, yet young people are adopting this Western trait when flirting."

Ms Du-Plooy-Cilliers said that while in African culture males generally used a direct approach and made their intentions known immediately, the study found that Western influences had resulted in some Africans using pick-up lines to approach females.

However, she said African males would often then compliment women on their bodies, which was not usually the practice in Western cultures.

"For instance, men would say to women that they had a beautiful body or a nice behind," she said.

Participants in the study said they had learned how to flirt through watching television, particularly soapies, reading magazines and from their peers.

– Diane Squires

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The evolution of faith

Biological sciences

Faith-based systems, such as religions, may behave like biological species by forming interacting groups similar to ecological communities and evolving. These are the conclusions of a Monash PhD researcher who, with two European colleagues, has built a computer model that tracks the fate of competing systems of ideas over time.

The model is one of the first systematic explorations of an idea usually attributed to evolutionary biologist Richard Dawkins – that cultural information is passed from person to person in a similar way to genes passing from parent to offspring. Dawkins argues that cultural information is subject to the same pressures of natural selection and competition for survival as genes.

Ms Suzanne Sadedin, a PhD researcher in the School of Biological Sciences, decided to investigate Dawkins' idea by building a model that simulated how complexes of ideas might evolve. She made the decision while attending a Santa Fe Institute summer school on complex systems in Budapest and, while there, built the model with the help of Polish physicist Mr Bartlomiej Dybiec and English computer scientist Mr Gerard Briscoe.

"It has always fascinated me that there is such huge diversity in what people believe," Ms Sadedin says. "People can believe completely contradictory things. Why does this diversity exist? Dawkins' idea is quite compelling."

The researchers selected faith-based systems, such as religions, for their model because such systems are not necessarily adaptive in an evolutionary sense.

"In fact, there are clear examples of religious beliefs that are maladaptive for individuals," Ms Sadedin says. This means that faith-based systems can spread on their own merits as ideas.

The team's simulation used 'agent-based modelling', where each agent or person was randomly assigned a faith-based system and particular values for four characteristics relating to faith that could be passed on to their offspring – the tendency to resist conversion, to help transmit the faith, to convert other agents and to invent a new faith. Each faith was defined by its tendency to convert, to resist conversion and to change.

The world of the agents was a two-dimensional grid – either 10 by 10 or 20 by 20. During the simulation, agents interacted with their neighbours and converted or failed to convert them on the basis of their own characteristics and those of their faith. Agents could reproduce and also die.

What the researchers found was that the more complex the system – ie the bigger the grid or the bigger the number of interactions between agents – the greater the number of faiths coexisting at any point in time. But one faith always ended up dominating.

"Probably the most interesting thing to come out of the work was how closely it reflected ecological theory," Ms Sadedin says. She says the results are limited because the model was set up to reflect a small, isolated community. "Humans don't live on a lattice, but in rich social networks. The initial model was a toy to see whether the idea was worth pursuing."

Mr Dybiec, she says, is now building a more complex model that more closely reflects human social networks.

– Tim Thwaites

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Dubai connection for Monash paramedics

The Monash University Centre for Ambulance and Paramedic Studies (MUCAPS) is developing educational links with the United Arab Emirates (UAE) city of Dubai.

The centre has begun training its first international student, Ms Jamila Khalifa Salem Al Zaabi, a staff sergeant and ambulance medic with the Dubai Police Ambulance Service.

When she completes the three-year course at the Monash Peninsula campus, Ms Al Zaabi will return to Dubai as an ambulance paramedic clinical leader.

MUCAPS is also planning to provide a paramedic training course in Dubai, in collaboration with the Dubai Police Ambulance Service and the Dubai Women's College.

According to Mr David Shugg, senior lecturer and head of MUCAPS' Parkville site, it was the centre's international reputation that led to its involvement in the development of the course. "The Dubai Police Ambulance Service and Dubai Women's College are keen to develop their ambulance paramedic program to an international university standard with a vocational emphasis supported by the local emergency ambulance service," Mr Shugg said. "They felt we were ideal for the project."

MUCAPS has appointed Mr Omer Sakaf, head of the Dubai Police Ambulance Service, as a sessional lecturer (international) to support the centre's work in Dubai.

The centre has also held discussions with Dubai's Rachid Hospital to provide a range of professional and graduate programs.

Mr Shugg, together with MUCAPS director Associate Professor Frank Archer and Frankston Hospital director Associate Professor Jeff Wassertheil, will visit Dubai this month to speak at an international emergency medical disaster conference and to advance the centre's relationships in the UAE.

