Commercial-scale composting

Melbourne researcher Tony Weatherley and the owners of Cecconi’s Restaurant in Flinders Lane are experimenting with returning unused produce back to the ground which grew it, in an effort to close the food waste gap.

Australia’s No.1 university’ welcomes our new students

Congratulations to the class of 2015

unimelb.edu.au
University welcomes 2015 student cohort

Among school-leavers, interest in University of Melbourne courses remained strong this year, with a welcome enthusiasm for studying science.

T he University of Melbourne has offered more than 7500 students a place in an undergraduate course for 2015. According to VTAC, data released recently, Melbourne is the only Victorian university to make more offers this year than the previous, with 7544 first-round offers sent out to students. The Bachelor of Science remains the largest and most popular undergraduate course in the state, with 2518 students offered a place at Melbourne in 2015. The University’s Bachelor of Arts (1869 total offers) and Bachelor of Commerce (1150) also saw growth in offer numbers. Provost, Professor Margaret Sheil, says the University welcomed the results. “We’re proud that we received such large numbers of quality applications for all of our courses, and as a result, more of these students were offered a place at the University in 2015.”

“We’re particularly pleased with the in-crease in offers for Science – the University is absolutely committed to furthering research and study in the discipline, and to have so many new students involved in the course is a fantastic development,” she says.

University of Melbourne offers to students outside Victoria are also on the rise across the board, the highest jump being in Queensland (up 27%). Almost 900 students (892, up 274) with prior tertiary results also received an offer to continue their study at the University.

— By David Scott

MUP Publications

This month’s featured book from Melbourne University Publishing is Private Bill by Barrie Cassidy.

About Private Bill: In Love and War

Barrie Cassidy’s dad Bill survived more than four years as a prisoner of war in World War II. He first saw conflict on Crete in May 1941, during the only large-scale parachute invasion (by German paratroopers) in wartime history. Just four days later, Bill was wounded and eventually captured.

Twice he tried to escape his internment – with horrific consequences. He suffered greatly but found courageous support from his fellow prisoners.

His new wife Myra and his large family thought he was dead until news of his capture finally reached them.

Back home, Myra too was a prisoner of sorts, with her own secrets. Then, 50 years after the war, unhealed wounds unexpectedly opened for Bill and Myra, testing them once again.

Private Bill is a classic heart-warming story – as told by their son – of how a loving couple prevailed over the adversities of war to live an extraordinarily ordinary, happy life.

About the author

Barrie Cassidy started out in journalism as a cadet reporter with the Border Mail in Albury. In the 47 years since, he has been a court reporter and police roundman, a political correspondent, program host, newsreader, radio broadcaster and foreign correspondent. He has worked for the Shepparton News, the Melbourne Herald, the ABC, The Australian and Network Ten, as well as in Washington and Brussels.

For the past 13 years he has been host of the ABC’s highly respected program host, newsreader, radio broadcaster and foreign correspondent. He has worked for the Shepparton News, the Melbourne Herald, the ABC, The Australian and Network Ten, as well as in Washington and Brussels. For the past 13 years he has been host of the ABC’s highly respected political discussion program Insiders, and until recently, host of the sports equivalent, Offsiders. In the late 1980s and early 1990s, he was senior press secretary to Prime Minister Bob Hawke and then ultimately his political adviser.

Private Bill is his third book. The Forty Thieves, a bestseller that traced the rapid demise of Kevin Rudd, was published after the 2010 election. An Ocean of Cricket (2013) was written with his son Adam, and captured in words and stunning photographs the emergence of cricket in the South Pacific.


WIN!

To win a copy of Private Bill: In Love and War email your answer to the following question by Monday 16 February to: voice-competition@lists.unimelb.edu.au

Q: Unternehm Merkur’ (Operation Mercury) is the name of which significant World War II event, and when did it occur?

Congratulations to Garry Mann of Richmond, who was the first Voice reader to correctly identify that Gough Whitlam once described Bill Bourke as ‘this grizziling Quisling’
Writing history in pictures

With the question of treatment of child refugees continuing to prick our national conscience, a new historical study explores how visual imagery of this vexed and divisive issue has changed over time and continues to impact government policy. By Gabrielle Murphy.

Mary Tomsic traces her specialist interest in imagery as an avenue of historical discovery to the early eighties, when, as a child of five, her adored grandmother took her to the city to see the film version of *The Man from Snowy River*.

“It was the first film I remember being taken to,” says Dr Tomsic, “and I was totally captivated.”

After also having Banjo Patterson’s poems read to her by her mother, Dr Tomsic recalls that although her appreciation of history was undoubtedly limited at that time, she understood this was an important story about Australia.

“I’ve thought about this film-going memory over the years and I think it demonstrates how cultural meanings can be made outside of actual texts,” Dr Tomsic says. “I came to that film with a learned knowledge about its significance and with a meaning particular to a child of that age.”

Now, as a post-graduate researcher in the University of Melbourne’s School of Historical and Philosophical Studies, Dr Tomsic is working on a five-year, $2.4 million Australian Laureate Fellowship project investigating child refugees and Australian internationalism from 1920 to the present day. Her mentor and colleague Professor Joy Damousi heads the project, within which Dr Tomsic is focusing her academic interest in film and film culture on an examination of how child refugees and displaced children have been portrayed in photographs, film, newsreel and film culture on an examination of the impact and experience of child refugees in Australia throughout the 20th and early 21st century, explore how this history is tied to Australia’s international role on refugee and migration issues and, according to Professor Damousi, inform us about current and future approaches to humanitarian immigration. “We’re aiming to understand the impact of child refugees in Australia in cultural, social and economic terms and provide an historical and contemporary framework for current discussions on this aspect of migration and humanitarian policy,” Professor Damousi says.

As such, two investigations still in an embryonic phase in this early period of the extensive research project are being conducted by Dr Tomsic. They concentrate on an examination of photographs and the visual sources that child refugees have created themselves. “I am starting by looking at how arrivals are announced, celebrated and circulated with visual representations,” says Dr Tomsic, “and tracing how this changes over time.

“From there, we’re hoping to gauge the influence of the visual medium in mobilising support or opposition to child refugees, and as a corollary to this, trace the history of child refugees who are not photographed and not included in official visual records, and examine what these absences may mean.”

In terms of child refugees’ own visualisations, Dr Tomsic will scour international collections for drawings such as those by displaced children during the Spanish Civil war and, more recently and locally, drawings by children in detention submitted to the Australian Human Rights Commission’s National Inquiry into Children in Immigration Detention.

“By looking at collections of drawings, how they have been collected and used over time, we will be able to consider children’s own voices and forms of expression, as well as see how these voices are understood and valued – or not – by others,” Dr Tomsic says.

According to Dr Tomsic, changing technologies for sharing images also impact on how historical images are seen and used. “With social media and other online environments, visual materials are readily displayed and circulated,” she says. “This presents opportunities for scholars to engage with the increased presence of visual sources in daily life, along with responsibilities for sharing knowledge about images, also reflecting on ethical issues involved with their display.”

www.shaps.unimelb.edu.au

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A new weekday farmers’ market is coming to University Square

The University Square Farmers’ Market will be held every Wednesday for three months, starting 4 March 2015. The market will kick off with THINK, EAT, TALK, GROW – a day of fun and food activities for the general public, hosted by the University of Melbourne in partnership with the Carlton Connect Initiative, City of Melbourne and Melbourne Farmers’ Market. From 11am-3pm visitors to the market can mingle with the experts and learn about food, sustainability and seasonality – from planting your own veggie patch, to the history and science of gastronomy. There will also be an array of captivating speakers providing lively “veggie box” talks. Or simply grab lunch from the many quality producers and soak up the market atmosphere from the shaded lawn areas and enjoy some great roving entertainment.

