New role: Recently appointed vice-chancellor Professor Peter Darvall talks with biochemistry honours student Ms Sweechin Ling, left, from Malaysia, and third-year computer science student Mr Mark Pitcher, from South Africa. Photo Greg Ford.

Enzyme findings raise hopes for bone diseases

Monash University researchers have identified two basic mechanisms that control the level of calcium deposition in bones and joints, a finding that could lead to treatments for osteoporosis and some forms of arthritis.

Professor James Goding and Dr Adam Sali from the Department of Pathology and Immunology, in collaboration with researchers in San Diego, California, have discovered that the enzymes P1C and alkaline phosphatase—which are found in bone and cartilage—are involved in controlling bone density.

In conjunction with pharmaceutical company Pfizer, the researchers are testing thousands of compounds to find potential drugs that interfere with these enzymes and which could be useful in treating some forms of arthritis. Improving understanding of the enzymes could also lead to better treatments for osteoporosis, Professor Goding said.

Investigations into the enzymes began with collaboration between Professor Goding and Mr Sali with Professor Robert Terkeltaub from the University of California at San Diego. Their research showed that high levels of the P1C enzyme caused abnormal calcification of cartilage, leading to a condition similar to osteoarthritis.

To find out more about the P1C enzyme, Professor Goding and Mr Sali studied mice in which the gene for the P1C enzyme was removed. "The first thing we noticed was that the mice could not curl their fingers and toes because they developed a kind of arthritis," Professor Goding said. "When we x-rayed the mice, we found abnormal calcium deposits in and around the joints, and their vertebrae were osteoporotic. Our work showed that both over-production and under-production of P1C led to faulty calcification."

At about the same time, Professor James Godin and Mr Sali were studying mice that lacked the gene for alkaline phosphatase, which causes a condition known as hypophosphataemia where bones are soft and can spontaneously fracture.

He showed that mice that lacked the gene for alkaline phosphatase lived just a week after birth and had severe abnormalities in their bones.

"The first three groups then teamed up to study 'double knockout' mice in which both the P1C and alkaline phosphatase genes were missing. Their results were published in the Proceedings of the National Academy of Sciences USA in July."

"Mice that lacked both genes had less severe problems and lived longer than if just the alkaline phosphatase gene was knocked out, Professor Goding said. "The work showed that bone abnormalities caused by the lack of alkaline phosphatase could be counterbalanced by the removal of the P1C gene and vice versa, and that normal bone density could be restored."

The three groups then turned to study another enzyme, called P1C, which both the P1C and alkaline phosphatase genes were missing.

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Corporate governance threatened by bad trends, ASIC chairman warns

Some current "pernicious and endemic" trends in corporate governance in Australia are threatening its viability, warned the chairman of the Australian Securities and Investments Commission, Mr David Knott, recently.

Speaking at the launch of the new Monash Governance Research Unit (MGRU) at Parliament House, Mr Knott said a new outbreak of corporate greed, a failure by boards to put a brake on exorbitant and structurally unsound remuneration practices, and a focus by management and boards on short-term payoffs were threatening good corporate governance in Australia.

"The inappropriate inclusion of options in a CEO's remuneration package is an affront to the general body of shareholders and to principles of good governance," he said.

"All developed countries should support the urgent adoption of international accounting standards to show such options as an expense in company accounts."

Evidence suggested the degree of decline in corporate governance in Australia has lessened in America, Mr Knott said. However, good corporate governance needed to be done a lot more in Australia than in the US, and an event like Mr Knott's was needed to be invoked when convenient, but rather as an essential and enduring component of any sound economic and regulatory system.

Mr Knott said Monash "had got its timing right" in establishing the new research unit, which will seek to identify how corporations are governed in Australia.

The centre will aim to develop a comprehensive index that will help identify risk factors, improve transparency and accountability of institutions, assist in policy development and address issues of corporate social responsibility.

MGRU co-director Dr Ken Coghill, from Monash University's Faculty of Business and Economics, said poor corporate governance affected global economies, corporate performance, trade, social development and political stability.

"We must research and return those areas of national governance that undermine our social and economic development," he said.

"Corporate governance is a key to design improved systems and interaction between government, business and the community, which will lead to better products and services."

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"We must research and return those areas of national governance that undermine our social and economic development," he said.

"Corporate governance is a key to design improved systems and interaction between government, business and the community, which will lead to better products and services."

New professor to promote an understanding of Islamic finance

Monash University Malaysia is hoping to carve a niche in the field of Islamic finance and capital markets with its research into the banking sector.

The newly appointed professor and chair of accounting and finance at Monash Malaysia Professor Bala Shanmugam said the research project which will examine the role of the Islamic financial system in promoting a globally acceptable financial system will be similar to systems in other Islamic countries.

