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MONASH

NEWS FROM THE CAMPUSES OF MONASH UNIVERSITY
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4WDs potential killers in side-impact crashes: tests

BY DAVID BRUCE

Are four-wheel drive vehicles compatible with other vehicles on Australian roads?

Perhaps not, judging by the results of crash tests carried out by the Monash University Accident Research Centre (MUARC) in conjunction with the RACV and Swedish insurance group Folksam.

In an international first, MUARC conducted two side-impact crash tests—the struck vehicle in both cases was a Saab 9000, widely considered to be one of the safest cars on the market. In one test, the striking car was an identical Saab 9000; in the other it was a Land Rover Freelander (without bullbar), a four-wheel drive with the same weight as the Saab.

Despite having the same weight, the Land Rover caused much more damage to the Saab compared with the Saab-to-Saab test. Observers of the test, including the director of MUARC, Professor Claes Tingvall, witnessed the head of the crash test dummy in the Saab being directly struck by the bonnet of the Land Rover.

"This was due to the higher stiffness and the different front-end geometry of the four-wheel drive. It was clear that the driver in the Saab struck by the Land Rover would have sustained serious or fatal injuries to the head, neck, and chest, while in the Saab-to-Saab test the driver would have survived without serious injury," said Professor Tingvall.

"Clearly, the current situation on our roads is intolerable. It is not about banning four-wheel-drives. It is about designing them to function better with the rest of the car fleet. It is not the buyers who should be blamed for the problem, it is the responsibility of the manufacturer."

Professor Tingvall said car manufacturers needed to consider that their whole product range must be made to be able to crash into each other. "That is what both the consumer and broader society expect," he said.

The recent growth in sales of both small cars and large four-wheel-drives has led to the growing problem of incompatibility on our roads. The problem is particularly serious in front-to-side collisions where the structure is relatively weak and there is little crush space to protect the occupants.



Unfair advantage: A four-wheel drive causes much more damage to a car in a sideimpact crash than another car would, according to MUARC test results.

According to RACV chief engineer Mr Michael Case, US data shows that in fatal front-to-side crashes, when the vehicles are of equal weight and height, a death is almost seven times more likely in the car struck from the side.

"When the striking vehicle is a small truck or a four-wheel drive, an occupant death is more than 26 times as likely to occur in the side-struck car. Four-wheel drive vehicles are stiffer, ride higher, and typically are heavier than cars – all of which contribute to the greater risks for occupants of cars struck from the side."

Over the past decade, the focus of vehicle crash research has been on 'crashworthiness' – the sort of protection your vehicle may or may not give you in a collision. MUARC and RACV researchers are now also looking at the issue of 'aggressivity' – the degree of risk a vehicle poses to the occupants of other vehicles.

The combination of these two is a measure of a vehicle's 'compatibility' – the balance between crashworthiness (self-protection) and aggressivity (effect on other road users). A compatible vehicle would feature good crashworthiness and low aggressivity.

Road safety researchers at MUARC and the RACV are applying the new measure of compatibility to various types of vehicles on Australian roads. Results will be published in coming months. Ongoing research will also focus on redesigning four-wheel drives so they are more compatible with the rest of the car fleet.

Space: expanding to new frontiers



Monash lecturer and artist Troy Innocent is the recipient of the inaugural grant from Victoria's new Digital Media Fund. The coordinator of digital imaging in the Design department in the Faculty of Art and Design, Innocent has been working with digital media for the last decade, producing works such as 'Space'. See story on page 6.

A new-look Monash News

Welcome to the new-look Monash News.

In response to your comments in last year's readership survey, we've made a few changes to *Monash News:* it's fresher, brighter and more reader-friendly.

You'll notice a new masthead, full colour, clearer photographs, and an improvement in the quality of production.

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Teachers lag behind students International acclaim for in computer skills: report

BY COREY NASSAU

A recent report measuring the competency of teachers' students' computer skills has shown that one in four children under seven is computer-savvy, with many young Australians knowing more about computers than their teachers.

The study, 'Real time - computers, change and schooling', was conducted researchers by Queensland's Griffith University and was the first to widely sample Australian school students to gather data on their computing skills. It was organised by the Department of Employment, Training and Youth Affairs in association with the Australian Key Centre for Cultural and Media Policy.

Contributing to the research was Monash University education lecturer Dr Glenn Russell, who believes that while the report turned up some valid findings, the integration of computers into the classroom is already improv-

"While these results are representative of the data collection period, there have already been many new initiatives put in place to help raise the level of computer literacy in our schools, such



Dr Glenn Russell. Photo by Greg Ford. as the Laptops for Teachers program in Victoria," Dr Russell said.

The report, released late last year, was formulated from surveys of more than 6000 students and 1200 teachers in more than 220 schools. It found there were areas where there was a definite need for increased computer education among some of Australia's school populations.

Rating best in the study were independent schools, followed by government schools and then Catholic schools. More boys than girls were shown to have acquired more advanced computing skills - due to a greater interest out of school - and students from small rural or remote schools were found less likely to have acquired

The survey also revealed that some teachers lacked basic computing skills, such as using a mouse, turning on a computer, using a keyboard, and opening files and saving them. These teachers were usually aged over 50 and working in primary schools.

Teachers are increasingly gaining the skills to use computers, but teacher training institutions and professional development courses will have to focus more on the ways teachers use computers with students in their classrooms,"

He said the study highlighted the fact that while many young people had advanced computing skills, much of this learning had taken place in the

"In an age where computers are a necessity in most businesses and industry, it is of the utmost importance that the education sector ensures it is offering students computing skills within the standard curriculum," Dr Russell said. To help foster this, teachers must also be able to model some of the skills they want their students to display.

"Having advanced computing skills will not be a luxury for these young students - they will be a necessity for their future in the workplace."

pollution control work



Dr David Brennan. Photo image by Craig Wetjen.

BY PETER GOLDIE

A Monash researcher's work on pollution control with global implications has won international recognition from the UKbased Institution of Chemical Engineers.

Associate Professor David Brennan, from the Department of Chemical Engineering, was recently awarded the Senior Moulton Medal, only the third time the prestigious award by the international body has gone to an Australian.

Not only has Dr Brennan's innovative approach to indexing pollution control measures in the mining sector gained academic recognition, it is also being reflected in a massive multi-plant project spanning Queensland which is now coming online.

The \$650-million project, being undertaken by Western Mining Corporation in conjunction with miners such as Mount Isa Mines, aims to capture and recycle one of the most common and environmentally damaging byproducts of smelting operations: sulphur dioxide emissions.

