Microform technology could save millions

Physics and Materials Engineering

New technology developed at Monash University will simplify the manufacture of small parts.

Dr Chris Davies and the microforming team are working on a cheap and more efficient process.

Dr Davies likened the industry to car manufacturing but on a much smaller scale.

"We mould and stretch parts similar to the way vehicle manufacturers do with car body parts, but we are working with a microscope," he said.

"This differs to the way these parts are currently being made, and it is a much cheaper and more efficient process."

The SPME team is working closely with the Victorian Centre for Advanced Manufacturing, a state-government funded body, as well as researchers from Deakin University and the CSIRO.

Contact: Ingrid Sanders
Ph: +61 3 9905 4929

Humour research reveals the secrets of what makes us laugh

A sense of humour is a much admired asset. But do the same things make people laugh all over the world? And can we measure our ability to appreciate the funny side of life?

Monash PhD student at the Education faculty's Institute of Human Development Mr Ben Leung aims to answer these questions via his research into the links between sense of humour, personality and psychological well-being in different cultures.

Under the supervision of registered psychologist Associate Professor Geoff Molloy, Mr Leung has just finished a preliminary study of sense of humour which shows some notable differences in individual humour appreciation linked to gender and nationality.

He surveyed more than 400 people using a self-developed psychometric scale — a tool for measuring mental states — comprising 25 written and 25 cartoon-type jokes. Participants were asked to score the jokes on a scale ranging from 1 to 5, with 1 being "not at all funny" and 5 being "very funny".

They also had to identify whether the main humour element in the jokes was aggression, sex or double meaning, and provide demographic data about factors such as gender, age and nationality.

The survey found that written jokes were more appreciated by men than women, and by people of Chinese heritage rather than Australians. It also showed that jokes containing sexual connotations were more appreciated by men than women.

With the preliminary study complete, Mr Leung has begun a project to survey students in Hong Kong tended to have a good sense of humour have introverted or extraverted personalities and whether they're well-adjusted or maladjusted, and the relationship between all these things," he said.

"If a good sense of humour is generally highlighted as a desirable personality trait, the subject hasn't been studied much. We don't know a lot about who finds what funny and impact of cultural background on humour appreciation."

Mr Leung said his research, although in psychology, could also have important implications for teachers in multicultural classrooms, or teachers of English as a second language who want to know which type of humour is likely to work best with their students.

In his own experience of teaching university speech communication courses in the US and English as a second language in Hong Kong, Mr Leung discovered his students in Hong Kong tended to have a different sense of humour from their Western counterparts in terms of how they perceived and appreciated written humour.

"I like using puns and jokes in my teaching, for instance to explain the difference between two uses of the word 'bird,' I might say 'Little flies like a arrow' and 'Tweet flies like a banana.' But I find people from non-English speaking backgrounds struggle finding the non-linear so funny. They seemed to prefer much longer jokes, probably because they always look for a punch line, not necessarily one with an unfamiliar language." — Michele Martin

Contact: ben.leung@education.monash.edu.au
Ph: +61 3 9905 2129

Laugh and the world laughs with you

HBOur researcher Mr Ben Leung.

Photo: Greg Ford

Monash has a new chamber orchestra, the Monash Chamber Orchestra and Monash Flute Ensemble performing chamber music sponsored by Sibelius Society performing Cornell and Sibelius, performance staff playing Faire Faire, Wait Wait, etc, Monash World Music Orchestra, the African Choir and electronic music by Sonic Art.
From the vice-chancellor’s desk

$3 million boost for learning in rural areas

Education

An Israeli accelerated learning program to improve education for low-achieving children and adults in rural and remote Australia has just received government funding of $3 million.

The program is being delivered via a project co-directed by a Monash education expert, Professor Marcia Langton of Melbourne University and Ms Helen Teitzelmann of HTT Associates to develop and manage the innovative pilot project.

"It was conceived after Professor Langton's 2003 study tour of Israel, where the potential in the Tanfit acclerated learning program, which addresses education disadvantage via principles of high and sustained education rather than remedial solutions," Dr Ma Rhea said.

"The overriding principle is that the national school curriculum should be taught to educationally disadvantaged groups in the classroom, along with additional accelerated learning classes before and after school, to bring the students up to the national average."