– Robyn Anns

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First international paramedic student: Ms Jamila Khalifa Salem Al Zaabi. **Photo: Greg Ford**

How to engineer decision-making

Engineering

Decision-making is an everyday event. What shirt to wear, what lane to drive in and what to have for lunch – most people make these decisions with little fuss. But when it comes to larger decisions, especially workplace decisions with financial or managerial implications, a more sophisticated approach is required.

For the past 30 years, many businesses, mostly in the field of engineering and technology development, have used a simple decision-making technique developed by Scotsman Professor Stuart Pugh. But this technique has some drawbacks such as intangible results.

Now, Mr Samuel Sela, a visiting academic in Monash's Department of Mechanical Engineering, has developed a new technique that uses quantitative tools and statistical methods for choosing the best alternative.

Mr Sela, on sabbatical from RAFAEL, an Israeli research and development institution, said the basic technique had been developed to address problems in engineering but could be adapted and used to help decide the best person to employ, the best worker for a particular task, the ideal marketing strategy or the most prudent political decision.

"Decision-making can apply to anything, not just design issues in engineering," Mr Sela said. "In everyday life, when decisions are made on what car or dishwasher to buy, people make their judgement based on cost, colour, size and speed, as well as other factors. In engineering, with the development of new products, you frequently get to points when important decisions need to be made. Choosing nuts and bolts is not a problem, but when you have to make decisions that could cost millions, it is helpful to have a tool to aid the decision-making."

Mr Sela's decision-making method involves assigning a team and a leader to a problem. The team members represent the different areas that are relevant to the specific problem – for example mechanical, electrical and software engineers as well as management.

The team members decide the different factors that need consideration – such as cost, performance, weight, specifications, the company's requirements, reliability, maintainability and ease of assembly – and individually give a score that reflects how much a potential product rates for each of the factors. This scoring is then statistically analysed and the best alternative presented.

"In this methodology, the leader also has the function of rating the importance to the company of each of the factors," Mr Sela said. "The leader must not let the other team members know – this makes them objective in their scoring. One of the advantages of this method is that it is 'personality free' – no one person can override the views of another, as each person does their own scoring."

Mr Sela said that although his decision-making technique was developed for use in engineering, many of its principles, such as identifying the important factors and scoring them, could be applied to everyday decision-making. He even used the technique to choose his last car.

– Penny Fannin

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Schools

Pharmacy UMAT

Students applying to do Pharmacy or Pharmacy/Commerce at Monash in 2005 will be required to sit the Undergraduate Medicine and Health Sciences Admission Test (UMAT) as part of the selection process. For further information about the UMAT, visit www.acer.edu.au/umat.

Alternative paths to pharmacy

Students who miss out on a place in the Bachelor of Pharmacy and who wish to consider alternative pathways into this course are advised to undertake a Bachelor of Science with units such as physiology, chemistry and maths. However, they should be aware that transferring into Pharmacy from another degree is highly competitive.

Schools activities and services

The *2004 Schools Activities and Services* brochure has been mailed to all school career coordinators. The brochure details activities and services offered by the Prospective Students Office (PSO) at Monash and contains contact details for PSO and faculty staff, as well as a timeline of major dates. For more copies, call the PSO on +61 3 9905 1320.

Monash open days 2004

Saturday 31 July: Gippsland, Parkville and Peninsula campuses;
Sunday 1 August: Berwick, Caulfield and Clayton.

Rallying the voters: Above, supporters wave flags in front of a poster of Lien Chan (left), presidential candidate for the main opposition Kuomintang, and James Soong, vice-presidential candidate for the opposition People First Party. Right, President Chen Shui-bian (centre), presidential candidate for the ruling Democratic Progressive Party, joins supporters for an anti-Chinese missiles elections rally.

Photos: AAP

Taiwan's push for democracy moves forward

A combination of democratisation and threats from China has changed the perspective of the people of Taiwan, writes **BRUCE JACOBS**, professor of Asian languages and studies and director of the Taiwan Research Unit in Monash's Faculty of Arts.

The people of Taiwan face new challenges as they go to the polls on 20 March to elect a president and vote in two referendums. Having moved forcefully for democracy, they now face ever-increasing missile threats from China.

The island of Taiwan lies 130 km off China's southeast coast. With an area half the size of Tasmania, it has a population of 23 million.

Chinese and Europeans first came to Taiwan in the 17th century. The Dutch, Spanish and Chinese rebels all ruled Taiwan until 1683, when the Qing or Manchu Dynasty, which ruled China from 1644 until 1911, incorporated Taiwan in its empire.