Professor Shanmugam said that unlike conventional banking where interest rates formed the basis of pricing models, Islamic banking started off as a humanitarian-based service.

"In the early days of Islam, the dominant form of finance consisted of a partnership between lender and borrower based on the fair sharing of both profits and losses. Interest payment and interest charges are forbidden," he said.

"Another distinctive feature of Islamic banking is in its focus on development and social goals. Profit-loss sharing, with its focus on cushioning the plight of entrepreneurs, holds more economic potential than conventional, collateral-based lending, which favours established businesses." Islamic banking is essentially a marriage between capitalism and charity. Its concept of 'vapourisation' with a big heart is what appeals to the customers.

The system was "invented" more than 1500 years ago when the Holy Quran was revealed but became more widespread about 30 years ago. Professor Shanmugam said that because of its success in creating an Islamic financial system that was stable and feasible, Malaysia had been looked upon as a model for other Muslim countries.

But, he said, the system in Malaysia still had "room for improvement."

Professor Shanmugam said Monash's Banking and Finance Unit, which had considerable research and development expertise in Islamic finance, could make significant contributions towards developing, operationalising and implementing new and stable financial products.

He said the research project aimed to provide an understanding of the Islamic financial system and its operational and regulatory framework through research publications, conferences, seminars and training programs.

It will also determine the effectiveness of the Islamic banking and capital markets and identify any weak points.

Professor Shanmugam, who will lead the research team comprising several other researchers at Monash University, Bristol Darussalam, Universiti Multimedia Malaysia and other research institutions, will look into specific areas within Islamic banking with an emphasis on e-banking and the development of new financial instruments.

"I'll be looking into areas like e-banking, which is currently not available within the local Islamic banking system, as well as the introduction of new products and making existing financial instruments more commercially attractive to the clients while ensuring that they maintain their Islamic features," he said.

"I am also looking into constructing pricing models for innovative Islamic financial instruments without using interest rates as the base." Islamic banking is globally accepted as an important and viable financial system, with more than US$200 billion being managed by Islamic financial institutions.

It is widespread in most Islamic nations and can exist on its own, as it is in Iran, and in Malaysia it can coexist with conventional banking systems as it does in Malaysia.

Art unveiling marks NAIDOC Week

A new Indigenous art acquisition was unveiled recently at Monash University's Centre for Australian Indigenous Studies as part of celebrations for NAIDOC Week.

The painting, "Kapurr in Kunyang (2000), by Ms Rosella Namok, was purchased jointly by the Monash University Collection and the centre. Pictured at the unveiling were, from left, Monash University Museum of Art director Professor Lynette Russell, Ms Namok, Boonerwrung elder Ms Carolyn Briggs and centre director Professor Lynnette Russell. Ms Namok is a member of the Lockhart River Art Gang, a group of Aboriginal artists from Far North Queensland, which has developed a reputation for taking Aboriginal art in a fresh direction, linking the traditional with the modern. Photo Peter Anikijenko.

Enzyme findings raise hopes for bone disease treatments

Continued from page 1

development required a balance between the actions of these enzymes. "Our research has improved our basic understanding of how calcification is achieved. In the long term, this understanding of the mechanism of the FCL and alkaline phosphatase enzymes may lead to improved treatments for diseases such as osteoporosis and some bone tumours," Professor Coggid said.

"Our findings could also help children with the rare genetic disease hypophosphatemia, as they have deficient mineralisation of their bones, which means the bones are fragile and break easily. The fact that knocking out FCL partially corrects hypophosphatasia in mice means drugs that inhibit FCL might help children with this disease."

The National Health and Medical Research Council and Pfizer funded the research. Photo Peter Anikijenko.
Men’s health expert takes on leading role at IRD

World-renowned reproductive biologist Professor David de Kretser has taken on the leadership of Monash University’s Institute of Reproduction and Development (IRD).

Professor de Kretser has spent the past year coordinating the university’s biotechnology strategies in his position as associate dean of biotechnology in the Faculty of Medicine, Nursing and Health Sciences and has further advanced the development of the Monash Institute of Health as its executive chairman.

In collaboration with Professor Alan Trounson and other colleagues, Professor de Kretser has been instrumental in securing federal funding for two major research initiatives at the university - the $35.5 million National Centre for Advanced Cell Engineering and Australia’s first Biotechnology Centre of Excellence, the ICA in the Centre for Stem Cells and Tissue Repair.

Professor de Kretser was the founding director of IRD and held the position until the end of 2001.

His migration to the medical and scientific community as a world expert in men’s reproductive health and his position as head of the federal government’s Anthropology Australia program, which aims to improve knowledge of male reproductive health, will be an invaluable addition to the institute.

