Developing on-the-spot drug tests

**Drug Testing**

Monash University researchers are investigating whether saliva can be used to accurately detect illicit drug use and determine the dose taken. The researchers from the Department of Forensic Medicine are determining how saliva tests compare with the current drug tests of blood and urine.

Professor Olaf Drummer, head of scientific services at Monash’s Department of Forensic Medicine, said the research was part of a program to develop devices for on-the-spot detection of people affected by drugs such as amphetamines, cocaine, opioids and marijuana. The research would also help determine whether instruments that are under development for detecting drugs in saliva were accurate and efficient.

The Monash researchers are currently working with the Victoria Police in assessing drivers who have volunteered to be tested, as well as with volunteers in other organizations who have taken controlled doses of certain drugs. Professor Drummer said there was increasing demand for a simple, non-invasive technique that could detect illicit drug use, which could later be confirmed with more tests.

“There’s a desire among employers to detect drug use among people who, as part of their occupation, are working with machinery or driving trucks, buses or trains, because a mistake could have disastrous consequences,” he said. “There’s also a desire among police to identify motorists who are adversely affected by drugs.”

“In Victoria, 26 per cent of fatally injured drivers are drug positive and 14 per cent have used cannabis. It is likely that eight per cent of drivers have used cannabis shortly before their crash. All drugs that people take are present in their saliva for a period of time.”

The detection of drugs in saliva offers some advantages over fluids such as blood and urine because collection is less invasive and does not require much specialist skill. Professor Drummer said a further advantage was that the concentration of drugs in saliva may be as good an indicator of the drugs’ physiological effects as blood, and superior to urine. “Saliva, therefore, has possible advantages in situations where active impairment from drugs is being determined.”

He said basic drugs such as amphetamines and opioids may be detected in saliva for more than 24 hours after use, depending on the dose and other factors, providing people have not had anything to eat or drink for at least 30 minutes prior to testing.

“Recent developments in technology have produced detection devices for drugs in saliva that enable a positive response to different drug types to be produced electronically,” Professor Drummer said. “It is not possible yet to define the actual degree of specificity and reliability for any of the drug types or devices in field testing. However, it appears that the detection of amphetamines, opioids and cannabis is less difficult than cannabinoids and benzodiazepines.”

**Tribe: A car design for Indigenous lifestyle**

**Industrial Design**

A futuristic vehicle called Tribe, designed to cater for the unique lifestyle of Indigenous Australians, has won a Monash industrial design student an international award.

Final-year student Mr Joseph Rudolph, who is undertaking a double degree in the faculties of Art and Design and Engineering, was pleased with the award recently by the International Transportation Design Forum in Germany for his concept vehicle.

Mr Rudolph has built a small-scale prototype of the car, which is designed to cater for the needs of Australia’s Indigenous population living in rural environments.

“I saw an opportunity to design a more cost-effective and environmentally friendly vehicle,” he said. “The vehicles currently used in these communities are often old and poorly maintained and so can be damaging to the environment.”

The vehicle is powered by a methanol fuel cell, which produces water as a by-product which is then cooled, stored and available on tap for a variety of uses, including drinking.

The methanol fuel cell could be produced by the communities from plant residue, while the fuel cell could also provide electricity to power other equipment when the vehicle is stationary, allowing the communities to become more self-sufficient.

In keeping with traditional practice, it is anticipated that the vehicles will be built in bulk by many Indigenous communities. They can then be packed and “bundled” together, creating an enclosed communal space, which can be used for a meeting area or temporary shelter.

The six-seater vehicle has flexible seating that can be moved into the cabin as a cargo area or allow passengers to face each other. A sliding internal wall allows the vehicle to become a van, allowing people to travel or sleep.

Designing must be in the Rudolph family blood, as Mr Rudolph’s twin brother Frank, who is also studying industrial design at Monash, has designed a vehicle which serves as a space crisis, people mover and all-terrain vehicle. Lynx, also still in its prototype phase, is designed to appeal to young people who are looking for an innovative alternative to traditional cars.

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**News**

*Child detention*  
Australia’s policies on child asylum seekers are unnecessarily severe compared with those of other developed nations, a new study has found.

*Postgrad Expo*  
Find out about postgraduate courses and career programs at the upcoming Monash Postgraduate Information Expo on 15 October.

*Transport plan*  
Replacing tickets with a levy could be the answer to Victoria’s public transport woe and make the system the envy of others, argues Professor Frank Fisher.

