Dolphin deaths in our waters

Murdoch researchers are collaborating with key stakeholders to examine the health of Swan River and Bunbury waters - Page 3
Laboratory improves the quality of stored grains

A new laboratory focused on post-harvest biosecurity has been officially opened at Murdoch University.

Established at the University’s School of Biological Sciences and Biotechnology, the new laboratory is Western Australia’s first research and development facility dedicated to improving the quality of storing grain.

Principal Scientist, Murdoch University’s Associate Professor YongLin Ren said the initiative was timely as post-harvest biosecurity and security of stored grain becomes increasingly important around the world due to the threat of global food shortages.

“The Post-Harvest Biosecurity Stored Grain Research Laboratory at Murdoch University will develop new risk mitigation options that will contribute profitably to plant biosecurity, food and trade safety and help maintain the Australian grain industry position as a market leader in domestic and international trade with sound, cost-effective and safe storage technology,” Dr Ren said.

Scientists at the laboratory will undertake biological studies of insect pests and micro-organisms that affect stored products, develop pest management strategies and examine stored product management.

The initiative will also increase education and social awareness, provide online information about Australian grain storage, insect management and industry regulations and enhance Murdoch University’s students’ learning and research in plant biosecurity and food security.

The laboratory team and infrastructure are a joint investment of the Department of Agriculture and Food (WA) and the Cooperative Research Centre for National Plant Biosecurity.

Strategic partnership offers joint courses

Vice Chancellor Professor John Yovich with Minister for Training and Workforce Development Peter Collier and Challenger Institute’s Managing Director Liz Harris at the launch of the partnership.

This year Challenger Institute of Technology students who have studied selected diplomas at the Peel or Rockingham campuses will be able to transfer straight into the second year of a related degree at Murdoch University.

Murdoch University Vice Chancellor Professor John Yovich said the new joint courses offered an exciting opportunity for local students.

“Our partnership with Challenger has created a unique opportunity for local students to receive a Bachelor’s degree that has an emphasis on practical skills with a solid theoretical foundation,” Professor Yovich said.

“By linking to existing diploma courses at Challenger Institute, Murdoch has been able to develop a suite of new degrees for the Peel and Rockingham campuses.

“Students with specific Challenger Institute diplomas can enrol into Accounting, Information Technology, Events Management and Sustainable Development degrees.”

Professor Yovich said they had focused on creating diplomas and degrees that were relevant and applicable to the regional contexts of their Rockingham and Peel campuses.

Challenger Institute’s Managing Director, Liz Harris said that Challenger’s co-location with Murdoch’s Peel and Rockingham campuses had enabled the development of seamless pathways between the two institutions.

“Challenger Institute equips students for the workplace, and we see the new joint course as being an ideal pathway for students who want to build upon the strong vocational skills they have learned through our diploma programs,” Ms Harris said.

Professor Yovich said students could also complete a Murdoch degree in Information Technology, Events Management, Accounting or Sustainable Development by enrolling in the first year of their degree externally.

“Both pathways lead directly into the second and third year of the degree which will be offered with a flexible learning model at the regional campuses,” he said.

“Events Management, Information Technology and Accounting will be offered at our Rockingham campus and Sustainable Development will be offered at Peel.”

“We also expect that a new joint diploma-degree course in Social Work will be offered at Peel in 2011.”

“A key feature of the degrees is the inclusion of an internship program in the third year, which will build upon the vocational links established in the diploma.
Scientists collaborate to save river dolphins

Following the deaths of 14 dolphins in Perth’s Swan River and Bunbury’s estuary, Murdoch veterinarians and biologists are working to save remaining dolphin communities.

When six dolphins died in the Swan River in just five months last year, nearly one third of the river’s population, Murdoch University scientists realised something was wrong.

Researchers found startling signs of suppressed immune systems, such as severe skin lesions and emaciation, and post-mortems revealed fungal and bacterial infections in multiple organs.

Some dolphins also had infections from painful entanglement in discarded fishing line and one even had a fish hook and line lodged in its throat.

Subsequent toxicology results on three of the dolphins showed record levels of chemical contaminants, the highest from the banned pesticide dieldrin.

Levels of polychlorinated biphenyls (PCBs), DDT and its metabolites were also abnormally high.

Murdoch veterinarian and wildlife and conservation medicine researcher Dr Carly Palmer said it was especially concerning that these high chemical levels, among the highest recorded for dolphins anywhere in the world, were found in relatively young individuals.