Such emissions contribute to acidification, and their control is taking on urgency in nations with extensive minerals industries confronted with stricter pollution control legislation and public pressure to reduce environmental

"What is of most interest to the industrial sector is hard data," Dr Brennan said. "What we have tried to do here is draw together data across a range of aspects of pollution and its treatment and to present those variables in graph form."

Dr Brennan's work has revolved around developing methods which give quantitative values to various components of the costs and impacts of different pollution control processes in the mineral sector.

The upshot of the work is the development of a 'cost-environmental impact index', the concept which won the Senior Moulton Medal and a world-first in integrating environment and economic assessments.

Dr Brennan said the work stemmed from an earlier study carried out with his postgraduate assistant Dr Kurt Golonka, who shared the award. Together they worked on the impact index in which they concentrated on developing a lifecycle assessment method for evaluating the impact of pollutants.

"Our paper on that work did not receive any awards or prizes, but in many ways it was more ground-breaking because it developed the hard data needed to build the index," Dr Brennan said.

Lifecycle assessment methods determine a value for a range of environmental impacts caused by the treatment of sulphur dioxide off-gas emissions, including enhancement of greenhouse effect, acidification, depletion of resources and solid waste

Against this value is set all costs involved in addressing those effects: the capture of sulphur dioxide gases, heat recovery, cleaning, desulphurisation, and the 'downstream' processing to produce fertiliser.

The index further accommodates costs, revenues and impacts of recycling the product. In the case of Mount Isa Mines, sulphur dioxide emissions become sulphuric acid which, when combined with phosphate rock and ammonia, produces high-grade fertiliser.

Economic benefits claimed by the WMC Queensland project include relieving Australia's balance of payments by \$377 million annually by replacing imported fertiliser, and injecting \$60 million a year into the Queensland economy.

Family mystery at Hepburn

BY KAY ANSELL

Maria Viola's family story has it all - political intrigue, romance, tragedy and mystery - centred around Australia's first macaroni factory, at Hepburn Springs in

A Monash student, Ms Viola has captured the tale in the thesis for which she was awarded her masters in public history last year.

It was yet another achievement for the widowed mother of six who studied part-time while working in Melbourne and restoring the Old Macaroni Factory.

The Old Macaroni Factory was built by Ms Viola's great grandfather, Giacomo Lucini, and his brother, Pietro, in 1859, when gold fever gripped the region.

Pietro and Giacomo Lucini were educated businessmen, she says, who had come to Australia as political exiles from Italy. Followers of defeated republican democrat Giuseppe Mazzini, the brothers brought with them political idealism and entrepreneurial drive.

The two qualities were combined in the Old Macaroni Factory, which supplied the many Italian speakers drawn to the goldfields, and later Melbourne.

In this old building, it's not the walls that talk - it's the ceilings that tell of the Lucinis' love of politics, music and homeland. Giacomo decorated them with exuberant swirls and scrolls, flags and Italian scenes.

One scene in particular had Maria puzzled: a woman chained to a window, surrounded by the flags of Italy, France, Switzerland and the British colonial Union Jack. It turned out to be from the opera Il Trovatore, laced with political symbolism.

In her thesis, Giacomo's greatgranddaughter has interpreted the decorative ceilings in the context of her ancestors' experiences and attitudes, which, for the brothers, remained frozen in time long after Italy had become a democracy.

As well as the thesis, Ms Viola has laboured for 10 years to preserve their legacy by restoring the building, inherited from her father.

It has been a massive effort aided by family and friends and financial support from Heritage Victoria.

Her father's initiative led to its National Estate listing and classification by the then Historic Buildings Council, now Heritage Victoria.

And the mystery? Ms Viola has discovered more wall decorations hidden under paint that need expert cleaning. But that will require more funding.

In the meantime, there is that other mystery: sometimes, late at night, the hubbub of a party floats down from the second floor... Perhaps the Lucini brothers are celebrating the rebirth of their Old Macaroni Factory.

Ms Viola hosts public tours of the Old Macaroni Factory several times a year; it will next be open during the Swiss-Italian Festa at Hepburn Springs on the last weekend in May. For more information, telephone (03) 9457 7035 or email mviola@primus.com.au



Azucena the gypsy from Giuseppe Verdi's 'Il Trovatore' adorns a ceiling decoration at the Old Macaroni Factory.

The Age are proud supporters of Monash University.



Monash research to assist Australia-Malaysia relations

BY SANDRA BUCOVAZ

Australian companies in Malaysia and the Malaysian Government are better placed than ever to work together towards the future, following the recent release of far-reaching research spearheaded by Monash University.

It is hoped the data – offering the most current information available on Australian–Malaysian bilateral relations – will help encourage regular top-level briefings between the Malaysian Government and Australian firms in relation to future policies and with specific reference to economic reform.

A pilot study of Australian business attitudes to Malaysia showed that while the majority of respondent companies were profitable and bullish about their prospects, they were apprehensive about the lack of information about future policy change.

These findings were among 41 comprehensive research papers released at the international 'Malaysian business in the new era' symposium organised by Monash University and held in Kuala Lumpur in late February.

The program was a collaboration between the departments of Management and Economics and gave Monash staff and Malaysian scholars and think-tanks the opportunity to showcase new research on key issues such as business, economics, management, finance, the emergence of new industries, religion and e-commerce.

"Australian companies in Malaysia are very optimistic about the future and feel well informed about current and past policies," said Associate Professor Marika Vicziany, from the Department of Economics, one of the co-convenors of the symposium. "However, there is no horizon stretching ahead of thember they have no information about the Malaysian Government's ongoing reform agenda.

"The Malaysian Government needs to set up a regular high-level business briefing which brings together government officials involved in policy-making and the chief executive officers of Australian companies with a presence in Malaysia.

"Australian companies want to discuss trends and projections about the future rather than explore what has happened already. Monash could play a role in encouraging the Malaysian Government to explain to foreign firms what kind of reforms it is planning."

Associate Professor Vicziany noted that while Australian companies in Malaysia felt happy about the country's economic fundamentals, there was a general concern that reforms had not gone far enough to avert another Asian currency crisis

The Bumiputras ownership policy – aimed at giving 'sons of the soil' a much greater share of the economy – was another area in which Australian enterprises needed clarification.

It was important for the Malaysian Government to focus more on micro-economic reform, according to co-author of the pilot study Mr Koi Nyen Wong, a lecturer in economics at Monash Malaysia.

"The government needs to reduce inefficiencies and structural weaknesses within the economic system in order to prepare Malaysia for globalisation," said Mr Wong, who was instrumental in establishing a database of 170 Australian firms in Malaysia, which provided the platform for the pilot study.

"Monash certainly has a role in this area because we have initiated a research project to generate a business database and study Australian business attitudes to Malaysia. The findings have policy significance and implications for the Malaysian Government and Australian firms in Malaysia."