Since its beginnings in 1991, IRD has grown from around 70 dedicated researchers into a thriving community of more than 200 scientists and graduate students.

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London centre launched

As the recent launch of the Monash University Centre in London was Australian High Commissioner to the United Kingdom Mr Michael E’strange (pictured above, middle), Monash dean of Law Professor Stephen Parker (right) and King’s College principal Professor Arthur Lucas (left). Monash deputy chancellor Dr June Hearn opened the centre on 10 July in a ceremony at Australia House.

Monash showcases its expertise in the sciences, sport and international education during a week-long series of seminars and events marking the opening of the centre. Located on the Strand opposite the Australians High Commission, the centre will develop links with governments, educational and cultural institutions and industry in the UK and Europe.

Monash shares in $40m infrastructure grants

Monash University is a partner in 10 of the 16 consortia that have been awarded Science, Technology and Innovation infrastructure grants by Victorian Minister for Innovation Mr John Brumby recently.

The grants will be used to build world-class facilities that will enhance Victoria’s involvement in nanotechnology, materials manufacturing, drug and vaccine development, oral health and mathematical sciences.

Monash will share in $42.55 million of the $59 million the state government has made available for round two of the infrastructure grants.

The university will lead two of the consortia - Nanotechnology Victoria, which received funding of $12 million, and the Centre for Pre-Clinical Drug Candidate Optimisation, which received $5 million - and will be a partner in eight others.

Vice-chancellor Professor Peter Dawar said the grants were a wonderful result for Monash and its partners.

“This demonstrates once again the strength of Monash University across a range of sciences. It’s wonderful to see our champions are out there doing better than ever,” he said.

Director of Nanotechnology Victoria Professor Barry Middlemass said Monash had contributed substantially to Monash’s School of Physics and Materials Engineering, said the project would consolidate and grow the research base for nanotechnology in Victoria, particularly in interaction with the biotechnology community.

The three areas where Nanotechnology Victoria will contribute most are materials and sensing devices for biometrics, drug delivery and tissue therapy,” he said.

For tissue therapy, there will be a lot of emphasis on the development of substrates and scaffolding for tissue engineering.”

The Australian Sustainable Industry Research Centre (ASIRC) received a grant of $2.4 million and will be established at Monash’s Gippsland campus.

The ASIRC will provide Victorian industry and communities with solutions to the management of waste products.

Monash University researchers are also partners in:

· Clinical Trials Victoria, which received a grant of $8 million.
· Victorian Centre for Advanced Materials Manufacturing, $5 million.
· Victorian Institute for Chemical Sciences, $3 million.
· Victorian Centre for Oral Health Science, $1.5 million.
· The Virtual Reality Observatory of Melbourne, $1.3 million.
· Australian Mathematical Sciences Institute, $1.5 million.
· Centre for Education and Research in Environmental Strategies, $350,000.

PhD student Ms Andrea Ballinger is studying the effects of flooding on land invertebrates. Photo: Peter Anikijenko.

Flood of insects changes the outlook on forest management

A Monash University study of the Murray-Darling Basin aims to document the effects of river regulation on land invertebrates, has demonstrated that when river red gum forests flood, the number and diversity of insects and spiders increases.

Ms Andrea Ballinger, a PhD student at the Australian Centre for Biodiversity Science at the School of Biological Sciences, has studied invertebrates that live among the river red gum trees at Sam Lake, near Barmah Forest, as part of a larger program being overseen by Dr Ralph MacNally and Professor Sam Wasser in which scientists are looking at the impacts on animals of changing the flood regimes and removing logs from the red gum forests.

The Murray-Darling Basin Commission and the Cooperative Research Centre for Freshwater Ecology funded her research.

The Murray River was first dammed in 1894, substantially altering the course and flow of the river. The effect of the river red gum that dominate the floodplain has also changed the ecology of the area.

“Damming of the river and redirection of water to irrigators has disrupted the natural flooding patterns,” Ms Ballinger said.

But this flood much less frequently than it used to, and the duration and the seasonality of the flooding has also changed. In recent years, river managers have become more aware of the importance of ‘environmental flows’, which are releases of water from dams intended to meet environmental needs.

“In summer 2001, Barmah Forest received its second-ever environmental water allocation, resulting in a 29-year high flood,” she said. “The response of the invertebrate fauna was dramatic. As the flood waters receded, the aquatic bugs were stranded and forced to move to dry land. Then all these ground beetles and wolf spiders that hadn’t been recorded there before moved in. They hunted along the edge of the water and thrived on the invertebrates in the process.”

“This year, there was less flooding and we didn’t get the specialised species coming in. The implication of this is that under the natural conditions before damming, all these specialised floodplain taxa would have been provided for, but now that there’s no flooding you’re potentially threatening these species.”