The Murdoch research team, which also included veterinary pathologist Dr Nahiid Stephens and biologists Dr Hugh Finn and Dr Lars Bejder, sounded the alarm to authorities in November.

They raised the possibility that a combination of long-term exposure to contaminants, rapid seasonal changes in river water quality, entanglement injuries and a suspected virus may have caused the cluster of deaths.

“Unusual mortality events like this one usually involve a suite of factors, some of which may be synergistic,” Dr Finn explained.

“To determine why the dolphins died means testing a range of hypotheses through a multi-disciplinary and collaborative approach.”

A collaborative project immediately began to investigate the six deaths, the Murdoch team working closely with the Swan River Trust, Department of Environment and Conservation, Curtin University, and other collaborators in Western Australia and around the country.

At the same time, Murdoch researchers in Bunbury re-examined two years of data from a study by PhD student Holly Smith monitoring dolphins in the Leschenault Estuary and Bunbury inner waters which had documented the deaths of eight local dolphins.

Only half of this population now remained.

Seeing striking similarities between the Perth and Bunbury incidents, Drs Finn and Bejder briefed the state environment and water ministers that it could be due to a more widespread problem affecting dolphin communities beyond the Swan River.

Further tissue samples from both the Swan River and Bunbury dolphins were sent off for analysis.

Dr Stephens said as well as providing evidence of any links between the two sets of deaths, the tests will indicate if an as yet unidentified marine mammal pathogen may have been present, such as Cetacean morbillivirus, which can cause immunosuppression in dolphins.

“We also compared incidences of other significant dolphin deaths in the eastern states and overseas with other scientists, including recent deaths of bottlenoses in the Gippsland Lakes (Victoria) and mass mortalities along the south-east coast of the US in the 1980s and 1990s,” Dr Stephens said.

The Murdoch research team have contributed to an official Swan River Trust situation report for Environment Minister Donna Faragher which outlined research findings to date, unanswered questions and recommendations for further studies and funding.

Bee research to yield sweet industry outcome

“A number of countries around the world import Australian honey bees, either as queen bees or in one or two kilogram packages of bees plus a queen bee, to pollinate crops. But some like Japan are now requiring they be free from Nosema apis, which is currently virtually impossible,” she said.

“If we can find a cure for the disease or prevent it, we can create an advantage for WA beekeepers to supply crucial markets in Asia, Europe and America.”

Honey bees are born free of Nosema apis but contract it in a matter of hours as a result of their hive cleaning regime.

Mrs Peng is exploring three approaches to the possibility of producing Nosema apis free honey bees.
Habitat change, decline in water quality and introduction of exotic fishes has had a major impact on the freshwater fish of the South-West, according to Murdoch freshwater fish experts Drs David Morgan and Stephen Beatty.

The Centre for Fish and Fisheries Research researchers say extensive surveys in every river system in Western Australia’s South-West have shown major range reductions and loss of populations of the region’s unique freshwater fishes, a number being listed as endangered.

“Eighty per cent of our South-West species are only found here and play an important role in structuring aquatic ecosystems,” Dr Morgan said.

“The combination of habitat change, decline in water quality and introduction of exotic fishes has had a major impact on the distribution of species and led to a number being listed as endangered.

The other concern is recent work has shown genetic differences between populations so losing them results in the loss of important genetic information.”

The research team surveyed more than 2000 sites in the South-West.

Dr Beatty said their findings had also shown fresh groundwater intrusions, such as spring-fed tributaries, were crucial in allowing remnant fish populations to exist.

“These areas of fresh groundwater intrusions in systems such as the Blackwood River effectively dilute the main channel and maintain permanent tributary habitats for threatened species, such as the Balston’s Pygmy Perch, and therefore it is very important to maintain this input – particularly in light of the predicted reduction in rainfall due to climatic change in the South-West,” Dr Beatty said.

“The surveys have mapped the introduction and colonisation of feral fishes such as goldfish and mosquitofish that are also having a massive impact on these fishes.

“In fact, our research has shown that there are now more species of exotic fishes than natives in these waterways, with a number of new species having being recently recorded.”

Australian scientists are achieving the world’s best production rates of oil from algae grown in open saline ponds, taking them a step closer to creating commercial quantities of clean biofuel for the future.

A joint $3.3 million project between Murdoch University and the University of Adelaide now leads world algae biofuel research after more than 12 months of consistent results.

