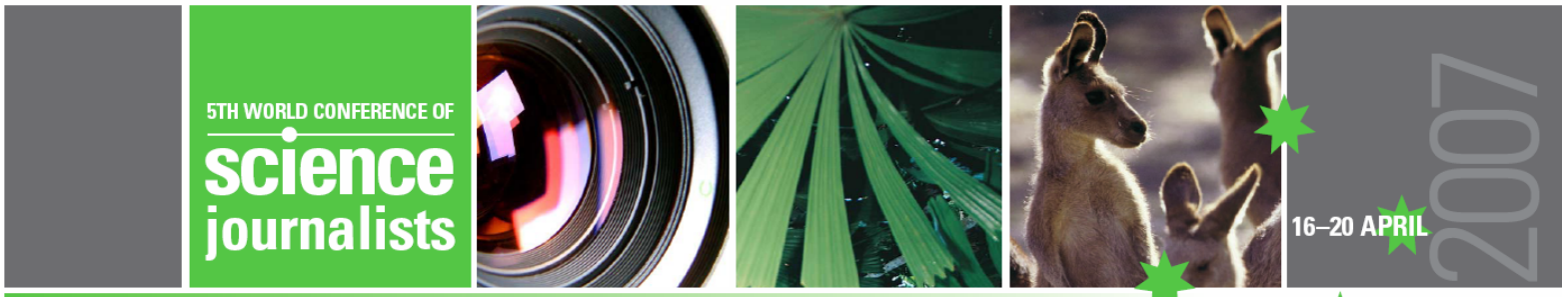
Every picture tells a story. For the stories behind these pictures visit www.scienceinmelbourne2007.org



Australian science stories

A taste of current stories – for more details visit www.scienceinmelbourne2007.org or email niall@scienceinmelbourne2006.org

Let us know if you would like to receive future story summaries from us. And in 2007 visit us and discover your own Australian stories.

Good chrome, bad chrome – what happens down below? Melbourne/Hamburg

A team of Australian and German scientists is investigating how to clean up chromium in the soil – it's widely used in chrome plating, wood preservation, and leather tanning.

Antifreeze grass

Victorian scientists have discovered antifreeze genes in a unique grass from Antarctica. The findings have major implications for improving frost tolerance in crop and pasture species that underpin the world's agriculture industries.

Mistletoe: bad for gum trees, good for animals (Charles Sturt University)

A twenty year experiment has started, to determine the impact of parasitic mistletoe on biodiversity.

Stem cell hubs in north and south links Victoria and California

The Melbourne-based Australian Stem Cell Centre and Monash University has forged a historic agreement with the University of California San Diego (UCSD) in what is a major commitment towards stem cell research in the world.

Tender lamb 'meating' consumer needs

Australia's iconic lamb roast could soon be more tender thanks to new research being undertaken by Victorian scientists. They've identified 80 structural muscle proteins that influence meat tenderness and lamb eating quality.

Biosecurity, pests and disease links Manitoba and Melbourne

Victorian scientists are to collaborate with their Canadian counterparts in biosecurity research, diagnostics, and pest and disease management.

Wallabies: our disappearing Y chromosome, premature babies and milk

Australia and the US National Institutes of Health are collaborating in a multi-million dollar effort to sequence Skippy's genome.

They've chosen the Tammar wallaby to represent kangaroo-kind. The Tammar wallaby is a small kangaroo which can do some clever things that humans can't. For example:

- A one day old joey (baby wallaby) weighs less than half a gram. It's roughly the equivalent of a 40 day old human embryo. But even with immature lungs it can breathe unassisted.
- The baby's development is driven by its mother's milk. Each teat in the pouch can produce a different formula. If a joey gets the wrong milk it dies or grows up deformed. So dairy farmers are supporting research into wallaby, seal and echidna milk to see what they can learn about bioactive compounds in dairy milk.
- Researchers have also discovered a novel antimicrobial protein in wallaby milk.

Hay fever relief

Relief may be close for the more than two million Australians who suffer from seasonal allergies to the pollen of perennial ryegrasss.