Ms Ballinger said her research, coupled with European findings that river regulation has dramatic effects on the structure of invertebrate communities, made it clear that management of the Murray River floodplain should be reviewed.

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PhD student Ms Andrea Ballinger is studying the effects of flooding on land invertebrates. Photo: Peter Anikijenko.
New approach to Indigenous education

An innovative cross-cultural development program designed by a Monash Education doctoral student is helping Victoria’s teachers to improve the teaching of Indigenous people and issues.

Ms Faith Irving, who is also a primary school teacher, developed the Koorie Education Awareness Project (KEAP) to encourage non-Indigenous teachers to work with Indigenous mentors and help them develop the skills to teach Indigenous studies programs appropriate to the local area.

Ms Irving said the program would provide a state-wide network of non-Indigenous and Indigenous Victorian educators to give students across the state the opportunity to learn about Indigenous heritage and contemporary culture.

Instead of just looking through a few outdated books, teachers will now be able to draw on the mentoring system to develop something relevant for students.

Mr Irving said extensive consultation with Indigenous teachers and organisations was the hallmark of the program, a Teacher Release to Industry Program, which is being funded by the Department of Education and Training and supported by the Victorian Employers’ Chamber of Commerce and Industry.

It’s a grassroots collaboration between Indigenous and non-Indigenous teachers, using the channels of protocol and communication in a respectful, efficient and effective way.

She said a lack of factual information and understanding in the wider community had resulted in unhelpful stereotypes and inaccuracies, with non-Indigenous people often lacking the cultural knowledge to counter their preconceptions.

According to Professor KEAP to the promotion of cultural awareness training for teachers. What happens in the classroom is going to affect the ability of those children to work in a multicultural environment, and also in a wider context, the way we treat each other as human beings.

Kondor Marshall

Take a journey through two centuries of English literature

A collection of books dating as far back as the 1600s and providing a journey through more than two centuries of English writing is currently on display in the rare books section of the Matheson Library at Monash’s Clayton campus.

On display until the end of December, English Literature to 1800 provides the rare opportunity to see copies of major works by English writers, as they would have appeared to a contemporary audience.

More than 100 early volumes are on display. According to rare books librarian Mr. Richard Overell, the works on show cover a wide variety of subjects and include religious texts, short stories, political satires and even 18th-century pornography.

"People today often talk about those who lived in past eras as if they were children, but this exhibition includes many well-written and intelligent works that deal with some very sophisticated subjects," he said.

The satires in particular show a culture that was very concerned with current events, and the satirical attacks on political figures illustrate the wit, insight and craft of many long-dead authors.

According to Mr. Overell, satire was not only used to attack the political figures of a given time but was also used to express one’s love for the country.

"Poem was one of the most successful writers of the 18th century, but he is also well known for his literary attack of former friend and fellow poet Lady Mary Wortley Montagu. The cause of their animosity was a matter of speculation for centuries, but thanks to this exhibition, we can now see some of the English words used in his writing."

"The English Literature to 1800 exhibition is well worth seeing, and Montagu, who declared his love for Lady Montagu, could not suppress her influence on his writing.

Poets by Pope and Lady Montagu are featured in the exhibition. The oldest books on show are a pair of 1602 editions of Chaucer. Often seen as the first writer of English, as distinct from Anglo-Saxon literature, Chaucer, who died in 1600, wrote many poems, the most famous of which is The Canterbury Tales.

Even in the 17th century, Chaucer was considered to be an ancient author, and glossaries were provided in books with explanations of some of the English words used in his writing.

A full program and booking forms will be sent to all students in August.

Literary history: First-year commerce students Ms Susie Cheong and Mr Simon Zannis inspect a 1602 edition of Chaucer. Photo: Richard Crompton.

Exercise program prevents falls in the over 70s

An exercise program that focuses on improving balance can significantly reduce the number of falls in people aged over 70, a joint study between Monash University and the City of Whitehorse has found.

The study of 100 people aged over 70 and living at home, was the first to look at the long-term cognitive influence of exercise, improved vision and the removal of home hazards to the prevention of falls.

The approach had important policy implications, as it could identify who is more cost-effective to deliver just one intervention or all three when trying to prevent falls.

Senior researcher Dr. Lesley Day, Professor Brian Fildes and research fellow Mr. Michael Fitzharris from the Monash University Accident Research Centre found that exercise was the only intervention to significantly affect the rate of falls in the over 70s, lowering the annual fall rate by seven per cent.

Dr. Day said that although removing home hazards or improving vision did not have a noticeable effect individually, when combined with exercise the fall rate dropped by 14 per cent to 38 per 100 people per year.