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**Event**

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**Opinion**

*Rocking the boat*  
A new exhibition at Monash’s Gippsland campus takes an original approach to showcasing the works of 12 prominent Australian artists.

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**Arts**

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Research unit to focus on terrorism

**POLITICS**

A team of Monash University academics will work together in a research unit to focus on the nature of terrorism -- why it emerges, how it spreads and the effects it has on national policies.

Led by Dr Pete Lentini from Monash School of Political and Social Inquiry, the Global Terrorism Research Unit will focus on regional and national developments in the war on terrorism in Australia, the US, China, Malaysia, Indonesia, Singapore and the former USSR.

The unit will consider a range of issues, including new approaches to identifying, predicting and preparing for terrorism, and to establishing counter-terrorism measures.

**Milestone ceremony for Malaysia campus**

**GRADUATIONS**

Graduation ceremonies held in Malaysia and Singapore by Monash have highlighted Monash University's continued commitment to internationalisation.

The combined graduation of Monash University Malaysia's pioneer students in engineering, business and information technology and communications with students who completed their studies in Australia marked a milestone for the Malaysia campus.

The ceremony in Malaysia saw the graduation of 282 students, of which 262 were from the Malaysia campus, and the rest having completed their degrees in Australia or by off-campus education.

At the ceremony, held at the Sunway Lagoon Resort Hotel, Byrns-chancellor Professor Peter Davison said that the graduates were something all Monash graduates could identify with and be proud of.

"Monash University Malaysia has become very successful," Professor Davison said. "It could soon be the university's third largest campus. It is fast developing an international reputation as an integral and important part of Monash."

Dr Vic-chancellor of Monash University Malaysia Professor Robert Biggall said the graduation was an historic occasion for both Monash, and the graduating students.

"These students have contributed to the history of Monash and we are confident that, like all our graduates, they will be productive and responsible citizens who will also enrich the world."

Another graduation ceremony was held at the Ria-Karton Millsarah in Singapore for more than 500 graduates. The chancellor Mr Jerry Weapons said the project was established in response to the September 11 attacks last year and a lack of global debate on terrorism.

"We noticed what was missing was an information coming out of the UN," he said.

"We knew there were experts in terrorism and we were going to do a survey of leaders on terrorism."

"The approach we were trying to take is that this is a very complex problem and we have to look at it from all avenues to best understand it."

- Diane Squires

The Age are proud supporters of Monash University.

**COMMUNITY SERVICE**

Monash University medical students could find themselves caring for children with disabilities or studying with at-risk children as part of a unique partnership program established by the university and four key service organisations.

The Community Partnerships Program has its first project in Australia, will see second-year Bachelor of Medicine/Bachelor of Surgery students working on projects in Angus, the Brotherhood of St Laurence, Melbourne's Clayton, and Women's Institute Melbourne.

Under the initiative, students will select from almost 90 projects developed by Monash University and the agencies, including training, the 'resi dence friends' program, assisting and working with at-risk families and children with disabilities.

Dean of the Faculty of Medicine, Nursing and Health Sciences Professor Nick Saunders said it was important that modern medical courses addressed issues such as social justice.

"When I was a medical student, we had no exposure to these ideas. It is really important that it becomes part of medical education, because doctors are confronted with these issues every day in their professions," he said.

The great strength of the Community Partnerships Program is that it puts this idea into practice.

Associate dean (Education Development) Professor Chris Browne said the program would provide a meaningful learning experience for medical students while also fulfilling the agencies and their clients.

At the end of the year, the students will be judged on their projects and how they met the needs of the agencies. The winner will receive the Chest Stoney Memorial Award.

Professor Chris Sluyt, who was director of the Monash Institute of Health Services Research until he died earlier this year, was instrumental in establishing the program.

- Shane Squires

IN BRIEF

Monash College launched in Jakarta

Monash College will offer courses in Jakarta after signing a memorandum of understanding with a private Indonesian education provider.

A party of overseas students and university representatives are expected to come to the college this month.

Professor Denny Siregar, former general manager Mr Owen Scales said the opening of Monash College in Jakarta would enable more students to undertake Monash studies closer to home.

Professor takes on leading role

Professor Gary Brown, former associate dean (Research) in the Faculty of Arts, has been appointed acting vice-chancellor (Research and Development) at Monash University.

Professor Brown has been at the university for 24 years and has developed a significant reputation for teaching and research in his field of sociology.