Briefly

Fellowship rewards baby health research

Dr Flora Wong, from Monash’s Ritchie Centre for Baby Health Research, has been awarded an $18,000 Victorian Fellowship to further her research into the link between low blood pressure and brain injury in premature babies.

Dr Wong, a renal and perinatal specialist, is one of only a handful of Australian scientists exploring the effect of blood pressure on oxygen supply to the brain in tiny infants.

The fellowship will enable her to travel to the University College London, where she will explore and evaluate Spatially Resolved Spectroscopy – new technology that continuously measures brain oxygen supply and consumption in real-time.

The Ritchie Centre for Baby Health Research, part of the Monash Institute of Reproduction and Development, is the only Australian research institute with research expertise in using this method on premature babies.

New centre a boost to medical training

The new Centre for Medical and Health Sciences Education, opened recently at Monash’s Clayton campus, gives medicine and health science students access to the latest up-to-date teaching facilities.

The Centre includes two mock GP surgeries linked to tutorial rooms by one-way glass and 20 rooms with wireless technology, including a room of seminars, tutorial and clinical skills training rooms.

Centre director Professor Brian Jolly said that global trends in health care were pushing for professionals to learn real-life situations.

"There are very few new facilities available to students in hospitals, and those that do attend are often too sick to see students," he said.

"Among other things, these new facilities provide a model of practice for new graduates and offer experienced professionals of the future to learn basic clinical procedures."

New head for Monash policy studies

The Monash University Centre of Policy Studies (CoPS) has appointed Professor Philip E. d’Abbs as its new director.

An internationally acclaimed research centre, CoPS specialises in large, economy-wide modelling, usually referred to as computable general equilibrium (CGE), modelling. The centre undertakes academic and contract research projects designed to predict the economic impacts of policy decisions, conducts training courses in CGE modelling and offers graduate student supervision.

Professor Adams has been working with CGE since 1991, most recently as its director of consulting. He is also the Australian coordinator for the Economic Outlook taskforce of the Pacific Economic Cooperation group.

UK economics expert visits Monash

Global economics expert Lord Meghnad Desai is currently on a month-long visit to Monash as a distinguished guest of the university’s Institute for the Study of Global Movements and the Faculty of Business and Economics.

During his visit, Lord Desai will contribute to work currently being undertaken by the institute. He will be available to offer advice and direction to people who have received research grants from the institute and will present several lectures and seminars.

Lord Desai has taught at the London School of Economics since 1963 and is currently director of the school's Centre for the Study of Global Governance, which he established in 1992. He has several publications to his name as well as four honorary degrees and was made a life peer of the British House of Lords in 1991.

Eureka Prize for ethics research

Monash’s Dr Justin Oakley has won the Australian Museum Eureka Prize for Research in Ethics for his efforts in tackling the theory issues associated with the practical implications of individuals providing informed consent before surgery.

The $10,000 prize was awarded to Dr Oakley, who is director of the university’s Centre for Human Bioethics in the School of Philosophy and Bioethics, and his co-researcher Dr Svetlana Yashkina, who is director of the Centre for Applied Philosophy and Public Ethics at the Australian National University, Canberra.

A record $220,000 was presented to 22 scientists, engineers, writers and students at the 15th annual Australian Museum Eureka Prize for Research in Ethics at Government House in August.

The Eureka Prize for Research in Ethics, sponsored by the Australian Catholic University, is awarded for the investigation of theoretical and practical problems contributing to the understanding and development of ethical standards.
Charismatic leaders may undermine staff

Psychology

Charismatic leaders, traditionally thought to make the best managers, can actually undermine the performance and attitudes of staff, a study by Psychology Masters student Ms Janis McFarland has found.

The study, Leadership Impact on Motivation, Commitment and Performance: Subordinate Personality Determinants, found that contrary to current belief, charismatic leaders could have a negative impact on work performance of staff. Ms McFarland said this was because different personality types responded better to differing management styles.

"Contrary to the current theories of good leadership, the style of charismatic leaders does not suit all workers; it's not a one size fits all approach," she said.

"All employees are different and some may prefer a leader who provides more clarity and guidance than the big picture approach generally associated with transformational or charismatic leaders." Charismatic, also known as transformational leaders, traditionally provide intellectual stimulation to staff and focus on the big picture rather than the detail of projects.