In the evening the conversation continues over the road at LAB-14, home to the Carlton Connect Initiative. A true foodie event, host and epicurean Richard Cornish will lead a lively Q&A panel, where industry and academic experts will hash out issues affecting food today. Guests will also enjoy a cocktail menu prepared by chef Matt Wilkinson (co-owner of Pope Joan).

Tickets to the evening Q&A panel and cocktail event are $40. To purchase: http://www.melbournefoodandwine.com.au/event-calendar/think-eat-talk-grow-5557

All daytime open-air events are free.

The weekly University Square Farmers’ Market will be held every Wednesday from 11am-3pm for three months, starting 4 March 2015. — Cristen Tsen
Southbank springs to life for SummerSalt arts festival

Catriona May reports on a new arts festival at Southbank that brings interdisciplinary collaboration into the spotlight and public view.

As Melbourne basked in mid-summer, a new addition to its cultural calendar is turning the arts precinct at Southbank Inside out. Cultural institutions are throwing open their doors for SummerSalt, an outdoor festival led by the Melbourne Recital Centre.

Opening its doors 23 January SummerSalt runs until 21 February, and offers a lively program of music, dance, circus and theatre and celebrates all the Melbourne Arts Precinct, which is home to such institutions as the Victorian College of the Arts (VCA), Melbourne Theatre Company, Melbourne Recital Centre and the National Gallery of Victoria, has to offer.

And, as Education Partner, the University of Melbourne is in the midst of action. "SummerSalt is literally happening around the VCA," says University Vice-Principal (Engagement) Adrian Collette. "Being a part of the Melbourne Arts Precinct, and part of the city more broadly, SummerSalt is a great way for the University to connect more widely to the community."

One of the University's standout contributions is a large installation called Encounters, which explores the world of human-computer interaction, orHCI. This ambitious project, which opens 3 February and runs until 21 February, unites artists with computing experts to produce an engaging new audience experience.

Produced by the Microsoft Research Centre for Social User Interfaces (SocialNUI) in the Faculty of Engineering in partnership with the VCA, Encounters is set across three platforms presided over by a large screen. The space is filled with light and sound that respond to audience movement, creating a dialogue between the human and the machine.

"Encounters is the first opportunity we have had to work with the Microsoft SocialNUI Centre," she says. "Bringing two apparently different disciplines together is incredibly exciting, and I'm looking forward to more collaborations in the future."

During SummerSalt, the University is running VCA Art Attack, which will see a mural created by VCA student Lance Simpson live in the heart of the festival on the corner of Southbank Boulevard and St Kilda Road. The Gong Garden, another feature installation, will create an interactive musical garden populated with hundreds of plants from the Burnley campus, along the perimeter of the VCA.

Each event offers opportunities not only for the public, but also for staff and students. "Our involvement in SummerSalt celebrates our place at the centre of the Melbourne Arts Precinct, and everything we do ultimately comes back to our teaching, research and engagement," Mr Collette says.

"We're thrilled to see so many students taking part in the festival by volunteering and using the experience as part of their studies through work-integrated learning opportunities with key cultural partners."
Agricultural researchers are exploring technologies to support large-scale food waste as a soil conditioner, in the hope of being able to improve soil management as an integral part of the food chain. By Andi Horvath and Daryl Holland.

Right now some of the food in your fridge is edging towards the classification of ‘I think this is still okay’. Some has already passed the point of ‘beyond human consumption’, because sometimes our best-intentioned culinary missions miss that window of opportunity. The diligent among us re-purpose foods such as over-ripe bananas to make banana bread or enhance compost. But food waste is not just householders’ forgotten food and restaurant slops; it includes the food that doesn’t make it to any kitchen or dinner table.

There is food wastage at every stage of our modern food production system: from harvesting at the farm to storage and displays at supermarkets. Consumer perceptions play an important role. That odd-shaped and slightly blemished, yet fresh and edible, apple you deem unworthy of purchase contributes to the 20 million tonnes of Australian landfill annually.

And food waste in landfill is an enormous source of greenhouse gases like methane and CO₂. To combat these problems, could we turn an entire city’s food waste into a soil resource?

The value of food waste for land application is still largely uninvestigated. It’s a timely research question for the ‘International Year of Soils’ and Dr Tony Weatherley, a soil scientist within the Faculty of Veterinary and Agricultural Sciences at the University of Melbourne has recently received an award from the Lord Mayor’s Charitable Foundation to start finding out.

Currently it is a scientific question but it will eventually become one of infrastructure and logistics. Dr Weatherley describes how he landed this exciting research project, entitled ‘An evaluation of the potential of food waste as a soil conditioner’.

“It’s a rather interesting story as to how I got involved in this area, as a couple of events coincided,” he says.

“Firstly there was a local council initiative to participate in a composting trial. I chose the compost bin option rather than the worm farm approach thinking it would be more of a ‘set and forget’ project.

“But composting doesn’t work like that – I didn’t have enough food waste and it didn’t reach the right temperature, and because of this, I became fascinated.

“At the same time a city restaurant, Cecconi’s, approached a colleague and myself, because they wanted to ‘close the loop’ when it came to food production. That is, use great fresh product, return the food waste to the soil and then grow more great vegies. They had purchased a composting unit that transforms all the food waste from the restaurant into a potential ‘soil conditioner’ (at least that’s what we’d call it) and they wanted to know how to optimise its effectiveness,” Dr Weatherley says.

“It turned out the City of Melbourne, University of Melbourne student union and a number of other city restaurants were attempting to recycle food waste using similar technologies. So this research will determine the types of soils that will benefit from food waste application and most importantly how often the waste might be applied to soil. This may help to address future scarcity of this element.”

So what would Dr Weatherley like us to ponder during the International Year of Soils?

“Soil is a dynamic living thing,” he says. “Soils have a tipping point just as our own health does, and beyond a certain point soil can’t be repaired or replenished – it’s not an unlimited resource. Understanding soil science is more important than ever: our future environmental and economic wellbeing depends on it. We can’t keep treating soil like dirt, pun intended.”

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A new Chair in Australian literature will celebrate the best in our nation’s creative writing and provide a leading voice to advance its cause.

In a first for Victoria, the Boisbouvier Foundation’s new Chair in Australian Literature has been established at the University of Melbourne to advance the teaching, understanding and public appreciation of Australian writing.

The Chair arises directly from a $5 million donation to Melbourne Law School from John Wylie and Myriam Boisbouvier-Wylie, and strengthens the longstanding partnership between the University and the State Library of Victoria.

Mr Wylie, who is President of the Library Board of Victoria, says the donation will increase opportunities for both institutions to work together to develop wider interest in Australian literature.

“We want to have somebody in the Chair who can speak to the community generally,” he says.

