

Saving native animals



Preliminary results of a study into Victoria's first wildlife rope bridge indicate early success in helping protect native animals from the effects of roads and traffic.

"We have early proof that our native animals

are regularly crossing the purpose built rope bridge over the Hume Highway near Benalla and many other animals are investigating the bridge," ecologist at the Australian Research Centre for Urban Ecology and Honorary Fellow, School of Botany,

University of Melbourne Dr Rodney van der Ree said. "These early findings are impressive as they show that native animals have acclimatised to the 70 metre rope bridge and are using it to cross the highway to find food, shelter and mates," Dr van der Ree said.



Fix gridlock

La Trobe double-degree honours graduate Graham Rivers-Brown says he can fix Victoria's traffic gridlock for \$120 a vehicle with a battery-powered, wireless data-management system the size of two-and-a-half matchboxes – plus \$1,000 per intersection. GPS devices collect and transmit data about a car's precise location and speed to wireless data access points fitted at traffic intersections and other high traffic points. Traffic authorities can then divert or remobilise the traffic to break the gridlock by altering electronically-controlled speed limits on freeways.



Sharks save lives

Research scientists at La Trobe are pioneering an unconventional new technology that uses modified shark antibodies in therapeutic interventions against disease. According to the scientists, because shark antibodies are much smaller, chemically more robust and biologically more stable than conventional antibodies, they are uniquely well suited for targeted therapy, raising the prospect of new therapies that can be taken orally instead of injected.



Shared genes


Research published in *Nature Genetics* by a team of international scientists including the University of Melbourne, Department of Zoology, has established an identical mechanism of genetic imprinting, a process involved in marsupial and human fetal development, which evolved 150 million years ago. "This paper shows that we share a common genetic imprinting mechanism which has been active for about 150 million years despite the differences in reproductive strategies between marsupials and humans," Department of Zoology Professor Geoffrey Shaw said.



Underwater broadband

Australian yabbies have the same 'sixth' sense as sharks – the ability to listen to electrical signals that alert them to prey or predators, according to new University of Melbourne research. Study team researcher Blair Patullo (Zoology) says that, like the great white shark ("one of the biggest predators on the planet"), yabbies use electroreception to hunt prey. Electroreception is the ability to detect tiny electrical signals in water.

Laws apply in Universe

The laws of nature are the same in the distant Universe as they are here on Earth, according to new research conducted by an international team of astronomers. The research, published in *Science*, found that one of the most important numbers in physics theory, the proton-electron mass ratio, is almost exactly the same in a galaxy 6 billion light years away as it is in Earth's laboratories – approximately 1836.15. According to Swinburne astrophysicist and lead author of the study, Dr Michael Murphy, it is an important finding, as many scientists debate whether the laws of nature may change at different times and in different places in the Universe. 



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