In 1895, after the Sino-Japanese War, China ceded Taiwan to Japan, which ruled the island as a colony and source of rice and sugar for 50 years. The Japanese did, however, raise standards of living and implemented strong administrative systems.

Taiwan again became part of China in 1945 after World War II. Taiwanese welcomed their return to China, but became disappointed when the Chinese government saw Taiwan as occupied enemy territory rather than as a part of China reunited with the homeland. In addition to being brutal, the occupying regime was also corrupt.

The Chinese Nationalists (Kuomintang), who had come to power in China in 1927, lost power on the Chinese mainland to the Chinese Communists in 1949, but retained it in Taiwan. They instituted a strong dictatorship that insisted on Taiwan as part of China and a need to recover the mainland from the Chinese Communists. The government in Taiwan discriminated against native Taiwanese in favour of mainlanders and instituted a 'white terror' with firing squads and strong prisons for Communists and those supporting Taiwanese independence.

In the 1970s, some reform began to take place and an opposition supporting democratisation emerged. Yet, especially in the late 1970s and early 1980s, repression continued and many opposition leaders endured long terms of imprisonment. Finally, President Chiang Ching-kuo, in the last 18 months of his life, began to implement reforms. In late 1986, the newly formed Democratic Progressive Party was allowed to continue without the arrest of its leaders, and it fought the parliamentary election that year under its own name. In late 1986, the Nationalists also announced the end of 40 years of martial law.

When President Chiang Ching-kuo died in January 1988, his Taiwanese Vice-President, Lee Teng-hui, succeeded him. Many of the old mainlander elite expected President Lee to be a figure-head, but he proved a tough political operator who worked hard to democratise the island. One notable advance was the implementation of direct, popular elections for the presidency, the first of which took place in 1996.

China seems more aware today that threats backfire when aimed at Taiwan ... But China has increased the number of missiles aimed at Taiwan year by year and now at least 496 missiles are pointed at the island.

In 2000, Chen Shui-bian, the presidential candidate of the opposition Democratic Progressive Party, won owing to a split among the Nationalists. Despite not having a clear majority in the parliament, President Chen and his government have attempted to implement a variety of reforms. This has not been easy when the new government has had only a limited number of political appointments and faces civil servants used to 55 years of Nationalist rule.

Thus, the presidential election of 20 March is significant. Will the people give the Democratic Progressive Party another four years to consolidate the reforms already begun? Or would they prefer the old Nationalist Party rule, which some believe has a firmer hand on the rudder of economic policy?

The increasing threat of China shadows these domestic concerns. China claims Taiwan as its own territory. Unfortunately, the Chinese have proved unwilling to talk to President Chen despite his peaceful overtures. Rather, the Chinese seem to believe that threats work. The circumstances, however, have repeatedly proven them wrong. Chinese missile exercises with dummy warheads crashing near Taiwan's harbours during the 1996 election campaign only increased President Lee Teng-hui's vote by some 20 per cent. Chinese Premier Zhu Rongji's rude and threatening speech during the 2000 campaign shocked Taiwanese voters and probably helped President Chen win election.

China seems more aware today that threats backfire when aimed at Taiwan, so it has not made many high-level statements on Taiwan this year. But China has increased the number of missiles aimed at Taiwan year by year and now at least 496 missiles are pointed at the island.

The combination of Chinese threats and democratisation has changed the perspectives of Taiwan's population. A series of polls since 1992 indicate that the number of Taiwan residents who believe themselves 'Chinese' has declined from 26.2 per cent to 9.1 per cent, while those who believe themselves 'Taiwanese' has increased from 17.3 per cent to 41.5 per cent. The proportion that consider themselves as both 'Taiwanese and Chinese' has declined slightly from 45.4 per cent to 43.8 per cent, while the non-response rate has declined from 11.0 per cent to 4.9 per cent. This suggests that such issues are widely discussed in Taiwan today.

President Chen, in an attempt to capitalise on these changes in identity, has decided to have the population vote on two referendums at the same time as the presidential election. These referendums basically ask voters whether they agree the government should (a) acquire more anti-missile missiles to strengthen Taiwan's self-defence capabilities and (b) engage in negotiation with China to establish a peace and stability framework.

Most people expect these two referendums to pass easily. The key question will be whether voters also vote for President Chen's re-election at the same time. Current polls indicate the final result will be very close.

Great diversity in new performing arts season

There is great diversity in the 2004 Monash University performing arts season, launched recently at a special soiree for Monash staff, alumni and invited guests.

The season, which will run at the Alexander Theatre at Clayton campus, features productions from top Australian companies including Melbourne Theatre Company, Playbox and Bell Shakespeare, as well as offerings from some exciting lesser-known companies.