“It is somebody who will inspire people’s interest in Australian literature – a person who will have quite a broad public profile in addition to the usual academic role at the University.”

Located in the Faculty of Arts’ School of Culture and Communication, the Chair’s role will be to mentor and develop aspiring writers and encourage public programs that improve community appreciation of Australian literature.

It will develop specialised teaching for students whose focus is Australian writing, provide mentorship for writers and scholars in the field, and seek to enhance Melbourne’s place as a UNESCO City of Literature.

Professor Rachel Fensham, Head of the School of Culture and Communication, says the Chair will enable a greater appreciation of Australia’s diverse literary heritage, with a strong focus on modern and contemporary literature.

“Australia has a long and proud literary tradition, ranging from the colonial period, to the period of nation-building that occurred from 1900 until the 1970s, right up to the great range of voices and global experiences that exist today,” she says.

“The diversity of these modern voices should be celebrated, whether it is the experience of immigrant lives – such as in Nam Le’s The Boat – or the runaway success of popular writers like Monica McInerney or Liane Moriarty.”

Professor Fensham believes the Chair will resonate with the wider public.

“There will be a comprehensive list of public events and lectures associated with the Chair,” she says.

“It will not just be a purely academic appointment – rather it will be an opportunity to have a wider conversation on Australian literature with a very knowledgeable reading public.”

Professor Glyn Davis, Vice-Chancellor of the University of Melbourne, views the establishment of the Chair as a great coup for the city of Melbourne.

“This is a wonderful first for Melbourne, the state and for advancing Australian literature which is an essential part of how we define ourselves and our place in the world,” he says.

“A fully-endowed Chair is a game-changer in any academic field, and this new position will not only transform teaching and research in Australian literature, but also the practice of writing and contribute to an even more robust literary industry.”

“Additionally, this gift will strengthen the University and State Library’s 150-year relationship.”

State Librarian and CEO Sue Roberts is adamant the Boisbouvier Chair will bring Australian writers to a broader audience.

“We are delighted to see Victoria’s first Chair of Australian literature established,” she says.

“This role will not only work with the State Library to develop the great writers of the future, but will encourage all Victorians to read and support our homegrown talent.

“Such investment ensures an exciting future for Australian literature.”

— By Chris Weaver

A new chapter for Australian literature

Celebration of Melbourne Law School’s distinguished alumni community has kicked off the 2015 academic year. By Liz Banks-Anderson.

The enduring global impact of the Melbourne Law School’s (MLS) alumni was the focus of celebrations to kick off the academic year for Melbourne’s legal scholars.

“One of the great things about bringing together a large group of alumni is seeing how diverse a legal career can be,” says MLS Dean Professor Carolyn Evans.

“Naturally, among our alumni we have a wonderful representation of judges and lawyers, but we are also able to count people like Dr Francis Gurry, the most senior Australian at the United Nations, among our community. Dr Gurry gave the keynote speech at our recent Gala event, and we were joined by alumni who have been successful in business, the not-for-profit sector, members of parliament, diplomats, public servants, novelists and entrepreneurs.”

The MLS community was also able to learn about the impact philanthropy can have on current students at a crucial time in their law degrees, and several current scholarship students joined the festivities.

“For many students, financial assistance is the difference of being able to move from the country to the city or have enough time to seriously commit to their studies unencumbered by work responsibilities,” Professor Evans says.

“For some donors and students, it can be an ongoing relationship and not just a one-off gift.”

Third year Indigenous student Jacqueline Katona says the impact of financial support as a mature age student cannot be underestimated.

“It kept me in law school,” she says, because the financial barriers were so great for me.”

Ms Katona says she decided to study law to become a more effective advocate for Indigenous people.

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Third year Indigenous student Jacqueline Katona says the impact of financial support as a mature age student cannot be underestimated.

It kept me in law school,” she says, because the financial barriers were so great for me.”

Ms Katona says she decided to study law to become a more effective advocate for Indigenous people.

One year later, he returned to study and commenced the JD at Melbourne Law School where he received financial assistance.

“It’s prestigious and it’s fantastic and I’m really appreciative of being able to study Law at Melbourne. But for me, when I heard I’d been awarded the scholarship, the greatest sense was relief because I was really financially stressed after the illness,” he says.

Second-year law student Kalia Laycock-Walsh had financial assistance can equate to an invaluable gift of time at law school.

“I really want to give it the time it deserves by working really hard,” she says.

Receiving financial assistance made the transition to post-graduate studies easier for Ms Laycock-Walsh and allowed her to make the most of extracurricular opportunities that expanded her outlook on the opportunities a legal career presented.

Ms Laycock-Walsh moved from the Victorian regional town of Castlemaine to pursue her degree in international studies before undertaking the Juris Doctor at Melbourne to develop further her critical analysis skills and broaden career options.

Hearing that she had been awarded the Melbourne JD Harold Ford Scholarship, which supports academically outstanding students in financial need, was a “fantastic vote of confidence,” she says.

“Coming from a public school in a little country town, I thought Melbourne Law School seemed elite, with its Latin motto and everything.”

But she says what motivated her was the knowledge that the more effort you put in, the more you get out of the experience and key to that is having spare time.

“So the scholarship was also about there being a place for me at Melbourne Law School. I was someone they wanted there, which was very encouraging. I was very proud to receive it,” she says.

www.campaign.unimelb.edu.au

www.alumni.unimelb.edu.au

www.laws.unimelb.edu.au
Bipolar disorder is a complex group of psychiatric illnesses that burdens the lives of millions around the world. In a recent episode of the University’s research podcast, UpClose, leading bipolar disorder researcher Professor Allan Young from King’s College London, discussed some of the key issues surrounding the disorder, including its genetics, links to physical ill-health and available treatments. Following is an edited extract.

UP CLOSE: Where are we right now in understanding the causative mechanisms of bipolar disorder? Are there genetic and environmental factors that determine if an individual is susceptible?

ALLAN YOUNG: We have seen a big advance in the genetics of psychiatric disorder over the past 15 years. We now know that the common severe psychiatric disorders like bipolar disorder and schizophrenia are not caused by one single gene but rather they are due to a number of genes of small effect.

The genetic element appears to be pretty strong in bipolar disorder but it is not inevitable that if you have got bipolar disorder your kids will too. In actual fact your kids are more likely to have depression than to have straightforward bipolar disorder. In terms of the other factors that cause bipolar disorder, one of the big things is stress.

UP CLOSE: Is it just the brain that is affected in bipolar disorder? Are there any other areas of the body that are affected?

ALLAN YOUNG: We know that people with severe mental illness (and that is schizophrenia, bipolar disorder and severe depression) die younger than the average age in the population. There is, of course, an early mortality due to suicide but the bulk of the deaths are from the common killers, things like cancer and cardiovascular disease and so on. This is undoubtedly partly due to lifestyle factors and a big one is smoking which is excessively represented in these groups, but there also may be some link at a more fundamental level.

Certainly one of the things we have been very poor at is looking after the physical health of people with mental health issues. That really is a crying shame and most healthcare systems have been quite neglectful of these people because physical ill health issues and mental ill health issues tend to go together.

UP CLOSE: If individuals with bipolar disorder stop taking the medication are they just as susceptible to having a manic or depressive episode?