Mr Wong noted that the pilot study attracted an above-average 15 per cent response rate – 82 per cent of the respondents said they were profitable within their first three years in Malaysia and 73 per cent planned to expand within two to three years.

Islamic identity and work in Malaysia

BY SANDRA BUCOVAZ

Academics from the Monash campuses in Melbourne and Kuala Lumpur are working together to cut across cultural and corporate boundaries to promote Muslim employees as valuable members of the workforce.

Foreign companies needed to understand and identify the common characteristics between the corporate and Islamic cultures in order to fully realise the strengths of their Muslim staff and minimise conflict, according to Dr Wendy Smith, director of Monash's Centre of Malaysian Studies at Clayton, and Ms Adlina Ahmad, a lecturer in management at Monash Malaysia.

Dr Smith and Ms Ahmad, together with Associate Professor Chris Nyland from the Department of Management, collaboratively researched 'Islamic identity and work in Malaysia', the findings of which were presented at the recent international symposium on Malaysian business.

Dr Smith, who lived as a Muslim in Malaysia for nine years, and Ms Adlina, a Malayan Muslim, agreed that the common elements included team work, integrity, ethics, time management, diligence, discipline, responsibility, accountability and total quality (in that Islam seeks that Muslims work towards perfection at all times).

"Practising Muslims believe they are ultimately accountable for their own actions and answerable to God, and that they have an important role to play in cooperating within their society," noted Ms Adlina, adding that this had a flow-on effect to the work environment.

Dr Nyland is focusing on these key themes in his ongoing project on the rights of Islamic workers.

About 60 per cent of Malaysia's population is Muslim. Government policies do not allow discrimination on the basis



Muslim employees need to be promoted as valuable members of the workforce, Monash researchers say. Photo by AP.

of ethnicity or religion, but both women believed foreign companies needed to have a positive and flexible approach to minimise conflict between corporate demands and Islam's requirements.

Dr Smith also noted that it was widely believed among Western feminists that Muslim women were oppressed because of what was considered to be restrictive dress and behavioural codes.

"In a society like Malaysia, women have total equality of opportunity and probably do better than their counterparts in Australia. Muslim women have total freedom to study hard and fulfil their ambitions," Dr Smith said.

Enterprise bargaining sparks 'ritual conflict'



CFMEU leader Mr Martin Kingham leads a protest march of construction workers through central Melbourne, part of a push for a 36-hour week. Photo by The Australian.

BY STUART HEATHER

With the first major round of renegotiations of enterprise bargaining agreements well under way, Australia is witnessing a "ritual trial of strength" in industrial relations, according to a leading industrial relations authority at Monash University, Professor Gerry Griffin.

Disputes in a range of industries, including construction, mining and power generation, have been making news in several states, notably in Victoria.

Professor Griffin, director of the National Key Centre in Industrial Relations, said the era of enterprise bargaining that replaced the old centralised system is "inevitably going to cause some major conflicts" where parties cannot agree on wages and working conditions.

He said that although there will be fewer conflicts leading to strike action, individual strikes will last longer.

"Enterprise bargaining and conflict go hand in hand," says Professor Griffin. "When the renegotiation period starts, industrial action is legally protected and both unions and employers are involved in a power struggle, pure and simple." In the midst of this increased industrial relations activity, the peak union body, the ACTU, is undergoing major leadership changes. ACTU president Ms Jenny George is to be replaced by Education Union leader Ms Sharan Burrow, and Mr Greg Combet has taken over from long-time ACTU secretary Mr Bill Kelty.

Professor Griffin said the changing of the guard at the ACTU will have little immediate effect, although there is symbolism in the "end of the Kelty era" and substance in the new leadership being younger and more "media-savvy".

Media skills will be necessary on both sides. Under the old industrial relations system, employers and unions fought to convince an independent umpire of the worth of their claims, but under enterprise bargaining, public perceptions, largely through the mass media, are very important.

During Victoria's Latrobe Valley power generation dispute earlier this year, electricity was randomly cut off to parts of the state.

"When traffic lights are suddenly blacked out in Melbourne's streets, it's a catalyst to a sense of crisis," said Monash politics lecturer Dr Nick Economou, "and that becomes a big political as well as an industrial relations issue"

Sculpting for survival



Artist Anton McMurray, above right, spent a few days chipping away at Monash's Caulfield and Peninsula campuses as part of student association MONSU's recent Survival Week program. McMurray's brief was to involve new students and staff in creating a wooden sculpture – and releasing a bit of stress. His services were provided courtesy of Monash Student Theatre. Photo by Andrew Barcham.

Schools



Course Guide 2001

The Undergraduate Course Guide 2001 is now available. Copies will be sent to all schools with an order form for additional supplies.

Highlights in the new edition are

New degrees

There are several new degrees listed in the guide. These include:

- Bachelor of Arts/Bachelor of Information Management and Systems - Four years full-time at Caulfield.
- Bachelor of Business and Commerce/Bachelor Sport and Outdoor Recreation - Four years full-time at Gippsland.
- · Bachelor of Business and Commerce - Three years full-time at Berwick, Gippsland, Malaysia, Peninsula or South Africa.
- Bachelor of Education/ Bachelor of Laws Five years fulltime at Clayton.
- Bachelor Multimedia Computing - Three years full-time at Berwick or Gippsland.

 • Bachelor of Nutrition and
- Dietetics Four years full-time at
- Bachelor Sport and Outdoor Recreation Three years full-time at Gippsland.
- Diploma in Music Studied concurrently with a degree program at the Clayton campus.
- Diploma in Social Science Studied concurrently with a degree program at Caulfield, Clayton, Gippsland or Peninsula.
- of Information and Systems/ Bachelor Management Bachelor of Education - Four years full-time at Clayton.

Subject/interest index

The Undergraduate Course Guide has a very useful tool for students trying to map their course and career path. In the back of the guide, you will find a subject/interest area index. Students can look up their main area of interest and find which degrees will offer them the opportunity to study in that area.

VoiCE subscription

A free copy of Monash's magazine for prospective university students can also be found in the guide. VoiCE offers students valuable information and advice to help them get the most out of their final year at school and plan their tertiary future. Students also have the opportunity to register their main interest areas and to receive course updates from relevant faculties throughout the year.

Career profiles

This innovative publication, produced by Monash's Student Employment and Careers Service (MONSEACS), is a collection of 74 profiles of Monash students' and graduates' course and careers pathways

Covering all faculties and campuses, Career Profiles provides a fascinating insight into these students' course and career selection decisions, work experience, extracurricular activities, and skills development and training, culminating in the achievement of their career aspirations and goals.