Performing and Visual Arts director Ms Jan Clancy said the university's emphasis on supporting Australian material and actors would continue in the 2004 program.

"This policy of celebrating the best Australia has to offer has proved very popular with our audiences – and at the same time it gives us great flexibility and diversity," she said.

The season will commence on 10 March with *Wallflowering* by Peta Murray. Featuring Noeline Brown and Doug Scroope, it is a funny and poignant play about the nature of marriage and the elusive pursuit of happiness.

Charles 'Bud' Tingwell will return later in the year in his remarkable role as George Parker in *The Carer.*

Ms Clancy said another highlight would be the return of the Bell Shakespeare Company, which will present *A Midsummer Night's Dream.*

Stars of the soiree: Host for the evening Jo Stanley from FOX FM (front) with Charles 'Bud' Tingwell and Noeline Stewart, who entertained guests with anecdotes about their roles in the season's shows.

"In addition, we have an exciting performance of Japanese drumming, *Thunder Has a New Name*, by one of Australia's most exciting drumming groups, and *Runners Up*, a high-energy take on the world of sport, incorporating acrobatics, dance, and aerial and circus skills," she said.

"We are also very pleased to be presenting Melbourne Theatre Company's production of *Second Childhood*, by Glenn Perry from the novel by Australian writer Morris Gleitzman."

Possum Magic, suitable for the whole family but perfect for three-to-eight year-olds, celebrates 21 years of Australia's best known picture book.

Now in its ninth year, the Monash University Schools' Theatre Festival will again showcase short theatre performances devised or written by Year 9 or 10 students in Victoria.

Booktalkers for Teenagers is another popular initiative that will continue this year. "Young people tell us that hearing the authors talk is inspiring, and they find the performances by our students great fun," Ms Clancy said.

Subscriptions to the Performing Arts Program are now available. Visit the 2004 program online at *www.monash.edu.au/monart/events/* or contact the Monash Box Office on +61 3 9905 1111 to request a brochure.

– Ros White

Quintessentially Australian: Bronwyn Wright's winning photograph, 'Jump! – 4 Ever Family'

Award-winning view of the family

A Monash University postgraduate student has recently won the inaugural $20,000 Energex Arbour Contemporary Public Art Prize for her quintessential Australian photograph, 'Jump! – 4 Ever Family'.

Ms Bronwyn Wright, who lives in the Northern Territory, is undertaking a Master of Fine Arts in photo media research, via off-campus learning, at Monash's Caulfield campus.

The inspiration for her award-winning photograph – taken in the Swamp, a wasteland area on the edge of Darwin – was family, but not the stereotypical family. The image depicts a mother watching her son jumping athletically from an abandoned car.

"Family life is often ragged, but in this moment this family is resilient, uplifted and united. There is a sense of fun, hope and promise," Ms Wright said. "The image is essentially an expression of family life. This solo parent family is typical of our time. The image depicts a shared intimacy and celebrates a unique bond and, I believe, captures the joy of both childhood and parenthood."

The Queensland-based prize, introduced by Energex and South Bank Corporation in 2003, is open to professional artists throughout Australia and overseas and is judged on a single photographic image. The theme for 2003 was the Australian family.

Ms Wright was ecstatic about her win, which was announced by the Queensland Premier, Mr Peter Beattie, in Brisbane late last year. Her $20,000 prize has enabled her to pay off her debts and purchase a new digital camera and computer equipment, as well as upgrade her car.

A noted photographic artist, Ms Wright has had her work featured in galleries in the Northern Territory, Adelaide and New Zealand. She has also received recognition for several short films. Aside from her studies at Monash, she lectures in graphic design at Charles Darwin University. After completing her masters degree, Ms Wright plans to scale back her teaching commitments and concentrate on her arts practice.

Ms Wright is currently exhibiting at the Adelaide Biennial of Australian Art and in the Suburban Edge exhibition at the Australian Centre for Photography in Sydney, which is set to tour nationally.

– Karen Stichtenoth

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Imants Tillers: 'Transmission from Russia on the theory of solar light radiations' 1986. At Monash University Museum of Art.

Feast of Monash art exhibitions

The Monash University visual arts calendar across its three galleries – at Clayton, Caulfield and Gippsland campuses – offers rich and varied exhibitions over the next few months.

MUMA (Monash University Museum of Art) at Clayton campus will present *Transmissions: Works by Imants Tillers* (24 March to 15 May). Often hailed as the most important Australian artist of his generation, Imants Tillers has had extensive solo exhibitions overseas and represented Australia at the Venice Biennale.