“It was previously believed impossible to grow large quantities of algae for biofuel in open ponds consistently and without contamination, but we’ve proven it can be done,” said project leader Professor Michael Borowitzka.

The project has received $1.89 million funding from the Australian Government as part of the Asia-Pacific Partnership on Clean Development and Climate.

Professor Borowitzka said that due to the project’s success, construction of a multi-million dollar pilot plant has begun in Karratha and is expected to be operational by July.

“We have achieved production rates of 50 tonnes per hectare per year, over half of which is converted to oil. These high production rates are expected to increase at the new pilot plant due to the even better climatic conditions in Karratha,” he said.

The first stage is costing $1.5 million and further funding is being sought for future stages estimated to cost between $5-10 million.

Professor Borowitzka said the cost of producing biofuel from algae has already dropped from $12 a kilo to less than $4 in the past year, but the aim is to get it down to below $1 a kilo.

Dr David Lewis from the University of Adelaide said a key aspect of the project is to show that commercial levels of algae can be grown without competing for resources with food crops.

“The algae will grow on non-arable, even arid, land without any need for freshwater in cultivation,” Dr Lewis said.

Growing algae at an industrial scale takes up significantly less land than that required by canola crops to produce the same amount of biofuel.”

In addition to producing clean fuel, Professor Borowitzka said that during the growth of the algae, 60 tonnes of CO2 are fixed per hectare of algae each year.
Interviews with 150 male ex-prisoners have revealed more than 75 per cent knew about a sexual assault behind bars and 23 per cent had felt pressure to perform a sexual act while in prison.

Dr Dot Goulding and Dr Brian Steels from Murdoch’s Centre for Social and Community Research’s interviewed the ex-prisoners who served time in prisons in the Perth metropolitan area.

“These statistics are confronting and cannot be ignored by the state government, the Department of Corrective Services and the general public,” Dr Goulding said.

Young men, gay men, first time prisoners and drug dependent prisoners are most at risk of being sexually assaulted, the study found.

The study also found that 14 per cent said they had been sexually assaulted while held in a Western Australian prison, four per cent admitted to predatory sexual behaviour in prison and 2.6 per cent claimed sexual assaults do not occur in prisons.

“Until this study, prison sexual assault was largely hidden from public view.

“It is usually left out of corrective services’ annual reports, frequently ignored by senior policy makers, and goes largely unchallenged by judges and lawyers, creating little more than a disinterested whisper outside of prison walls,” Dr Goulding said.

Of the 21 prisoners who were sexually assaulted, only eight were officially reported to the authorities.

“The non-reporting of sexual assault within the prisons environment is often put down to the high levels of personal shame associated with male-to-male rape, and most importantly, a real fear of ongoing and escalating violence if the assaults are reported to the authorities,” Dr Goulding said.

The report made a number of recommendations including providing support to all prisoners who became victims of sexual abuse, establishing a confidential phone counselling support line for prison staff, prisoners and family members and enabling prisoners to have easier access to police and legal representation.

The study was funded by Lotterywest and supported by the Uniting Church.

DNA recovered from fossilised bones of the moa, a giant extinct bird, has revealed new insights into the geological history of New Zealand.

Murdoch’s ancient DNA scientist Dr Mike Bunce recently extracted traces of DNA from moa bones, mummies and coprolites, which were used by a team of Australian and New Zealand researchers to create the first complete genetic history of the moa.

“This detailed evolutionary timeframe for moa has allowed us to reconstruct a history of geological events, such as marine barriers, mountain building and glacial cycles, in New Zealand over millions of years,” Dr Bunce said.

“Essentially we were able to build a family tree that could show when geological events occurred because of the genetic differences between the moa groups, or similarities, at particular points in history.”

Dr Bunce said the evolutionary dispersion of the nine moa species took place approximately six million years ago and seemed to have occurred as the Southern Alps rapidly rose up, creating lots of new habitats.

Professor Peter Kamp from Waikato University led the geological mapping that revealed the extent of the seaway separating the two islands, as well as the uplift history of the Southern Alps.

“When the seaway was first bridged by land around 1.5 million years ago, it is likely that a major interchange of species took place as also occurred between North and South America across the Panama isthmus around three million years ago,” Professor Kamp said.

Co-author Professor Alan Cooper, from the University of Adelaide, said New Zealand is recognised as one of the world’s ‘great evolutionary laboratories’ due to the absence of land mammals and the distribution of giant flightless birds such as the moa.