The results were published in the British Medical Journal last month.

Dr. Day said the study showed that an exercise program of one session a week for 15 weeks and focusing on improving balance, flexibility and leg strength was sufficient to reduce falls. The program, which involved stepping, squatting against a wall and the use of ankle weights and balance boards, was the shortest program of the lowest intensity shown to have a falls-reducing effect.

"Falls in the over 70s are a significant problem," Dr. Day said.

In about half of all falls, there will be some sort of injury, and in one to three per cent of cases that will be a hip fracture. Given Australia’s ageing population – even if the rate of falls and injury don’t change – the numbers will increase. "This is an important point of view as we are increasingly concerned about falling among older people.”

According to the ABS, of all hospital admissions in 1995, indicate that the total cost to the community of falls occurring among the over-65s in that year was $1083 million.

The research was funded by the National Health and Medical Research Council, the Department of Human Services, VicHealth, the City of Whitehorse, Rotary and the National Safety Council.

Penny Fannin
Corporate collapse: who is responsible?

Who is responsible for corporate success, failure and conduct? Professor of financial accounting at Monash University JAYNE GODFREY argues that responsibility needs to be accepted across the business community, from boards of directors, auditors and executives to analysts and investors.

**OPINION**

HIGH-PROFILE corporate collapses, such as Enron, WorldCom, Hill and OneTel, have led the business world to refocus on the roles of accounting and corporate governance. Reform is now on the agenda.

An inevitable response by the public to corporate collapses is the call for regulators to act. However, lessons about corporate responsibility and ethics do not only apply to the conduct of boards of directors and to the independence and competence of auditors. Particularly in the US, debate has centered on the incentives provided to executives and the competence and ethics of those executives. But analysts and boards of directors also need to accept responsibility.

Boards of directors govern in a strategic sense. They do not manage on a day-to-day basis. But to be strategic in directing their organizations, it is crucial that they have a good understanding of their firms' financial position.

Every director should have an understanding of the accounts to be able to question them. As well, every board should have at least one director (and preferably more) with the expertise to delve beyond the financial statements tabled. A good board has a variety of expertise relevant to the business, but financial expertise should always be present.

Boards need the expertise to understand, the interest and ability to question, and the courage and tenacity to probe and not accept answers that do not satisfy them.

Not all boards have that expertise and follow-through. I would not recommend any person to accept membership on boards if they do not contain that high level of expertise unless they, themselves, are very skilled in financial statement analysis.

Investors need to examine financial statements, not only to learn about profits and dividends, but also to assess directors' qualifications. Boards should be required to have at least one member who is a qualified accountant with both expertise and currency in the area of financial reporting. At least one member should also have auditing expertise in order to understand the limitations of an audit and how best to obtain maximum value.

The probability of deliberate financial misreporting or business fraud is a function of three factors: opportun- ity, probability of detection, and propensity to commit. Consistent with this, chief executive offices incentives and greed have been blamed for at least some corporate failures.

Theory suggests that short-term earnings and share-based executive compensation can align the interests of managers and shareholders. Recent events suggest that they can also create inappropriate incentives where the incentive-based compensation is (a) excessive, or (b) too heavily weighted towards rewards for short-term performance. We have satirical caps for footballers ... perhaps the same notion should be transferable to the business community?

Boards of directors and senior executives must also exercise corporate responsibility in appointing staff. Firms employing chief financial officers and other financial staff who (a) are not educated to understand the practice and importance of accounting, (b) are not subject to a professional code of ethics, and (c) have earnings-based bonuses are at higher risk than they ought. This is especially so if the chief financial officer is remunerated either explicitly or implicitly on the basis of the volume of non-audit services.

The role of auditors also cannot be ignored. Debate focuses on a number of mechanisms designed to ensure auditor independence, including restricting the extent to which an auditor can earn non-audit services, mandatory rotation of auditors, or audit partners, compulsory tendering of audits, and board of director nomination of auditors without executive input.

In particular, an independent corporate governance committee having authority to appoint the auditor and to develop and review corporate governance strategy is a sound proposal.

Sign-off procedures throughout an audit so that each party in an audit team takes responsibility not only for the conduct of their part of the audit but also for alerting their seniors is also warranted. This might motivate more junior auditors who are uncomfortable with client practices to act on the courage of their convictions.

However, several significant recommendations are not under consideration. This includes (a) arrangements to ensure auditors have incentives and protection when acting with independence in a manner that can reduce the audit firm's fees from corporate audits or non-audit services, and (b) quality controls for independent corporate audits.