A leading exponent of 'postmodern appropriation', Tillers takes imagery from other artists' works to create new works, commenting on contemporary society, spirituality, the human condition and originality in art.

Transmissions will present some of his lesser-known works including several that have not been shown in Australia before. The works will inform and provide a wider context for the two Tillers works held in the Monash University Collection.

Satellite Cities and Tabloid Life (26 May to 3 July) is a mix of photography, installation and painting. The works fuse high and low cultural forms, art and design, and straight and bent lifestyles to explore concepts of space, expressions of popular culture, and public and private life experience.

The exhibition will include about 20 works by eight artists, including Howard Arkley, Patricia Piccinini, who represented Australia at the 2003 Venice Biennale, and Mathew Griffin, who has been commissioned to create a large wall piece for the exhibition.

At the **Faculty Gallery**, within Art and Design at Caulfield campus, an exhibition of winning student sculpture will be on display from 4 March to 1 April. It showcases the work of the successful finalists in the fourth Baldessin Foundation Travelling Fellowship.

The entrants in the competition were all third-year sculpture students last year at Monash University, RMIT or the Victorian College of the Arts.

This exhibition will be followed by *Sharuku Interpreted by Japan's Contemporary Artists* (8 April to 13 May), which will pay homage to the ancient Japanese tradition of printmaking through the works of 28 graphic designers and 11 fine artists.

Developed as a support for the Gippsland Centre for Art and Design, the **Switchback Gallery** presents both travelling and local exhibitions, providing a hub for artistic and community activity in Gippsland. Its current exhibition (on until 18 March) is *Buckets and Boundaries*, by ceramic artist Merran Esson, a postgraduate student at the Gippsland centre.

In this exhibition, the artist explores family and cultural identity as well as concepts relating to scale, form and function.

This will be followed by *Cloud and Empire*, by Michael Riley (23 March to 23 April). One of Australia's most respected artists, Riley uses photographs and film to provide a poignant exploration of Aboriginal life and history.

In *Cloud*, which is based on his personal experience, Riley investigates the impact of an enforced Christian upbringing on Indigenous communities throughout Australia. *Empire* is the highly acclaimed 1997 film directed by Riley for the Festival of the Dreaming, with music by the Tasmanian Symphony.

Cloud and Empire is presented at the Switchback Gallery by MUMA and is an Australian Centre for Photography touring exhibition.

– Ros White

Show notes:

MUMA
Ground floor, building 55
Monash University
Clayton campus
Wellington Road
Clayton, Victoria 3800
Open: Tuesdays to Fridays, 10 am to 5 pm; Saturdays 2 pm to 5 pm
Closed: 9 to 13 April

Faculty Gallery
Art and Design building
Monash University
Caulfield campus
900 Dandenong Road
Caulfield East,
Victoria 3145
Open: Mondays to Fridays, 9 am to 5 pm
Closed: 9 to 12 April

Switchback Gallery
Building 6S
Monash University
Gippsland campus
Northways Road
Churchill, Victoria 3842
Open: Mondays to Fridays, 9 am to 5 pm
Closed: 9 to 13 April

Looking for clues: Dr Jane Lydon. **Photo: Kara Burns**

Aboriginal mission dig unearths lifestyle evidence

Cataloguing the artefacts: Suzy Skurrie. **Photo: Kara Burns**

Chicken gizzard stones, sheep bones, peach pits, glass and plate fragments, buttons, beads and doll parts are providing a Monash archaeologist with clues about what life was like on Victoria's first Aboriginal mission in the 19th century.

They are just some of the items found by Dr Jane Lydon, from the Monash Centre for Australian Indigenous Studies, and her team of around 20 archaeologists, Indigenous community members and student volunteers during a recent dig at the former Ebenezer mission site.

Located near Dimboola, in north-west Victoria, Ebenezer was set up in 1859 by the German Protestant sect, the Moravians, to bring Christianity to the local Aboriginal people.

The mission, composed of a church, Aboriginal cottages, a kitchen, dormitories and a mission house, was built on a traditional ceremonial ground. It was closed in 1904, and the site is now owned by the National Trust and Goolum Goolum Aboriginal Cooperative and administered by Heritage Victoria and Aboriginal Affairs Victoria.

The dig there, over a two-week period in November last year, was the first stage of a three-year project, headed by Dr Lydon and funded by a $180,000 ARC Discovery grant, to explore cultural exchange between black and white residents.

Dr Lydon said that although the missionaries believed that Aboriginal people were controlled and changed by living in an orderly European 'village', at Ebenezer the residents maintained traditional customs to a considerable extent.