Copies are available at a cost of \$5, including postage, and may be ordered through MONSEACS. For more information, contact Ms Pamela Horlor on (03) 9905 3133 or email pamela.horlor@adm.monash.edu.au



Dr Maria Garcia de la Banda. Photo by Greg Ford.

One HAL of a language

BY COREY NASSAU

Consider the enormous logistical requirements crucial to running a successful airline - operational aircraft, pilots, crew, maintenance teams, runway access and, of course, passengers all needing to be in the right place at the right time.

Once upon a time, the efficient integration of these variables on a worldwide scale would have been near-impossible.

And while computers have made solving these sorts of industrial constraint problems easier, current systems are still far from optimal. While the computing power needed to obtain rapid solutions is available, the software to handle them is not.

As a result, resolving such problems remains expensive and requires a significant amount of programming and maintenance effort.

Logan research fellow Dr Maria Garcia de la Banda, in Monash University's School of Computer Science and Software Engineering, is working on a potential solution to these logistical problems.

Dr Garcia de la Banda is part of a team developing HAL, a new constraint logic programming language, aptly named after the computer in Stanley Kubrick's cult science fiction film, 2001: A Space Odyssey.

The origin of constraint logic programming (CLP) goes back to 1987, when Monash University researchers published the first paper outlining the theory behind it. Since then, CLP languages are among the few new languages to have achieved industrial

"Industry is desperate to find solutions to large logistical problems, because the answers have the potential to save them billions of dollars," Dr Garcia de la Banda said. "If we could show an airline how to satisfy all demands operating on a streamlined schedule, they would be over the moon.'

The idea behind CLP, according to Dr Garcia de la Banda, is to find a solution that comes as close as possible to what is required given all the constraints of a problem.

This is done through the use of a constraint solver and a search engine. The former collects the constraints and determines their effect on the program variables while the latter implements some search strategy for exploring the space of possibilities. She said the key was using constraints to limit the search as much as possible.

According to Dr Garcia de la Banda, the CLP languages already in use are by no means perfect. In particular, they do not allow the user to define new efficient constraint solvers and strategies, and therefore are not general enough.

The problem with developing a more general language was that it usually meant slower execution times, she said. Dr Garcia de la Banda and her team are developing HAL to be both general and very fast.

She said HAL had shown much promise but final results were still a

"We are hoping that HAL will bring solutions to any problem which has constraints and numerous possibilities that need to be explored. At this stage, we're looking at releasing it in 2001," she said. "We're hoping that CLP and HAL will eventually be to industry and problem-solving what Java has already become to network programming. Judging by industry demand, it could

- BRIEFS -

Online resources for rural health workers

Two new online libraries developed by the Monash University Centre for Rural Health will give rural health practitioners access to national and international information on rural health issues and

The Literature Information Service for Australian Rural and Remote Health (LISARRH), with more than 3000 literary sources, offers a range of topics, including nursing, indigenous people's health, recruitment and retention, telehealth and health service delivery models.

The Rural Health Research Register details recent and current research activities, including a directory of research personnel.

The databases can be searched at: www.med.monash.edu.au/crh, or a search can be requested by telephone, fax, letter or email.

Renaissance in medieval studies

A new Centre for Medieval and Renaissance Studies was launched last month at Monash University.

The centre, established within the Faculty of Arts, will develop and support research, postgraduate training and cultural activities in the area of medieval and renaissance studies, which has been taught at Monash for the last 30 years.

Centre director Dr Carol Williams said the centre would provide a focus for medieval and renaissance studies in the Melbourne region and more widely.

Monash Uni wins \$1.35m to build Internet workforce

BY TITIAN DE COLLE

Monash University has attracted \$1.35 million in funding from the Federal Government's Science Lectureships initiative to develop educational tools for an Australiawide Internet workforce.

The Building the Internet Workforce program involves three of Australia's leading universities and key Australian industry partners and industry bodies working together to develop teaching materials and resources to educate Internet software developers.

The project will develop new approaches to the way courses are delivered.

The materials and resources produced will be made available to all Australian tertiary IT educational institutions, including universities and TAFE colleges, to assist them in offering the education that will enable their graduates to meet the needs of Australian industry.

To encourage more young Australians to undertake courses and careers in IT and Internet software development, a subset of the materials will be made available to all Australian secondary schools.

The aim of the project is to place Australia in a position to build the Internet workforce that will be required by Australian industry over the next five years and beyond.

Professor John Rosenberg, dean of Monash's Faculty of Information Technology, said the importance of the project had been highlighted by the Federal Government's recent IT and T skills taskforce which quantified the skills shortage.

"There is now a strong recognition within the IT and business sector that Australia must form an urgent response to this problem or abandon its aspirations of becoming a leading online economy. Ultimately, the only

real solution is an effective educational and training system," said Professor Rosenberg.

"The materials will be designed in a way that makes them suitable for all levels of education, ranging from secondary school through to higher education. These materials will be accessible on the web.

"We plan to conduct regular workshops which will be open to all education providers. We will also hold seminars targeted at special interest groups such as secondary school IT

Each institution has a core strength in IT and will supply a particular expertise. Monash will bring to the project its proficiency in network computing, its interactive Java teaching environment and its experience in the provision of flexible-delivery IT programs and studio based-teaching. The University of Sydney will provide know-how in the application of problem-based learning and web-based assessment, while the University of Queensland will offer strong capabilities in developing interactive learning and flexible delivery materials.

Monash will act as the lead institution in managing the grant.

The project has the support of the Australian Computer Society and the Australian Information Industries Association. A number of industry partners, as well as the Victorian Government, will also be involved.

So far, global network computing giant Sun Microsystems, Compuware Asia Pacific, a major global supplier of enterprise software with 15,000 employees in 45 countries, and the Distributed Systems Technology Centre have committed to the project.

Current negotiations may lead to the involvement of a number of other state governments and prospective partners, including Telstra and Unisys Australia.



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Scientists are not lab-coated nerds

Science is important, but the message is not getting across to the people who matter, says Professor Ray Cas of Monash University's Department of Earth Sciences.

OPINION



I wish I could say that love makes the world go around. It helps, but regrettably for the romantics and politicians, the reality is that science and technology – not love – make our modern world what it is today.

Science and technology underpin all primary and secondary industries (agriculture, mining, forestry, environmental management, processing and manufacturing) and, as a consequence, derivative tertiary-level occupations (sales and marketing, finance, recreation).

Unless we wake up and ensure that science and technology education and research become a high priority for this country again, the rate at which Australia's economic and social world goes around will begin to fall increasingly behind that of other countries. That means jobs and standard of living.

This has all been said before. But the sad news that the popularity of science has fallen again in student Victorian Tertiary Admissions Centre preferences for university places means the message of the importance of science and technology to the community is still not getting across to politicians, educators, industry and the community at large. Why?