ALLAN YOUNG: If you stop taking your medication you have a rebound effect where you are actually more likely to get an episode of illness. One of the key determinants of a good outcome in bipolar disorder is adherence to medication and that is something (that) can be difficult to accept.

UP CLOSE: Tell us a bit more about the course of the cognitive deficits [seen in bipolar patients]?

ALLAN YOUNG: At the first episode people with bipolar disorder do not appear to perform much worse than the general population. Indeed in some things they are brighter than average. However, what seems to happen in bipolar disorder is that each episode appears to produce decrements in your cognitive functioning. If you can reduce the number of episodes of illness you can actually reduce the occurrence of the cognitive deficits.

UP CLOSE: How close do you think we are in terms of finding a treatment that will lead to typical or normal functioning individuals with bipolar disorder?

ALLAN YOUNG: I actually think we have treatments that can do that at the moment. What we are not very good at is applying these treatments.

I think there is a great argument for first of all improving diagnosis. People with bipolar disorder have a desire for accurate diagnosis because typically they can go for 10 years and they have been told that they have got depression or substance abuse or an anxiety disorder or whatever and in actual fact it is bipolar disorder. If there is early diagnosis and then there is early appropriate treatment with combined medication and psychological treatments, I think you can make outcomes an awful lot better.

Professor Young is Chair of Mood Disorders and Director of the Centre for Affective Disorders in the Department of Psychological Medicine in the Institute of Psychiatry, King’s College London. To listen to the podcast in full, visit upclose.unimelb.edu.au

Are you a twin or a parent of twins? Join us for an unforgettable experience……

Being a twin, or raising twins and higher number multiples, has its unique challenges. The University of Melbourne’s Australian Twin Registry and the Australian Multiple Birth Association host this national festival that celebrates twin lives and raises awareness of support services, health research and expert advice available to the multiple birth community.

Open to: Identical and fraternal twins of all ages, their families and friends.

Program: Immerse yourself in being a twin for the day with fun rides, live shows, fun twin competitions and prizes while connecting with diverse services to enhance your life as a twin or family with twins.

Venue: Caulfield Racecourse (check website for full program – all rides and entertainment included in ticket price).

Admission: $12 child (free for child under 2 years), $20 concession, $30 adult, $80 family.

Conserving the 100-year-old remnants of Gallipoli’s battlefields

Holly Jones-Amin and Carmela Lonetti, objects conservators from the University of Melbourne’s Centre for Cultural Materials Conservation, travelled to Çanakkale, Turkey in 2014 to preserve objects uncovered in an historic tri-national interdisciplinary archaeological survey of the ANZAC battlefield. They share some of their experiences.

Despite the historical importance of the Gallipoli battlefield in both Australian and Turkish culture, the area had until recently previously remained unstudied in great detail using modern archaeological survey methods.

During a recently completed historic tri-national interdisciplinary archaeological survey of the ANZAC battlefield, which spanned nine years from 2005 to 2014, over a thousand fragmented and complete objects were uncovered on the Gallipoli battlefield surface, often found wrapped within thorny bushes, buried under clumps of pine needles or embedded in eroding trench walls.

We were commissioned to stabilise and prepare the objects (which remain patrimony of the Turkish government) for exhibition and long-term storage.

Some of the objects uncovered on the Gallipoli battlefield were the ANZAC battlefield bayonet, which was found to have accumulated rust and corrosion, making it difficult to handle. The bayonet was also found to be made of iron, which is known to corrode over time, affecting the object's stability and preservation.

To address these issues, the conservators used a combination of stabilization techniques, including the application of consolidants and the use of desiccants, to prevent further deterioration of the objects.

The conservators also worked closely with the archaeological team to ensure that the objects were not disturbed during the excavation process. They used non-invasive techniques, such as x-ray imaging and thermographic scans, to assess the condition of the objects and determine the most appropriate conservation strategies.

The removal of corrosion from the bayonet required careful attention to detail, as the iron could be easily damaged during the cleaning process. The conservators used a combination of mechanical and chemical treatments to remove the corrosion, ensuring that the object's integrity was maintained.

The conservators also worked with local museums and cultural heritage organisations to ensure that the objects were suitably documented and recorded for future research and educational purposes.

The conservators were able to report back to the archaeological team on the condition of the objects, providing valuable insights into the environmental factors that had affected their preservation.

This project has highlighted the importance of interdisciplinary collaboration between archaeologists, conservators, and other specialists in preserving and interpreting archaeological sites.

Organic chemist Spencer Williams explains how collaboration has been the backbone of a career in science. By Andi Horvath.

Department of Chemistry

A n organic chemist, a biochemist and some other scientists walk into a bar with a problem and soon cook up a solution. “As synthetic chemists my students and postdoctoral researchers have unique capabilities as we can design molecules that have the ability to shape matter atom-by-atom into useful new molecular structures with which we can experiment,” Associate Professor Williams says.

Associate Professor Williams’ latest hot-off-the-press research is in the area of the chemistry of gut bacteria that feast on the yeast from commonly consumed fermented foods like bread and beer. It has application to people suffering bowel diseases and autoimmune diseases.

“This bacteria in turn uses the energy released from the yeast cell wall components, called mannans, to produce important molecules that nourish the cells that line our gut wall, and provide immune signals that establish a healthy immune response,” Associate Professor Williams says.

“The research has potential in developing sophisticated probiotics that target the growth of specific beneficial bacteria that may assist in fighting off yeast infections, reactions to fermented foods, and in autoimmune diseases such as Crohn’s disease.”

“This was a remarkably productive collaboration with scientists from the UK, USA, Canada and Belgium. The UK is paving the way and already uses this bacteria in the treatment of paediatric Crohn’s disease,” he says.

www.bio21.unimelb.edu.au
Activate, animate, complicate, grow: what new acquisitions can do to and for the collection

The Ian Potter Museum of Art houses and manages The University of Melbourne Art Collection. Comprising over 16,000 objects, this collection documents Australian artistic practice since the early 19th century and includes holdings of European art, Australian and International Indigenous art and classics and archaeology objects. The collection continues to grow through acquisitions and donations ensuring the ongoing documentation of artistic practice.

A new exhibition for 2015 presents a number of acquisitions from the past two years in dialogue with existing works from the collection, presented as individual ‘case studies’ that demonstrate what additions to the Collection can do.

As a university art museum, the Potter is committed to extensive participation in the University’s interdisciplinary degree structure. The ongoing development of the University Art Collection ensures the visual arts play a central role in object-based teaching and learning, across disciplines.

The exhibition reveals the commitment of the Potter and the University of Melbourne to maintaining a significant public collection while also demonstrating the continued links between a diverse range of artistic mediums and voices. It also reveals the capacity of the visual arts to enhance student learning, a central role of a university art museum.

Activate, animate, complicate, grow: what new acquisitions can do to and for the collection is on show at the Potter until Sunday 5 April and was curated by Dr Vincent Alessi, Joanna Bosse and Suzette Wearne. See page 16 for Museum details.

—— Margee Glover

Every year final year undergraduate students from the Bachelor of Fine Arts (Visual Art) and those studying Honours from the Victorian College of the Art’s School of Art present some of the highlights from their final year of study.

The resulting Graduate Exhibition late last year was a feast of drawing, printmaking, photography, sculpture, painting, screen-based and digital media, reflecting the gamut of artistic expression.