"They seemed able to change where they wanted – for example in converting to Christianity – while keeping some traditional customs, such as making bark canoes from the trees growing along the nearby Wimmera river and collecting traditional foodstuffs," she said.

The first dig aimed to find out more about how the mission house had been designed and built, as well as the lifestyle of the missionaries and Aboriginal residents of the house.

"We wanted to know if the missionaries brought their own German-made gear with them, whether they were leading a typically German way of life and whether there was any evidence of Aboriginal people retaining aspects of their traditional lifestyle," Dr Lydon said.

"The house was divided into several 'apartments' for the missionaries and their families, and for the Aboriginal families who lived there too at various times.

"Artefacts we found reflected this domestic family use, including fragments of household crockery and fittings, doll parts, slate pencils, buttons and beads.

"Evidence of a diet based on sheep and chickens came from pieces of sheep backbone and chicken gastroliths or gizzard stones – small stones swallowed by birds such as chicken and emus, which stay in their digestive tract to help pulverise food.

"But the relative lack of ceramics and other domestic and personal items by comparison with the architectural material we dug up suggests 'luxury' European goods were scarce commodities at Ebenezer."

Dr Lydon said that while the ceramics found were of mainly British or Australian origin, some small ceramic fragments of brown-glazed and white-glazed stoneware were more likely to be from Germany.

In general though, the evidence was that the mission house inhabitants had adapted to a British-Australian way of living, rather than retaining or adopting a Moravian lifestyle.

Excavation also demonstrated that substantial additions were made to the original mission house within the space of a few years and that it remained the real heart of the settlement.

"In other missions, the church and the school were the public showpieces, but at Ebenezer it was definitely the mission house that represented the public face of the settlement," Dr Lydon said.

A second dig in another part of the mission site is planned for later this year, probably in October, with a third dig due to take place in 2005.

– Michele Martin

'Moravian Mission House, Blacks Station, Dimboola': painting by Samuel Roberts, 1885, courtesy State Library of Victoria collection.

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INPRINT

Car Wars
How the Car Won Our Hearts and Conquered Our Cities

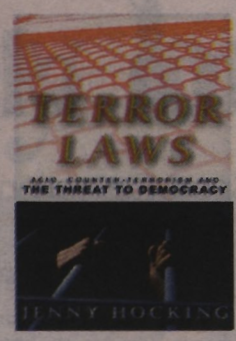
By Graeme Davison
Published by Allen & Unwin
RRP: $29.95

In this story of how a car changed a city, leading urban and transport historian Professor Graeme Davison explores his hometown, Melbourne, to demonstrate how the car became part of our national consciousness.

Not only an object of desire, the car is also seen as a status symbol, a creator of freedoms and a shaper of sexual mores.

Car Wars takes the reader on a journey through chapters with titles including 'Dream machines', 'Women take the wheel', 'Sex, speed and power' and 'The freedom of the road'.

Professor Davison is the Sir John Monash Distinguished Professor of History at Monash University.



Terror Laws
ASIO, Counter-Terrorism and the Threat to Democracy

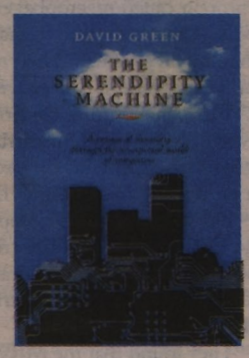
By Jenny Hocking
Published by University of New South Wales Press
RRP: $34.95

Terror Laws looks at the expansion of Australia's internal security, from the birth of ASIO just over 50 years ago to the counter-terrorism network that now reaches into every corner of our lives. Jenny Hocking argues that Australia has some of the most draconian counter-terrorism measures in the Western world, adversely impacting on our freedoms of expression, association, protection from arbitrary detention and the right to independent legal advice.

She poses the question of whether we can ever protect ourselves by removing the freedoms that define us as a democracy.

Associate Professor Jenny Hocking is the director of Monash University's National Centre for Australian Studies.

The Serendipity Machine
A Voyage of Discovery Through the Unexpected World of Computers



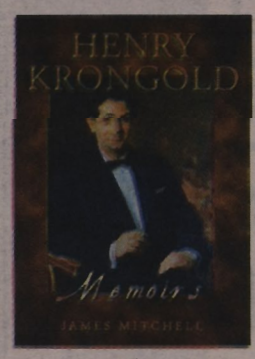
By David Green
Published by Allen & Unwin
RRP: $22.95

Computers have changed the world irrevocably, allowing us to make surprising, fantastic and unexpected discoveries by accident – the definition of serendipity. These 'serendipity machines' have also made life more complicated and impacted on our personal privacy, particularly in connection with the internet.