First, politicians have turned the university sector into a corporatised marketplace, instead of one of the nation's highest priorities. As a result, the marketplace determines the trends, and long-term national priorities often lose out. If politicians are serious about the long-term well-being of this country, they must become serious about funding levels and discovering ways' of promoting science and technology as an area of national importance before it's too late.

Second, educators have failed at all levels to adequately promote and communicate the fascination and economic importance of science and technology. Many science educators are still in a



time warp, believing that simply teaching their beloved facts and figures in the same way as has been done for the last 50 years is doing a good job.

Teaching up-to-date facts and figures is important, but it is only part of teaching any discipline in the modern era. The marketplace direction in which education has been driven means that the sciences are competing for students.

Science must be promoted and taught in an attractive way that competes effectively for new students with other disciplines and successfully captures their interests in long-term careers.

Some will abhor this commercialisation and sacrilege of the sacred temple of science. But unless science educators play this catch-up game, become trendy and competitive with a new approach, the fortunes of science education will continue to fall.

Why do I say catch-up game? Many other professions get enormous exposure from the popularisation of their professions in television dramas and the news media, which no doubt influences student course selections to some degree. There are all kinds of doctor, medical science, lawyer, finance and teaching dramas on television and in the movies. The sciences lose out

substantially in this regard. They must promote themselves vigorously and in popular ways.

This doesn't mean allocating time and resources to producing a television drama, but it does mean 'selling' science with an exciting and human face.

Too often we hear of public surveys that summarise the public perception of the scientist as the boring, white lab-coated nerd who 'doesn't have a life'. This stereotype is a myth. Most scientists are normal 'with-it' human beings who, like everyone else, enjoy active lives in sport, music, art, outdoor adventures and so on in their spare time.

I am a geologist, specialising in volcanology. I spend three months each year climbing and working on volcanoes around the world. I collaborate with industry, I love teaching geology and volcanology with a passion, I play guitar and sing in my recreation time. I love exercise, reading, the latest movies, social outings, wine, beer and good food.

My life is exciting because I am a scientist, not in spite of it. This is another facet of science that scientists and educators of science must communicate. And I never wear a white lab coat.

Educators and industry must also dispel the myth that the pursuit of science is purely an academic interest. Science studies lead to a huge array of jobs and professional opportunities, and this must be communicated repeatedly

My life is exciting because I am a scientist, not in spite of it.

at the secondary school level before students make their tertiary selections.

Chemists get jobs in the manufacturing and processing industries, in environmental sciences, in government organisations. Earth science graduates are employed all over the world in the industries that explore for and mine natural resources, in environmental sciences, in government bodies and in business.

Physicists get jobs in technologically oriented industries, including the computer industry. Mathematics graduates become meteorologists, statisticians, computer and information technologists, and biologists and geneticists become environmental scientists, zoologists, plant and animal geneticists, to name but a few options.

As the principal beneficiary of community-funded science education, the science industries have a responsibility to plough a significant part of their profits back into the public promotion of the sciences as important, relevant and exciting vocational options for good students, and they must offer attractive salaries

If they don't, student numbers and the quality of the graduates produced will continue to decline, and science faculties will begin to disappear from universities, as they already have in some.

This means industry and commerce will suffer, and so will this country.

Professor Ray Cas is a professor in the Earth Sciences department at Monash University.

Monash Uni works with schools to improve transition

BY DAVID BRUCE

In its latest step in a program to facilitate the successful transition of students from secondary school to university, Monash University has produced a Transition Index to assist schools in monitoring their students' performance.

The index measures the success rates of groups of students who undertake their first year of university study at

Monash after moving from Year 12 at a Victorian secondary school.

In a just-completed pilot program, Monash calculated the average number of units passed per student for all schools which had more than 20 of their 1996 and 1997 Year 12 students entering Monash in 1997 and 1998.

Results indicated that first-year performance reflects ENTER (TER) scores; there is no clear differentiation between VCE or the International Baccalaureate; the gender factor in the first year of university is similar to that in the VCE; and there is significant variation in the success rate of student groups from different secondary schools.

Schools may choose to be provided with the Transition Index for their student group as well as information which allows this to be benchmarked against overall school results.

The Transition Index provides information to schools to enable them to evaluate aspects of their own learning and teaching plans, and to monitor the effectiveness of changes and classroom strategies.

According to the director of Planning and Academic Affairs at Monash, Professor Merran Evans, the index could help schools prepare students for university.

"The central goal of the Monash Transition Program is to reduce the high dropout rates at the tertiary level and to improve the first-year educational experience of students," Professor Evans said. "It rests on the belief that the best way to gain such improvements is by close cooperation between schools and universities."

For further information about the Monash Transition Index, contact Professor Evans on (03) 9905 2014.

Experiment with a bit of Snakes and Sherbet



Exciting and confronting: Stephen George, foreground, Livia Williams, centre, and Kim McClelland and Sai Ho, background, honing their performances for Snakes and Sherbet. Photo by Greg Ford.

Experimental theatregoers have a double treat in store with a new Monash Student Theatre production, Snakes and Sherbet.

Premiering next month, the double bill is directed by Sai Ho and Kim McClelland, final-year performing arts students at Monash.

Snakes and Sherbet is a fusion of dialogue, dance and movement, film and live music, created through improvisation workshops. Both shows are using the same eight actors, drawing on their

Snakes is directed by Sai Ho and looks at stereotypes, manipulation, love and relationships using a dark fairytale format.

"It's a tale that travels from one side of the mind to the other, examining fairytales and their ethics, love and relationships from the perspectives of the insider and the outsider," Ho says.

"We're trying to examine stereotypes from the point of the elemental star signs rather than gender and ask questions about sexuality, sensuality, the grotesque and the abstract."

Influenced in part by Dr Seuss, Sherbet is driven by a fascination with everyday normality. It deals with concepts of the body, play and pleasure.

"The idea is to give the audience an experience of heightened senses, emotions and awareness, to show them something that might be of extreme beauty and passion," says McClelland.

"As Student Theatre's first major production for 2000, *Snakes and Sherbet* promises to be a fresh, exciting and, for some, confronting night of theatre."

For details of the Monash Student Theatre program in 2000, telephone (03) 9905 3108.

What: Snakes and Sherbet

When: 3-6 and 10-13 May at 8 pm

Where: Student Theatre, Campus Centre, Monash University

Centre, Monash University Clayton campus

ho: Contact the Monash Student Theatre for bookings on (03) 9905 3108.

21st century view of medieval Italy

BY JOSIE GIBSON

For Euan Heng, art is a bridge between past and present.

The Monash lecturer's paintings and sketches reflect a fascination with early Italian art that took him to Rome late last year on an Australia Council artist-in-residency program.