The annual show represents an opportunity for friends, family and art-lovers to enter this cultural laboratory, providing access to the intense artistic explorations and the creative energy that emits from the School of Art.

The following are just a few examples of the great work on show.

Bachelor of Fine Arts (Visual Art) student Jake Preval with his work Untitled (Self Portrait with Socks)

Bachelor of Fine Arts (Visual Art) student Loralee Newitt’s work Fervour (foreground)

Bachelor of Fine Arts (Visual Art) student Majed Fayad with his work WEST, Arabian Nights

Bachelor of Fine Arts (Visual Art) student Kirsty Budge with her works; Now that’s what I call home VOL 27, Boob, and Tony Clark, let’s be friends

Tony Garifalakis, Australia, b. 1964; Untitled from the Mob Rule (Family Series); 2014; Enamel on C type print, 60 x 40 cm unframed unique edition of 2 (detail); University of Melbourne Art Collection. Purchased 2014.
Food, fertilizers and our nitrogen footprints

Daryl Holland speaks to researchers about how the food we eat leaves a nitrogen footprint behind back on the farm.

N	No doubt you have heard of a carbon footprint. But what do you know about your nitrogen footprint?

Deli Chen says the ultimate aim of the research is “to correct this imbalance, we are continuing to document bryophytes in tropical Australia in preparation for the publication of a field guide and online key.”

Phytes – mosses, liverworts and hornworts – not found before in Australia.

Monique Edwards

The genus Entodontopsis is new to Australia, as is another of the team’s moss discoveries, Clastobryophilum, which was found in a remote water catchment in the mountains near Tully, approximately 156 km south of Cairns.

Clastobryophilum

For instance, they are difficult to identify because the literature on them is mostly scattered in dozens of botanical journals, and for this reason alone they are not included in large-scale biodiversity studies.

In the rainforests of the Wet Tropics, it is now estimated that almost 50 per cent of native bryophyte species are also native to other countries, from Papua New Guinea north to China, west to the Indian subcontinent, and east to the islands of Polynesia.

New discoveries by researchers at the University of Melbourne and James Cook University have helped uncover the ‘forgotten flora’ of Queensland’s Wet Tropics World Heritage Area.

Botanist David Meagher from the University of Melbourne and Andi Cairns of James Cook University have discovered a surprising number of Asian bryophytes – mosses, liverworts and hornworts – not found before in Australia.

One example is the moss Entodontopsis pygmaea, which had been previously observed in Vietnam, Thailand, China, India and Nepal, but which had never before been recorded in Australia, nor on any of the islands to the north and west of the continent.

A rainforest tree on the Atherton Tableland covered in the Asian-Australian moss Bescharella elegantissima.

As it stands, the reality is very different, at least in the world of bryophytes.

Australian flora is often described as unique, the result of a long history of isolation and a northward-drifting and drying continent,” Mr Meagher says.

“The reality is that half of the nitrogen applied to the soil is lost to the environment,” he says.

Some of this ‘lost’ nitrogen leaches into rivers, lakes and the ocean and can cause harmful algal blooms, oceanic ‘dead zones’ and other environmental problems, while some is released into the atmosphere as various gases, including nitrous oxide (N2O), which is a major greenhouse gas.

Nitrates are the substrate for a process called denitrification, which releases nitrogen gases, including N2O, into the atmosphere. Nitrate is also much more likely than ammonia to be leached out of soil and lost in the groundwater.

To precisely measure nitrogen losses from soils, Professor Chen’s group is using state-of-the-art equipment such as Quantum Cascade Lasers, which can measure concentrations of N2O in the air down to 40 parts per trillion, and repeat this measurement ten times per second.

“We are the best equipped group in the world, for studying all of these gases,” Professor Chen says.

Dr Suter says the research is challenging and the results don’t always go as planned.

“In some cases we can find differences in soil mineral nitrogen with some of these products, and in other cases we don’t seem to pick up those differences. So that depends on the situation - the climate, how much rainfall we've had, how wet the soil is, and what kind of soil it is,” she says.

Asia in Australia: the forgotten flora of the Australian Wet Tropics

Melbourne and James Cook researchers have identified types of moss never before found on the Australian continent. By Monique Edwards.

RESEARCH

New discoveries by researchers at the University of Melbourne and James Cook University have helped uncover the ‘forgotten flora’ of Queensland’s Wet Tropics World Heritage Area.

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“The reality is very different, at least in the world of bryophytes.”

The genus Entodontopsis is new to Australia, as is another of the team’s moss discoveries, Clastobryophilum, which was found in a remote water catchment in the mountains near Tully, approximately 156 km south of Cairns.

In the rainforests of the Wet Tropics, it is now estimated that almost 50 per cent of native bryophyte species are also native to other countries, from Papua New Guinea north to China, west to the Indian subcontinent, and east to the islands of Polynesia.

Mr Meagher says exactly how the Asian species reached Australia, or vice versa, is still a matter of conjecture.

“Birds are potential long-range dispersers of bryophytes. Many species use the soft plants for nesting material and can ingest them or get them caught in feathers or on muddy feet,” he says.

“Birds might be the main distributors of bryophytes in the tropics because they can strip vegetation and carry fragments vast distances.”

Research at James Cook University has also shown that bryophytes can pass unharmed through the gut of flying-foxes, which can migrate very long distances in the tropics.

Both researchers describe the bryophyte flora of tropical Australia as ‘forgotten flora’.

“Many species have never been properly described or illustrated, and some we found had not been seen for more than a century,” Mr Meagher says.

“They are difficult to identify because the literature on them is mostly scattered in dozens of botanical journals, and for this reason alone they are not included in large-scale biodiversity studies.

“To correct this imbalance, we are continuing to document bryophytes in tropical Australia in preparation for the publication of a field guide and online key.”

Descriptions of Entodontopsis and Clastobryophilum were published in Volume 17 of the open-access journal Telopea. Sixteen other species not found previously in the Wet Tropics, as well as nine species new to science, have been published in the journal Nova Hedwigia, and several other papers are in preparation.

www.botany.unimelb.edu.au
Gliding lizards mimic falling leaves to avoid predators

By mimicking the red and green colours of falling leaves, Bornean lizards avoid falling prey to birds while gliding, new research has found. By Nerissa Hannink.

The rainforests of South-East Asia are home to the world’s only living gliding lizards. The reptiles resemble miniature flying dragons and use membranes supported by extended rib bones, like wings, to glide between trees in their territory.

Gliding is an important means of travel for these lizards and new research suggests that some populations of the lizard Draco cornutus have evolved gliding membranes that closely match the colours of falling leaves to reduce the risk of predation as they glide between trees in the rainforest.

The study was conducted by PhD student Danielle Klomp, based at the University of Melbourne and the University of New South Wales with supervisors Dr Terry Ord (University of NSW) and Dr Devi Stuart-Fox (University of Melbourne) and collaborator Dr Indranel Das from the University of Malaysia. Her research has been published in the international Journal Biology Letters.

The team travelled to Borneo and observed two populations of a gliding lizard that have different coloured gliding membranes and which occupy very different habitats.

One population has red gliding membranes, which match the colour of the red falling leaves of their coastal mangrove forest habitat. The other population has dark brown and green gliding membranes which match the colours of falling leaves in the lowland rainforest habitat.

