Ozone layer on track to recovery

South Pole staff release a high-altitude balloon which carries ozone-measurement equipment up to 20 miles high in the atmosphere. CREDIT: Kelli-Ann Bliss/NOAA.
Check your voting direction with Vote Compass

Dr Aaron Martin, a political scientist advising the ABC/University of Melbourne Vote Compass project explains its workings. By Jo Chandler.

Within only a few days of launching, Vote Compass, a project by the ABC and the University of Melbourne, has had more than 26,000 responses and 4,500 tweets. Questions about support for the East-West tunnel, laws around access to abortion and the legality of marijuana help set a voters’ electoral compass.

Q: What is Vote Compass?

AARON MARTIN: It’s an educational tool developed by a non-profit group of political scientists and hosted by the ABC in partnership with Election Watch/University of Melbourne. It made its Australian debut for the 2013 Federal Election and was spectacularly successful – there were over 1 million completions of the survey. This is only the second time the tool has been used in an Australian election.

Based on an individual’s responses to a brief questionnaire, Vote Compass generates an analysis of how your views compare to the positions of the candidates in a given election.

This analysis is restricted to the specific issues included in the Vote Compass questionnaire and may not necessarily reflect perceived political affiliation or intended vote choice. The tool would like to emphasize that it is not a vote calculator – we are not telling people how to vote. Its chief purpose is to inform people where the parties stand on issues. These days it can be easy for people to get lost in the minutiae of personality politics. So this project helps them—by choosing to dig into where the parties stand on the issues that matter to them.

Q: So how do I use it?

There are different levels of engagement – it’s really up to you how deep you go. You might just choose to complete the survey of basic questions, which maybe will take you as little as 10 minutes, and will then tell you how your views sit in relation to those of the various parties and their platforms.

Dr. If you choose, you can really drill down into the issues and explore the details of the different policies. We’ve got quotes from all the parties on their positions on various issues.

In the questionnaire we have tried to capture the broad range of issues people think are important – education, health, roads, social policy, environment. We’ve done this by consulting with experts and by inviting public input over the past few months – using social media to reach voters and have them tell us what is on their radar.

Q: What do the politicians and parties think of this exercise? How do you ensure it fairly represents their platforms?

It’s a very careful and rigorous process. We calibrated the questions for all the different selected questions. After identifying about 30 key questions we’ve then gone to the parties and asked ‘are you happy with what we’ve distilled, you, represented you’ – and so there has been a fair and transparent dialogue. Mostly they agree with how we position them, and where they don’t we’ve pulled together some rigorous evidence to justify where we have put them on the scale.

Chemical aids on the battlefield

Daryl Holland speaks to Dr Rain Liivoja about the legal and ethical implications of the militarisation of neuroscience.

Elite soldiers are now using physical, technological and pharmacological means to excel on the battlefield. The idea of a machine-enhanced ‘Robocop’ or a pharmacologically enhanced ‘Jason Bourne’ is no longer the realm of science fiction.

Dr Rain Liivoja (above), Project Director for the Law of Armed Conflict at the Asia Pacific Centre for Military Law at the Melbourne Law School, says that after the robotics revolution of the past decade, biology and neuroscience is the next frontier for the military.

He says increasingly, armed forces are experimenting with, or routinely using, performance enhancing drugs or other chemical, biological or technological enhancements to give them an edge against their enemies.

“For example, the US Air Force has been experimenting with pharmaceuticals that promote wakefulness for prolonging the capacity of fighter pilots,” Dr Liivoja says.

The military is also experimenting with brain-machine interfaces.

“One could use the human brain to directly control vehicles or weapons systems, or vehicles that have been combined with weapons systems, and to rely, not on manual controls, but on an interface that picks up the electrical signals from the brain and converts them into commands,” he says.

Dr Liivoja wants to understand the legal and ethical implications of these new kinds of military technologies.

“There is a lot of stuff happening in terms of optimizing or enhancing human performance or combining the best features of human performance with the best features of technology,” he says.

The project team – Ms Auplish, Alison Clarke, Trent Van Zanten and project leader Dr Kate Abel – worked on developing content for around eight months, creating a model of delivery which could be applied to other similar in-country programs. The suite of material included slide show handouts, skits, inflatable dogs and a number of pre-prepared videos.

Dr Chameayne Tham, President of VBB, says the SARAH project offered a great opportunity to begin exploring the inclusion of an education program across the organisation’s work in other countries.

“Findings from the team’s experience will now be used to inform a proposal for education programs for all VBB programs,” Dr Tham says.

“And we’ve done this very successfully – Sikkim hadn’t had rabies for a very long time, so when Aashima approached us last year, we were ready to take the project to its next stage and develop a community education focus around the program.

“The challenge for each of our program volunteers and staff across the world is to develop and deliver engaging education programs, which take into account a number of unique factors like the language or in-country limitations. The student team did a wonderful job of transcending some of these challenges on this project, and created a very impressive program. The quality of work they delivered was outstanding.”

The next step for the team is to collate findings on the success of the pilot project and begin building a body of knowledge around community education approaches.

Already the project has sparked interest from other organisations. Ms Auplish is currently completing a two-month internship in Geneva with the World Health Organization, largely a result of connections made throughout the development and delivery of the project.

“It’s important that we map the impact of our work,” she says. “Most NGOs and their funding bodies need solid evidence to implement these types of programs, so we hope to illustrate that impact through a range of methods we used throughout the project delivery.”

www.vetsbeyondborders.org/
Preparing to defend

A team including researchers from the Department of Chemical and Biomolecular Engineering recently won the Land Defence Australia-supported Industry Innovation Award for development of a new lightweight, ceramic armour material that links innovation, collaboration, and the manufacturing sector in Victoria. By Annie Rahilly.

RESEARCH

History is littered with examples of how new materials were developed initially for defensive applications. War and battle are incubators for ideas. And according to Professor George Franks, an expert in the development of new materials from the Melbourne School of Engineering, it isn’t until times of peace that such ideas and materials are given domestic applications. While there may be a relationship between war and innovation, trying to stay alive is the ultimate motivator. The real test of the invention is the application it has in peacetime. Where would modern aviation be without rubber?

Working with the Defence Materials Technology Centre (DMTC), Professor Franks, along with his team and collaborators recently won a National Industry Innovation Award from Land Defence Australia for a new ceramic armour plate to be used for personal defence. DMTC develops and delivers new materials technologies and manufacturing processes to enhance Australia’s defence capability. This is a partnership between Defence, defence industries and research agencies. Professor Franks says this collaboration was established to develop industry capabilities within Australia to supply our Defence Forces.

“This is the first manufacture of the ceramic vest component in Australia. Previously, Australian Defence Forces had to buy such products from Germany and the US,” he says.

“Our current industry partner is Australian Defence Apparel (ADA) in Bendigo. Opportunities to use this technology are also being discussed elsewhere in the sector.”

“ADA have produced 3000 jackets and have provided a boost to the local manufacturing industry as well as better protection to our diggers,” Professor Franks says. “New material development has meant a better product that is safer and lighter. Professor Franks explains how controlling the properties of the ‘paste’ resulted in Bond Carbide, a lighter material specifically for this application.

The researchers had to imagine a hard strong material that was still lightweight to offer solid security and mobility. The vest is backed by a polymer cover. The first bullet will hit and crack the vest but the material is contained by the backing polymer. While designed to take three bullets, the hard ceramic armour is resistant to rifle shots and offers a higher level of protection than the run-of-the-mill polymer fibre bullet-proof vests you see police wearing on TV shows. The next part of the research will be about development of the curved sections to protect the shoulders and the helmet.

“Our next challenge is the making of more complicated shapes,” Professor Franks says.

Such new materials have other applications, including heat engines in aerospace components that allow us to travel at faster speeds. New materials that sustain higher temperatures mean lightweight fuels will burn at a higher temperature and will produce energy more efficiently. Similar materials are also used to line processing equipment in the field of minerals mining, to make equipment resistant to abrasion.

Innovative materials being developed within DMTC also mean potential new products such as corrosion-resistant steels for ships, armour for buschmaster vehicles and new ways of making aerospace components for our jet fighters. Professor Franks believes the creation of new materials is essential for new products and ideas. We need not imagine lightweight ceramic ball bearings that don’t rust or a ceramic foam that is damage tolerant. They are already here.

www.eng.unimelb.edu.au

Solution in sight for age-old problem

For over 2000 years, the fine-toothed comb has been the only truly effective weapon against head lice. New researchers have developed a new, commercially viable, safe and effective solution that will put paid to this arduous and time-consuming approach to delousing. By Gabriele Murphy.

RESEARCH

When archaeologists excavated a wooden fine-toothed comb from Antinoe in Egypt, and New Zealand-based entomologist Ricardo Palma recovered head lice and eggs from the debris it was encased in, he came to the inevitable conclusion shared by parents around the world and across centuries.

“The effectiveness of fine-toothed combs as delousing instruments can hardly be overstated,” says Dr Palma on his website Headlice.Org.

“Modern combs differ very little in shape and dimensions from their ancient counterparts, and they are still regarded as among the most effective, and indeed the safest, methods of head lice control.”

Efficacy is probably the only positive attached to this time-honoured method of delousing though. As anyone faced with the shocking realisation of parasitic lice infestation in their family knows, the time required to overcome the problem is onerous in the extreme.