The fruits of that three-month stint at the British School of Art Rome, along with more recent works, form the inaugural exhibition in a new works on paper space at the Australian Galleries in Collingwood.

The show includes new work, and pastels and watercolours Heng completed during his Rome residency, reflecting his interest in Etruscan wall paintings from Tarquinia, and in medieval frescos and mosaics in churches in Rome and further afield.

An associate professor in fine arts at Monash, Heng found the residency inspiring and stimulating. "I got to work as an artist full time and mix with a range of other international artists," he said. "It was a good place to test my work."

The projects Heng completed in Rome, along with those of three other artists, were exhibited at the British school in late 1999. His work was also shown at the Perth Festival in January.

Meanwhile, Heng's more whimsical side has been on show at the Faculty Gallery at Monash Caulfield. A large wall drawing of an Etruscan



Euan Heng puts finishing touches to his latest work at the Faculty Gallery in the Art and Design building at Caulfield, assisted by fine art honours student Alan Wilson. Photo by Andrew Barcham.

olive tree and a snail has graced the small streetside gallery space for the past few weeks, bringing a touch of medieval Italy to Melbourne.

What: Euan Heng: Drawings
When: Until early May
Where: Australian Galleries,
Collingwood

Error details of opening times, contact the gallery on (03) 9417 4303.

Grant to boost digital artwork

BY JOSIE GIBSON

A Monash University lecturer has received one of the first grants from a new digital media fund launched recently by the Victorian Government.

The Cinemedia Digital Media Fund has awarded Troy Innocent \$35,000 for stage one of the development of a digital artwork for Platform 1, the media gallery planned for Melbourne's new Federation Square.

The fund was launched recently at the Faculty Gallery at Monash Caulfield by the Minister for State and Regional Development and Multimedia Victoria, Mr John Brumby.

Innocent, coordinator of digital imaging and multimedia in the Faculty of Art and Design, has been working with digital media for the last decade and was instrumental in luring the fund's launch and an accompanying exhibition, *Option Digital*, to Monash.

"The fund is the only state-based industry development body that supports new works by digital media artists," he said.

"The research component has special significance. A lot of development in this field doesn't always have an outcome that is easily contained in an artifact, exhibition or other discrete form."

Innocent's project, 'TMMP: The transmutational meta-processor', aims to develop a three-dimensional multimedia language, a software-based process for transforming media and an evolving digital media artwork.

Concepts of interactivity and electronic space have introduced a new lexicon into the art world, where some are openly sceptical of the medium's artistic

Innocent is unfazed by such criticism, pointing to its relatively short history and experimental nature in com-



'Entity', a digital work by Monash artist and lecturer Troy Innocent.

parison to established forms like painting and sculpture.

"Essentially, most digital work tries to offer new ways of looking at technology and its role in our lives," he said. "Electronic or digital art is seeking to define and determine an art form unique to the computer." What: Option Digital
When: Until 7 April

Where: Until 7 April
Where: The Faculty Gallery, Monash
Caulfield

to: For details, contact gallery manager Malcom Bywaters on (03) 9903 2882.

Roadsters rolling out for new exhibition



Models of success: Students spend months of painstaking labour creating their 'cars'. Photo by Andrew Barcham.

After a highly successful debut last year, they're back.

Model cars designed by Monash industrial design students are on show again at Clayton campus, in cabinets near the vice-chancellor's office and in the Robert Blackwood Concert Hall.

The selection of colourful, intricately-designed models by final-year students caused a stir last year, drawing out car buffs from across the university.

So successful was the mini-exhibition that new models have been seconded for another show, according to the coordinator of industrial design studies at Monash, lecturer Mr Mark Wilken.

Made from foam blocks, the models are shaped by hand by hacksaw and rasp according to conceptual sketches and dimensional tape drawings.

Mr Wilken says the students modelling their own designs is very important. "Students need to appreciate that concept sketches have to be interpreted threedimensionally, particularly with respect to spatial requirements, vehicle architecture and surface treatment," he says.

Once the models are shaped, they are coated with resin and fibreglassed before being sent out to be professionally spray pointed.

The model-making is part of a popular transportation studies elective offered by the department. In the past, Monash industrial design students have presented their concepts to carmakers in Tokyo, and later this year two honour students have been invited to travel to Germany to appear before leading automakers and academics with their designs.

What: Model Cars Exhibition

hen: Until May

ere: Building 3A, Robert Blackwood Concert Hall,

Who: Monash Clayton campus.

Who: For more information, contact the manager of the Faculty Gallery, Malcom Bywaters, on (03) 9903 2882.

Writings shed light on life in early Australia

BY PETA KOWALSKI

Get the feel of life in early Australia through books and periodicals written by the first explorers, settlers and visitors, in a new exhibition in the Rare Books section of the Monash University Library.

Rare Books Librarian Mr Richard Overell says he sought through the exhibition to highlight the importance of these much-quoted original documents. "Unless you read these original materials, you won't get the full impact," he says. "Australia was a very uncomfortable place in the early days and everyday life was remarkably different."

This tough, gritty time produced a unique and valuable selection of books and periodicals. Those on show date from the early 18th to the late 19th centuries and give firsthand accounts of Australia from the 1770s.

For Mr Overell, the most eye-catching exhibits are the huge folio volumes of John Gould's *Birds of Australia* (seven volumes, 1848) which are full of hand-coloured plates. "It is unusual to have a full set of this beautiful work, as when they now come onto the market, they are invariably broken up for plates," he says.

Another rare find on display is a multi-volume set belonging to the founder of the Botanical Gardens in Melbourne, Baron Ferdinand Von Mueller. Called *Flora Australiensis* (1863–78) and originally not illustrated, this set has had sketches bound into it, both in black and white and colour,



either by Baron Von Mueller himself or his field assistants.

There are vivid accounts of the early sights of Australia in Dampier's book, where he describes landing on the northwest coast of Western Australia. He describes the Aborigines, the not-so-fertile soil and the large number of flies. Perhaps the 'Aussie salute' started back then.

A close encounter with Australian wildlife, the first kangaroo, is mentioned by Captain James Cook. He writes: "I should have taken it for a wild dog, if instead of running it had not leapt like a hare or deer." He later added that "our Kanguroo was dressed

for dinner, and proved most excellent meat; we might now indeed be said to fare sumptuously every day".

Displayed on screens throughout the exhibition are selected illustrations and engravings from the *Illustrated Sydney News*, of which Monash University Library possesses a complete set. One is an early bird's-eye view of Melbourne, which shows all the buildings in the central business district. Another colour illustration depicts the spectacular fire in 1882 that burnt down the Garden Palace in Sydney, the equivalent of Melbourne's Exhibition Building.