They determined how the colours would be perceived by a predatory bird and found that the gliding membrane colour would be indistinguishable from a falling leaf in the same forest.

“Birds can see ultraviolet light as well as the colours that humans see, so it is important to take into account how closely the colours would actually match to a bird,” Ms Klomp says.

“It’s a cool finding because these gliding lizards are matching the colours of falling leaves and not the leaves that are still attached to the tree. In the mangrove population the leaves on the trees are bright green, but turn red shortly before falling to the ground, and it is this red colour that the lizards mimic in their gliding membranes. This allows them to mimic a moving part of the environment – falling leaves – when they are gliding.”

The team also filmed hours of gliding lizard behaviour to observe how often the colours were displayed in communication with other lizards.

“We found that both the red and green/brown gliding membranes do seem to have evolved specifically to resemble the falling leaves in each population’s particular habitat, and are rarely used for communication,” Ms Klomp says.

Perhaps these populations may have originally had the same gliding membrane colours but as they have moved into different forest types their colours have adapted to closely resemble the colours of falling leaves in the different forests, known as divergent evolution.10

Grants to Melbourne researchers tackling challenging urban environments policy issues

The Commonwealth Department of the Environment is working with the University of Melbourne and research organisations around the country to bring best practice, science-based decision-making to environmental policies. Daryl Holland reports.

New research hubs tackling policy questions about the urban environment, threatened species and the drivers of our climate have been created as part of the federal government’s $142.5 million National Environmental Science Programme (NESP).

The University of Melbourne will take the lead on the six-year, $8.88 million Clean Air and Urban Landscapes Hub and will play key roles in two other NESP hubs, the $23.9 million Earth Systems Hub and the $29.98 million Threatened Species Recovery Hub.

Hubs covering Tropical Water Quality, Marine Biodiversity and Northern Australia Environmental Resources have also been included in the programme.

Professor Peter Rayner from the School of Earth Sciences will direct the Clean Air and Urban Landscapes Hub and says these hubs came about because the government was looking for applied research that would inform policy priorities.

“For example, if we’re going to plant trees in cities, to remove some greenhouse gases from the atmosphere, to cool the city, to make the city more liveable for walking, what kinds of things do we plant, how many do we need, and where do they go?”

“And that’s a really very integrated question. You might need to answer questions about how manageable various kinds of plants are, how they affect the heat balance, and how effective they are at taking up carbon dioxide from the atmosphere. And do the plants put out other pollutants that we might need to worry about?”

The hub includes members from RMET, the University of Wollongong and the University of Western Australia, and includes experts in air quality, atmospheric modelling, instrumentation, population health, conservation biology, urban design and urban ecology.

“That’s a pretty broad portfolio,” Professor Rayner says.

“We have drawn together a team to address most things the department might like us to tackle. I’m sure there will be something that will surprise us, but we think we have pretty good coverage.”

Associate Professor Brendan Wintle from the School of Biological Sciences is the director of the University of Melbourne node of the Threatened Species Recovery Hub, which is being led by the Australian Government. The hub is closely aligned with the existing Australian Research Council Centre for Excellence for Environmental Decisions, and Dr Wintle says the theoretical and discovery-based science of the Centre for Excellence will complement the applied, policy-focused research of the hub.

“We develop models that combine ecology and biology and economics to determine the most cost-effective way to preserve threatened species,” Dr Wintle says.

He says the hub would be asking the difficult questions about which species realistically can be saved, and would provide recommendations to the government’s Threatened Species Commissioner to get the best outcomes for as many species as possible.

The Earth Systems Hub, led by the CSIRO, aims to further understand the drivers of Australia’s climate. Professor David Karoly is co-ordinating the University of Melbourne node of the hub, which includes members from the Schools of Earth Sciences and Geography. He says the hub will provide greater opportunities for collaboration between universities and other research organisations than previous, similar schemes.

“ThIs programme gives researchers and graduate students the opportunity to work with the CSIRO and the Bureau of Meteorology to test and develop the next generation of dynamic climate models,” Professor Karoly says.

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www.science.unimelb.edu.au
www.zoology.unimelb.edu.au
Why can’t we sleep when the weather is warm?

Andi Horvath asks sleep experts why we struggle with sleep when the weather is warm.

Have you ever wondered why we can’t sleep when it’s warm.

Andi Horvath

Dr Nicholas says, “even though our core body temperature fluctuates around the 37 degrees Celsius mark, and the pattern of fluctuations is part of our circadian rhythm.” Body temperature is at its highest in the early evening, lowest in the early morning. A mild drop in body temperature occurs in the evening, which helps induce sleep. An accompanying series of neurological and hormonal changes help the body prepare for and initiate that all-important, high-quality, deep sleep cycles and set into motion the restorative power of sleep.

“While alcohol, which is commonly used as a sleep aid, may help you to get off to sleep a little quicker, the evidence shows it actually disrupts and reduces the amount and quality of sleep you get.”

Melbourne Medical School welcomes new head

A former graduate of the Melbourne Medical School, Professor Geoff McMillan, has been announced as the new Head of the School in December 2014. He will succeed Professor James Best, who was appointed Dean of the Lee Kong Chian School of Medicine in 2014. Professor McMillan holds the Chair of Medical Education and Training and is Director of the Medical Education Unit in the Melbourne Medical School.

Since 2008 he has led the development and implementation of the new Melbourne MD which graduated its first cohort of students in December 2014. He has previously held the positions of Deputy Dean and Senior Associate Dean (Learning and Teaching) in the Faculty of Medicine, Dentistry and Health Sciences and Clinical Dean of the Royal Melbourne Hospital/ Western Hospital Clinical School. Professor McMillan is well known in the local medical community and is looking forward to the challenge of leading the School in its mission to improve the health of the community through the provision of outstanding doctors, the generation and application of new knowledge and contribution to the public debate on health and wellness. "It is an honour for me to have been selected for this role. This is where I did my training and I believe this link has given me a deep insight into what is needed to help the school reach its full potential," Professor McMillan says.”

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In Brief

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Eating is rapidly growing showing vital relationships

Eating is rapidly growing showing vital relationships between both diet quality and potential nutritional deficiencies and mental health, a new international collaboration led by the University of Melbourne and Deakin University has revealed.

Published in The Lancet today, leading academics state that “as with a range of medical conditions, psychiatry and public health should now recognise and embrace diet and nutrition as key determinants of mental health.” Lead author, Dr Jerome Sarris from the University of Melbourne and a member of the International Society for Nutritional Psychiatry Research (ISNPR), said psychiatry is at a critical juncture, with the medically-focused model having achieved only modest benefits in addressing the issues that burden our mental health.

“While the determinants of mental health are complex, the emerging and compelling evidence for nutrition as a key factor in the high prevalence and incidence of mental disorders suggests that nutrition is an important new variable at the interface between psychiatric illness and mental health,” Dr Sarris said.

Findings of the review revealed that in addition to dietary improvement, evidence now supports the contention that nutrient-based prescription has the potential to assist in the management of mental disorders at the individual and population level. Studies show that many of these nutrients have a clear link to brain health, including omega-3s, B vitamins (particularly folate and B12), choline, iron, zinc, magnesium, S-adenosyl methionine (SAMe), vitamin D, and amino acids.