Enter Vern Bowles, Deputy Director of the Centre for Animal Biotechnology in the Faculty of Veterinary and Agricultural Sciences at the University of Melbourne, and founder and Chief Scientific Officer of pharmaceutical company Hatchtech.

Much of Associate Professor Bowles’ research career has been devoted to studying parasitic infections.

“Having worked for a number of years investigating novel control strategies against both external and internal parasites in sheep, in 2001, with the aid of Unisec funding, we were able to commence research aimed at solving the intractable problem of head lice in children,” Dr Bowles says. “The need was real, and the market opportunity compelling.”

Since forming in 2001, Hatchtech has conducted an extensive development program – both clinical and non-clinical – for a new drug application to be filed with the Food and Drug Administration in the United States in mid-2015. The trade-marked product, which researchers have named Xeglyze, is a new topical lotion that has proven successful in killing head lice and their eggs in a single 10-minute application – without the need for nit combing.

“You simply apply the product to dry hair, leave it in for 10 minutes, and wash out with water,” Dr Bowles says.

According to Hatchtech Chief Executive Officer Hugh Alsop, two studies conducted in the phase 3 of testing confirm the safety and efficacy of the product.

Of subjects treated with the new lotion, 81.5 per cent were free from head lice 14 days after the single treatment,” Mr Alsop says. “Importantly, these were double-blind, randomised, vehicle-controlled, parallel-group studies in subjects aged from six months and above with an active head lice infestation.”

Combined with results from a recent Phase 2 clinical study that demonstrated 100 per cent efficacy of the new lotion against head lice eggs, researchers point to compelling evidence of its ability to safely do what other products cannot.

“Currently approved products on the market generally have little or no efficacy against eggs,” Professor Bowles says. “So if they are not physically removed from the hair, an infestation will quickly return, and hence the need for multiple treatments and nit combing to kill the newly emerged lice.”

Speaking to the broader question of universities and commercialisation, Dr Bowles believes opportunities exist for researchers to access funding through organisations such as Unisec and, depending on the technology, source additional funds by syndicating with other funding sources, which is what took place with Hatchtech.

“The University provides a rich source of ideas and high quality science which gives a solid foundation for creating new opportunities,” Dr Bowles says. “As the skills base of individuals who understand the science and can combine this with sound commercial experience expands, the potential exists for further development within this sector.”

While clearly not all science lends itself to a product opportunity, the continued funding of basic science and curiosity-driven research is vital to knowledge creation and it is from this base that new opportunities can arise.

www.hus.unimelb.edu.au
www.uniseed.com.au
Concerted global action to address damage to the ozone layer is proving successful, with indications the ozone hole could recover in the second part of the century. By Katherine Smith.

The hole in the ozone layer is healing, and on track to further recovery over the next few decades, due to concerted international action to reduce ozone depleting gases, according to a new assessment by 300 scientists.


Since the early 1980s scientists involved in this global assessment project have been engaged in a four-yearly analysis of the state of the Earth’s protective but fragile stratosphere (or upper atmosphere) ozone layer which protects the planet from harmful exposure to the sun’s ultraviolet radiation.

“Climate scientist from the University of Melbourne’s School of Earth Sciences David Karoly has been part of the steering committee for the last assessment. The first time any Australian has been involved in a leadership role in the project.”

“There have always been one or two Australians involved as authors in this assessment,” Professor Karoly says, “but it has typically been dominated by scientists from the USA and Europe.”

There’s a degree of irony involved in that, because the ozone hole phenomenon, particularly the Southern Ocean and southern parts of South America, are the most affected by changes to the ozone layer, which forms annually over Antarctica, and which becomes the primary feature of stratospheric chemistry over winter.

In addition, Professor Karoly’s fellow Earth Sciences researcher Dr Robyn Schofield was the Southern Ocean and southern parts of South America region each spring, behaving like the catalytic converter in your car, accelerating the effects of chlorine and bromine compounds that are present. These are ozone-depleting gases, that don’t occur naturally in high concentrations in the stratosphere.

“The result is that with build up of these gases, very rapid ozone depletion can occur in the region of the planet from harmful exposure to the sun’s ultraviolet radiation.”

At air temperatures of around minus 80 degrees Celsius, certain ice crystals form into thin clouds called polar stratospheric clouds, which, when sunlight returns to the Antarctic region each spring, behave like the catalytic converter in your car, accelerating the effects of chlorine and bromine compounds that are present. These are ozone-depleting gases, that don’t occur naturally in high concentrations in the stratosphere.

“Basically, cold air is critical, and the coldest air in the world occurs during wintertime in the stratosphere directly over Antarctica, around 15-20 kilometres above the surface, “ he says.

“Half the ozone layer is removed every spring, and at certain altitudes, it’s all removed, allowing more UV sunlight to reach Earth’s surface, which causes impacts on plants, animals and people, particularly ski, which then negatively affects marine ecosystems.”

We have solid evidence that collective action locally can make a difference.

“Complete recovery is expected to take a little longer in the southern hemisphere, anticipated around the 2060s or 70s,” he says.

Professor Karoly says the other good news is that because CFCs are also greenhouse gases and contribute to global warming, a by-product or ‘complementary benefit’ of action brought about by the Montreal Protocol bans is the slowing down of global warming.

“This doesn’t mean that warming has stopped,” he says, “but that there’s been a reduction in the global warming compared to what would have happened if these gases had continued to grow.

“So there are two good news stories for the environment. Not only have we helped lessen the dangers of destruction of ozone, such as increased skin cancers and other impacts, we have also helped to slow down the rate of global warming.”

Professor Karoly warns we must however remain continuously vigilant.

“We must keep monitoring the ozone layer for the potential impacts of replacement chemicals, and other gases like nitrous oxide released by the use of fertilisers and from animal agriculture, which also impact the ozone layer.

“But we now have solid evidence that collective action locally can make a difference – in not a very long time – to environmental outcomes.”

www.ozone-unep.org
http://www.climatescience.org.au/
content/77/why-we-celebrate-world-ozone-day

Melbourne first in Australia and 32nd in world: US rankings

The result was particularly pleasing as the rankings’ methodology was 30 per cent based on academic reputation, and so was linked very closely to research data.

This recognition comes after Foreign Policy magazine named Melbourne one of the best international universities for US students to attend.

In other rankings this year Melbourne has led Australian institutions, being named first in Australia and 44 in the world by the Academic Ranking of World Universities 2014, first in Australia and 33 in the world by the Times Higher Education World University Rankings, and 33 in the world in the QS World University Rankings.

“The result is that with build up of these gases, very rapid ozone depletion can occur in the spot where the clouds and cold temperatures and these chemicals and the sunlight all come together in the one place at the same time.”

Professor Davis says the result was particularly pleasing as the rankings’ methodology was 30 per cent based on academic reputation, and so was linked very closely to research data.

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Ozone layer on track to recovery
Why don't we crave broccoli?

**H ave you ever wondered?**

We are all familiar with the allure of the cupcake, the beckoning chocolate bar and the irresistible urge for pizza but rarely are we seduced by broccoli. But does anyone actually crave broccoli? And how can the rest of us curb cravings for high calorie foods?

Katrina Purcell is a researcher who studies factors that contribute to people achieving or not achieving their weight loss targets.

“It's interesting how psychological factors can play a role in our appetite regulation,” Dr Purcell says.

“People who have been told they can’t eat broccoli crave it! These people include those who are on warfarin and can’t consume broccoli due to the high levels of vitamin K, which can interfere with warfarin’s effectiveness in preventing blood clotting.”

The temptation of the forbidden apple, broccoli or the sweet treat is akin to what psychologists call the ironic processing theory where active suppressing of a thought only brings it to mind. The current trend in diets is to de-demonise the appeal of foods and store them as fat. In prehistoric times our ancestors may have faced periods when food was in short supply so having a better capacity to store fat helped survival.

“Emotions and memories also drive food cravings. We’ve all had the odd occasion when we yearn for a healthy bowl of grandma’s homemade vegetable soup and other family homemade vegetable soup and other family faithful comfort foods and especially sugary treats. We crave these reward foods that were given to us as children as a gesture of love or reward.”

“Animals that evolved to like ripe fruit, which has higher sugar content than unripe fruit, had to have more energy and this increased their chances of survival and reproduction. Sugar provides not just energy, but it helps store fat. Sugar is broken down to glucose for quick energy when required or stored as fat. In prehistoric times, our ancestors may have faced periods when food was in short supply so having a better capacity to store fat was key.”

“Cravings are different from real hunger. Science has shown that eating something sweet or sugary actually makes you feel good because it affects endorphins and increases serotonin and dopamine levels in your brain. Humans are evolutionarily hardwired to crave these high calorie foods.

“If we craved low calorie foods, we would not be here today,” Dr Purcell explains.

“Animals that evolved to like ripe fruit, which has higher sugar content than unripe fruit, had to have more energy and this increased their chances of survival and reproduction. Sugar provides not just energy, but it helps store fat. Sugar is broken down to glucose for quick energy when required or stored as fat. In prehistoric times, our ancestors may have faced periods when food was in short supply so having a better capacity to store fat was key.”

Katrina Purcell is a dietitian who has been working with University of Melbourne’s Professor Joseph Proietto, Head of the Weight Control Clinic at Austin Health, on a study that found substantial weight loss is more likely to be achieved if weight is lost quickly.