Ms McFarland said this big picture approach could actually demotivate many transformational workers who needed further direction to complete tasks.

"Staff may become demotivated because they don't know how to achieve the big picture outcome," she said.

"In some instances an employee might be highly conscientious and would like to get the job done, but they need clarity and direction before they can begin the task. This can be upsetting to some personality types."

Ms McFarland interviewed 312 senior level staff from an Australian consumer company.

The study aimed to explore the relationship between leadership style and employee motivation and commitment and performance outcomes. It also considered the extent to which employee personality impacted on these relationships.

Psychology lecturer Dr Simon Moss supervised the project.

Contact: simon.moss@med.monash.edu.au
Ph: +61 3 9905 3979

Newborn screening privacy defended

Genetics

A state government-funded agency that conducts newborn screening of all babies born in Victoria has defended the privacy and security of its records, following concerns raised by two Monash academics.

The director of Genetic Health Services Victoria (GHSV), Associate Professor Agnes Bankier, who is also an honorary Associate Professor in the Department of Paediatrics at Monash, said GHSV has been pro-active in clarifying the issues relating to ownership, storage and access to the newborn screening cards.

"GHSV has, since 2001, voluntarily initiated discussions with the Department of Human Services (DHS) and the Health Services and Privacy Commissioners," she said.

An expert committee was formed last November by the Health Services Commissioner to look into the questions of informed consent, privacy, storage, access and security of the cards. That report is due to be handed to the Victorian government soon.

Professor Bankier's comments follow an earlier Monash News report in which Professor Greame Hodge and Dr Jonathan Clough of Monash Law had expressed concern about recent media reports regarding the control of the cards that contain blood samples taken from Victorian newborns since 1970.

Every baby born in hospital in Australia undergoes a routine heel prick test, in which a small amount of blood is soaked onto an absorbent card and then sent for a range of conditions, which can be treated often before the babies get sick or develop intellectual disability.

"There are issues regarding ownership and legal protection of the blood spot that need to be addressed nationally. In the meantime the newborn screening cards are stored securely in a DHS approved off-site storage facility according to government best practice guidelines, and access is restricted," said Professor Bankier.

She said access to the records is only provided for: quality assurance associated with newborn screening; specific testing with consent of the parent or the individual for medical purposes; Hospital Ethics Committee approved research carried out on identified samples with specific consent, or anonymous samples, or forensic identification by order of a court including the Coroner's Courts - but only if police have first obtained a court order.

"The public can be reassured that the cards are secure and safe and have every confidence in the screening program. It should not be forgotten that the newborn screening program is vital for the welfare of the babies of Victoria," Professor Bankier said.

Contact: www.genetichealthvic.net.au

Breakthrough treatment for malaria

Pharmacy

Monash University researchers are part of an international team that has developed the biggest breakthrough in malaria treatment in a generation.

The new synthetic drug, nicknamed Oz, is set to become the major weapon in the fight against multi-drug resistant malaria and could be available to patients within three years.

Professor Bill Charman from Monash's Victorian College of Pharmacy said the drug (OZ277/Btn1160) is cheap and easy to manufacture and could save millions of lives worldwide. He said malaria killed between one and two million people every year, and in sub-Saharan Africa one child died every 30 seconds from the mosquito-borne disease.

"We are thrilled with the progress and speed with which this drug has been developed, and it is now entering human trials in Europe," he said. "Assembling all goes well, we are anticipating Oz will be available to patients within the next three years."

Monash University researchers: Ms Janis McFarland, with her supervisor Dr Simon Moss.

Personal attention the key to calming dementia patients

Aged mental health

Agitated dementia patients are soothed by any personal attention - even from strangers, a groundbreaking Monash University study has revealed.

The results initially surprised the Aged Mental Health Research Group, which has been expecting80 per cent of patients would be most calmed by the taped voices of family members. The simulated presence therapy project revealed patients were almost equally soothed by the taped non-emotive voice of a researcher through headphones - reading a favorite poem or a family anecdote - would just putting on their headphones, helps them feel better."

"With our ageing population, it's a problem that is only going to increase - by 2041, 500,000 Australians will have dementia, compared with 130,000 in 1995."