“While we advocate for these to be consumed in the diet where possible, additional select prescription of these as nutraceuticals (nutrient supplements) may also be justified,” Dr Sarris said.

A systematic review published in late 2014 has also confirmed a relationship between ‘unhealthy’ dietary patterns and poorer mental health in children and adolescents. Given the early age of onset for depression and anxiety, these data point to dietary improvement as a way of preventing the initial incidence of common mental disorders.

Twitter can predict hot spots for coronary heart disease

Researchers from the University of Melbourne and the University of Pennsylvania have shown that social media can serve as a dashboard indicator of a community’s psychological well being and can predict rates of heart disease.

A new study, published in the journal Psychological Science, showed that Twitter not only predicts heart disease risk as well as many traditional factors, but it also acts as a psychological barometer. The researchers found that expressions of negative emotions, such as “hate”, “bored”, and expletives, in local community tweets were associated with higher heart disease risk, even after variables like income and education were taken into account. However, words like “wonderful” and “friends” were associated with lower risk.

Lead author Dr Margaret Kern from the Centre for Positive Psychology in the Melbourne Graduate School of Education, and Johannes Eichstaedt from the University of Pennsylvania said that although researchers assume that the psychological well being of communities is important for physical health, it is hard to measure.

“Using Twitter as a window into a community’s collective mental state may provide a useful tool in epidemiology and for measuring the effectiveness of public-health interventions,” Dr Kern said.

Drawing on a set of public tweets made between 2009 and 2010, the researchers used established emotional expressions as well as automatically generated clusters of words reflecting behaviours and attitudes, to analyse a random sample of tweets from individuals who had made their locations available.

There were enough tweets and health data from about 1300 US counties, containing 88 percent of the country’s population. Coronary heart disease, the leading cause of death worldwide proved an ideal measure.

“We can’t predict the number of heart attacks a community will have in a given timeframe, but the language may reveal places to intervene,” Mr Eichstaedt said.”

The team’s findings show that these tweets are aggregating information about people that can’t be readily accessed in other ways.
Bridging the digital divide in Indigenous communities

Indigenous communities across Australia experience a dramatic disparity in access to digital technology. The social enterprise Hitnet has rolled out touch screen kiosks in 70 Indigenous communities to provide people with access to important health information, and researchers from the University of Melbourne are assessing the effectiveness of this initiative. By Kate Dukes.

Engagement

Many urban Australians, both Indigenous and non-Indigenous, take digital technology for granted. Yet a significant digital divide exists between Indigenous and non-Indigenous Australians. Indigenous people are 68 per cent less likely than non-Indigenous people to have any internet connection and are half as likely to have broadband access, largely as a significant proportion of Indigenous Australians live in rural and remote areas.

Many remote Indigenous communities live without modern conveniences such as broadband connection, wi-fi and in some cases, even mobile phone reception due to their geographical location. These communities are not only missing out on the convenience, access to information and speed of communication afforded by digital technologies – they are also missing out on the opportunities that come with them.

The digital divide currently exacerbates the social disadvantage experienced by many Indigenous Australians, especially in regard to general health and wellbeing, and broader issues, such as having access to education and employment opportunities.

Hitnet, an Australian social enterprise, has implemented a solution and has rolled out touch screen kiosks in 70 Indigenous communities across the country, placed in central community areas. “When you have a holistic understanding of what’s going on in communities, digital technology can provide access to a whole range of information that we take for granted,” says Kristen Smith, a researcher in the Indigenous Studies Unit from the Melbourne School of Population and Global Health at the University of Melbourne and a member of the Hitnet research project.

Hitnet creates the content for the kiosks on a range of health issues including sexual health, cancer, mental illness and nutrition in collaboration with communities and a range of other organisations, for example the Indigenous Hip Hop Project. People are able to view the content at the kiosk or download information from it onto their mobile device. This removes barriers for many people and enables them to seek out information when it suits them.

The research project, undertaken in collaboration with Deakin University, is assessing how community members use Hitnet kiosks and what contributes to their success. As part of her research Ms Smith has travelled to two remote Aboriginal communities in Cape York – Napranum and Pormpuraaw – and is due to travel to the Daly River, Northern Territory and Kununurra, Western Australia in the coming months. There, she will investigate how the kiosks are currently effective and how they can be adapted to meet the evolving and diverse needs of these different communities.

“In Napranum, members of the community said it would be great to have some of their young people trained in how to produce videos so they could create content themselves – and then to do other things like set up a news video service. They have some great ideas but there’s no particular training or capacity, so partnerships with Hitnet are important to create capacity.”

The research team has been talking to a wide range of people and organisations to discover who has been interested in the Hitnet kiosks and why – and to begin to understand why other people may not have responded as positively.

“Most people seem to be fairly open to it and interested in seeing how they can advance digital technologies in their communities further,” Ms Smith says.

“I talked to a range of people in Napranum who were very interested, including rangers concerned about the health of their communities, environmentally and generally, and mothers who were concerned about their children’s education and lack of access to information.”

The kiosks have been popular and a successful way of connecting people with valuable health information to improve the current and future health and wellbeing of their communities.

“Even if people aren’t interested in health issues, the kiosk is something that they can look at in the community centre. Videos will get played a lot as they are being disseminated in an interesting way using engaging mediums such as hip hop music. The majority of the content is produced within communities across Australia, which adds to the interest level,” Ms Smith says.

The network received over 60,000 hits in 2013 and nearly 70 per cent of the people seeking information were young people.

“Digital technology has a large role to play in overcoming Indigenous social disadvantage. With access to technology fundamental issues in communities can be solved. Everyone needs to have access to information.”

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February Timetable

**Up Close Podcast**

http://upclose.unimelb.edu.au

@upclosepodcast

**From pole to pole:**

**New research into treating Bipolar Disorder**

Psychiatrist Professor Allan Young discusses Bipolar Disorder, and examines leading edge research into finding new treatments for this condition. Professor Allan Young holds the Chair of Mood Disorders and is Director of the Centre for Affective Disorders in the Department of Psychological Medicine at the Institute of Psychiatry at King's College London, United Kingdom (UK).

Online now

**Go with the gut:**

**Our symbiotic relationship with our intestinal bacteria**

Chemistry researcher Dr Spencer Williams talks about the rapidly emerging understanding of human microbiota — the diverse and numerous microorganisms that reside on and within our bodies — and particularly how the composition of our gut flora can determine the state of our own health. Presented by Dr Andi Horvath. Dr Spencer Williams is Associate Director of the Bio21 Institute's Chemical Biology Research Theme.

Online 13 February

**Giftedness:**

**Identifying and handling gifted children in schools and in life**

Giftedness and exceptional learning expert Prof John Munro discusses how “giftedness” is assessed in children, how notions of giftedness vary across cultures, adult outcomes for gifted children, and the vexed question of how to handle gifted children at home and in the classroom. Presented by Lynne Haultain.

Professor Munro is Head of Studies in Gifted Education and Exceptional Learning in the Graduate School of Education, The University of Melbourne.