This book seeks to make sense of recent developments in information technology, explaining how innovations such as data mining and evolutionary computing deal with complexity by exploiting serendipity. It also highlights surprising links between computing and everyday life, answering questions such as 'What do handbags, platypuses and traffic congestion have to do with computing?' and 'Why do computer scientists increasingly look to nature for inspiration?'.

David Green is professor of information technology at Monash University.

POSTscript



Leading Melbourne businessman and philanthropist Dr Henry Krongold was born in Poland in 1909 and fled to Australia during World War II. His philanthropy helped Monash University build its Krongold Centre for Exceptional Children in 1976 and Dr Krongold was made an honorary Doctor of Laws by the university in 1991.

Henry Krongold Memoirs, published by Allen & Unwin and written by James Mitchell, details the multi-stranded life of a man who escaped from the Nazis to start work in Melbourne as a manual labourer. His career as a businessman encompassed textiles, hosiery, car parking, property development and carpet manufacturing -- by the end he was producing a third of Australia's total carpet output. Henry Krongold's story is one of transformation and growth.

If you are a member of the Monash community and have a forthcoming book, contact media@adm.monash.edu.au.

Books featured in 'Inprint' are available or can be ordered at Monash's four on-campus bookshops.
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• Gippsland +61 3 5122 1771 • Peninsula +61 3 9783 6932
www.monash.edu.au

Threat to parliament from MPs' public image problem

Politics

The declining reputation of politicians could threaten the legitimacy of parliament itself, Monash University researchers Associate Professor Colleen Lewis and Dr Ken Coghill believe.

Dr Lewis and Dr Coghill, co-directors of the Parliamentary Studies Unit in the School of Political and Social Inquiry, have been investigating what the general public and political journalists think of Victoria's MPs.

They have also interviewed state parliamentary staff and politicians to gauge their perspectives on parliament and the parliamentary process.

Preliminary findings of their study indicate that many people in the general community are not aware of the difference between state and federal politicians, meaning that when federal MPs get bad publicity, it rubs off on their state counterparts and vice versa.

"People think politicians are all tarred with the same brush, which isn't fair, as there are many hard-working professionals in parliament, both state and federal, but a great deal of the public perception comes from media reports of scandals and controversies," Dr Lewis said.

"National opinion polls show that in general, people don't trust politicians. Twenty years ago, the percentage of people who trusted MPs was around 20 per cent, but these days it's down as low as 10 per cent in some polls. The concern is that if the trend of declining reputation continues, it could threaten the legitimacy of parliament itself."

Dr Lewis said a recurring theme throughout the research had been the role played by the media in determining the reputation of politicians and the parliament. "Focus groups with members of the general public across Victoria revealed that while they didn't really trust the media, it was the source of most of their news and the shaper of their opinions, which is a real contradiction," she said.

"Parliamentary staff also commented about the way the media only concentrated on question time and sensational events, despite the fact that there were a lot of good things going on in parliament that got no coverage and remained hidden from the public.

"We decided that because the media came up so much when interviewing community groups and MPs, we would ask some Victorian political journalists to be part of the study, so a selection has been interviewed and results of their comments are now being processed."

The three-year research project, jointly funded by an Australian Research Council grant and the Victorian Parliament, began in 2002 and is due to be completed by the end of this year.

– Michele Martin

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Protein could predict miscarriage

Obstetrics

A protein found in the placenta of pregnant women could be used to predict whether they will miscarry their babies, Monash University researchers have found.

The research could lead to therapies for preventing miscarriage, according to Associate Professor Euan Wallace from Monash's Department of Obstetrics and Gynaecology at Monash Medical Centre.

Currently, 10 to 15 per cent of pregnancies end in miscarriage. There is no preventive treatment and no biological method of identifying women who are at high risk of foetal loss.

But Dr Wallace and colleagues from Monash and St Vincent's Hospital, Sydney, have found that in women who miscarry, blood concentrations of a protein called macrophage inhibitory cytokine 1 (MIC-1) are one-third of that in women who have ongoing pregnancies. Their research was published earlier this year in *The Lancet*.

"If further studies confirm a link between low levels of MIC 1 and miscarriage, then this protein, or synthetic copies of the protein, might be useful in preventing miscarriage," Dr Wallace said.

Dr Wallace and Dr Stephen Tong, also from the Department of Obstetrics and Gynaecology, measured MIC 1 concentrations in the blood of 300 women in their first trimester of pregnancy (six to 13 weeks).