- Allison Harding

Contact: daniel.oconnor@med.monash.edu.au
Phone: +61 3 9905 1700

Contact: robyn.anns@med.monash.edu.au
Phone: +61 3 9905 0607

Contact: simon.moss@med.monash.edu.au
Ph: +61 3 9905 3979

Copyright © 2004 Monash University

Charismatic leaders researcher: Ms Janis McFarland, with her supervisor Dr Simon Moss.
The first comprehensive collection of Holocaust memoirs published in Australia has been established at the Monash University Library.

The collection, housed in the Rare Books section at the Sir Louis Matheson Library on the university's Clayton campus, was an initiative of Monash's Australian Centre for the Study of Jews, Civilisation under the guidance of centre director Professor Andrew Markus.

The project to collect and catalogue Holocaust memoirs, which is well underway, will lead to an online database in 2005. More than 160 titles have been identified, with the earliest works dating back to the late 1970s and the most recent published this year.

"They are testaments to the end point of racial hatred and the number of memoirs detail the many different experiences and backgrounds of the authors. Each memoir offers a unique insight. "As Holocaust survivors are an aged and a dying community, the number of memoirs will inevitably decrease," said Markus.

The preservation of these publications, many of which have not made it into libraries, may well be lost given their limited circulation, is a matter of urgency."

-Karen Stichenson

Contact: marc曰.pavlyshyn@arts.monash.edu.au
Ph: +61 3 9905 2200

Playing for real: Dr Kesten Green in an International forecasting expert forecasting a real conflict situation.

Reference: The first comprehensive collection of Holocaust memoirs published in Australia has been established at the Monash University Library. The collection, housed in the Rare Books section at the Sir Louis Matheson Library on the university's Clayton campus, was an initiative of Monash's Australian Centre for the Study of Jews, Civilisation under the guidance of centre director Professor Andrew Markus.

The project to collect and catalogue Holocaust memoirs, which is well underway, will lead to an online database in 2005. More than 160 titles have been identified, with the earliest works dating back to the late 1970s and the most recent published this year.

"They are testaments to the end point of racial hatred and the number of memoirs detail the many different experiences and backgrounds of the authors. Each memoir offers a unique insight. "As Holocaust survivors are an aged and a dying community, the number of memoirs will inevitably decrease," said Markus.

The preservation of these publications, many of which have not made it into libraries, may well be lost given their limited circulation, is a matter of urgency."

-Karen Stichenson

Contact: marc曰.pavlyshyn@arts.monash.edu.au
Ph: +61 3 9905 2200

Playing for real: Dr Kesten Green in an International forecasting expert forecasting a real conflict situation.

Reference: The first comprehensive collection of Holocaust memoirs published in Australia has been established at the Monash University Library. The collection, housed in the Rare Books section at the Sir Louis Matheson Library on the university's Clayton campus, was an initiative of Monash's Australian Centre for the Study of Jews, Civilisation under the guidance of centre director Professor Andrew Markus.

The project to collect and catalogue Holocaust memoirs, which is well underway, will lead to an online database in 2005. More than 160 titles have been identified, with the earliest works dating back to the late 1970s and the most recent published this year.

"They are testaments to the end point of racial hatred and the number of memoirs detail the many different experiences and backgrounds of the authors. Each memoir offers a unique insight. "As Holocaust survivors are an aged and a dying community, the number of memoirs will inevitably decrease," said Markus.

The preservation of these publications, many of which have not made it into libraries, may well be lost given their limited circulation, is a matter of urgency."

-Karen Stichenson

Contact: marc曰.pavlyshyn@arts.monash.edu.au
Ph: +61 3 9905 2200

Playing for real: Dr Kesten Green in an International forecasting expert forecasting a real conflict situation.

Reference: The first comprehensive collection of Holocaust memoirs published in Australia has been established at the Monash University Library. The collection, housed in the Rare Books section at the Sir Louis Matheson Library on the university's Clayton campus, was an initiative of Monash's Australian Centre for the Study of Jews, Civilisation under the guidance of centre director Professor Andrew Markus.

The project to collect and catalogue Holocaust memoirs, which is well underway, will lead to an online database in 2005. More than 160 titles have been identified, with the earliest works dating back to the late 1970s and the most recent published this year.