Monash University welcomes the appointment of Professor Peter Davison, previously deputy vice-chancellor for Research and Development, to the position of vice-chancellor.

Active kids program wins award

A Monash University program encouraging young children in child care to become more active has won a federal Government Youth Sport and Recreation Industry Award.

Developed by education lecturers Dr Janice O'Connor, the 'Active Kids' program for children in care' program won the education category of the award.

Dr O'Connor developed the program with Monash researchers Ms Vicki Brunsby and Dr Vivienne Temple from RMIT.

New manager for Pharmacy

The Victorian College of Pharmacy has appointed a new faculty manager after the retirement of Mr Michael Worrall from the role of registrar.

Ms Jane White, the first female faculty manager in the college's 121-year history, brings to the role an extensive background in university administration, human resource management and as general manager of human resources at RMIT and La Trobe universities.

NHMC grant for liver research

Monash researchers have been awarded a $330,000 development grant from the National Health and Medical Research Council for research into treatment for liver disease.

Dr David Phillips and Professor William Sievert, from Monash's Institute for Reproduction and Development, will lead the research.

The grant is the first round of the NHMC liver disease program. The NHMC administration will provide a grant of $1 million to fund research.

**Bayview Conference Centre**

**Visit our new website:**

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**Bayview facilities include:**

20 Meeting rooms that seat from 6 to 200 people

Lecture theatre with 8 breakout rooms

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Student accommodation available

**Contact:**

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**CONTACT**

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Dr David Wright-Neville said the Office of National Assessment on the war on terrorism from Monash's National Centre for Australian Studies.

Dr Lentini said the main strength of the Global Terrorism Research Unit was its diversity.

"As President Bush says, this is going to be a war fought on many fronts. Similarly, this unit represents a number of different fields. If you look only at military issues, you get a very narrow interpretation of terrorism."

"The approach we are trying to take is that this is a very complex problem, and we have to look at it from all avenues to best understand it."

- Diane Squires
Mobile speed radars help reduce accidents

**ROAD SAFETY**

A mix of marked and unmarked police cars used in mobile speed radar enforcement operations reduced the number of road accidents substantially when combined with publicity campaigns, a Monash study has found.

The study, by Professor Max Cameron and Ms Kathy Diamanto­poulos from the Monash University Accident Research Centre, examined the use of mobile speed radars — those attached to police vehicles — in rural Victoria from July 1993 to June 1997. It included a statistical analysis of mobile radar speed enforcement using marked cars, unmarked cars and a combination of the two.

The study, "An evaluation of the effectiveness of overt and covert speed enforcement achieved through mobile radar operations", found the number of crashes that involved casualties was also reduced when unmarked police cars (covert) were used alone.

Professor Cameron said the study had revealed some surprising results, including that there was no effect on crash rates when only marked cars (overt) were used.

"But this study shows that a combination of marked and unmarked cars provides the best results in traffic safety," he said.

He said they had found that casualty crash rates were reduced for up to four days after the mobile radar operations, whether operations were covert or a combination of overt and covert, particularly when accompanied by high levels of publicity.

"If people know about the radar operations, they seem to adjust their driving accordingly for several days afterwards," he said.

**Policies for children in detention too severe: study**

**HUMAN RIGHTS**

Australia's policies and systems for processing child asylum seekers are unnecessarily severe compared with those of other developed nations, a new study by a Monash University researcher has found.

The study, by Associate Professor Susan Kneebone from the Faculty of Law with Monash law graduate Ms Gaba Crafti, includes a comparison of the policies and procedures of Australia, the UK, the US and Canada for dealing with young asylum seekers.

The researchers found the other countries do not have mandatory detention policies for children. If they do detain children it is as a last resort before moving those whose applications for asylum have failed.

The paper was written as part of a submission by Monash's Castan Centre for Human Rights Law to the ongoing National Inquiry into Children in Immigration Detention being conducted by the Human Rights and Equal Opportunity Commission.

Dr Kneebone said the rights of detainees, and especially those of children, have consistently been eroded.

"We found that young refugees in detention in Australia don't have the fresh, healthy environment you expect of youth. These are young people who are grey and atra with medi­cations that they have received," Dr Kneebone said.

"The main problem is that the children are kept in detention centres for long periods of time, where they see distressed adults often attempting to harm themselves, which can have a profound impact on their already fragile wellbeing."

"I think this is going to have an enormous psychological impact on these children wherever they eventually settle."