The study was published in Proceedings of the National Academy of Sciences.
New Dean of Nursing

Professor Paul Morrison is settling into his new role as Dean of the School of Nursing and Midwifery, and in a research role as Professor in Nursing and Health Studies.

Deputy Vice Chancellor Professor Gary Martin said he was delighted Professor Morrison had accepted the appointment.

“He will help shape the School to meet the future needs of the nursing and midwifery profession and the Peel community,” Professor Martin said.

Professor Morrison was previously a Professor in Nursing at the University of Canberra and held academic appointments at Queensland University of Technology and the University of Cardiff.

“We wanted to appoint someone who would encourage more research at our Peel campus and Professor Morrison has a rigorous background in terms of research, in particular mental health and health promotion research,” Professor Martin said.

“It is a good fit for our Peel Health Child Study, a world-first children’s health and development study in Peel that will track the influence of family and community on a child’s development.

“We were also impressed with his capacity to mentor and develop staff.”

Professor Morrison has worked primarily as a mental health nurse and is also a practising psychologist.

His various textbooks, which focus on improving nursing students’ study, research and communication skills, are used extensively in nursing courses in Australia and internationally.

Professor Morrison said he was looking forward to the challenges of the new role and working with new colleagues to grow the capacity of nursing and midwifery teaching and research in the School.

“This will require us to embrace and participate actively in a change process to achieve the University’s mission and bring the benefits of quality teaching, research and practice to the community,” Professor Morrison said.

New Chairman, Alan Dodge.

Murdoch University’s Art Collection has appointed Alan Dodge as the Chair of its Art Board.

The former Director of the Art Gallery of Western Australia, from which he retired in 2007, has been Art Board member since 2008.

Mr Dodge has more than 35 years experience and is highly regarded within the visual arts community both nationally and internationally, and was the recipient of an Order of Australia for his services to the Arts in 2008.

Mr Dodge said he was very excited about taking on the position.

“Murdoch has such a stimulating and vibrant contemporary Art Collection, which is displayed across the University’s three campuses,” Mr Dodge said.

“It invites discovery into the world of visual thinking.

“To me this is the most important role of a University’s art collection.

“The University’s brand Discoverers Welcome is perfectly reflected in the Art Collection’s ethos.”

Murdoch University Art Curator Mark Stewart said the Art Collection, under Mr Dodge’s expert guidance, would continue to focus strongly on Australian Indigenous and non-Indigenous art.

“Mr Dodge has a sound understanding of the Collection’s history, achievements and a good grasp of our future vision,” Mr Stewart said.

Dodge leading Art Board

Racism Revisited: Anti-racism Leadership and Practice
National Symposium on Racism
19–20 March 2010

To register your interest, call Dr Casta Tungaraza on 08 9360 2639 or email her on c.tungaraza@murdoch.edu.au

Reviewing communications

Murdoch is currently reviewing corporate publications, explore and intouch, to ensure we are using the most effective methods of communication.

Leading research company Synovate has been engaged to gather input from alumni, staff and PhD students during February, and the feedback will provide direction on these publications specifically, and more broadly how Murdoch can best communicate.

The research will involve a series of focus groups with alumni and an online survey to gather feedback from staff and PhD students. The online survey will take place in February and all staff and PhD students are encouraged to contribute.

The online survey will close on 22 February and results will be known in March.

Prestigious fellowships for Humanities research

Two world-renowned researchers from Murdoch’s School of Social Sciences and Humanities have been recognised with prestigious Australian Professorial Fellowships.

Professor Vijay Mishra and Professor Garry Rodan were among only 27 recipients of the Australian Research Council’s Professorial Fellowships awarded across Australia this year.

Professor Rodan, Director of Murdoch University’s Asia Research Centre, will use his five-year fellowship for a detailed and systematic analysis of political regimes in South-East Asia.

His study breaks new conceptual ground in examining how ideologies and institutions of political representation are emerging in both authoritarian and embryonic democratic regimes in the region.

Professor Mishra will use his grant through the Centre for Social and Community Research to develop the first complete overview of the writings of Salman Rushdie.

He will add to the understanding of one of contemporary literature’s most important and controversial figures through a research partnership with Professor Bahri at Emory University, Atlanta.
The Student Centre is a one-stop shop

Murdoch University’s new Student Centre is a one-stop shop for all students.

Opened in time for the new academic year, the new Centre, located in the Chancellery Building, has merged all student services under one roof.

Director of Student Liaison and Recruitment Professor David Macey said students in the past had to visit different parts of the South Street campus to deal with enquiries on such matters as parking or advice on courses.