In an innovative use of biotechnology, a new ryegrass with significantly reduced levels of pollen allergens that cause the sneezing and itchy eyes of hay fever has been developed by Melbourne researchers.

What is climate change doing to Australian wildlife?

Melbourne researchers are using plants and animals to measure climate change. Some of the reported changes are:

1. The genetic make-up of the Drosophila (small fly) has changed. The change is equivalent to a latitude shift of four degrees.

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2. Pairings of the Sleepy Lizard are occurring earlier due to warmer, drier winters.

3. The distribution of the Greyheaded and Black Flying Foxes has shifted polewards.

4. Seven species of birds are migrating to the Snowy Mountains at least one month earlier than normal.

New cosmic object found

16 February 2006

A team from the UK, USA, Australia, Italy and Canada have found a new kind of cosmic object using the Parkes telescope.

www.atnf.csiro.au/news/press/rrats.html

Cheap Aussie telescope captures world's biggest solar flare

16 September 2005

Australian scientists using a radio telescope kit costing just over A $200, have managed to accurately measure the size of the largest X- ray flare ever seen from our Sun - something that a sensitive US satellite was unable to do.

www.csiro.au/csiro/content/standard/psfg,,.html

Star near the Southern Cross is 'ringing

22 December 2005

Australian and European astronomers used telescopes in Australia and Chile as a 'stellar stethoscope' to 'listen' to a star near the Southern Cross that is ringing like a bell.

www.aao.gov.au/press/cen_a_bedding_221205.html

Australian bioactives in milk

The Australian dairy industry is turning the good things in milk into new, high value bioactive products. Some bioactives already on the market are:

- Lactoferrin, a minor component of the whey protein in milk, boosts immune capacity in the digestive tract – lactoferrin is included in baby foods and some yoghurts.
- Travelan - colostrum product which improves strength and endurance in athletes and improves immune strength against stomach ailments.
- Recaldent - casein phosphopeptide – used in chewing gum and dental products world wide to repair decayed teeth enamel.

Malaria

A drug that costs just 12 cents a dose may provide a dramatic reduction in the number of deaths due to malaria.

Researchers led by Dr Louis Schofield at Melbourne's Walter and Eliza Hall Institute of Medical Research (WEHI) are about to start testing long-established anti-malarial drug Fansidar as an immune system protector. It's just one of several approaches to combating the disease, which infects 10 percent of the world's population and kills 2-3 million people a year, being investigated by Melbourne researchers.

Diabetes

A weekly nasal insulin spray is being tested by Melbourne scientists as a weapon to prevent the development of type 1 diabetes.

VivaGel

A Melbourne-based company, Starpharma, has developed a unique microbicidal gel that is being tested as a preventative against HIV and genital herpes in women.

Deadly fungus under investigation

A fungus that is infectious at the human body temperature of 37 ^{o}C but harmless at 25^{o}C is being investigated by a Howard Hughes Biomedical Research Scholar at the University of Melbourne.

Aussies explain why dying star sent mixed messages

4 May 2006

Australian astronomers have explained why a dying star sent out mixed signals about its identity.

www.aao.gov.au/press/sn2001ig_040506.html

The following stories covered in a recent Nature Biotechnology supplement on Australasian biotechnology. Details at: http://www.nature.com/nbt/advertorial/australia/2006/index.html

- Deadly cone shells fight pain
- More deadly reptiles
- Transgenic quolls?
- Dipstick test for clean water
- Vaccine for deadly new diseases
- Bird-scaring grasses
- Omega 3 from kiwifruit
- Better cartilage repair
- The basmati gene
- Leaner sheep
- Better grass, less farts
- Blackcurrants improve memory loss
- Healthier wheat
- City turns waste to compost
- In the war against pollutants, know thine allies
- New ways to fight sexually transmitted diseases
- Reducing brain injury
- Arthritis cured... in mice
- A plastic that melts in your mouth...and ear, and spine, and brain
- Pigs help treat Huntington's disease and deafness.

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