Dr Kneebone said that while the Federal Government had policies and procedures in place to protect the rights of children, those rules were not always adhered to.

"There is a great deal of anecdotal evidence describing children who have no toys, no form of entertainment and no access to education — crucial things that are stipulated within the policy."

She said this was in sharp contrast to other developed nations, where safeguards put in place to protect the rights of children were more strictly observed.

**Child in crisis: The rights of detained children are being consistently eroded, a Monash study has found.**

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Children in crisis: The rights of detained children are being consistently eroded, a Monash study has found.

In other countries like the UK and Sweden, the term 'detention' can be used much more loosely, because detention centres are really more like play centres, according to Dr Kneebone.

"Family visits are not deterred as much — they're free to go out into the community, to work and go to school, but they're expected to come home at eight, whereas under our system detention is a form of imprisonment," she said.

**Research**

**The site of Australia's first synchrotron, at Monash University, was launched this month by Victorian Immigration Minister Mr John Brumby and the university's vice-chancellor Professor Peter Darvall.**

Preparation works have begun at the site, with major construction due to begin in the first half of next year at the corner of Blackburn and Wellington roads in Clayton.

Geotechnical testing is underway to determine the exact location of the source table and to work out the bearing capacity of the ground to the best places for the foundation footings to be determined.

The site launch was well attended, with the chair of the National Scientific Advisory Committee for the Australian Synchrotron, Prof Frank Lar Kwin and representatives from RMIT, Melbourne and La Trobe universities, Charles Sturt Institute and Swinburne University of Technology present.

Professor Darvall said the synchrotron was an essential tool for Australian researchers if they were to be at the leading edge of fields such as drug development, information technology, biotechnology and mineral processing.

"The synchrotron will introduce a higher level of technology to Australian researchers than is currently available locally," he said. "Monash has the research base and the networks within the broader scientific community to help make the synchrotron a resource of national significance."

The device is a device that uses very high energy electrons to create bright, pinpoint beams of light, which allow scientists to examine the structures of molecules over a wide range of sizes. Mr Brumby said the project would cost $36 million over five years and be completed by mid-2007.

Professor of microscopy and synchrotron research Dr Penny Fannin said the university's research community was showing increasing interest in the project and long term he might be advanced to reach their research. — Penny Fannin

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**Postgrad Expo**

Information on how to choose the best postgraduate course without the burden of an upfront payment will be available at the Monash Postgraduate Information Expo on Tuesday, 15 October.

The expo, which starts at midday and runs until 7.30 pm at the Melbourne Town Hall, is an excellent opportunity to find about postgraduate courses and career programs and to discover options for making study less affordable and flexible.

Attendees can learn about the Postgraduate Education Loan Scheme (PELS), which provides an interest-free loan facility for eligible Australian citizens and most permanent residents.

Monash University Prospective Students Officer-manager Ms Caroline Knowles said the scheme was growing in popularity.

"In the past, people have needed to pay for their postgraduate courses upfront, however under PELS they can study now and pay later through taxation," she said.

As well as providing information on PELS, the postgraduate expo will be an opportunity to gain information on a wide range of courses in business, arts, health, education, information technology, law, engineering and science.

Information about options for local and international students intending to study by coursework or research, on or off-campus, will be on hand.

Ms Knowles said the expo was an efficient way of gathering information on postgraduate study and comparing courses.

"Experts from different disciplines at Monash will be available to provide personal advice to prospective postgraduate students about their needs, so they can make an informed choice," she said.

"This event is no have as many experts in the one place in the one time to provide information and put you in touch with prospective students."
Red Sea rangers to the eco-rescue

ECOTOURISM

A Monash University ecotourism expert is contributing to strategies to encourage environmentally sound behaviour and understanding among tourists to Egypt's Red Sea marine park. Associate Professor Betty Weiler, of the Department of Management at Monash's Berwick campus, recently held a workshop on communication and customer service principles for Egypt's 'Red Sea rangers' at the resort town of Sharm El Sheikh.

The rangers are the park's environmental guardians. Traditionally, they have been responsible for inspecting dive boats to ensure they are licensed and comply with mooring and waste disposal regulations.

But now the rangers' role is being widened to educate tourists and operators about sound environmental practices in the ecologically fragile area.

In the nine-day workshop, held by Dr Weiler in collaboration with Dr Sam Ham from the University of Idaho, participants were taught communication strategies, how to identify and analyse communication problems and how to give informative talks and tours.

