



# Science, Technology and Education News from Australia, April 2018

## Table of Contents

<b>1.</b>	<b><i>Science and Technology Developments</i></b> .....	<b>1</b>
	<i>Australia’s ancient language shaped by sharks</i> .....	<b>1</b>
	<i>Australians identify a knot of DNA that may be the 'volume dial' for our genes</i> .....	<b>1</b>
	<i>World-first e-waste microfactory launched at University of New South Wales</i> .....	<b>2</b>
<b>2.</b>	<b><i>Education and Science Policy</i></b> .....	<b>2</b>
	<i>Australia’s Chief scientist Alan Finkel says school curriculums are letting students down</i> .....	<b>2</b>
	<i>Leading Universities (Group of Eight) respond to China’s warnings about student safety in Australia</i> ..	<b>2</b>

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## 1. Science and Technology Developments

### **Australia’s ancient language shaped by sharks**

Tiger sharks are very important in one of the most ancient stories still told today – the tiger shark dreaming. ‘Dreaming’ is what Aboriginal people call their more than 40,000-year-old history and mythology; in this case, the dreaming describes how the Gulf of Carpentaria and rivers were created by the tiger shark. The story has been passed down by word of mouth through generations of the Aboriginal Yanyuwa people, who call themselves ‘li-antha wirriyara’ or ‘people of the salt water’. However, today conservationists are concerned about tiger shark numbers, with them currently listed as ‘Near Threatened’ by the International Union for Conservation of Nature. Changes to climate have reduced their numbers, with warming waters having a knock-on effect on their growth and ability to swim long distances, according to scientists from the University of Adelaide.

Click [here](#) for the full article.

### **Australians identify a knot of DNA that may be the 'volume dial' for our genes**

Australian scientists have identified a new DNA structure in human cells. It's in the form of a twisted knot and it exists alongside the well-known double helix. The finding, made at Sydney's Garvan Institute of Medical Research, a leader in next-generation genomic DNA sequencing in Australia, is expected to open up new possibilities for interpreting how the genome functions. It's a highly significant finding and appears to be a kind of "volume dial" that regulates the activity of genes. We are all born with genes that carry our inherited predisposition to disease. Some of these diseases never eventuate but sometimes, something in the environment turns on the relevant genes and one of these diseases appears.

Click [here](#) to read the full article.



## World-first e-waste microfactory launched at University of New South Wales

As Australia's waste crisis escalates, the world's first e-waste microfactory was launched at the University of New South Wales. It has the potential to reduce the rapidly growing problem of vast amounts of electronic waste causing environmental harm and heading into landfill, using technology developed following extensive scientific research at [UNSW's Centre for Sustainable Materials Research and Technology \(SMaRT Centre\)](#). SMaRT Centre Director, Professor Veena Sahajwalla, said the e-waste microfactory was the first of a series of microfactories under development and in testing at UNSW that can also turn many types of consumer waste such as glass, plastic and timber into commercial materials and products. For instance, from e-waste, computer circuit boards can be transformed into valuable metal alloys such as copper and tin while glass and plastic from e-devices can be converted into micro-materials used in industrial grade ceramics and plastic filaments for 3D printing.

Click [here](#) to read the announcement.

## 2. Education and Science Policy

### Australia's Chief scientist Alan Finkel says school curriculums are letting students down

Australia's Chief Scientist, Dr Alan Finkel produced a report for the Education Council, which puts forward recommendations for an overhaul of the Advanced Tertiary Admission Rank (ATAR) system, which is used to determine which university courses high school students can apply for. Dr Finkel concluded that the ATAR system was working against students' interests by encouraging them to optimise their results by aiming for a higher score by doing a less demanding subject. Dr Finkel said out of 34 universities offering engineering degrees only one required advanced maths as a prerequisite and two did not require any maths at all. He said students were discouraged from studying STEM and Australia was sliding on global maths and science rankings.

Click [here](#) to read the article and [here](#) to read the report.

### Leading Universities (Group of Eight) respond to China's warnings about student safety in Australia

The nation's top universities fear they are becoming collateral damage in the war of rhetoric with China after Beijing issued a blanket warning to current and potential students that Australia was an unsafe place. The statement, written in Mandarin and published on the Chinese Embassy website and the Chinese Ministry of Education's official "Study Abroad Alerts" website, has alarmed the university sector which believes it is a veiled threat of financial retaliation should the Turnbull government continue to take a hard line against Beijing. Australia's top eight universities are heavily dependent on Chinese students with about 95,000 enrolments worth hundred of millions of dollars a year in revenue. Six vice-chancellors from The Group of Eight (Go8), a coalition of Australia's leading universities, were invited to China this week for a meeting of 100 international university leaders and celebrations for the 120th anniversary of Peking University, which was attended by President Xi Jinping. They used the opportunity to address these concerns and reassure Chinese students that Australia is a safe place for studying abroad.

Click [here](#) and [here](#) for articles on this ongoing issue.

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