“Students used to have to tramp all over the campus,” Professor Macey said.

“Before the new Centre, prospective domestic students were dealt with by Prospective Students’ and Admissions Centre while their international counterparts had to go to Murdoch International.

“External students went to another centre, as did students who wanted enrolment advice.

“We sent people all over the place – previously a person could visit up to three or four centres in the University.”

Overlooking Bush Court, the Student Centre has solved any such problems.

All student enquiries can be lodged in the one location, whether they are domestic or international students, to pay for parking or get advice on courses and enrolments.

Upon entering, students select one of the options on offer on a touch screen monitor, they are then assigned a number and, when it is their turn, television screens and an automated announcement directs them to the correct counter.

There is also a self-serve area where students can solve their problems directly online following guidance from one of the Student Centre’s Liaison officers.

One of the real treats of the new Centre is that at peak times, such as the beginning of the academic year, the front glass panels can be opened up, allowing the Student Centre to expand into Bush Court, yet still retain its queuing system.

The new Student Centre: all student enquiries can now be lodged in the one location.
Greening of the campus

MURDOCH UNIVERSITY HAS PLANTED MORE THAN 10,000 NATIVE TREES AND PLANTS OVER THE PAST 12 MONTHS.

Environmental Program Manager Caroline Minton coordinated the planting of several thousand trees, shrubs and understory plants.

“Hundreds of volunteers turned out to enhance habitat within three different Carnaby’s cockatoo reserves on campus, including the third year of planting within the wildlife corridor between Chelodina Wetland and the Banksia Woodland,” Ms Minton said.

“Two Carnaby’s roost sites were also enhanced with new plantings, the tuart and woody pear groves.

“Seeds and cuttings have already been sent to native nurseries to be grown ready for planting in all three areas this winter.”

Grounds curator Ken Dodd also coordinated a massive re-planting project across the landscaped areas of campus, involving more than 4000 native trees and shrubs.

New garden beds were planted where grass had been removed for water conservation and garden beds affected by the installation of the fire ring main, the circular waterpipe and hydrants across campus.

Twenty four native tuart, marri and Banksia tree saplings were also planted in Bush Court to replace 10 trees removed in recent years for safety reasons.

Six jarrah trees will also be planted once mature saplings can be sourced.

Grass will be removed from around many Bush Court trees in an effort to improve the health of remaining trees.

Veterinary Farm Manager Kim Thomas also coordinated the planting of hundreds of trees across the vet farm, which long-term will provide additional wildlife habitat and shade for the farm animals.

“The combined planting effort across campus will greatly enhance wildlife habitat for Carnaby’s cockatoos, quendas and other animals, and help to reduce the University community’s carbon footprint,” Ms Minton said.

Murdoch academic appointed to committee to tackle homelessness

AN EXPERT ON HOUSING AND HOMELESSNESS HAS BEEN APPOINTED TO A COMMITTEE OVERSEEING THE TASK OF REDUCING THE NUMBER OF HOMELESS PEOPLE IN WESTERN AUSTRALIA.

Murdoch University’s Associate Professor in Community Planning Paul Flatau has been appointed as the academic representative to the State Government’s Western Australian Council of Homelessness.

The Council is part of the WA and Australian Government’s $135 million partnership to reduce the number of homeless people in the state by building new homes and increasing the level of funding to support services assisting homeless people.

Professor Flatau, the Deputy Director of the Australian Housing and Urban Research Institute (AHURI) Western Australia Research Centre, has actively worked with community agencies and groups in relation to homelessness and has led a number of national research projects on the subject over the last few years.

The Council’s first meeting is in February.

Better signage helps recycling

MURDOCH UNIVERSITY HAS IMPLEMENTED A COMPREHENSIVE SIGNAGE SYSTEM FOR ITS RECYCLING, PAPER, CARDBOARD AND WASTE COLLECTION BINS ACROSS ITS SOUTH STREET CAMPUS.

The snazzy new signage, installed in January, shows items that can be recycled on campus.

“With campus staff, students and visitors coming from different suburbs and countries where recycling systems can be very different, the new signage should help to make it much easier to choose the right bin,” Murdoch’s Environmental Program Manager Caroline Minton said.

A waste audit of external bins in September showed high levels of contamination in recycling bins from food waste and large numbers of recyclables in waste bins were going to landfill.