In many investment advisory firms, one part of the firm analyses corporate performance and another brokers investment transactions. Problems exist when analysts are remunerated either explicitly or implicitly on the basis of the volume and value of the investment trade, so there are incentives for analysts to inflate forecasts and ratings to encourage trade. An even bigger issue is when the firm also acts in a corporate advisory role such as underwriting an issue by a firm it analyses. Clearly, such conflicts of interest should not be allowed.

During financial crises, focus is rarely balanced with an understanding that many firms do not fail. Most firms report honestly and accurately, and many directors faithfully fulfill their responsibilities with the utmost integrity.

Indeed, research has found that earnings are often managed so that they improve the way the accounts reflect firms' underlying economic activities and position. Corporate responsibility is actually alive and well ... just not everywhere!

■ Professor Jayne Godfrey is head of financial accounting in Monash University's Department of Accounting and Finance. She is also a director of a key Government Business Enterprise, an honorary fellow of the Finance and Treasury Association, a fellow of both CPA Australia and the Institute of Chartered Accountants and a member of the Australian Institute of Company Directors. In 2001, Professor Godfrey was a national finalist in the Shell Community and Government category of the Telstra Business Women Awards.

Tense moments: A series of recent high-profile corporate collapses have sent stock markets around the world into a trading frenzy.

Photo: AAP
Children's tale brings laughter to the fore

The story of a greedy bird that steals the moon from the night sky is sure to enchant young visitors to the Alexander Theatre at Monash University's Clayton campus next month.

Kookaburra Who Stole the Moon, a musical performance brought to Monash by REM theatre, follows the adventures of a host of Australian bush animals as they try to make a kookaburra laugh so he will open his mouth and let the moon go.

According to writer and composer Mr Peter Wickler, Kookaburra, which will be on show at Monash on 10 and 11 September, uses sound and dance to involve young audiences in the performance.

"I have been interested in writing music for children for a long time, and it was clear to me that just having an orchestra play did not always interest children," he said.

"With this in mind, Kookaburra uses the instruments of the orchestra to tell a story with specific sounds representing each of the animals that feature in the tale. For example, the kookaburra is portrayed using the jaws harp, and a clown mouthpiece emphasises the kookaburra's distinctive laugh."

Mr Wickler said the audience is introduced to the sounds that represent each of the animals at the beginning of each performance, so they can recognise them when they are featured.

In the Monash production, contemporary and Indigenous Australian dance forms are combined with the music of the Monash School of Music – Conservatorium’s Chamber Orchestra.

An interactive workshop follows each performance in which the children are taught the characteristic dances of each animal. The children are then encouraged to act out the animal's movements in response to music from the orchestra.

What: Kookaburra Who Stole the Moon
Where: Alexander Theatre, Clayton campus
Who: For more information and bookings, contact the Alexander Theatre on +61 3 9905 1111.
When: 10 and 11 September

What a corker!

A chaise longue made out of recycled wine corks was just one of several experimental works by industrial design students on display in the recent exhibition held at Monash University's Caulfield campus.

The exhibition, inspired by the ideas of recycling and reusing items that would otherwise have been discarded and making them into functional objects, saw exhibition curator and industrial design course coordinator Mr Sally Cousin.

"Interestingly, the exhibition saw mass-produced items being turned into one-off pieces of craft," she said.

"The pieces ranged from the playful, such as a McDonald's food bag made to look like a book, through to the thoughtful, such as a table made out of CD cases and a chaise longue fashioned from paper pulp."

"Allo works in the exhibition were by third-year Bachelor of Industrial Design students, who developed the work for their furniture design elective unit.

Other works included a barstool made from small iron work and a screen made out of postcards.

Ancient art weaves a new pattern

"Aside from straightforward tapestries like the large work by10 Chinese artists, there are also several examples which incorporate computer-style imagery by Hilary Green, the exhibition also includes a range of works that show the versatility and range of the medium," she said.

"Of the more unusual works in the exhibition, the sculptural heads made of cloth by Susan Bratby provide a prime example of how the techniques and materials of tapestry can be incorporated into other forms of art."

According to Ms Derum, Gravity also explores some of the stretching of tapestry as an artistic medium.

"All the works on show are very even and clearly show the way tapestry is able to portray an incredibly strong quality of colour and give an artwork a sense of material richness," she said.

What: Gravity
When: 16 August to 20 September
Where: Switchback Gallery, Gippsland campus
Who: For more information, contact the gallery on +61 3 5922 1281.

Derek Brown

Artists heads to London's East End

Monash University staff member and ceramic artist Mr Michael Doolan left Australia last month to take up a three-month visual arts residency at the Australian Council for the Arts studio in London. Receiving one of only four $10,000 visual arts residencies offered each year by the Australian Council, Mr Doolan, from the Department of Fine Arts, will work 12 weeks living and working in London's East End.

According to Ms Doolan, East London hosts a cluster of artist studios and is fast gathering a reputation as one of Europe’s cutting-edge art centres.