Their recent paper suggested a number of possible explanations for their findings including that the limited carbohydrate intake of very low-calorie diets promotes greater satiety, and less food intake by inducing the production of hunger suppressants called ketones.

“Losing weight quickly may also motivate participants to stick to the diet.” — Andi Horvath

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**Shared challenges, big outcomes**

University of Melbourne academics were among 80 researchers from both Australia and Indonesia to receive funding under the Australia-Indonesia centre’s first grant program, writes David Scott.

**Research**

It might start with a fever, or even shaking chills. Maybe there will be shortness of breath, or a cough. It might lead to a loss of energy or appetite, a headache or chest pain. Regardless, there is little doubt pneumonia remains a serious disease for people around the world, and particularly for those in South-East Asia.

However it is children who are most at risk; the major cause of death of those under the age of five globally remains pneumonia, with infants and toddlers under two years old the most susceptible. Approximately half of the global child pneumonia cases occur in South-East Asia.

Many of these are at high-risk of also suffering from vitamin D deficiency. But how many, and is there a direct link?

Dr Margaret Danchin is hopeful answers can be found, and will use a recent Australia-Indonesia Centre grant to do so.

“While there is no published data on the prevalence of vitamin D deficiency among infants and young children with pneumonia in Indonesia, we know that a recent study of 48 districts in the country reported that more than one-third of children aged between two and five years had vitamin D deficiency.

“Vitamin D deficiency is one of a major health concern in Indonesia. To date, concerted efforts have concentrated on micronutrient supplementation programs with vitamin A, iron, zinc and iodine. But vitamin D deficiency is increasingly recognised in communities close to the equator in the South-East Asian region due to lifestyle changes and cultural practices that limit exposure to ultraviolet radiation.”

For Dr Danchin, Professor Steve Graham and her Indonesian collaborators, the grant will provide them with a chance to provide original data on the epidemiology of severe pneumonia in Indonesian infants, and on the prevalence of vitamin D deficiency among this high-risk group.

And real outcomes could result sooner rather than later.

“The study will provide potential new avenues for intervention for the control of pneumonia in a resource-poor setting, and also valuable data to inform new policies targeted at improving the management of pneumonia in both community and hospital settings in Indonesia.”

“Another aim of the program is to better provide skills to local health care providers – from community doctors to midwives – to help them identify childhood pneumonia according to World Health Organization criteria, leading to better treatment, management and outcomes of the disease.”

Dr Danchin’s project with Professor Yati Suardani and Dr Vicka Oktana, who will be conducting the study as part of her PhD, both from Universitas Gadjah Mada, was one of five University of Melbourne projects to receive funding from the Australia-Indonesia Centre’s inaugural ‘Small Projects’ program. There is a long history of collaboration between the groups, dating back nearly 30 years, and since 2008 for Dr Danchin.

Associate Professor Colin Duffield will work with Universitas Indonesia to provide advice on Public Private Partnership models for the City of Palu in Central Sulawesi, while Professor Marimuthu Palaniswami will run a joint workshop on smart cities with colleagues at Institute Teknologi Bandung.

Meanwhile, Associate Professor Nicholas Hutchins’ work on energy sustainability in maritime and air transport systems, particularly with surface drag, will be investigated further with the Institut Teknologi Surabaya, and Associate Professor Lu Aye will join with peers from Institut Pertanian Bogor to evaluate technologies for energy produced by biomass and waste in Indonesia.

Professor Simon Evans, Pro Vice-Chancellor (International) says the projects cover an important and diverse range of expertise at the University.

“These projects demonstrate the breadth and depth of the collaborations between the University’s researchers and their counterparts at some of Indonesia’s leading universities. In particular, these projects and the many other outstanding proposals we received demonstrate the desire to extend those relationships and to contribute solutions to shared challenges in health, energy, infrastructure and food and agriculture.”

The Australia-Indonesia Centre was established in October 2013. Based at Monash University, the Centre also counts the University of Melbourne, Monash University, ANU, the University of Sydney and the CSIRO as co-participants.

The Centre’s main aims are to expand collaborative research between the two nations, strengthen bilateral links, develop new relationships and improve Australians’ understanding of contemporary Indonesia.

www.australiaindonesiacentre.org
One step ahead for environment and health: doctors take preventative action

Melbourne medical students have put on their running shoes to promote health awareness.

By Liz Banks-Anderson

Doctors and medical students are letting their feet do the talking when it comes to raising awareness about environmental impacts on health.

Melbourne medical students and their fellow members of the Doctors for Environment Australia have responded to a call to action to raise awareness of the task.

On 12 October, more than 70 doctors, medical students and their friends and family completed the Melbourne Marathon, to highlight the need to protect the environment for a sustainable climate and also to ensure personal health and wellbeing.

Twenty-seven-year-old medical student Laura Beaton was motivated to run the annual Melbourne Marathon to spread the Doctors for Environment Australia’s message that environmental issues impact on health and that doctors have a unique capacity to advocate in this space.

“The World Health Organization, the Lancet, everyone agrees environmental damages and an unstable climate affects public health,” she says.

The effects of climate change will bring Australia and the developing world an increased burden of heat stroke, injury from fire and storm, infectious diseases and social disruption and mental illness as well as famine and water shortage.

The World Health Organization estimates that one quarter of global disease and one third of that in children is due to modifiable environmental factors.

The most common illnesses in an urban environment is asthma in adults and children and chronic lung disease, which can be exacerbated by poor air quality caused by pollution from energy production such as fossil fuels.

Ms Beaton felt compelled to contribute to measures being taken to protect the environment and “step it up to the next level,” joining the Doctors for Environment Australia (DEA) to participate in events like the Melbourne Marathon.

DEA is a voluntary organisation of medical doctors in all states and territories which works to address local, national and global diseases caused by damage to the earth’s environment.

Ms Beaton says joining DEA felt like a perfect fit to allow her to actively pursue more preventative approaches to medicine and raise awareness of the environmental impacts on health.

“I found a natural home (in DEA),” she says.

“Medicine can be quite reactive and you’re often acting in response to a problem. While that’s really good, it’s sometimes a little bit unsatisfying. I would like to be part of stopping people from having these problems,” she says.

The major determinants of health Ms Beaton cites as being affected by the environment include issues such as food security, clean water, extreme weather events including fires, floods and drought and air pollution.

The group of doctors chose the Melbourne Marathon because it was a good way to positively promote health, spread the message of the DEA and bond with other team members.

The team adopted a busy training schedule, meeting friends, family and team members to train together, adding another component to an already busy schedule.

“The Caveman, he is an old adage, if you want something done give it to a busy person. You just do it,” Ms Beaton says.

One of the beliefs of the group who participated in the marathon is that part of recognising the environmental impact on health is actively taking measures that address its causes and work toward prevention of disease.

While acknowledging that preventative medicine comes with its own challenges, Ms Beaton believes doctors can rise to the challenge of advocating in the public sphere to raise awareness of environmental impacts on health.

“Doctors have a proud history of advocating for issues of public health in the political sphere, such as calling for interventions regarding tobacco control. This is the next field where doctors are rallying to try to get people to pay attention to the health impacts of the environment,” she says.

“We’re just lining our pockets if we say we will treat all of these diseases but we won’t prevent them. Prevention is both effective economically and it’s the humane approach, to try to minimise human suffering in the world,” Ms Beaton says.

A key outcome Ms Beaton would like to see from this experience is an increase in people’s awareness of the issues, and an education that, as she says, “human health is directly impacted by our physical environment, that we can do something about it, and we should.”

www.dea.org.au/
New perspectives on Outsider art

A new exhibition at the Ian Potter Museum of Art at the University of Melbourne explores Outsider art and one of the key preconceptions about this uneasy category. By curator Joanna Bosse.

**PUBLIC SPEAKING**

**M ost attempts to define Outsider art are careful to acknowledge the distinctivity of formal and the impact of evolving societal and cultural attitudes, but in general, the term is used to describe anything outside the mainstream art world and its institutions, produced by people with limited or no artistic education.**

The distinction between insider and outsider art is increasingly acknowledged as redundant, however, and in a world marked by cultural pluralism, many question the validity of the category.

While acknowledging the problematic status of so-called Outsider art, exhibition currently on show at the Ian Potter Museum of Art at the University of Melbourne doesn’t seek to resolve ambiguities but looks beyond to examine one of the key assumptions underpinning interpretations of contemporary art within the genre.

While there is little consensus about the use of the term (demonstrated also by its many synonyms including self-taught, vernacular, autodidact art, visionary art), its antecedent is widely acknowledged as art brut – a similarly fluid classification of art that was conceived and brought to popular consciousness through Dubuffet.

Dubuffet was drawn to what he considered to be the raw and unmediated nature of art made by the marginally and mentally disabled, the outcast. He perceived as arising directly from the inner self, from the self of the artist unaffected by cultural or societal influences. Dubuffet’s interests followed that of the European Romantics and the Surrealists in looking to forms of creativity outside the academy, such as primitive art and the art of children, as an index of a primitivist form of creativity – the modernist grail of ‘pure vision’.

Like them, he was guided by the mode of Expressionism, which romanticised the idea of the genius artist creating inward upon the self and away from the outside world. Art brut reinforced the links between exceptional creativity, marginality and mental illness, and remains a powerful legacy that underlies interpretations of contemporary Outsider art.