As an adjunct to the exhibition, the third and final volume of Celia Rosser's *Banksias* will be on display at the Rare Books Library. In a joint production between Monash University and Nokomis Publications, only 530 copies of the limited-edition volume and 300 portfolios of plates have been produced. A copy of the volume was recently presented to the Queen during her Australian visit.

What: Early Australian History
Exhibition

Where: Rare Books Section, Main Library, Monash University, Clayton campus

When: Until June 30

o: For more information, contact Richard Overell (03) 9905 2689.

For more information on rare books exhibitions, explore www.lib.monash. edu.au/hss/rare/

LOST LOVE LETTERS UPSTROMAGE

The Lost Love Letters of Heloise and Abelard:

Perceptions of Dialogue in Twelfth-Century France

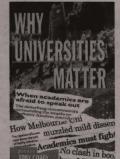
Constant J. Mews

New York: St Martin's Press-London: Macmillan, 1999 RRP: \$92

In a treat for students of the Middle Ages and of European history, Monash historian Constant Mews has re-evaluated more than 100 love letters which he attributes as being written by Heloise and Abelard at the time of their affair.

Long neglected by scholars, these letters present a view much different to the one offered by the brilliant but controversial teacher Abelard (1079–1142), whose castration led to his entry into religious life. Mews provides an in-depth analysis of the debate concerning the authenticity of the letters and looks at the way in which the relationship between Heloise and Abelard has been perceived over the centuries. Mews' new insights into Heloise show her to be a gifted writer with a profound understanding of love.

Dr Constant Mews is a senior lecturer in historical studies and director of the Centre for Studies in Religion and Theology at Monash University.



Why Universities Matter:

A Conversation About Values, Means and Directions

Edited by Tony Coady
Allen & Unwin 2000 RRP: \$24.95

The essays in Why Universities Matter question the management style currently popular in Australian universities

Collectively, the essays do not present any 'line'.

Instead the authors set out to share their concerns about the ideals and values embodied by universities. They cast a sharp eye upon the policies, values and rhetoric that drive developments in contemporary Australian universities. Contributing to the debate, Monash academic and higher education commentator Professor Simon Marginson analyses two issues – the university and its public, and research as a managed economy. His thoughts and ideas form part of a conversation about values, means and directions in Australia's higher education system.

Professor Marginson is director of the Centre for Research in International Education at Monash University and the author of the just-published *Monash – Remaking the University*.

A Spanish note at guitar festival

The New Monash Orchestra will perform, for the first time in Melbourne, Rodrigo's *Concerto Andaluz* at the 4th annual Frankston Guitar Festival from 14 to 16 April.

The orchestra will be supporting four guitarists – Anthony Field, head of guitar at Victorian College of the Arts (VCA), Owen Thompson, also from the VCA, Ken Murray from the Melbourne University Conservatorium and masters student Charles Steventon.

The performance will be held on Sunday 16 April at the Frankston Cultural Centre at 4.30 pm. Tickets are \$22 or \$15 concession and can be booked by contacting the centre's box office on (03) 9784 1060. For further information, visit http://guitar.frankston.vic.gov.au/

Two different themes for exhibitions

The Switchback Gallery at Monash University's Gippsland campus is hosting two diverse exhibitions over the next two months.

Local Colour is an exhibition of photographs taken by Terry Hoey of his home town, Leongatha, where he teaches. Hoey completed a graduate diploma of arts (visual arts) at the Gippsland campus in 1991. The show runs until 13 April.

From 18 April until 4 May, the Switchback will host a group exhibition of installation, projection, painting, sculpture, digital and video works.

ARTS SCENE

Environment has been curated by Shaun Wilson and features work by nine artists from Melbourne, England, Scotland, Ireland and Iceland.

For opening times, call the gallery on (03) 5122 6261.

New views of the Twelve Apostles

A Monash masters student in sculpture, Cameron Bishop, provided a quirky view of one of Victoria's top scenic attractions in a recent exhibition at Monash University's Faculty Gallery at Caulfield.

A View of the Twelve Apostles combined a series of latex sculptures of the famous monoliths with a life-sized sculpture of a 1950s Morris and a family viewing the tourist attraction from the Great Ocean Road.

Snapshots of reality in Do It Yourself

Seven contemporary artists showed depictions of reality ranging from disasters to St Kilda prostitutes in a just-ended show at the Faculty Gallery at Monash University's Caulfield campus.

DIY: Do It Yourself showcased the work of artists who are all coordinators of Artist-Run Initiatives in Melbourne. The artworks chosen exhibited a sense of shared experience and sensibility, reflecting the artists' ability to survive and belief in the sharing of knowledge.

The exhibition included drawing, painting, installation and photography by Monica Adams/Shaun Wilson (Indigo Studios), Richard Holt/Andrew Seward

(Platform Artist Group), Brett Jones/Sarah Stubbs (West Space) and Maggie McCormick (Urban Art Group).

Monash presence in ceramics show

Monash had three representatives in a recent group ceramics exhibition in Sydney.

Dr Owen Rye, a senior lecturer in ceramics at the Gippsland Centre for Art and Design, PhD candidate Gail Nichols, and Sandy Lockwood, who recently completed a graduate diploma in visual arts, took part in *A Generous Vessel*, held at Object Galleries.

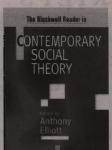
The Potters' Society of Australia selected work for the annual exhibition, which this year represented the work of 12 mature and experienced makers who addressed the classic ceramic genres of large thrown, or thrown and altered, jars, urns, bowls, bottles and platters.

Millennium photos go on show

Monash University photography lecturer Ms Susan Purdy, from the Gippsland campus, was represented in a recent group exhibition entitled *Millennium* 2000.

The exhibition ran at the Photographers Gallery in South Yarra.

Purdy has also had photographs from her recent and successful *Love Letters* exhibition published in the latest edition of the art journal *Dialogue*, produced by West Space Gallery, Melbourne.



Contemporary Social Theory

Edited by Anthony Elliot Blackwell Publishers 1999 RRP: \$49.95

In *Contemporary Social Theory*, Anthony Elliot has selected some of the most important and influential writings in social theory of the past 20 to 30 years.

These pathfinding contributions are written by

well-known thinkers, such as Jurgen Habermans,
Michel Foucault, Anthony Giddens and Julia Kristeva.
However, Elliot has also chosen writings from lesser-known authors raising different but no less relevant questions. Three of Elliot's six core critical issues

ferent but no less relevant questions. Three of Elliot's six core critical issues include social structure and institutional analysis, feminism, gender and sexual difference and the modernity/postmodernity debate.

Dr Anthony Elliott is a research fellow in the Centre for Comparative Literature and Cultural Studies at Monash University and the author of a number of books on psychoanalysis and social theory, as well as *The Mourning of John Lennon*.