The workshop was sponsored by the United States Agency for International Development (USAID) and the InnerCOM, the environmental communications project of USAID.

Dr Ham and Dr Weiler will continue to monitor the work of the Red Sea rangers as they implement several projects aimed at raising awareness of environmental issues in the marine park.

Endangered species could give new hope for survival following Monash University research that shows an animal's ovarian tissue grafted onto tissue in another species can produce healthy young.

Researchers from Monash's Department of Physiology and the Monash Institute of Reproduction and Development (MIRD) were the first to generate healthy live young using ovarian tissue tissue-grafting, a technique where the ovarian tissue of one species is grafted into another.

In the study, the researchers grafted ovarian tissue from mice onto the kidneys of rats. The kidney is an ideal site for such grafting as it has a high number of blood vessels, which increases the chance of a graft being accepted.

Although researchers have previously grown eggs contained in the ovaries of one species - wallabies, wombats and elephants - in the body of another, this is the first time live young have been produced. The success of the Monash team was published last month in the international journal Science.

Ms Melanie Snow, the PhD student who undertook much of the research, said the research team had been exploiting xenografting as a means of propagating rare and endangered species. "It overcomes one of the major problems encountered with assisted reproduction techniques - endangered animals - a scarcity of mature, fertile eggs," she said.

Dr Shae-Lee Cox, a researcher fellow in the Physiology department, said the technique could be applied to endangered mammalian species as long as in-vitro culture and fertilisation protocols had been established for the species and there was a surrogate mother available.

"For example, with this technique we could take ovarian tissue from a fip oz recently deceased female of an endangered species, put that tissue into a rat and the immature embryos which are the most abundant eggs in the ovary, will become mature," Dr Cox said. "We could then remove the eggs grown in the rat host, mix them with the sperm of the endangered species and transfer the embryos into a surrogate mother from the endangered species or possibly a closely related species."

Dr Cox said this would serve not only to assist in increasing the population numbers of endangered species but also to preserve the existing genetic diversity within species.

"There are eggs, eggs, embryos, and ovarian tissue of threatened animals stored at the Australian Gene Storage Resource Centre of Australia based at MIRD and we could, theoretically use that tissue to generate live young."

In the study, Ms Snow, Dr Cox and Dr Jillian Shaw Associate Professor Graham Jenkins and Ms Melanie Shaw with a liquid nitrogen tank containing the tissue of endangered species. Photograph: Ford

New generations: Researchers, from left, Dr Shae-Lee Cox, Dr Jillian Shaw, Associate Professor Graham Jenkins and Ms Melanie Shaw with a liquid nitrogen tank containing the tissue of endangered species.

Enhancement studies program

Monash's Enhancement Studies Program offers VCE students the chance to undertake a first-year university subject while still in Year 12.

The enhancement subject is counted as a sixth VCE subject and included in the calculation of the student's ENTER. A pass grade in the enhancement subject may earn the student enrolment at university level.

Credits awarded will depend on the university and program of study in which the student subsequently enrolls.

A wide variety of enhancement subjects is offered at Monash through the School of Arts, Business and Economics, Information Technology and Science. Most subjects are available off-campus at selected secondary schools across Victoria, which act as host centers for enhancement classes.

For more information, contact the 2003 Enhancement Studies Program handbook, which is now available from VCE and careers coordinators.

For more information about the program, contact Ms Philippa Young on +61 3 9905 5819 or Ms Natasha Alexander on +61 3 9905 5685.

Information evening

An Enhancement Studies Program information evening will be held on Wednesday, 16 October from 7.30 pm to 9 pm in South Lecture Theatre, Monash University, Clayton. The session will give students an opportunity to find out more about enhancement studies and talk to subject coordinators.

For more information, contact Ms Philippa Young on +61 3 9905 5819 or Ms Natasha Alexander on +61 3 9905 5685.

SCHOOLS

Do you want Monash to visit your school?

The Prospective Students Office at Monash University is available to give presentations and talks to secondary schools. The presentations provide information on topics such as course and career options at Monash, application and selection criteria, scholarships, fees and expenses, and life at a residential university.

Schools can be taught off-campus and/or on-campus. For more information contact Ms Julie Martin, schools liaison coordinator, on +61 3 9905 3152.

Contact Ms Philippa Young on +61 3 9905 5819 or Ms Natasha Alexander on +61 3 9905 5685.