They found that the MIC 1 concentrations were significantly lower in the 100 women who miscarried compared to the 200 women whose pregnancies were successful. The low levels of MIC1 also preceded the miscarriage by several weeks, potentially providing an early warning system for miscarriage.

"MIC 1 is found at high concentrations at the interface between mother and foetus, particularly during very early pregnancy," Dr Wallace said. "This research suggests that MIC 1 has a role in maintaining the viability of pregnancies and that changes in the production of this protein in the placenta may underlie miscarriage."

– Penny Fannin

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Cyclists surveyed on club attitudes

Sport Education

Why don't keen bike-riders join competitive cycling clubs? What are the barriers and constraints preventing them from taking part in competitive cycling in Victoria?

Is it because people think they are not fit enough to cycle competitively, does the very notion of competition put them off, or does it have something to do with safety concerns?

Dr Justen O'Connor, sport and outdoor recreation lecturer in the Education faculty at Monash's Gippsland campus, is researching these issues via a $30,000 Future Directions Program grant from the Minister for Sport and Recreation Victoria.

Working in partnership with Cycle Sport Victoria, which represents the interests of the state's competitive cycling clubs and their members, Dr O'Connor wants to find out why recreational cyclists are not getting involved in competitive cycling.

"The recreational cyclist rides a bike for fun and generally doesn't race competitively, but may be a member of Bicycle Victoria, a recreational organisation which hosts The Great Victorian Bike Ride and Ride To Work Day, among other events," Dr O'Connor said. "Bicycle Victoria has around 35,000 members, far more than the about 2700 people who belong to cycling clubs and are members of Cycle Sport Victoria.

"I'll be using questionnaires and focus groups to survey existing members from Bicycle Victoria and Cycle Sport Victoria, along with past members who've dropped their membership in the past year, to uncover the reasons why so few of the state's cyclists belong to competitive clubs."

Dr O'Connor believes a number of factors could be involved. "I expect the notion of competition could be a barrier, people thinking they're not fit enough or good enough, but the reality is that the clubs cater for people at all levels of cycling," he said. "Membership ranges from the likes of Tour de France racer Baden Cooke to D-grade and E-grade cyclists at suburban or regional clubs.

Gathering data from cyclists: Dr Justen O'Connor. **Photo: Delwyn Hewitt**

"Another turn-off factor may be safety issues, a perception that racing around circuits at speeds of 35 km/h and being quite close to the cyclist next to you is unsafe – although for many club cyclists this adds to the excitement of riding. It's also possible many recreational cyclists don't know the clubs exist."

A cycling club member himself, Dr O'Connor joined the Warragul Cycling Club in 2000 when he started working at the Gippsland campus. He said the benefits of membership were the same as those associated with belonging to any sporting club.

"There's scheduled training, being part of a group which helps with motivation, the fitness benefits of regular exercise and opportunities for social interaction via events such as barbecues and presentation nights which most clubs run."

Dr O'Connor will spend the rest of this year gathering data and hopes to have his report finished by mid next year.

– Michele Martin

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IVF norm should be single babies

Obstetrics

Healthy, full-term single babies rather than premature twins or triplets should be the 21st century measure of success of assisted reproduction, according to Monash University's head of obstetrics and gynaecology, Professor David Healy.

The new measure would save lives and money, said Professor Healy, who was invited by the European Society of Human Reproduction to propose a new standard following mounting concern over the medical and economic cost of multiple pregnancies.

In an article published in the January edition of the society's journal, *Human Reproduction and Embryology*, Professor Healy advocated that the birth of a healthy, full-term single baby was the most relevant standard of IVF success and encouraged assisted fertility programs worldwide to adopt the Birth Emphasising a Successful Singleton at Term (BESST) outcome.

"Since the birth of the first IVF baby in 1978, the treatment of subfertility – or reduced fertility – has significantly advanced," he said. "We no longer practise in an area where assisted reproductive technology is experimental, and pregnancy alone – without consideration of birthing outcomes – is no longer the objective."

As high-risk pregnancies, twin gestations should be regarded as complications of assisted reproductive technology treatment and not counted as successes, he said.

"Multiple pregnancy is the most frequent and most serious complication of assisted reproductive technology – it is universally recognised that multiple pregnancies and related premature births are associated with increased death and illness, for both mothers and foetuses."

And according to Professor Healy, the financial costs to both the community and individuals of delivering multiple pregnancies arising from assisted reproductive technology are increasing dramatically. The main strategy to combat multiple gestation, he said, was to limit the number of embryos transferred for any particular cycle.

– Allison Harding

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