"They are testaments to the end point of racial hatred and the number of memoirs detail the many different experiences and backgrounds of the authors. Each memoir offers a unique insight. "As Holocaust survivors are an aged and a dying community, the number of memoirs will inevitably decrease," said Markus.

The preservation of these publications, many of which have not made it into libraries, may well be lost given their limited circulation, is a matter of urgency."

-Karen Stichenson

Contact: marc曰.pavlyshyn@arts.monash.edu.au
Ph: +61 3 9905 2200

Playing for real: Dr Kesten Green in an International forecasting expert forecasting a real conflict situation.

Reference: The first comprehensive collection of Holocaust memoirs published in Australia has been established at the Monash University Library. The collection, housed in the Rare Books section at the Sir Louis Matheson Library on the university's Clayton campus, was an initiative of Monash's Australian Centre for the Study of Jews, Civilisation under the guidance of centre director Professor Andrew Markus.

The project to collect and catalogue Holocaust memoirs, which is well underway, will lead to an online database in 2005. More than 160 titles have been identified, with the earliest works dating back to the late 1970s and the most recent published this year.

"They are testaments to the end point of racial hatred and the number of memoirs detail the many different experiences and backgrounds of the authors. Each memoir offers a unique insight. "As Holocaust survivors are an aged and a dying community, the number of memoirs will inevitably decrease," said Markus.

The preservation of these publications, many of which have not made it into libraries, may well be lost given their limited circulation, is a matter of urgency."

-Karen Stichenson

Contact: marc曰.pavlyshyn@arts.monash.edu.au
Ph: +61 3 9905 2200

Playing for real: Dr Kesten Green in an International forecasting expert forecasting a real conflict situation.
Road safety – it’s a matter of design

Territorial frighten people but the numbers that have died resulting from it pales into insignificance when compared with war.

The true terror we should be very afraid of and focused on, with all our attention and resources, is the road trauma that every day tears at the fabric of our society and families. Just consider how many times this year a front page headline has shown a family, a town or a group of friends, devastated by senseless death and trauma resulting from a road crash. Yet we seem to accept that it is a part of life’s many risks. A risk we are willing to take when we drive somewhere because the freedom and mobility of owning and driving a car far outweigh the negative effects.

Total Australian fatalities in all wars to date are around 103,000 and since 1925 there have been just over 36,000 fatalities from war. This compares with around 171,000 fatalities resulting from all road crashes since 1925. The total number of fatalities from natural and man-made disasters to date is around 800 deaths, including 66 from Cyclone Tracy, 202 from the Bali bombing and 83 from the Granville train crash. Double this number die on our roads every year. In fact every five hours someone dies on our roads.

Is this not a disaster or a tragedy of war like proportions?

The cost of road trauma is equivalent in magnitude to Australia’s education budget, its defence budget and half its health budget.

We have federal ministers of education, defence and health. Why isn’t there a federal minister specifically focused on road safety?

Labour and Liberal parties during their election campaigns have regrettably resented or overlooked the issue of road safety. The use of ‘crash’ or ‘incident’ is preferred by many deftly to obfuscate the actual causes of death and injury.

Researchers in the Monash Civil Engineering department who believe the road toll can be reduced to almost zero are focusing on the crashworthiness of the vehicle and road system – the interaction between the human body, technology and the development of human injury tolerance curves are well advanced with respect to identifying life threatening head and chest injuries in a crash test.

Similarly computer simulations of the human body, of the vehicle and road system and injuries sustained by occupants and road users such as cyclists and pedestrians are well developed.

Designers are now able to investigate different crash scenarios in detail in order to mitigate injuries to prototype vehicles, vulnerable road users and road users that crash into road systems well in advance of any crash testing.

Impact loads and human kinematics (concerned with the motions of objects) can be readily observed for design purposes. In addition to this, accident reconstruction software has advanced to the point that it is now becoming an essential tool for litigation and coronial enquiries. Vehicle kinematics and speeds leading up to the crash event and forces generated during the crash can be determined using such software.

The question then is, with all this development and technological advancement – why are we still tolerating road carnage? Safe Roads is a national project designed to encourage ‘safer drivers in safer vehicles on safer roads’. It encourages governments to pursue best practice road safety options to design and build safer new roads, make existing roads more forgiving, demand safer vehicles through fleet purchase and regulate and enforce vehicle and driver standards in strong unified combinations.