"Knowing I’ll be surrounded by a large number of working artists in one of the most vibrant artistic communities in Europe is very exciting," he said.

"It is a fantastic opportunity for me to take some time out and really focus on my work."

Manga graduates a first for Monash

The Japanese Studies Centre at Monash University recently celebrated the successful completion of one of Melbourne's first manga drawing courses for beginners.

Manga in the Japanese equivalent of a comic strip, although the subject matter is more varied and the artwork more stylised than that of Western comics.

Director of the Japanese Studies Centre Dr Alston Tokita said students had been very enthusiastic about the course and already there was strong demand for the immediate course. The course involves students learning manga illustration skills and techniques and creating their own character in a manga strip.

Koogaroo Hop: Young audiences will be kept entertained as they follow the adventures of a host of Australian bush animals in the Kookaburra Who Stole the Moon.

On 15 August, the newly formed group Tremelo will perform a program of Schubert, Mozart, Webern, and Beethoven at the Music Auditorium at the Clayton campus. The concert will begin at 12.40 pm.

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Free lunchtime concerts

Music lovers will be able to enjoy a wealth of talent during this month's free lunchtime concert series at Monash University.

Monash music teacher and soprano Ms Vivien Hamilton will present a selection of vocal arts in Cassar Hall at the Parkinson campus on 6 August at 12.40 pm.

Accomplished pianist Mr David Ward will perform a number of Mozart piano sonatas at the Music Auditorium at Monash's Clayton campus on 8 August at 1.10 pm.

Monash piano lecturer Mr Kenji Fugura and cellist Ms Zoa Knighton will perform a program of 19th century sonatas at the Monash Theatre at the Gippsland campus on 12 August at 12.40 pm and at Cassar Hall at the Parkinson campus on 14 August at 12.40 pm.

In 15 August, the newly formed group Tremelo will perform a program of Schubert, Mozart, Webern, and Beethoven at the Music Auditorium at the Clayton campus. The concert will begin at 12.40 pm.

Ceramicist Ms Bridget Blake and pianist Mr David McLachlan will perform new works from the late 20th century in the Monash Theatre at the Gippsland campus on 19 August at 11.45 am and at Cassar Hall at the Parkinson campus on 20 August at 12.20 pm.

Two of Melbourne's most respected improvisers, Mr Tony Gould and Mr Bob Beagrie, will perform together in the piano in the Music Auditorium at the Clayton campus on 22 August, followed by a concert of new works by group Hybrid Futures on 29 August. Rain shows will begin at 12.10 pm.

For more information, contact +61 3 9905 4089.

Designers comfort: Industrial design student Anthony Stonus used recycled wine corks to create this chaise lounge. Photo: Richard Compton.
Examining bikie culture

When Associate Professor Arthur Veno was growing up, he was fascinated with bikie gangs. And while he never actually joined one, his interest led him to become one of Australia's leading experts on bikie culture.

In his new book *The Brotherhoods*, Dr Veno, now an honorary research fellow with Monash's School of Political and Social Inquiry, draws on 18 years of experience, meticulous research, in-depth interviews and anecdotes.

The former director of Monash University's Centre for Police and Justice Studies said he first became interested in gang culture when he was a child living in the US.

"Because of my father's predilection for living near ghettoes, gang life was always a feature of my childhood, and although I stayed outside that culture, many of my friends were drawn into it," he said.

While the book examines many of the common issues associated with bikie gangs—such as hierarchies, drugs, crime, women, club nights and, of course, the bikies themselves—the main focus of the book is on over-all bikie lifestyle and philosophy.

According to Dr Veno, the bikies operate within a set of strict rules, which are often at odds with the philosophy of riding on the open road.

'It's a paradox really, because some of the rules and regulations can be very oppressive and rigid, but the bikie lifestyle is that of the individual putting on his leathers, riding out free,' Dr Veno said.

He said the one word he would come across over and over in his discussions with bikies was "freedom" and that for many, this was the reason they adopted the bikie lifestyle.

"There's a sense of freedom in riding there's no tomorrow on the open road, the wind in your face, handling a powerful and responsive machine—You can't get that in a car.

"For them the freedom also lies in shutting out the stress of office politics, boring jobs and bad relations."

Konrad Marshall

The art of drawing goes on show

A new exhibition of large-scale drawings by renowned Australian artist Jan Senbergs will open at the Faculty Gallery at Monash University's Caulfield campus this month.

The exhibition, *Long Arm Drawing*, is a selection of drawings created by Mr Senbergs over the past 10 years. Better known as a painter of urban and industrial landscapes, Mr Senbergs said the exhibition provides a snapshot of his works on paper and is more concerned with the act of drawing rather than with any particular theme.