“It’s believed a lack of understanding of what can be recycled on campus, and what to put in each bin, is responsible for the poor levels of recycling to date,” she said.

“On campus we can recycle a great variety of things that may not be recyclable in people’s own residential area.”

Plastic and glass bottles and jars, aluminium cans and foil, and all kinds of paper and cardboard can be recycled.

Bottle and jar lids can also be recycled, but lids must be thrown in separately, as can empty paper takeaway coffee cups and plastic lids.

Plastic food containers free of any food scraps are also on the recyclable list.

Contaminated recyclables must be thrown in the waste bins so they don’t infect the rest of the recycling.

“Recyclables with 10 per cent contamination go to landfill, so it’s really important to prevent food scraps from being dumped in recycling bins,” she said.

Murdoch spent $180,000 on new dual red and green waste and recycling bins in 2009, and is now adding to that investment with its new signage.

The new signage project has been supported by the Australian Food and Grocery Council’s Packaging Stewardship Forum, who have committed $25,000 for Murdoch to improve beverage container recycling on campus.
Marine scientist wins WA science award

Murdoch University Adjunct Senior Lecturer Brad Norman has been recognised for his work tracking, photographing and identifying whale sharks, the world’s largest, and one of the most misunderstood, fish.

The not-for-profit group he set up, ECOCEAN, received a 2009 West Australian Science Award from the state government for Science Outreach Program of the Year.

The project undertaken by ECOCEAN incorporates ‘citizen science’ and is focused on the annual aggregation of whale sharks within Ningaloo Marine Park.

Mr Norman, a marine biologist, has been studying the ancient creatures at Ningaloo since 1995 and recalls his first encounter seemed quite surreal.

"There was this huge, living whale shark coming directly towards me. I was screaming silently to myself in excitement," Mr Norman said.

His research focuses on non-invasive photo-identification of whale sharks – using the animal’s unique pattern of white spots to distinguish between individuals.

In the early days, each photograph had to be examined and compared “by eye”, a tedious and time consuming process.

But by 2002 the ECOCEAN website had been set up so that members of the public based throughout the world could submit whale shark photographs to include in the global database www.whaleshark.org.

To enable the enormous amount of data to be managed and appropriately analysed, Mr Norman developed a partnership with colleagues based in the USA, computer programmer Jason Holmberg and astronomer Zaven Arzoumanian.

The team then adapted technology used by NASA scientists working on the Hubble Space Telescope to map and analyse the unique pattern of spots on the skin of each individual whale shark within the ECOCEAN library.

To date, more than 24,000 images have been uploaded to the website.

The Australian Government listed the whale shark as vulnerable and migratory under the Environment Protection and Biodiversity Conservation Act 1999 and the gentle giant has also been listed as vulnerable to extinction by the International Union for Conservation of Nature.

"This is enough energy to operate a television for more than 368,002 hours, power more than 370 computers for one year or run more than 1500 houses for one day and offset the pollution an average passenger car emits for over 4.7 years.

"This opportunity will enable me to network with leading researchers from other parts of the world, and to promote Murdoch University, Western Australia and Australia," Associate Professor Fung said.

His appointment ends in December 2012.
Murdoch scientists have received more than $50,000 from the Fiona Stanley Hospital project to investigate critical factors for the regeneration of degraded bushland in Beeliar Regional Park.

The two-and-a-half year project will identify which regeneration techniques are most appropriate for the successful restoration of the area, using topsoil from the Fiona Stanley Hospital site, according to Murdoch’s Environmental Science Post Doctoral Research Fellow Dr Joe Fontaine.

“Many plant species in the Swan Coastal Plain store their seeds in the topsoil,” Dr Fontaine said.

“During a fire, the dormant seeds are activated by the heat and smoke and germinate when the winter rains arrive, thereby creating new bushland.”

Topsoil removed from the 32-hectare hospital site on Murdoch Drive has been spread on three parcels of degraded bushland in the park, which is home to 19 lakes, small wetlands and wildlife such as the endangered Carnaby’s black cockatoo. A fourth site will also receive topsoil.

“Moving this topsoil to Beeliar Regional Park will help to offset the loss of intact bushland from the hospital site by improving the quality of nearby areas of degraded Banksia bushland,” Dr Fontaine said.

The Murdoch research team, led by Professor Neal Enright, and including Professor Giles Hardy, Dr Katinka Ruthrof, Dr Richard Harris, Dr Phillip Ladd and Dr Fontaine hopes to recreate natural conditions to encourage dormant seeds in the imported topsoil to germinate.