Further information and papers by Civil Engineering and Road Systems has advanced can be downloaded from www-civil.eng.monash.edu.au/research/groups/structures/crashworthiness.

For information on the Safer Roads project go to www.aaa.asn.au/saferroads/The_SaferRoads_Story.asp.

Road trauma imposes a huge cost on the Australian community but better road and vehicle design could help reduce the toll, writes Monash Civil Engineering Associate Professor Raphael Grzebieta, who is also president of the Australasian College of Fixed Safety – a key stakeholder in the national Safer Roads project.

The under-run barrier system shown here was developed by Dr George Rechnitzer as part of his PhD program, together with Civil Engineering’s crashworthiness research team.

Impact speeds of up to 60 kmh are quite survivable using the Recliner under-run system. It is a showcase example of what can now be achieved to seemingly impossible short crash distances.

Under-run crashes account for around 14 fatalities yearly and yet, after 20 years of lobbying government, there is no Australian Design Rule or even an Australian Standard requiring such systems be fitted to the rear of trucks in Australia.

Two hundred and eighty senseless deaths have occurred to date since lobbying for the standard started, around 80 more than in the Bali bombing. All we need is the political will to implement such systems and the lobbying of local MPs during election time demanding why they haven’t been implemented.

The technology to design crashworthy vehicles and road systems has advanced considerably over the past decade. Substantial ‘real world’ data is being collected by research institutions, regulatory authorities and car manufacturers. This data details vehicle deformation, site accident information and injuries sustained by vehicle occupants and other road users.

Likewise complex vehicle crash tests with surrogate anthropomorphic dummies can now be carried out daily. Dummy technology and the development of human injury tolerance curves are well advanced with respect to identifying life threatening head and chest injuries in a crash test.

Designers are now able to investigate different crash scenarios in detail in order to mitigate injuries to prototype vehicles, vulnerable road users and road users that crash into road systems well in advance of any crash testing.

Impact loads and human kinematics (concerned with the motions of objects) can be readily observed for design purposes. In addition to this, accident reconstruction software has advanced to the point that it is now becoming an essential tool for litigation and coronial enquiries. Vehicle kinematics and speeds leading up to the crash event and forces generated during the crash can be determined using such software.

The question then is, with all this development and technological advancement – why are we still tolerating road carnage?

Safe Roads is a national project designed to encourage ‘safer drivers in safer vehicles on safer roads’. It encourages governments to pursue best practice road safety options to design and build safer new roads, make existing roads more forgiving, demand safer vehicles through fleet purchase and regulate and enforce vehicle and driver standards in strong unified combinations.
Bigger than Gallipoli

Bigger than Gallipoli
By Liz Reid
Published by University of Western Australia Press

Bigger than Gallipoli presents an in-depth analysis of the ways in which Australia remembers the Second World War, based on the commemoration of the 50th anniversary of the war's end.

Author Liz Reid analyses how the commemorative process in Australia, remembering events conducted throughout Australia during 1995, represented remembrance visually, in text and in spectacle. Comparisons are drawn with similar events held in Beijing, Canada and New Zealand. The book's key themes of nostalgia, memory and commemoration are linked to explorations of how Australia as a nation seeks to reconstruct its identity.

Liz Reid is a senior lecturer in Australian Indigenous Studies at Monash University. Her principal research interest is the relationship between history, the past, and memory and forgetting.

Lorenzo de' Medici & the Art of Magnificence

Lorenzo de' Medici & the Art of Magnificence
By F.W. (Bill) Kent
Published by the John Hopkins University Press

The author offers a new look at Lorenzo de' Medici (1449-1492) and his relationship as the political head of republican Florence and a leading player in Renaissance Italian diplomacy. He shows how Lorenzo's activities as a patron of the arts were far more extensive and creative than previously thought.

Known as "The Magnificent", Lorenzo was deeply interested in the arts and supported efforts to beautify Florence and the many Medici lands and palaces. His expertise was well regarded by goldsmiths and artists, who often turned to him for advice as well as for patronage.