**Everyday imagining new perspectives on Outsider art presents the work of seven Australian and New Zealand artists whose work convincingly argues against the idea that interiority defines their practice.**

The exhibition challenges this view by highlighting artists’ active engagement with the external world through their investigations of day-to-day experience.

The work of Andrew Blythe, Kellie Greaves, Julian Martin, Jack Napthine, Lisa Reid, Martin Thompson and Terry Williams represented in the exhibition demonstrates their interest in the here and now. Ordinary objects such as clocks, hand-held tools, light fittings, book illustrations and common symbols are used as important touchstones and emblems for the day-to-day reality of lived experience. For these artists, it is the external world and their relationship to it, which provides ample exploratory ground. There is value and meaning in the everyday.

Terry Williams’s (b. 1952) soft sculptures of fridges, telephones, cameras and clocks conveys his keen observation of the world and an acute urge to replicate it is meaningful through either familiarity or fascination. Williams’s playful sculptures constructed from scraps of fabric pieced together and bound with wool and cotton stitching form a cast of animated characters. Often anthropomorphised to the point of displaying human attributes such as genitalia, Williams’s sculptures have extraordinary pathos – perhaps due to the artist’s instinctive approach to construction and their lumpy, bulging appearance. Commonplace objects like the telephone above are transformed into enigmatic, hard-to-ignore forms. Kellie Greaves’ (b. 1972) practice similarly engages in a process of translation and interpretation, as she often looks to pre-existing designs or photographs, such as book illustrations, to form the basis for her works.

Choosing colours from the secondary and tertiary palettes, Greaves’s ability to combine unusual colours to form harmonious compositions is striking and her work has a bold economy; he uses thick texta-pen to depict simplified linear designs usually accompanied by text recording the names of friends and family.

Julian Martin (b. 1969) has been experimenting with the pastel medium for over 20 years. His practice inhabits the zone between abstraction and representation, and ranges from bold self-portraits to quasi-abstract depictions through to pure abstraction. The works on show illustrate Martin’s consistent reinterpretation of historical objects like candleholders and tools which transcend their everyday context to become elemental and magical.

The work of Terry Williams and Andrew Blythe (b. 1962) displays a similarly idiosyncratic approach. Both artists produce detailed repetitive patterns that indicate intense efforts of concentration, perhaps as a counter to the multiple stimuli of daily life (certainly the case in the pastel medium). For over 35 years, Thompson has produced meticulously executed ink-based drawings on graph paper that are constructed using mathematical formulae. In recent years these have become progressively ambitious and elaborate.

The artists in Everyday imagining implicitly challenge dominant paradigms and existing value systems, however what is of perhaps more significance is that their work triggers a consideration of the bias with which we view and understand others, both within, alongside or tangential to it.

![Appreciating Outsider Art](https://www.art.museum.unimelb.edu.au)

Travelling studio program creates global artists

VCA students have crossed the world to learn from recognised masters in their fields, thanks to support from Arts Victoria. By Liz Banks-Anderson.

**LEARNING AND TEACHING**

Three Bachelor of Fine Arts students are describing what the sound of Cuba is to him. His ability is difficult to resist. Hannes Lackmann is describing what the sound of Cuba means to him. Its appeal is difficult to resist. Lackmann’s voice is clear.

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Research into smoking is revealing fascinating insights to addictive behaviours and the role of self-control in at-risk people. By Maddison Connaughton.

A t some point between the ages of 14 and 18 years, most Australians will smoke their first cigarette. Why do some go on to become pack-a-day smokers, while others will smoke only casually or not at all?

This question is at the heart of the research of Associate Professor Rob Hester, an ARC Future Fellow within the School of Psychological Sciences. Concerted intervention and changing attitudes have reduced Australia’s dependence on smoking fall from around 50 per cent in 1945 to 15 per cent today. Despite this reduction, Associate Professor Hester’s work still holds vital relevance for public health. The average smoker between the ages of 50-65 years still goes through nearly a pack a day.

、“Nicotine dependence is the single biggest cause of preventable death in Australia,” Professor Hester says. “It is the biggest burden on Australian health if you measure all the morbidity that it contributes to. It increases risk of cancer, heart disease and all of the other major problems.”

Last year Professor Hester and his team, which includes post-doctorate researcher Dr Daniel Upton and Dr Kathleen Charles Walsh, launched a longitudinal study to examine the neural mechanisms that underpin nicotine addiction. The study will follow 144 people – occasional, dependent and non-smokers – over the course of five years. In this time frame the epidemiological data suggests that around 30 per cent of the occasional smokers, who smoke only casually, will transition to daily dependence.

Using functional magnetic resonance imaging (fMRI) the Hester Lab is seeking to determine whether there is a difference at the neural level that could be used to predict addiction. Participants are placed in an fMRI and asked to complete tasks to test their cognitive control: the ability to start or stop behaviours deliberately. These basic cognitive tests, such as pushing a button until told to stop, may be simple but they prove highly effective in generating the data that the Hester team is interested in.

“IT turns out that these types of tasks tap into the ability for self-control that is of interest to us when researching addiction, and they also correlate very well with the problems that people have in the real world,” Professor Hester explains.

By monitoring brain activity, the researchers will be able to look back on the participants’ initial performance and determine which regions of the brain function more or less effectively in those who make the transition to addiction. Baseline tests have already yielded interesting results with the occasional and non-smokers exhibiting clear differences in levels of self-control.

“The data is showing that our occasional smokers have poorer self-control than the matched controls,” Professor Hester says. “They appear more sensitive to reward but they haven’t yet become insensitive to punishment.”

The use of fMRI enables the Hester Lab team to see potential neurological explanations for these differences in self-control. In the mind of a smoker, the short-term relief of smoking a cigarette holds much greater weight than any perceived benefit of abstaining, or even the very real risk of developing cancer or heart disease in the future.

The research team believes that a loss in sensitivity, becoming neurologically ‘numbed’ to punishment, may play a key role in the transition to dependence. For these individuals, where decision-making is not influenced by the long-term health costs of smoking, the negative public health message about cigarette smoking may have limited effectiveness.

Beyond smokers, Professor Hester believes the patterns observed within this group might be applicable to users of other types of drugs. Previous studies of ‘at-risk’ children who have a drug-dependent parent have shown that, as with Hester’s occasional smokers, they are hypersensitive to reward and have low cognitive control. Moreover, even if they have never tried drugs, these children already exhibit changes on a neural level. Yet, not all of them will become addicts.

Approximately 10-20 per cent of regular users become dependent, for all types of drugs,” Professor Hester explains, “so there must be something else about their characteristics that contributes to the transition.”

Professor Hester suggests that this hyper-sensitivity to reward may affect the addicted person’s learning process, making them more likely to form behaviours based on positive feedback rather than stopping because of the negative implications.

The long-term nature of this study will enable the Hester team to examine how much this learning preference can be seen to precede dependence and whether or not it is a trait that can be used as a predictor of the transition from use to dependence. This predictive ability could inform current approaches to reducing the public health burden of smoking.

www.mdhs.unimelb.edu.au

Everyday architecture and the local barber shop

Students of Popular Architecture and Design at the University of Melbourne’s Faculty of Architecture, Building and Planning are investigating the importance of everyday architecture – houses and flats, shops and hidden cafes – which tell a city’s true story.

“It is always important to view architecture in terms of what it can learn,” Dr Groves says. “Architecture is a narrative and I consider myself a storyteller. By investigating the everyday, I include the students to re-engage with what works in practice, not just what wins awards; to watch the people as they vote with their feet.”

The book presents a catalogue of Melbourne’s barber shops like modern day cabinets of curiosities.

“The documented interviews and images, it is clear that personal passions and life stories are played out in the decor. Most of the shops contained personal collections, such as antiques and pictures, dolls and barber tributes, a feature which seems to appeal to the loyal barber shop customer.

Many of the barber shops exhibited a distinct masculinity. The barber shop is about an individual and enjoyable experience, not just a quick in, a beer with your cut and a Live Cue Cam so customers can see how busy the shop is before going in.

Despite a ‘man cave’-like vibe, barber shops are not only for male patrons. Some of the shops even have price lists unbiased by gender, with men and women charged the same.

Barber Shops in Melbourne captures a moment in time. While some of the older shops may not last once the owners retire, it seems the new wave of hipster culture has given rise to the rebirth of the barber shop.

“It’s quite ironic that The Beatles, with their long unkempt hair, undermined the values of the barber shop, yet it is this same trend that is inspiring its rebirth,” Dr Groves says.

The modern preoccupation with grooming long locks and facial hair presents a new clientele for the traditional barber shop. That is the serendipity of popular culture.“

Dr Groves has always been interested in informal gathering spaces and their role in community and public life. This is a driving force behind his Popular Architecture and Design subject. Such places provide the designer with a unique insight into human behaviour and patterns of use, enabling students to question what truly makes good design.

Barber Shops in Melbourne is an important learning tool for students of design but also a valuable resource for anyone looking for a new barber.

— Niamh Cremins

www.abp.unimelb.edu.au

www.mdhs.unimelb.edu.au
Science plays matchmaker to boost bandicoot breeding

The critically endangered Eastern Barred Bandicoot is getting some help from science in the dating game, Nerissa Hannink reports.

A new breeding program is combining what happens in the wild with what happens in the lab to give the endangered Eastern Barred Bandicoot the best chance of avoiding extinction.