"My work often explores urban settings within the natural environment," he said. "It is a theme that can be found in many of my works and in the past I have created paintings of mining sites, settlements in Antarctica and stylised city picture maps."

But this exhibition is different. The drawings I've included are not studies for future paintings but works in their own right. In these drawings, I am looking to experiment with the images themselves rather than portraying a specific idea.

"Some pieces on show incorporate African and New Guinean figures that, Mr Senbergs said, were animating the drawing process.

"Following on from figures like Picasso who, early last century, took African images and interpreted them into Cubist works, I'm using my drawing to look at these figures in a different way," he said.

Also featured is a series of large drawings which, when joined together, show a panoramic view of the artist's studio. According to Mr Senbergs, artists have been painting or drawing their studios for centuries.

"Whenever I move into a new studio I like to produce an image of that studio—in this case a group of drawings. It's a kind of record of that place and time focusing on all the small, everyday things that surround you as an artist," he said.

What: Long Arm Drawing — Jan Senbergs

When: 15 August to 13 September

Where: Faculty of Art and Design Gallery, Caulfield campus

Who: For more information, contact the gallery on +61 3 9903 2707

Derek Brown

ARTIFICIAL MUSCLES NO LONGER AT ARM'S LENGTH

Monash University researchers, in collaboration with colleagues at the University of Wollongong, have developed salt-based liquids that improve the performance of artificial muscles by thousands of times.

The discovery has progressed the development of artificial muscles to such an extent that simple prosthetic devices containing artificial muscles could be available within three years, said Professor Doug MacFarlane, from the Chemistry department.

Professor MacFarlane and Dr Maria Forsyth, a reader in the School of Physics and Materials Engineering, have spent five years developing the 'ionic liquids' - salts that are liquid at room temperature. The Australian Research Council funded the work.

Link to SIDS: Researchers, from left, Dr David Walker, PhD student Ms Saraid Billiards and Dr Jonathan Hirst have found a link between a high level of brain steroids and SIDS. Photo: Greg Ford.

Researchers find brain steroid link to SIDS

Monash University researchers have found that bacterial infections lead to high levels of a brain steroid that could make babies extra sleepy and prevent them from waking when they have difficulty breathing.

For many years, bacterial infections and low blood oxygen levels have been linked with Sudden Infant Death Syndrome, but it has been unclear why they cause babies to die.

But in studies on lambs, physiology PhD student Ms Saraid Billiards found that low levels of a bacterial endotoxin caused brain steroid levels to dramatically increase and that the lambs subsequently became extremely drowsy and difficult to wake.

"It could be that when babies suffer even a mild infection their brain steroid levels increase, they become drowsy and then they have blunted responses to everything that's happening around them," she said. "If they develop breathing problems while they're asleep that cause their blood oxygen to fall, they don't have the appropriate arousing response that allows them to wake."

Principal research fellow in physiology Dr David Walker, who, with senior research officer Dr Jonathan Hirst, supervised Ms Billiards' research, said it might be possible to save babies' lives by using drugs to block the sedating effect of the brain steroids.

"Mothers of SIDS babies will often say 'he or she was such a good and quiet baby.' Dr Walker said. 'He or she might have been a quiet baby because the brain produces this natural steroid that causes the baby to be sleepy and sedated."

In our research, we also found evidence to suggest that low blood oxygen levels, which are common in babies with poorly developed lungs, cause some drowsiness.

"When those low blood oxygen levels were combined with the increased brain steroid concentrations due to infection, the lambs became remarkably drowsy - there was a real additive effect," he said.

The discovery, which also involved researchers from Santa Fe Science and Technology in the US, was published last month in the International Journal of Science.

Artificial muscles no longer at arm's length

Monash University researchers have been developing artificial muscles for 20 years and operate in the same way as a battery - with electrodes and an electrolyte. But the limited lifespan of these muscles has meant they cannot be used in humans.

"The electrolyte is between the electrodes was, until recently, a relatively simple salt in a solvent," Professor MacFarlane said. "This meant that the expansion and contraction of the muscle did not last for long - it degraded and, ultimately, the electrolyte evaporated."

However, the ionic liquids developed by Professor MacFarlane, Dr Forsyth and their team do not evaporate and allow the contraction and expansion of artificial muscles to go on indefinitely.

Professor MacFarlane said that until now artificial muscles had been unable to undergo no more than 10 cycles of expansion and contraction. This advance will mean it is possible to create textiles that expand and contract and will also have applications in batteries and solar cells, Professor MacFarlane said.

"In the much longer term, you can expect to see artificial muscles that cause whole limbs to move. At the moment, this can only be done using a motor with gears, cogs and cables," he said.

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