Previous scientific research found many seeds require heat (typically 80-120°C) and smoke in order to break their dormancy and germinate.

“Many seeds may be present in the soil for years or even decades before germinating, therefore topsoil from intact bushland is a key resource for restoration activities,” Dr Fontaine said.

Fiona Stanley Hospital Executive Director Brad Sebbes said the funding was part of the hospital’s $2.3 million commitment to environmental rehabilitation and protection programs.

“Funding this research not only offers us the opportunity to contribute to the rehabilitation of degraded local areas, but also support efforts to add to the collective knowledge about how to create a successful rehabilitation program,” Mr Sebbes said.

Reporting on Copenhagen

Murdoch journalism staff and students attended the UN climate change conference in Denmark last month.

Up to 15,000 dignitaries, business leaders, activists and media from nearly 200 countries, including Australia, met in Copenhagen to discuss ways to reduce the impacts of rising temperatures and sea levels caused by industrial emissions.

Murdoch students Ben O’Halloran, Matt Whitby, Katie Day and journalism lecturer Carmelo Amalfi, the only Western Australian accredited journalist at COP15, were among 3500 journalists attending the two-week conference hosted by the Danish Government.

Together, the Murdoch climate team produced 12,000 words, or 33 news stories, published on Murdoch’s blog site copenhagen09conf.blogspot.com and PerthNow’s site www.news.com.au/perthnow.

Journalism program chair Johan Lidberg also contributed to the Murdoch blogspot with a number of comment and analytical pieces.

“Importantly, for students, they made contacts and ran into a few notable figures, including US president Barack Obama and Californian Governor Arnold Schwarzenegger,” Mr Amalfi said.

“Governor Schwarzenegger’s speech was a highlight of COP15 and can be viewed at http://webcast.cop15.dk.

“It also demonstrated to students the work and preparation needed to cover such a big overseas event.

“The first day of the conference kicked off with a bomb scare, the last few days with the arrests and detention of hundreds of activists, including from Australia.”

Mr Amalfi said a typical day at COP15 began and ended the same; cold and dark and very busy.

“The team worked out of the venue where journalists would queue for hours in near-zero temperatures, and longer if they did not arrive early.

“And while the northern winter days felt short, the students worked around the clock to get breaking stories to PerthNow the following day.

“That meant deadlines were often around 2am to 3am.”

Mr Amalfi congratulated and thanked all involved.
Honorary life membership for head of Business

Dean of Murdoch’s Business School Professor Malcolm Tull has been honoured with a life membership from the Australian Association for Maritime History (AAMH).

Professor Tull, a highly regarded expert on maritime economic history, was honoured for his continuous service to the AAMH.

"I am delighted and honoured to receive life membership of the AAMH," Professor Tull said.

AAMH President Peter Ridgeway said Professor Tull was its current treasurer and had served as both secretary and president.

"There have been times when the Association’s very existence has relied heavily on Malcolm’s contribution," Mr Ridgeway said.

"His broader contribution to maritime history is outstanding."

A Fellow of Murdoch’s Centre for Asian Studies since 1999, Professor Tull has extensive experience teaching both undergraduate and postgraduate units in economic theory, economic policy, and economic history.

In 2008, he was elected Vice-President of the International Maritime Economic History Association.

The AAMH was formed in May 1978. Its main aim is to promote the study, publication and general appreciation of maritime history.

Volunteering at Southbound

Murdoch Chiropractic and Journalism students lent a hand at the sixth annual Southbound Festival in Busselton in January.

Lecturer John McMullan said 16 radio and journalism students provided a localised broadcast, Southbound Radio 101.7FM, to the festival campsite and grounds.

“We applied to the Australian Broadcasting Authority for a festival license allowing us to broadcast for the three days of the event," Mr McMullan said.

“Our broadcast ran from 7am to 2am for three days straight, with groups of students taking turns doing three hour shifts.

“We streamed live music from the two main stages as well as interviews and security and safety information."

Fifteen final-year chiropractic students shared their expertise offering free manipulations and advice (under qualified supervision) to festival-goers and the artists backstage.

The University provided two retro photo booths where friends could have a free happy-snap taken as a permanent reminder of their Southbound experience as well as a misting tent giving patrons the perfect place to cool off when the heat was on.

Giant Murdoch interactive crowd balls were dropped off the festival stages to provide a bit of fun and the University designed lanyards with the festival program printed on them.