A team from the University of Melbourne and Zoos Victoria is trialling a breeding technique known as ‘mate choice’ where bandicoots can choose their own mates, from potential partners allocated for their compatible genetic backgrounds.

In other species, the method can result in females becoming pregnant sooner, producing larger litters and having offspring with greater survival and reproductive success – extremely important in species you plan to return to the wild.

Zoology student Chris Hartnett is trying to understand more about bandicoot breeding behaviour as part of her Masters of Science at the University of Melbourne, supervised by Associate Professor Raoul Mulder at the University and Dr Michael Magrath from Zoos Victoria.

“In the wild, a female bandicoot would choose a mate for herself, likely based on the male’s smell which may indicate the best age, size or genetics to produce the strongest offspring for her,” Ms Hartnett said.

“Because bandicoots are usually solitary animals, we first need to establish what behaviour indicates a female has chosen a mate, for example spending more time with one male and displaying certain grooming habits."

At a special facility at the Werribee Open Range Zoo, the team has created ‘encounter screens’ which separately house one female and two male bandicoots, all chosen as good genetic matches.

The female is able to visit and smell her potential partners, but she can’t interact directly with them.

This allows Ms Hartnett to observe what behaviour indicates a mate choice and the team can then pair those animals together in the hope that they breed successfully.

Once widespread across Western Victoria, the Eastern Barred Bandicoot is now technically extinct in the wild, leaving the smaller, managed populations to breed within themselves.

This has become a problem for animals like the endangered Tasmanian devil where smaller isolated populations lose the diversity in their genetic make-up, known as a ‘bottleneck’. Scientists think this has resulted in a reduced range of immune system genes to fight off the facial tumour disease that is ravaging the species.

With this in mind, the bandicoot mate choice project begins with males and females that are genetically suitable, says Dr Marissa Parrott, Reproductive Biologist and co-ordinator of Zoos Victoria’s bandicoot breeding program.

“A successful bandicoot breeding program, based on pedigree and genetic analyses, has been run by Zoos Victoria since 1991 producing over 650 offspring. So we want to compare the current program with a new program that allows the female to choose a mate, in the hope that it will give a further boost to the population,” Dr Parrott said.

Dr Parrott first showed that mate choice was successful for other marsupials, we are very hopeful that this program will produce a larger and stronger population of bandicoots at Werribee Open Range Zoo that can be returned to the wild.

“Ideally, Eastern Barred Bandicoot populations would recover to such a level that we would not need a breeding program at all, because they are safe in the wild.”

The project is expected to take a number of years, with it was estimated it could take 20 years to recover the species.

It has been supported by the Hermon Slade Foundation, Zoos Victoria and the University of Melbourne.

This research is part of a wider recovery program with the Department of Environment and Primary Industries, Parks Victoria, Conservation Volunteers Australia, Mt Rothwell Conservation and Research Centre and private landowners and stakeholders.

www.zoo.org.au

Leadership skills from the desert

Educators are coming from all over Australia to learn the art of instructional leadership at the University of Melbourne, even if it means a 4am start, a five-hour drive through the desert and a flight from Alice Springs. Lisa Zilberpriver finds out why.

The kids in Mimi’s didn’t want to ask their teacher Louka Parry’s name when he first arrived in the tiny Indigenous community tucked in the north-western corner of South Australia.

They just wanted to know how long he was staying.

“To me, that said; “I want to know if you’re going to commit to the community before I make any commitment with you”, Mr Parry reflects. People in remote communities like Mimi’s are too used to seeing white faces passing through, as different service providers and educators come for a short term and then leave, he explains.

That first day in town, when questioned by a little boy, Mr Parry’s answer was that he’d be around for two years, and then he was going travelling.

So of course two years became three, then four then five,” he remembers.

“This isn’t necessarily the normal teaching trajectory out of a teaching degree – of course it should be more normal, you know we need great teachers out in these places,” he adds.

“But it was somewhere that I made a huge connection with, and people are very welcoming and very patient with you and it’s been a fantastic journey.”

Those experiences in Mimi’s inspired him to study the secrets of leadership.

“So when I landed in the middle of Australia, I was very fortunate to have a great leader at that school and she developed my capacity in a big way,” Mr Parry explains.

“I very well could have landed in another school without a supportive leader and that would have changed my educational trajectory completely. I may not even be a teacher today,” he says.

“Instructional leadership is very much in vogue at the moment, but there is an evidence base there to suggest that it’s far more impactful on student outcomes than transformational leadership.”

Mr Parry decided to study a Master of Instructional Leadership that was offered in weekend intensives at the Melbourne Graduate School of Education, even though it meant a formidable commute.

“Initially, it was a 4am wake up, a five-hour drive to Alice Springs then a flight to Melbourne,” he says.

“So it was quite a logistical challenge, but one of the benefits is that it was in intensive modules so you can continue to work in your school setting, and then come and be exposed to cutting-edge educational ideas, and then totally intertwine them into your practice as a school leader,” he explains.

Mr Parry is one of an increasing large cohort of professionals willing to take inter-state to take the course.

More than 40 per cent of enrolments in the Master and Professional Certificate in Instructional Leadership over the past two years have been interstate students. In 2014, students from NSW comprised almost 30 per cent of the cohort, with students coming from as far afield as Western Australia and northern Queensland.

“[It’s] been fantastic, and instrumental in my development – particularly the collegiate body,” he says.

“Having access to a group of national school leaders all of whom are working in diverse contexts is invaluable for exploring general principles of leadership, as well as what’s necessary in different contexts to get the best from your staff, from yourself and from your students.”

Leading in another language

Mimi’s 350 residents speak Western Desert languages Pitjantjatjara and Yankunytjatjara, but classes are taught in English, with Aboriginal Education Workers on hand to interpret and support instruction.

In his time there, Louka reached a level of proficiency but described fluency as ‘perhaps a lifelong goal’. However, language wasn’t the only way to make classes useful for students.

“There’s a strong imperative for us to have rigorous teaching methods to make sure our students can access different codes of power.

“They can have strength within their own Anangu identity, but also the skill set and capacity to work within the Western culture and all of the opportunities that brings to these communities.”

Language aside, Mr Parry says he learnt a lot about communication in Indigenous culture.

“We work on a cultural interface, so we are constantly open to learning about our perspective, because sometimes it’s diametrically opposed to that of the traditional culture, and so we have to be very inclusive in the way we do that, but we also need to challenge our own understandings.”

One of the reasons is the tendency of native English-speakers to ask direct questions, which in the traditional Aboriginal culture is quite confronting.

“We had to adjust our pedagogy accordingly. Although our Western society largely understands the purpose of schooling implicitly, this may not be the case in Anangu communities. Co-creating an educational vision with all stakeholders and working diligently towards these goals is a key part of any long-term success.”

Mr Parry has now been appointed Manager of Literacy, Primary Years at South Australia’s Department of Education and Child Development, and plans to apply the lessons he learnt at Mimi and the leadership skills he honed at the MGE to policy work.

“Knowing the power of leadership and how that plays into developing a school culture, to be able to build relationships and have our positive programme built in the way teams interact – I think all those things have made me better equipped to contribute in the educational space.”
Australian Red Cross donates 100 years of memories to University of Melbourne archives

One hundred years of Australian history collected by Red Cross Australia have been donated to the University of Melbourne Archives. By Katherine Smith.

The donation comprises the Australian Red Cross national and Victorian archives and heritage collection. It includes governance records (minutes and annual reports), publications and newsletters, executive correspondence series, records of Red Cross awards and honours, activity and project records such as WW2 prisoner-of-war index cards, fundraising and appeals records, training records and handbooks, photographs, posters and press clippings, branch unit and region records, and film, audio and visual records.

“The University of Melbourne is honoured to accept this archive as a significant piece of Australia’s social history worth preserving and sharing with future generations,” says University Archivist Dr Katrina Dean.

“It’s an exciting opportunity for the UMA and Cultural Collections. Through correct academic cataloguing and preservation, the archives will be prized by social and historical researchers, as well as members of the community seeking family history or community group information. The collection will also be used to support teaching and learning.”

Australian Red Cross CEO, Robert Tickner, says Red Cross was honoured the University of Melbourne would curate its archives and make them available to future generations, so they could tell the organisation’s stories in new and different ways.

“We could no longer afford to maintain our extensive archives, so we decided to make this donation as a gift to the nation, to preserve and share our great Australian story of the extraordinary generosity and compassion of everyday people helping people over a century,” Mr Tickner says.

“The Centenary of Australian Red Cross this year is a remarkable milestone in our social history, and our archives hold the stories of how generations of Red Cross people and events forged our proud legacy.”

This year’s Victorian Rhodes Scholarship has been awarded to neuroscience student Alexander Eastwood. By Zoe Nikakis.

The Selection Committee was thoroughly impressed with all of the applicants for this year’s Victorian Rhodes Scholarship, and we commend them for their achievements so far. I’m also encouraged by their belief in their own abilities, and those of their peers to address endemic and entrenched problems, whether political, diplomatic or medical,” Professor Evans says.

“I wish them all well as they pursue their dreams and put their educational, professional and community achievements to date to the best use possible. Alexander has demonstrated a commitment to his study and a passion for change, and is a deserving recipient of this great opportunity to study at Oxford, connected by Oxford’s intellectually stimulating environment.”