Illustrated with photographs of Medici landmarks by Ralph Lieberman, the book presents a portrait of Lorenzo as a man whose achievements might have rivaled those of his famous grandfather, Cosimo. It is not only a biographical study but also a work of art history.

Power Progress

An Audit of Australia's Electricity Reform Experiment
Edited by: Graeme Hodge, Valerie Sands, David Haywood, and David Scott
Published by Australian National Publishing

Nine out of 10 Australian electricity consumers now buy their power in a national, price-competitive market. In just a decade, the state-owned monopoly of electricity supply has been transformed by public policies and schemes promoting economic service, lower prices and accountable management.

In Power Progress, 17 specialists, eight of whom are attached to Monash University's Centre for the Study of Privatisation and Public Accountability, explore a range of questions such as how the consumer has benefited from the new national market, and what changes have come from different kinds of reform, introduced by different governments.

Graeme Hodge is a professor of law and director of the Centre for the Study of Privatisation and Public Accountability. Valerie Sands is a director (projects) at the centre. David Haywood is an associate professor and director of the Institute for Social Research at Swinburne University. David Scott AO, a former director of the Brotherhood of St Laurence, is an adjunct professor at the same institute.

Art after dark

A series of confronting photomedia works produced by Monash University students are on display this month at the Glass Studio, part of Cube 37 gallery, in Frankston.

The exhibits are third-year and honours students involved in the photomedia studio within Monash's Art and Design faculty at Caulfield campus. Photomedia lecturer Mr Matthew Perkins, who was once an art student at Caulfield, has since curated a number of exhibitions for the gallery, coordinated the exhibition.

"The Glass Studio is a unique space, and the exhibition provides a good opportunity for the students, many of whom have limited exhibiting experience, to gain some exposure," he said.

"Public showings put the artist in a slightly different mindset - the artist has to consider how the public may receive the work and the issues that may come up.

"There are also presentation issues that must be resolved when presenting the work in a gallery setting. At the Glass Studio, these issues are complicated by the fact that the work must be projected."

The images - digital and photographic stills, video or film - are projected onto an 11-metre long glass wall from inside the studio and can only be externally during the hours after dark each night.

In addition, one of the wall is used to project time-based works (video), while a larger area is used for still-image projection. All images are controlled by a computer system, and sound is an integral component of the display.

The exhibition is the third year visual arts student Ms Emma Guy's untitled work on dolls. Photo: Greg Ford

Show notes

What: Photomedia Works from Monash University
When: From 19 September until 3 October
Where: The Glass Studio, Cube 37 gallery, Frankston
Art Centre, Davey Street, Frankston
For information, contact monash.perkins@borders.monash.edu.au, telephone +61 3 9903 2168

Dark psychological images: Mr Matthew Perkins displays student Emma Guy's untitled work on dolls. Photo: Greg Ford

Weird facial features and ambiguous gender. "Dolls are a symbol of nostalgia for childhood," she said. "The images are intended to confront the viewer about their own sense of what childhood is - adults make associations which tend to be quite different to kids do the dolls."

Artist in residence: Monash alumna: Mr Peter Bonner

Photo: Greg Ford
Turning quantum physics into children's stories

This is Ellie the Electron.

"How do you do?" says Ellie.

"She is very small, very small. She is always moving. Ellie can NEVER stand still. Ellie looks like a cloud, see her fuzzy edges?"

Dr Hancock says she has tried to capture the excitement of quantum physics by focusing on cutting-edge research in the field, and at the same time presenting the readers with familiar mats...
New tool for measuring osteoarthritis

Epidemiology

Researchers from Monash University's Department of Epidemiology and Preventive Medicine have developed a new tool for measuring cartilage using magnetic resonance imaging (MRI) that is particularly useful in diagnosing osteoarthritis, one of the leading causes of pain and disability in the community and the most common musculoskeletal disorder affecting Australians.

Dr Flavia Cicuttini, who has spent the past five years perfecting the knee MRI scan, says it is a far more precise way of measuring cartilage loss. Until now, determining the extent of osteoarthritis in a patient has been done mainly with X-rays.

"MRI has often been used in assessing knee damage after injuries, such as in the case of footballers and sports stars, but until now it has not been used much in assessing the level of wear and tear in joints," she said. "X-rays can only detect big changes in the wearing out of joints over a long period of time, and until now there has been no other way to measure slight changes in osteoarthritis.