Murdoch staff also volunteered during the weekend, helping with the photo booths and assisting student volunteers.

Murdoch is a major sponsor of the Southbound Festival.

Summer fun for young scientists

Sixty high school students from across WA discovered more about science and engineering at a residential Summer School at Murdoch University in January.

The students were selected from more than 200 applicants to take part in the 2010 WA Science and Engineering Summer School (WASESS).

One of this year’s tutors Amy Hughes was interested in studying Marine Science at James Cook University before attending the University’s 2008 summer school, after which she decided to study at Murdoch and is starting this year.

“This was a fantastic opportunity for students to experience science, mathematics and engineering in action, as well as gaining an insight into life at university” said Jen Bradley, the WASESS Coordinator.

Mrs Bradley, also Murdoch University Senior Lecturer in Mathematics and Statistics, said the students explored the world of science and engineering through a series of interactive workshops, lectures, demonstrations and excursions including programming robots, wetland ecology, forensic facial reconstruction, process engineering, extractive metallurgy and nanoscience.

The year 11 and 12 students, coming from as far as Manjimup and Karratha, stayed at the Student Village on Murdoch University’s South Street Campus.
Jessica Eaton will blog about university life this year after winning a competition to become Murdoch University’s official student blogger.

The final year Public Relations student out-blogged 14 other students to be named Official Murdoch Blogger 2010, as well as winning a suite of prizes including an internship with Sunset Events, the organisation behind Southbound, Blues’n’Roots and other music and arts events in WA.

“I find it hard to describe how happy and excited I am right now,” said Jessica, who eventually wants to work in events or public relations in the music industry.

“This year will be my third and final year at Murdoch, so it’s definitely one I’m going to enjoy documenting,”

Director of Student Liaison and Recruitment Professor David Macey said for many students choosing a university could be as difficult as choosing which course to study.

“When choosing a university, students generally want to find somewhere they think they’d enjoy spending time, somewhere that supports what they want to do, and more importantly, somewhere they feel like they would fit in,” Professor Macey said.

“Traditionally, the tools students have had available to research university life are university web pages, a course prospectus and materials created by each university.

“At Murdoch, we think the best people to communicate what life at uni is really like are our students.”

As part of the competition, entrants were encouraged to share their real life university experiences with prospective students online. The bloggers used YouTube, Flickr, Twitter and Facebook to support their blogs and created blog assignments based around some set topics such as ‘How did you figure out what to study?’ and ‘Show us Murdoch’s best kept secrets’.

During the competition period, the site received more than 23,400 visits and was accessed from across Australia and as far away as the United States.

The winner was determined by public vote as well a content score from a panel of judges and website statistics to see whose blog was most visited.

The bloggers themselves generated the majority of the web traffic, for example through their personal Facebook pages.

Murdoch Computer Science student Nicholas Circosta has always hoped he would work for Apple one day, but being offered his dream job straight out of university has left him nothing short of amazed.

Apple has offered Nicholas a job in iPhone development in their offices in Cupertino, California.

“I’m officially called an iPhone QA Applications Engineer which means I will be responsible for testing Apple applications for quality assurance, basically finding every bug I can,” Nicholas said.

After submitting his resume Nicholas underwent a stringent interview process participating in phone interviews between the US and Perth and later being flown to California for an intensive eight-hour interview.

“A few days later I was heading to uni when I received an email on my iPhone saying they were making an offer and starting my relocation, I was shocked,” he said.

“It took a good few hours before it started to sink in.”

Despite being modest, Nicholas has the education, drive and work experience that would lead Apple to take the unusual step of hiring a recent graduate.

In 2008 he graduated with a Bachelor of Science with a major in Computer Science and then enrolled in Honours in 2009.

In 2009 he won a $10,000 Student Developer Scholarship from the Apple University Consortium (AUC) to build an application for the iPhone/iPod Touch which became the basis for his honours thesis.

“I built an application called iClass which allows students and teachers to use mobile learning in classrooms.”

“My hope is that one day it might be adopted by Apple as an actual application available for purchase.”

In January the iClass application earnt him a spot as a finalist in the 19th Annual Western Australian IT and Telecommunications Industry Awards.

Nicholas has also presented two workshops about iPhone development at the AUC’s dev/world/2009 conference held in Canberra last year and been hired by the AUC to run workshops on iPhone software development also in Canberra. He will be running further workshops in Sydney, Melbourne and Brisbane in February.

Nicholas will start his new role in March once his visa for the US is arranged.