Monash News, October 2002

Tissue graft breakthrough

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Monash
An annual levy that replaces the current ticketing system could transform Victoria's public transport system into one that is envied throughout the world, argues Monash academic Associate Professor Frank Fisher.

It is no secret that a well-patronised public transport system moves people around more efficiently than a transport system based mainly on the use of private cars. But while the potential benefits to the environment are also well-known, the disincentives to using Melbourne's existing system are legendary.

One of these disincentives is, of course, the ticketing system. In addition to its current inability to generate a revenue flow above its current costs, the Victorian system is not designed to furnish statistics which can then be used to improve the system. One could be forgiven for wondering whether it was designed by the road lobby.

Having to purchase a ticket encourages us to stick to our cars - and because most of us believe we must own a car rather than rent or borrow one, it makes good sense to use it for all travels after after having paid a substantial amount to buy it. Sell another disincentive is, of course, the ticketing system. In addition to its current inability to generate a revenue flow above its current costs, the Victorian system is not designed to furnish statistics which can then be used to improve the system. One could be forgiven for wondering whether it was designed by the road lobby.

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To the government and the taxpayer, the overall cost of public transport would not change; it would be exposed and the public benefited. Well-patronised rapid transit systems would eventually be within walking or cycling distance for most people, providing them not only with an efficient public transport system but also with the opportunity of staying fit and healthy.

In the post-September 11 environment, the possibility of the State Government introducing 'smart tickets' - which would enable operators and others to monitor individual commuter movements - would further increase. We might then see a real reduction in the costs of transporting each person.

A levy would also preclude the structural increase of the public transport levy, which would give the community a bigger stake in the transport system. But how would a public transport levy make Melbourne 'marvellous?'

First, it would provide an explicit incentive to use public transport by requiring all urban income earners to pay an annual amount in much the same way as we currently pay for vehicle registration, Medicare and the fixed costs of reticulated water, electricity, waste disposal and so on. Public transport would then be free at point of access - a social revolution.

How such a levy would be assessed and collected would be the subject of a study in its own right. But at first glance, since 88 per cent of Victoria's residents' access to the public transport network is in close walking distance, it seems that a fixed levy for all people within the MET system's catchment would be a fair and straightforward mechanism. The usual equity measures would apply.

Once the hurdle of implementing this mechanism was overcome, its user-friendliness would become obvious. Visitors, the young, the old and disabled people of all kinds (the sick, physically disabled, frail and non-local language speakers) would benefit from the improved access.

Many of the other disincentives could be overcome with the introduction of a public transport levy, which would give the community a bigger stake in the transport system. But how would a public transport levy make Melbourne 'marvellous?'

Finally it would provide an explicit incentive to use public transport by requiring all urban income earners to pay an annual amount in much the same way as we currently pay for vehicle registration, Medicare and the fixed costs of reticulated water, electricity, waste disposal and so on. Public transport would then be free at point of access - a social revolution.

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Books/Arts

Discovering the waterbugs' hidden world

To Edward Tsyrlin, a freshwater pool is an intriguing, hidden world full of alien creatures just waiting to be discovered.

Mr Tsyrlin, a research assistant at Monash University's Water Studies Centre in the Faculty of Science, is fascinated by the dragonflies, yabbies and insects he sees when he peers into freshwater pools or streams.

It is a fascination that has led Mr Tsyrlin, together with Dr John Gaden from the University of Sydney, to write The Waterbug's Life: A Guide to the Freshwater Invertebrates of Temperate Australia.

Mr Tsyrlin remembers clearly the origins of his obsession with the miniature world of bugs.

"As a child, I was always a bit of a social dropout. I preferred the company of insects to that of the peer, and the kid inside me is still alive today," he said.

According to Mr Tsyrlin, waterbugs play a vital role in the health of our freshwater ecosystems.

"They form the basis of the food chain, feeding on algae, plants and each other before falling prey to all manner of aquatic creatures. Larger aquatic creatures in our waterways - fish, frogs and even the platypus - would all disappear without the presence of waterbugs," he said.

"They also play an important role in the formation of our waterways. Some are sensitive to pollution while others have greater tolerance, and by finding out which have survived, we can see what effect pollution and habitat degradation have had on our waterways.

"Waterbugs are generally small and hide in the dark recesses of rivers and dams. Because of this, Mr Tsyrlin says, people don't realise the wealth of life that is taking place beneath the surface of the water. Yet he says aquatic habitats can be as lively as any exotic destination."