For more on the Rhodes Trust, Scholarships and notable Scholars visit: www.rhodeshouse.ox.ac.uk
and a flexible community area. They engaged the project. The school previously held only one a number of Subornogram initiatives so the marginalised communities.

marginalised communities. The Rishipara Mandir Paathshaala School in Bangladesh was an ambitious project and the first architectural feat for these early career Australian, Markus S Favrus, and run by the Subornogram Foundation, which provides access to education for children across Bangladesh’s marginalised communities. Nure and Shareq had been involved in a number of Subornogram initiatives so the foundation asked them to lead the design of the project. The school previously held only one classroom built of corrugated iron sheets yet it was expected to cater for the learning needs of 15 children per class and 14.

The design team felt it was vital to engage the community at all stages of the process to instil a sense of ownership and ensure the school truly met their needs. They held design workshops with children and adults, which exposed the importance of the Shafid Minar and a flexible community area. They engaged local artisans, as well as members of the local community to ensure the school could be maintained well into the future. Neighbours contributed their specialised skills such as making mats and bamboo light shades. The structure is constructed primarily from mud and bamboo, harking back to traditional building in the area, but the design team incorporated new building techniques to ensure the structure remains durable and sustainable. The innate openness of the design accommodates learning, as well as community activities and reinforces that this is a shared space.

“we tried to integrate the interior academic spaces with the natural backdrop of luxuriant green trees similar to the environment of the traditional Paathshaala, that once took place under a huge Banyan tree,” Nur-e explains. “the sole purpose of creating such an appealing learning environment for children was to reduce the drop-out rate and encourage integration of these marginalised children into the broader community.”

Nure, born in Bangladesh but resident in Australia since the age of three returned to her home country to study at Brac University. Given her experience and understanding of two distinct cultures she feels her unique contribution to such projects is the ability to bridge the gap. Upon graduating she gained work experience with ACCOM in Australia and is now in her second year of the Master of Urban Planning.

Molverum’s Asia Pacific Director, Jeremy Macvean, said the partnership was a unique way to reach men and boys around the country. “this investment shows how important the support of the Molverum community is in raising funds and awareness to help change the face of men’s health,” Mr Macvean said. The documentary will feature a diverse group of males at pivotal points in their lives, from teens to retirees. It will offer them a range of strategies to boost resilience, and will be accompanied by a website that will allow users at home to complete similar exercises to improve their mental health.

A quantum leap in nanoparticle efficiency

New research has unlocked the secrets of efficiency in nanomaterials, that is, materials with very tiny particles, which will improve the future development of chemical sensors used in chemical and engineering industries. In an international study the University of Melbourne and the National Institute of Standards and Technology in the US found that pairs of closely spaced nano particles made of gold can act as “optical antennas.” These antennae concentrate the light shining on them into tiny regions located in the gap between the nano particles. Researchers developed new technology to detect these levels of light. They found the precise geometry of nanoparticle pairs that maximises light concentration resolving a hotly debated area of quantum physics. This geometry now determines the efficiency of nanoparticle use as a chemical sensor in sensing minute quantities of chemicals in air and water.

A separation from close loved ones, during and immediately after the fires, was a risk factor for mental health problems for people who tend to feel anxious about their relationships,” Associate Professor Gibbs said. “Family members often had different responses to their bushfire experience and we also see gender differences in relation to risk and protective factors,” she said. “Having more close emotional ties is generally related to better mental health and personal wellbeing after a disaster. Involvement in local community groups and organisation is also associated with more positive outcomes.” People with poorer mental health often have social ties with one another. Also, people with larger social networks were more likely to have a personal connection to someone who died in the bushfires.

Findings from the Beyond Bushfires study of the aftermath of the Black Saturday bushfires, researchers from the University of Melbourne have been able to show the social element of disasters. Speaking at a Beyond Bushfires research symposium, a lead researcher Associate Professor Lisa Gibbs reported that social ties matter.

“Separation from close loved ones, during and immediately after the fires, was a risk factor for mental health problems for people who tend to feel anxious about their relationships,” Associate Professor Gibbs said. “Family members often had different responses to their bushfire experience and we also see gender differences in relation to risk and protective factors,” she said. “Having more close emotional ties is generally related to better mental health and personal wellbeing after a disaster. Involvement in local community groups and organisation is also associated with more positive outcomes.” People with poorer mental health often have social ties with one another. Also, people with larger social networks were more likely to have a personal connection to someone who died in the bushfires.

People who were the most affected by the bushfires were more likely to move to a new community, with mixed experiences. For those who stayed in their community, there was generally a stronger sense of community connection. For those who moved to a different community, the impact of subsequent financial and relationship difficulties was often lessened.

“Beyond Bushfires” is a five-year study led by the University of Melbourne in partnership with a range of providers including community, government, emergency, and service agencies. The study explores the medium to long-term impacts of the Victorian 2009 bushfires on individuals and communities. The communities selected for this study had a range of bushfire experiences from low impact to high impact. The study looks at impacts on residents such as mental health, wellbeing and social relationships, within selected communities. There were just over 1,000 participants who completed surveys in 2012 and were followed up in 2014. It is anticipated that the findings of the Beyond Bushfires: Community, Resilience and Recovery study will help shape future policy and service delivery.

ACHIEVEMENTS

Nure-Dipha Shamima Muttaj, a Master of Urban Planning student, with a vision for socially inclusive design. Together with her architectural partners, Shareq and Iftekhar, Nur-e has been awarded the 2014 Futurarc Green Leadership Award for socially inclusive development.

Making resilient boys and men

The paths of academics and film-makers rarely cross, but the University of Melbourne has just begun a landmark collaboration with Heiress Films to produce and evaluate a major documentary TV series to boost the mental health and resilience of boys and men in Australia. The $3 million project has been funded by the Movember Foundation, and will be the first of its kind in the world.

Lead researcher, Professor Jane Pirkis, Director of the Centre for Mental Health in the Melbourne School of Population and Global Health, said the documentary brings together science and the media in a powerful way.

“We have the science. We know a lot about the issues males face from our work on ‘Men’. Australia’s first national study tracking the health of 15,000 males aged between 10 and 55. We also know a lot about how to help males deal with these issues.

“What we’re not so good at is developing interventions that have a really broad and immediate reach, which is where a primetime TV series could help,” Dr Pirkis says.

Image courtesy of Shareq Rauf Chowdhury, Nur-e-Dipha S. Muttaggi, Chris Hesse and Sheela Sinharoy
Although Indonesia has made progress in improving its health system, it still bears serious health challenges. One of Australia’s key priorities in Indonesia is to strengthen long-term public health policy, planning and budgeting.

Health security and economic growth in the Asia-Pacific

The 2014 Global Health Forum, an annual event hosted by the Nossal Institute for Global Health, explored Australia’s role in addressing health challenges in the Asia-Pacific region in the context of the government’s new foreign aid policy. By Elizabeth Brumby.

The world’s poorest and most vulnerable people bear the greatest burden of disease and ill health, with infectious diseases, complications from pregnancy and maternal mortality and communicable diseases among the major causes of death in low-income countries. Aid from international communities has long been a tool in improving the health of the world’s poor, in tackling global health threats and in stabilising regions.

This year’s Global Health Forum, hosted by the Nossal Institute for Global Health in October, addressed a range of topics related to Australia’s role in providing aid for health programs and policies in the Asia-Pacific region.

Leading international and local speakers – including David Evans, Director of Health Systems Financing at the World Health Organization, Soosman Kwon from Seoul National University and Helen McFarlane from the Department of Foreign Affairs and Trade – tackled some of the major strategic challenges facing Australian aid delivery in the Asia-Pacific. This formed part of a larger debate related to the development of a new health strategy for our foreign aid program.

Peter Annear, health economist and health financing specialist at the Nossal Institute, says a key message that emerged from the Forum is that a major challenge in terms of health security and economic growth in the Asia-Pacific region is poverty.

“The Forum looked at how issues relating to health security and economic growth in our region present challenges for Australian aid. What we mean when we talk about health security, and what some of the current and future health priorities are for Australian aid,” Associate Professor Annear says.

He says health security is increasingly high on the international agenda, and it is a very important part of Australian foreign aid policy. With the onset of poverty, public health recognition as important for foreign policy, and similarly, foreign aid can be viewed as an increasingly important mechanism to protect public health and support regional stability.

“When we talk about health security, I look at it in two ways,” Associate Professor Annear says. “One aspect is the health of populations. Health security is a matter of having healthy populations capable of supporting their families, working well, having high productivity and good economic growth. Healthy populations are secure populations, and that helps everyone in the region.”

The other aspect, of course, is the potential health threats to Australia from communicable diseases in the Asia-Pacific region, including a number of emerging diseases and epidemics. We need to help countries stop these at their origin.”

Associate Professor Annear says that with poverty emerging as the main threat to human health in the Asia-Pacific region a key focus for Australian aid needs to be on health systems and health financing.

“An important challenge for our region is how to deliver affordable healthcare. In many of the countries where we work, the spending on healthcare is often the biggest financial burden on families – and it’s the one thing that is most responsible for sending people into poverty.”

One such example is Indonesia. Although Indonesia has made progress in improving its health system, the country still faces serious health challenges, with high rates of mortality from childbirth, a shortage of trained healthcare providers, high rates of HIV and a lack of access to essential infrastructure like water and sanitation affecting much of the population.