"But the problem is that X-rays only show bone, not cartilage, so it is a highly inaccurate way of determining the rate of cartilage loss."

The new technique focuses on the knee joint and shows the amount of cartilage, which is particularly useful in diagnosis of osteoarthritis.

"Instead of taking half-an-hour for a full MRI scan, our method only takes five minutes, which significantly cuts the cost," she said. "In time, the technology could be used as a screening tool available to the general public to assess cartilage damage, the extent of the damage and the possibility of the patient developing osteoarthritis."

"We expect in the future doctors will want to look at knee cartilage in much the same way as they are currently doing with bone density scans."

Dr Cicuttini said the team had mastered the technique and had already tested several hundred patients. "Already research from our study group has shown that of the people with osteoarthritis, one third who lost cartilage at the fastest rate over a two-year period were seven times more likely to have a knee replacement within four years."

"This gives great support for using this method to assess drug therapy and preventative strategies for the condition."

"The ultimate goal of the research is for health practitioners to be able to use the technology to identify new methods to prevent and treat osteoarthritis. In addition, we eventually hope to provide individuals with information on how much knee cartilage they have and so give information of a person's risk of developing severe osteoarthritis."

Dr Cicuttini said most cases of osteoarthritis were found in middle-aged and older people, and more than 90 per cent of knee and hip replacements, which equalled to about 40,000 new cases every year, were caused by this degenerative joint disease.

She is working with Monash Associate Professor David Sizer from the Institute of Visionary Engineering to fully automate the process.

Contact: Melissa Di Ciero

For the latest in research and opinion from Monash, visit www.monash.edu.au/news

Invasive ants form giant supercolony in Melbourne

Biology

A giant supercolony of Argentine ants has been found nesting across Melbourne, which could pose a serious threat to the city's biodiversity.

Ms Elisa Suhr from the School of Biological Sciences at Monash University discovered the colony of alien ants, which are among the world's 100 worst invaders, while completing her honours thesis on the genetic structure and behaviour of the ants.

Well-known as a tiny household pest, the Argentine ant has the potential to displace native plants and animals.

"To Argentina, their homeland, the ants are multicolonial, a social system in which colonies span tens of metres, are genetically diverse and are highly aggressive toward each other. So population numbers can never explode and they are no threat to other plants or animals," Ms Suhr said.

"In Melbourne however, their genetic make-up and behaviour is totally different. Here, they have a unicellular social system. The ants are genetically uniform, no longer fight and have formed a giant supercolony that extends at least 100 kilometres across the city. The ants can move freely between physically separate nests."

"The absence of fighting allows colonies to co-exist so that numbers build up to epidemic proportions, which in turn can lead to great impact on native biodiversity."

But Australia is not the only country to be affected by the outbreak. By 'hitch-hiking' across countries, thanks to international trade, the ants have spread to all Mediterranean ecosystems around the world and had huge impacts in other countries.

In California in the US, the ants have displaced native ants, decreased the diversity of other native insects, affected dispersal of seeds and even decreased lizard numbers. "Supercolonies of Argentine ants have been found roaming for 6000 kilometres in Europe and spanning 3000 Kilometres across California," Ms Suhr said.

"Since completing her honours thesis, Ms Suhr has continued to research the species in a joint project between the Australian Centre of Biodiversity and the Centre of Environmental Stress and Adaptation Research, which now includes a study of the ant on a nation-wide basis."

She is looking at ants in Perth and Adelaide to see whether the same genetic structure and behaviour of the Argentine ants that exists in Melbourne extends across southern Australia. If they do, a giant supercolony extending for thousands of kilometres across Australia could exist.

She hopes that her findings will lead to a better understanding of invasive ants and ways to effectively control their spread.

"It is a wise move by the State Government, and the first time any government has specifically invested money to assist universities with the development of such a niche market," she said.

"Monash is an international leader in the field of invasive ants and ways to effectively control their spread. The collaboration will involve the Department of Accounting and Finance in Monash's Faculty of Business and Economics, and the State Government's Department of Innovation, Industry and Regional Development."

"The project will expand a significant area of activity within the Business and Economics faculty which includes existing projects which focus on markets in China, Indonesia and Vietnam."