"In one square metre of a stream, you can often find more variety of life than on a square metre on the ground," Mr Tsyrlin said. "It can be as rich as the Amazon jungle because there are so many different species in there, and the interactions between them is so complex."

The Waterbug Book brings together information from various research papers and taxonomic guides on waterbugs. It is a useful source of information for environmental consultants, academics, students of the ecosystem and fly fishermen, who use the book to design flies that mimic the characteristics of waterbugs.

- Konrad Marshall

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"Based on an historical event, the play is set in Nazi-occupied Denmark. It tells the story of Werner Heisenberg, the leading German physicist of his day, as he pays a visit to the home of his old mentor, the half-Jewish Nils Bohr.

"The two men go for a walk and, as they walk, Heisenberg abruptly leaves and the two men never speak again.

"The two men go for a walk and, as they walk, Heisenberg abruptly leaves and the two men never speak again.

After the war, both men gave very different versions of their conversation, and what was said during their walk has been a point of speculation ever since, Mr Gaden said. "Bose claims that Heisenberg was trying to find out what he (Bobo) knew about the Allies' development of the bomb so he could use the information to perfect the Nazis' own bomb project, but Heisenberg denies it," he said.

Mr Gaden, who has been part of the play's successful run in both Sydney and Melbourne, said the Monash audiences responded favourably to the work.

- Derek Brown

Tracing history: Audiences were captivated as the history and controversy of the atomic bomb were revealed during recent performances of Copenhagen.
Australian art rocks the boat

A new exhibition at Monash University’s Gippsland campus this month takes an original approach to showcasing the work of Monash’s known installation artists.

Titled The Best, curated by artist and former Monash staff member Mr Jon Campbell, includes more than 200 works on paper arranged around the gallery space to spell out each letter of the exhibition’s title.

According to Mr Campbell, whose work is also featured in the exhibition, the unusual arrangement provides an opportunity to view the works and the exhibition from a number of different perspectives.

“Each letter includes around 20 works – at least one from every artist – which allows visitors to look at each letter as a microcosm of the whole exhibition, or to look at the letters one after another and follow one artist’s work around the room,” he said.

Mr Campbell believes the creative format perfectly captures the originality and restlessness that were the exhibition’s inspiration.

“I wanted the exhibition to come together freely and evolve in a casual way. Rather than set out with a particular theme in mind, I simply approached artists whose work I liked, those who I had worked in collaboration with, previously, and who were friends and asked them to become involved,” he said.

“I asked each of the artists to include in the exhibition the work they did or found interesting. In many cases I was surprised by what they included.”

Works in the exhibition range from painted posters and comic strips to elusive images in acrylic and watercolour and figurative drawings in pencil.

“Most of my work tends to focus on the ordinary but intimate moments that surround you as you are growing up, raising a family or engaging with everyday life,” he said.

“I take these intimate experiences and put them into the more general context of popular Australian culture so others can relate to them.”

— Derek Brown

Opera in celebration of ‘Merrie England’

The Alexander Theatre at Monash University will take on all the pomp and ceremony of Elizabethan England when the Gilbert and Sullivan Society presents ‘Merrie England’ this month.

Produced by the Gilbert and Sullivan Society of Victoria, ‘Merrie England’ tells the story of Queen Elizabeth I as she seeks revenge after discovering her former admirer and royal courtier, Sir Walter Raleigh, is in love with her maid Bessie.

While not a Gilbert and Sullivan original, the play was written at the beginning of last century by esteemed musician Edward German during the hey-day of Gilbert and Sullivan productions.

And according to Gilbert and Sullivan Society publicity officer Dr Bernardt Boulton, the play, which includes a cast of more than 30 actors, follows in the traditions of all the great comic operas of that era.

‘Merrie England’ has all it – from a storyline that includes secret liaisons and cunning plans, to period costumes and rousing songs,” he said.

Dr Boulton said some of the songs and memorabilia in the production have become so familiar they have entered into Australia’s cultural history.

The very stirring and patriotic song ‘The very stirring and patriotic song ‘While not trying to preach, I feel my artworks are able to reveal a concern for the natural world which many people share,’ she said.

“I am terrified at the damage humans are causing to the natural ecosystems of our planet.

“I believe we cannot live without the balance a healthy environment provides us, or, at the very least, that it would be unwise to do so.”