“The problem with poverty, with family debt incurred for healthcare, and catastrophic health expenditures: these are the things in Indonesia and other countries that are holding back economic growth, national development and in particular, a stronger health system and improved health status,” Associate Professor Annear says.

“Indonesia is very well positioned to play an important role in those areas. We play a key role in assisting the Indonesian government, as well as Indonesian institutions and agencies, to develop that social health protection system.”

Follow the leader: insects benefit from good leadership too

Scientists have shown for the first time that when insect larvae follow a leader to forage for food, both leaders and followers benefit, growing much faster than if they are in a group of only leaders or only followers.

The study looked at larvae of the iconic Australian steel-blue sawfly Perga affinis, often known as ‘spitfires’. Sawfly larvae can grow to 7cm long and forage nocturnally in Australian Eucalyptus trees, forming large groups that can strip all of the leaves from a tree in a few days.

The work was conducted by Lisa Hodgkin and Mark Elgar from the University of Melbourne with Matthew Symonds from Deakin University.

Sawflies operate democratically, with leaders and followers co-operating to decide on group movements. This contrasts with other animal societies, such as baboons and wolves, where leaders are despotic, dominating their followers.

Ms Hodgkin, a PhD candidate at the University of Melbourne, says the team was keen to understand why the larvae followers allow others to determine the group’s movements.

“Sawflies live in social groups that can have hundreds of individuals and they stay together for their seven-month larval stage. We wanted to know why this distinction of leaders and followers works and persists for so long,” Ms Hodgkin says.

“In many types of animals, the dominant leaders in a group are larger and stronger because when they forage or hunt, they take more of the food resources. But we found no difference in the weight gain between sawfly leaders and followers.”

Our field experiments revealed no clear individual benefit to being a leader, but all individuals in groups with a mixture of leaders and followers gained more weight than those in groups of only followers or only leaders,” Ms Hodgkin says.

“We see that leaders only benefit from being leaders if they have followers, and that followers benefit only if they have leaders. There is no use being a shepherd without sheep or sheep without a shepherd.”

Study co-author Professor Mark Elgar says while leaders do not differ in growth rates or weight, they may acquire other benefits such as lower predation or enhanced immune function.

The next stage of our research is to find out how certain larvae become the leaders in a group and how they are communicating directions and encouragement to their followers,” Professor Elgar says.

Professor Elgar says.

www.zoology.unimelb.edu.au
DIGITISING OUR BRAINS
TUESDAY 11 NOVEMBER
5PM
Mind Change: How digital technologies are leaving their mark on our brains by Baroness Susan Greenfield (University of Oxford). Florey Institute lecture
Bookings and enquiries: http://alumni.unimelb.edu.au/events/Enquiries: events@eng.unimelb.edu.au, 9035 4931
CARRILLO GANTNER THEATRE, SIDNEY MYER ASIA CENTRE

ENGINEERING BETTER
TUESDAY 11 NOVEMBER
6PM
Engineering a Better World by Lizzie Brown (Engineers Without Borders Australia). Engineering lecture
Bookings: http://alumni.unimelb.edu.au/events/Enquiries: events@eng.unimelb.edu.au, 9035 4931
THEATRE A, ELISABETH MURDOCH BUILDING, PARKVILLE

LANGUAGE IN TIMOR-LESTE
WEDNESDAY 12 NOVEMBER
6PM
Bookings: www.events.unimelb.edu.au/Enquiries: p.paliouras@unimelb.edu.au, 9035 4931
CARRILLO GANTNER THEATRE, SIDNEY MYER ASIA CENTRE

INDIGENOUS KNOWLEDGE
WEDNESDAY 18 NOVEMBER
6PM
Indigenous knowledges and how they help us think about the future by Professor Linda Tuhiwai Smith (University of Waikato). Narration Oration
COPLAND THEATRE, BUSINESS AND ECONOMICS BUILDING, 198 BERKELEY STREET, CARLTON

WEDNESDAY 12 NOVEMBER
6:30PM
Memoria morum: Classical Antiquity and the Power of Memory by Associate Professor Parthia Lee-Stilham (University of Melbourne). Arts, Marion Adams Lecture
MACMILLAN BALL THEATRE, OLD ARTS BUILDING, PARKVILLE

THURSDAY 20 NOVEMBER
6:30PM
When stroke becomes dementia by Dr Amy Brodtmann (University of Melbourne). Florey Institute lecture
Bookings: www.florey.edu.au/news-events/events-seminars/Enquiries: info@florey.edu.au, 9035 7006
AUDITORIUM, MELBOURNE BRAIN CENTRE, KENNETH MYER BUILDING, 30 ROYAL PARADE, PARKVILLE

THURSDAY 27 NOVEMBER
6:30PM
The Net Effect: An Optimist in the News Business by Morry Schwartz (Schwartz Media). University of Melbourne, A.N. Smith Lecture in Journalism
Bookings: www.events.unimelb.edu.au/Enquiries: sunita.kumar@assa.edu.au, 8344 6004 or 02 6249 1788
UNIVERSITY HOUSE AT THE WOODWARD, LEVEL 10, 186 PELHAM STREET, CARLTON

MONDAY 10 NOVEMBER
11:30AM
Distance in crises: Queer readings of excess in post-tsunami Japan by Dr Claire Maire (University of Melbourne). University Library lecture
Bookings: http://elibrary.unimelb.edu.au/Enquiries: jacey@unimelb.edu.au, 8344 0216
LEIGH SCOTT ROOM, BAILLIU LIBRARY

WEDNESDAY 12 NOVEMBER
6:15PM
Bookings and enquiries: www.legalservices.unimelb.edu.au/Enquiries: Jeremy.Philips@unimelb.edu.au, 9344 7538
SEMINAR ROOM, AUSTRALIA INSTITUTE, 147-149 BARRY STREET, CARLTON

WEDNESDAY 12 NOVEMBER
6:15PM
When stroke becomes dementia by Dr Amy Brodtmann (University of Melbourne). Florey Institute lecture
Bookings: www.florey.edu.au/news-events/events-seminars/Enquiries: info@florey.edu.au, 9035 7006
AUDITORIUM, MELBOURNE BRAIN CENTRE, KENNETH MYER BUILDING, 30 ROYAL PARADE, PARKVILLE

THURSDAY 20 NOVEMBER
1PM
Reviewing Prime Minister Modi’s visit to Australia by Professor Amitabh Mattoo (University of Melbourne). Australia India Institute Oration
Bookings: www.aii.unimelb.edu.au/events/Enquiries: modi@unimelb.edu.au, 9035 7538
SEMINAR ROOM, AUSTRALIA INSTITUTE, 147-149 BARRY STREET, CARLTON

THURSDAY 20 NOVEMBER
6:30PM
When stroke becomes dementia by Dr Amy Brodtmann (University of Melbourne). Florey Institute lecture
Bookings: www.florey.edu.au/news-events/events-seminars/Enquiries: info@florey.edu.au, 9035 7006
AUDITORIUM, MELBOURNE BRAIN CENTRE, KENNETH MYER BUILDING, 30 ROYAL PARADE, PARKVILLE

TUESDAY 25 NOVEMBER
6PM
Resilience and fragility in the Asian Century: Refocussing economic narratives through the lens of economic history by Professor Simon Ville (University of Wollongong). University of Melbourne, Kathleen Hancock Lecture
Bookings: www.events.unimelb.edu.au/Enquiries: sunita.kumar@assa.edu.au, 8344 6004 or 02 6249 1788
UNIVERSITY HOUSE AT THE WOODWARD, LEVEL 10, 186 PELHAM STREET, CARLTON

THURSDAY 27 NOVEMBER
6:30PM
The Net Effect: An Optimist in the News Business by Morry Schwartz (Schwartz Media). University of Melbourne, A.N. Smith Lecture in Journalism
Bookings: www.events.unimelb.edu.au/Enquiries: sunita.kumar@assa.edu.au, 8344 4498
CARRILLO GANTNER THEATRE, SIDNEY MYER ASIA CENTRE

October Timetable

Get your Monet’s worth: How works of art are valued, bought and sold internationally

Brains trust: How do business corporations value and manage the knowledge they depend on?

Mind switch: How always-on digital technologies are changing the way we think

The University has used its best endeavours to ensure that material contained in this listing was correct at the time of release. We recommend users of this listing check the information provided with the relevant faculty or department.

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Rising star(s) of rugby align

Sione Tuipulotu has been named the 2014 University of Melbourne Rugby Young Achiever. By David Scott.

Australian junior representative Sione Tuipulotu has been named the winner of the 2014 University of Melbourne Rugby Young Achiever Award.

The star number 12 for St Kevin’s College helped lead the team to a third consecutive Victorian Secondary Schools Rugby Union Division 1 championship, as well as being a member of the Melbourne Rebels U17 squad, the Victorian Schools U18 team and the Australian Schoolboys team that recently toured New Zealand.

Presented at the Melbourne Rebels Weary Dunlop Club luncheon, the award is open to school rugby players across the state who exemplify the attributes Sir Edward “Weary” Dunlop made famous: leadership, academic endeavour and sporting excellence.

Now in its fourth year, the $7000 award will provide Sione with an academic scholarship, a rugby scholarship and in-kind support from the Melbourne University Sport's Elite Athlete Program.