POSTSCript

Monash – Remaking the University by Professor Simon Marginson, an exploration of the university's successful attempts to redefine itself during the late 1980s and early 1990s, will be launched 1 May.

Club 66 – Monash Books and Writers luncheon, has recently announced its latest round of guest speakers. For more information, contact (03) 9905 2044. If you are a member of the Monash community and have a forthcoming book, contact monashnews@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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Giving advice really can be murder sometimes

BY SUE MCALISTER

Want to commit murder? Then David Ranson's your man.

No, he's not a killer. Associate Professor Ranson is deputy director of the Victorian Institute of Forensic Medicine at Monash, and he'll tell you all about murder – but only if it's for a book, play, television show or movie.

And, even then, he says, there are certain things he never divulges, such as which chemicals and poisons are the most difficult to detect in a victim, or how and where to get them.

"Advising on suicide is also problematic, because there's evidence that suicides can cluster around the time a film or television show depicts someone killing themselves."

In the last few years, Dr Ranson has provided advice for a number of

television series, including 'State Coroner'. He decided that as the public knew little about the real work of forensic pathologists, "a well-researched and well put together show about what they do and why had to be beneficial".

Since then, he has advised writers and directors for series such as 'Blue Heelers' and 'Halifax fp' on committing and solving murders, and helped make-up artists create gruesomely realistic injuries and designers produce authentic autopsy sets. "We're very careful never to use any materials, such as instruments, charts, x-rays or DNA sequences from actual cases – everything is a mock-up," he says.

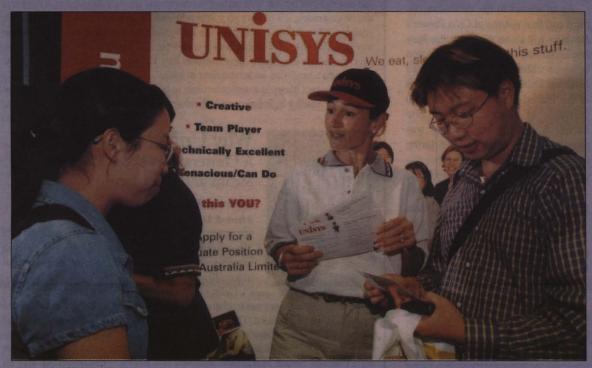
"We've used calves' lungs and sheep's brains to substitute for human organs. Of course, a sheep's brain is smaller than a human's, so we had to bulk it up underneath with cotton wool." Sometimes, however, real people are required to appear as cadavers. "Once, they placed a false chest on an actor, and showed the skin being peeled back to reveal bones, internal organs and foreign objects in the cavity."

So, how grisly can things get? "Well, public broadcasters like the ABC and BBC can be much more aggressive than commercial ones," says Professor Ranson. "It's obvious that a knife manufacturer wouldn't be too thrilled if an advertisement for their product popped up immediately after an autopsy scene featuring a stabbing victim."

Read about Professor Ranson's contribution towards solving one of the world's greatest mysteries in In Search of Russia's Lost Princess' in the next edition of Monash Magazine, out in May.



Monash forensic advice helps make the medical side of television shows such as 'State Coroner' more realistic. Photo courtesy of Channel 10.



All's fair in careers: A record number of exhibitors took part in a two-day Careers Fair at Monash's Clayton campus recently. Organised by Monash's Student Employment and Careers Service, the fair provided students of Engineering, Information Technology, Science, Pharmacy, Business and Economics, Arts, Law and Education with the opportunity to discuss career opportunities with prospective employers.

BRIEFS

Honour for physicist

Professor John Pilbrow, of Monash's Physics department, was last month elected an honorary member of the National Magnetic Resonance Society of India.

Professor Pilbrow, who is president of the Australian Institute of Physics, is the only physicist among the nine honorary members, who include 1991 Nobel prizewinner in chemistry Professor Richard Ernst, and Professor Paul Lauterbur, who carried out the first magnetic resonance imaging experiments in 1973.

Meteorologists in relay for life

Twelve researchers from Monash's Cooperative Research Centre for Southern Hemisphere Meteorology raised \$1800 for cancer research when they took part in the Anti-Cancer Council of Victoria's Relay for Life recently.

Team captain and CRC director Professor David Karoly said there was a direct link between the work of the centre and the researchers' interest in skin cancer awareness.

"The centre studies ozone depletion, UV radiation and greenhouse climate change, so the work we do links us to the Anti-Cancer Council. We also developed a system that forecasts UV radiation, which is regularly featured on nightly TV weather reports."

About 180 other Monash staff were involved in the fundraising effort, including teams from the Personnel Services Division, the Caulfield and Gippsland

campus director's office, the Faculty of Medicine, and the Monash University Student Union.

Murrumbeena area organiser and Monash staff member Ms Rachel Grau said she was delighted with the Monash effort, which raised between \$15,000 to \$20,000.

Monash academic joins water board

A Monash senior lecturer in physiology has been appointed a director to the Melbourne Water Board.

Dr Virginia Mansour, who holds a PhD from Monash's Faculty of Medicine, has been appointed for a three-year term.

Dr Mansour said she was looking forward to contributing her expertise in scientific and medical matters to the board.

State-of-the-art hockey pitch unveiled

A new water-based surface hockey pitch has been opened at Monash's Clayton campus.

One of only five in Melbourne, the \$450,000 pitch has been accredited for international-level play and features a state-of-the-art design and pop-up sprinkler system.

The pitch represents the first stage of a \$1 million project, which will include the construction of a hockey pavilion on the western bank.

Monash Sports and Recreation Association director Mr John Campbell said he was confident the new facilities would attract top-level hockey events to Monash, as well as providing a base from which the Monash Hockey Club could thrive.

Monash successful in aid projects

Monash's department of Epidemiology and Preventative Medicine last month welcomed the largest single cohort of international students ever taken into the department – 30 senior Indonesian Ministry of Health officials who will undertake a Master of Health Services Management, funded by the Asian Development Bank.

The program is one of a range of aid project consultancies that Monash International, in partnership with various academic centres at Monash and private companies, has recently gained.

Last month in Lombok, Indonesia, Monash Mt Eliza Business School's International Centre for Management began a series of training workshops funded by AusAID for 120 Indonesian government officials, with other sessions planned for Kupang (West Timor) and Jakarta. The centre will also deliver a course for senior Thai Government officials in Melbourne and repeat the course in Thailand later in the year.

Monash's School of Nursing will deliver the Bachelor of Nursing by distance education to eight locations in Papua New Guinea. This AusAID-funded project, worth \$1.2 million, will also involve the training of 40 nurses.



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