Online 27 January

**Language testing**

**WEFENDAY 4 FEBRUARY 5PM**

New Developments in Language Testing by Professor Carol Chapelle (Iowa State University). Arts Lecture

Enquiries: uknoch@unimelb.edu.au, 8344 5206
STEVE HOWARD THEATRE, ROOM 503, DOUG MCDONELL BUILDING

**Arresting Contagion**

**THURSDAY 5 FEBRUARY 5:30PM**

Easier Said Than Done: Arresting Contagion by Professor Alan Olmstead (University of California, Davis). D.C. Blood Oration, Veterinary and Agricultural Sciences Lecture

https://dx.doi.org/10.1093/acprof:oso/9780190630901.003.4103

TUNER THEATRE, ROOM 124, BIO SCIENCES BUILDING (FORMERLY BOTANY)

**Scientific Integrity**

**TUESDAY 10 FEBRUARY 12:30PM**

What Retractions tell us about Scientific Integrity, by Dr Ivan Oransky (MedPage Today), Office for Research Ethics and Integrity Lecture

Bookings: http://go.unimelb.edu.au/p9bn
Enquiries: http://go.unimelb.edu.au/p9bn, research-integrity@unimelb.edu.au, 9035 4202

AUDITORIUM, DOHERTY INSTITUTE, CNR GRATTAN ST AND ROYAL PARADE, MELBOURNE

**Researching Currency**

**TUESDAY 17 FEBRUARY 5.30PM**

Transforming currency: the research behind the world’s first plastic banknote by Professor David Solomon AM (University of Melbourne). Engineering Lecture

Bookings: http://go.unimelb.edu.au/8swn
Enquiries: www.eng.unimelb.edu.au/events/public/, events@eng.unimelb.edu.au, 9035 4085

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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.
Enhancing the footy experience for students

David Scott reports on an historic agreement for collaboration between Melbourne University Football Club, and the AFL Demons.

Averting a water crisis

Cathy Alexander reports on a new research program aiming to ensure water supply when the next big drought inevitably hits Australia.

Climate change is altering rainfall. There are more and more chemicals in water supplies – and the effects on human health are sometimes unclear.

The solution, he says, is cheap, safe technology which can recirculate dirty water – including sewage – into drinking water.

The technology is also suited to Australia’s inland and coastal areas. Major coastal cities have been drought-proofed by desalination plants but that’s not an option for towns like Orange, Bathurst and Bendigo.

“Would they go in the next big drought? The answer is they’re not as resilient,” Professor Scales says.

But drinking recycled sewage has been controversial in Australia. “I’m not saying that’s an easy social thing to manage,” Professor Scales says, but he warns the next drought will come eventually.

Nationally, Professor Scales has mapped out how Australia can better manage its notoriously variable water resources in a blueprint for Australian governments. The blueprint calls for smarter use of technology and markets, and more focus on sustainability.

It’s a natural fit for this self-described “farm boy” from country Victoria. “I grew up on a farm near Bendigo. I’m interested in water; I’m interested in country; I’m interested in wine.”

The new water recycling system is being tested in a pilot plant which takes existing technology and rearranges it into a sequence of seven stages, including ozonation, microfiltration, UV and chlorination. While other plants strip out pathogens (bacteria first, then chemicals), this plant removes the chemicals early.

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Nationally, Professor Scales has mapped out how Australia can better manage its notoriously variable water resources in a blueprint for Australian governments. The blueprint calls for smarter use of technology and markets, and more focus on sustainability.

It’s a natural fit for this self-described “farm boy” from country Victoria. “I grew up on a farm near Bendigo. I’m interested in water; I’m interested in country; I’m interested in wine.”

The new water recycling system is being tested in a pilot plant which takes existing technology and rearranges it into a sequence of seven stages, including ozonation, microfiltration, UV and chlorination. While other plants strip out pathogens (bacteria first, then chemicals), this plant removes the chemicals early.

“We’re doing it the other way round,” Professor Scales says. He’s also prioritised keeping costs down.

An academic in chemical and biomolecular engineering, Professor Scales says while wastewater systems are good at removing pathogens, chemicals should be a priority.

Water can contain pharmaceuticals, antibiotics, hormones, industrial chemicals, chemicals like Bisphenol A from plastics – and some pass straight through treatment plants.

The plant, in Hobart, will be tested through 2015 then installed in a town of 150 people. Professor Scales runs the plant via his laptop in Beijing. He says cities and towns will start needing this technology in 10 to 20 years, as climate change affects water supply.

“We’ll be ready. I get a real buzz out of doing practical problems and getting into them, and finding out there’s some really fundamental research in them that people haven’t done,” he says.

“Would he drink water from the plant? “Yeah, no problems.”

So why is Professor Scales based in Beijing? Melbourne University has a joint research centre with China on river basins, and joint classes and e-subjects are run with students at Beijing’s Tsinghua University. He has partnerships with 10 groups in China, including the Chinese Academy of Science. About 50 people are involved and he travels to China regularly.

Next is India, where Professor Scales plans to get involved in the high-profile project to clean-up the Ganges River.

This story is taken from an upcoming Melbourne University publication which looks at our best prior research into sustainability. The publication, being produced by the Melbourne Sustainable Society Institute, will be released in hard copy and online later this month.
Events and Courses at the University of Melbourne

CONCERTS
- Steinway Piano Launch
  Friday 13 March, 7pm
  Ian Holtham piano, Curt Thompson violin, Alvin Wong cello
  Robert SCHUMANN Fantasy in C Major for Piano Op17
  Ludwig van BEETHOVEN Piano Trio in B-flat major, Op. 97 ‘Archduke’
  The Vice-Chancellor, professor Glyn Davis AC,
  will launch the new concert Steinway.
  Where: Melba Hall, Royal Pde, Parkville
  Admission: Free
  Enquiries: vcamcm-er@unimelb.edu.au

- Melba Hall Lunchtime Concert Series
  A series of lunch hour concerts hosted in the newly refurbished Melba Hall, held each Monday of semester from 1:10pm – 2pm.
  Monday 2 March, 1.10pm
  Guitar Duo Masterpieces of Spain
  Daniel McKay and Tonié Field guitars
  Connor Macgeorge announces his appointment as the new head of the School of Art.
  Where: Melba Hall, Royal Pde, Parkville
  Admission: Free
  Closed  Monday.
  10am–5pm;  Saturday and Sunday 12–5pm

EXHIBITIONS
- Ian Potter Museum of Art
  40 Dodds Street, Southbank
  Gallery hours: Tuesday to Friday 10am–5pm, Saturday and Sunday 12–5pm
  Closed: Monday
  Admission: Free
  Enquiries: 03 9810 3276

- Margaret Lawrence Gallery
  40 Dodds Street, Southbank
  Gallery hours: Tuesday–Saturday, 12pm–5pm
  Admission: Free
  Enquiries: 03 9035 9400 or ml-gallery@unimelb.edu.au

- Scott girlfriend
  40 Dodds Street, Southbank
  Gallery hours: Tuesday–Saturday, 12pm–5pm
  Admission: Free
  Enquiries: 03 9035 9400 or ml-gallery@unimelb.edu.au

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SHORT COURSES
- ACTING, ART, FILM AND TV, MUSIC AND MUSIC THEATRE
  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 short courses include Theatre audition workshops and Summer Schools in Art, Film & TV and Theatre.
  More information: vca.mcm.unimelb.edu.au/shortcourses or 03 9810 3276