Speaking at the award announcement, Sione Tuipulotu thanked his school coach for his ongoing development. “I’d especially like to thank Mr Bob Windle, my coach at St Kevin’s, for his guidance on the rugby field over these past years, and my parents for their encouragement and support.”

Jason Jones, General Manager of the Melbourne University Rugby Football Club, says the award has been a fantastic initiative not just for the university, but Victorian rugby overall.

“It’s a great opportunity for high calibre students and rugby players to come to the university, and it’s a program that other clubs across the country simply cannot provide. As a rugby club it’s a massive point of difference for us, even compared with Brisbane, Perth and overseas clubs. “While we had a good number of applicants this year, we’re keen to see if we can continue to grow it further,” he says.

Jones indicated that the success of Melbourne Rising, the Rebels-led National Rugby Championship team that includes several University players and others from Victoria's Dewar Shield, has helped give local rugby clubs even more exposure.

“It’s showing local players that there is a legitimate pathway to the Rebels and the rest of the Super Rugby system. As a result, the standard of competition across the Dewar Shield is rapidly improving.”

Sione Tuipulotu joins another St Kevin’s graduate, Nicholas Gillies (2013), as well as Haileybury’s Brendan Westney (2012) and Melbourne High’s Stefan Prelevic (2011) as winners of the award.

The University is the official education partner of the Melbourne Rebels.


Teeth Tales tells a story

Research into the oral health of children from migrant backgrounds has found significant barriers to parents accessing mainstream care and information. By Annie Rahilly.

A project looking at the oral health of children from migrant backgrounds found there are many significant barriers for parents accessing mainstream dental services and oral health information.

Teeth Tales is a community-based child oral health project for Australian families from migrant backgrounds.

The families who benefited from this project had children under four years old, from Iraq, Lebanese or Pakistani backgrounds living in metropolitan Melbourne.

Marjanee Tadic, Manager of the Population Health Unit for lead partner Merri Community Health Services says it’s important to develop alternative options for children from migrant families who may have difficulty accessing information and services.

“We know from previous research conducted in Moreland and Hume from 2006 to 2009, that there are different traditions and beliefs about taking care of teeth,” she says.

Lead researcher, Associate Professor Lisa Gibbs from the Melbourne School of Population and Global Health says the aim of the project was to develop more accessible services promoting child oral health that can be reproduced in other culturally diverse local government areas in Australia.

“International research shows that people from migrant backgrounds are at risk of poor oral health. This raised concerns for the oral health of local children from refugee and migrant backgrounds,” she says.

More than 650 children from these communities received dental screenings, and 151 families also attended a local oral health education course led by a trained leader from their cultural group. The course consisted of six hours of oral health education over two weeks, and a site visit to the local community health dental service the following week.

Ms Tadic said that working in partnership with established cultural organisations is critical to health promotion initiatives for families with migrant and refugee backgrounds.

The discussion of traditional oral health practices needs to be incorporated into oral health promotion initiatives.

“Study designs need to include the spread of cultural networks. “Teeth Tales” findings are now directly informing Dental Health Services Victoria (DHSV) child oral health clinical guidelines,” Associate Professor Gibbs says.

Early results indicate the “Teeth Tales” intervention is promising in terms of increasing tooth brushing frequency and some measures of parental oral health knowledge.

The free “Teeth Tales” Showcase event is being held on Thursday morning 23 October 2014 at the University of Melbourne Law Building Theatre G08 (Ground Floor), 185 Pelham St Carlton. This will provide an opportunity to share information about the study experience, findings and outcomes with interested stakeholders. For further information contact Lisa Gibbs 0439 393 917 or rsvp via email to Dana Young – dana.young@ unimelb.edu.au.

www.mdhs.unimelb.edu.au
CONCERTS
- Guitar Perspectives 2014 - The Thin Blue Line
  Monday 10 November, 7.30pm
  New works for solo guitar performed by Ken Murray including the world premiere of Stuart Greenbaum’s Sonatina for guitar and works by Andrew Battersham.
  Venue: Wyselaski Auditorium, 29 College Crescent, Parkville.
  Admission: $20 full/$15 concession
- Masters Recital Series
  21 November – 11 December
  Featuring performances by Master of Music (Performance) students.
  Venue: Melba Hall, Royal Parade, Parkville
  Admission: Free, check website for program and artist details conservatorium.unimelb.edu.au/events
- Wilin Celebrates
  2 December, 6.30pm
  Join the Wilin Centre for Indigenous Arts and Cultural Development as we honour another amazing year of Indigenous arts and culture with our students, alumni and associated artists.
  Venue: Federation Hall, Grant St, Southbank
  Bookings: 03 9035 9327
  Admission: Restricted 18+, fees apply

DANCE
PERFORMANCES
- Dance Graduation Performance
  13 – 20 November, 8pm
  15 November, 2pm
  Presented by graduating third year dance and undergraduate production students. New and extant work by contemporary choreographers.
  Venue: Space 28, Performing Arts Building, 28 Dodds Street, Southbank
  Admission: $22 Full / $16 Concession

FILM SCREENINGS
- Film and Television Graduate Annual Screenings
  6 – 7 December & 12 – 14 December
  The annual premiere showcase of work by our School of Film and Television graduating students.
  Venue: ACMI Cinemas, Federation Square, Melbourne
  Admission: Restricted 18+, fees apply
  Bookings: ACMI Box Office on 03 8663 2581 or acmi.net.au

PUBLIC LECTURES AND FORUMS
- Book Launch: Creating Music Cultures in Schools
  17 November, 6.30pm
  In Creating Music Cultures in the Schools (Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne) and Dr Daphne Rickson (Victoria University, Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne, Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne, Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne, Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne, Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne, Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne, Barcelona Publishers) Dr Katrina Skewes McFerran (University of Melbourne, Barcelona Publishers)
  Venue: Tullis Wing, Conservatorium Building, Royal Parade, Parkville
  Bookings: conservatorium.unimelb.edu.au/events

SHORT COURSES
- There are a wide range of upcoming short courses at the Victorian College of the Arts and Melbourne Conservatorium of Music. With programs for teens and adults, from novice to experienced, you can fuel the creative fire in your belly. Upcoming programs include Summer Schools and year-long part-time programs in Art, Film and TV, Music and Theatre.
- Summer School
  January 2015
  Open schools in Art, Film and TV, Music and Theatre
- Acting Studio
  January 2015
  Year-long part-time program for aspiring actors aged 18+
- Jazz Ensembles Studio
  Auditions: 14 February 2015
  Saturday program for aspiring jazz musicians aged 15 – 20.
- Music Theatre Studio
  Auditions: 7 – 8 February 2015
  Triple threat weekend program for aspiring music theatre performers aged 15 – 20.
- Visual Art Studio
  Commences 3 February 2015
  Year-long part-time evening course for anyone aged 17 and over interested in contemporary art practice.

EXHIBITIONS
Margaret Lawrence Gallery
40 Dodds Street, Southbank
Opening hours:
Tuesday – Saturday, 12pm – 5pm
Admission: Free
Enquiries: 03 9035 9400 or mlgallery@unimelb.edu.au
- The Solo Projects:
  Fiona McDonald Means as Means
  Hanna Tai Massive Problems
  17 October – 15 November
- School of Art Graduate Exhibition
  25 – 30 November
  Opening: Monday 24 November, 6pm – 8pm
  Graduating students from Drawing, Painting, Photography, Printmaking, Sculpture and Spatial Practice, as well as those completing Honours present some of the highlights from their year of study.
- School of Art Masters Exhibition
  8 – 14 December
  Opening Monday 8 December, 6pm – 8pm
  Presented by graduating students from the Master of Contemporary Art and Master of Fine Arts, this exhibition is aimed at showcasing individual works that reflect the degree of student work that goes on behind the scenes in creative and backstage roles when VCA production graduates showcase their work in set, workshop, sound, lighting, stage management and costume design.
  Venue: Space 28, Performing Arts Building, 28 Dodds St, Southbank
- Ian Potter Museum of Art
  Swanston Street, Parkville
  Gallery hours: Tuesday to Friday
  10am-5pm, Saturday and Sunday 12-5pm
  Closed Monday.
  Free admission.
  Enquiries: 03 8344 0327
  W: artmuseum.unimelb.edu.au
- Everyday imagining: new perspectives on Outsider art
  To 18 January
  The work of Outsider artists is often interpreted as expressing a unique inner vision unsullied by social or cultural influences. This view by presenting Australian and New Zealand artists whose works reveal their active engagement with the external world.
  An international conference Contemporary Outsider art: the global art context presented by Arts Project Australia and the University of Melbourne is also on 23-26 October.
- Between artefact and text from 25 October
  Mesopotamia, Egypt, Greece and Rome are all great civilisations of the ancient world: each one imbued with particular linguistic, social, religious and political systems. On one level these different societies are characterised by distinctive cultural developments and unique literary traditions. On another level connections and influences are clearly discernible.
  Between artefact and text features selected objects from the University of Melbourne’s Classics and Archaeology collections situated against the backdrop of four great literary works from the ancient world: the Mesopotamian Epic of Gilgamesh, the Egyptian Tale of Sinuhe, Homer’s Iliad from Ancient Greece and the Roman Vergil’s Aeneid. The objects inhabit a realm created and reinforced by the unfolding narratives represented in the literature. It is a space filled with spreading artistic styles and evolving cultural influences.

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