— Derek Brown

Exhibition brings environment to the fore

A new exhibition on show at Monash University’s Gippsland campus this month reveals the environmental concerns of one of Australia’s best-known installation artists.

According to artist Ms Janet Laurence, the exhibition, titled Frexstorm, provides an insight into how her art has been influenced by an awareness of nature.

“I have always been interested in the fragility of the natural world and our sometimes ambivalent relationship to it. As a result, each of the works on show is a thought experiment in how to portray this theme in a way that is personal to the artist.

The exhibition includes a number of small sculptures or models, displayed or attached to the gallery walls. The sculptures are small-scale versions of works that Ms Laurence hopes to create as larger pieces in the future.

The exhibition is dedicated in its entirety to environmental issues, and the exhibition design is exhibited as a tribute to extinct species of plants. The names of the species are engraved between sheets of glass, and the names of the species are engraved between sheets of glass, and the species names are in any one section of the work, the harder it is to see through the glass. Also on display is a model of a fruit bat where visitors will be encouraged to sample drinks of rare plant essences.

Nature’s Influence: ‘Greenspace’ is from the permanent exhibition now showing at the Faculty of Art and Design Gallery, Gippsland campus.

Having worked with environmental scientists in the past, Ms Laurence believes it is possible to use art and poetic language as a bridge between the scientific worldview and the concerns of the wider public.

“While not trying to preach, I feel my artworks are able to reveal a concern for the natural world which many people share,” she said.

“I am terrified at the damage humans are causing to the natural ecosystems of our planet.

“I believe we cannot live without the balance a healthy environment provides us, or, at the very least, that it would be unwise to do so.”

— Derek Brown

Young designers on RED alert

An emergency kit designed to help people displaced by natural disasters and conflict has won a Monash University student the Andy Warhol/Heidi Young Design of the Year award.

Mr Darrin Ward won the award last month with Ms Marrie Rise’s RED (Relief Emergency Device) Pack (RED pack), which allows people to make a tent, a small fire and cooking utensils, or even a double as a sleeping bag.

Mr Ward’s kit would be useful during the initial stages of an emergency situation.
Monash researchers have pushed the university to its best performance in eight years of Australian Research Grants。

Monash-led research projects attracted a total of $207 million in funding, including 56 Discovery grants – 14 more than last year. Monash was also granted funds for three professorial fellowships, one Queen Elizabeth II fellowship and several Australian postgraduate fellowships. The total value of 16 Linkage grants awarded to Monash also increased. Linkage grants are awarded to institutions for research involving industry partners.

**NEWS**

Monash ARC performance best in eight years

**GRANTS**

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**Flexibility lures professionals into teaching, study shows**

A preliminary study into the reasons professionals are choosing to return to university to study teaching has found flexibility, security and an unfulfilled desire to teach is attracting people into the profession.

The study, a survey investigation of influences and choices in attracting graduates into teaching, was conducted by Dr Paul Richardson, associate dean (teaching) in Monash’s Centre for Educational Development, and Dr Helen McNally from the School of Education.

The results indicate that graduates of all disciplines decide to pursue teaching as a career, and indeed have chosen, that will include teaching.

The study identified five clusters of reasons: social, legal, institutional and economic.

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**Call of the classrooms:** Monash’s Dr Paul Richardson, right, and Dr Helen Watt from the University of Sydney have found that flexibility and security are luring professionals into teaching.

**Biodiversity centre plans for the future**

A research centre that aims to maintain environmental sustainability in Australia has been established at Monash University.

The Australian Centre for Biodiversity Analysis, Policy and Management (ABCAPM) will focus on how the environment can contribute to sustainable development.

**Contact**

Paul Richardson, ABCAPM, Monash University

**Enquiries**

(03) 9905 2771

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**NEWS**

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Everyday, somewhere in the world, Monash graduates are making a difference.

Whether in commerce, industry, science, the law, government or the arts – Monash graduates are applying their knowledge and skills to make the world a better place.

To change your world for the better, find out how you can become a Monash postgraduate by attending the Monash Postgraduate Information Expo.

**Course advice:** Arts, Business and Economics, Education, Engineering, Information Technology, Law, Medicine, Nursing and Health Sciences and Science will be there to help you choose a study program that suits you.

Ask about the Postgraduate Education Loan Scheme (PELS), which provides an interest-free loan facility for eligible Australian citizens and permanent residents.

**WHERE:** Melbourne Town Hall

**WHEN:** TUESDAY 15 OCTOBER, NOON-7 PM

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