

*Extra links that we couldn't fit in this month's newsletter...*



## What's Emerging

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### **Daredevil space diver to leap toward world's first supersonic free-fall from 120,000 feet**

During the jump, he'll also collect data on how the human body reacts to a fall from such heights, which could be useful for planning orbital escape plans for future space tourists and astronauts. [Read more...](#)

### **New app translates baby's cries**

Next time your baby cries, you might want to hold the little one up to your iPhone. A new app could translate those yells into adult-speak, telling you whether it's a cry for food or perhaps a nap. [Read more...](#)

### **Check out this 360 degree video on Haiti that you can control**

This video allows you to pan around and look at stuff as it goes along. Via StumbleUpon. [Read more...](#)

### **Scientists create model of monster 'Frankenstorm'**

The recent California storms left the state battered and bruised, but that could just be a taste of things to come. [Read more...](#)

### **Driven to distraction: New study shows driving hinders talking**

It is well known that having a conversation (for example on a cell phone) impairs one's driving. A new study indicates the reverse is also true: Driving reduces one's ability to comprehend and use language. [Read more...](#)

### **A cannon for shooting supplies into space**

Making deliveries to an orbital outpost on a rocket costs \$5,000 per pound, but using a space gun would cost just \$250 per pound. [Read more...](#)

### **Neurons developed from stem cells successfully wired with other brain regions in animals**

Transplanted neurons grown from embryonic stem cells can fully integrate into the brains of young animals, according to new research in the Jan. 20 issue of *The Journal of Neuroscience*. [Read more...](#)

### **Human brain uses a grid to represent space**

'Grid cells' that act like a spatial map in the brain have been identified for the first time in humans, according to new research by UCL scientists which may help to explain how we create internal maps of new environments. [Read more...](#)

### **Officials fear toxic ingredient in Botox could become terrorist tool**

Al-Qaeda is known to have sought botulinum toxin. The Lebanese Hezbollah movement, which the United States has designated a terrorist organization, and other groups have bought and sold counterfeit drugs to raise cash. Now, with the emergence of a global black market for fake Botox, terrorism experts see an opportunity for a deadly convergence. [Read more...](#)

### **Prions 'may keep nerves healthy'**

Experiments on mice may help scientists understand the workings of the prion protein linked to brain disease vCJD. Swiss researchers say there is evidence that prions play a vital role in the maintenance of the sheath surrounding our nerves. [Read more...](#)

### **The year food was totally schizoid: Growing local takes off, as giant agribiz becomes more dominant**

In the battle between Big Ag and Small Food there were notable victories on either side... Prediction for next year's (or next decade's) hot topic: serious soul-searching on the pros and cons of all things bovine. [Read more...](#)

### **U.S. navy: Video games improve brains, "fluid intelligence"**

The cognitive effects of certain video-game-style activities are not only impressive but can last a couple of years, a researcher for the Navy recently explained. [Read more...](#)

### **Scientists achieve first rewire of genetic switches**

Researchers in Manchester have successfully carried out the first rewire of genetic switches, creating what could be a vital tool for the development of new drugs and even future gene therapies. [Read more...](#)

### **Sun may soon send magnetic storms toward Earth**

The sun may finally be awakening from its longest quiet period in about a century and powering up to solar maximum, when it could fling disruptive electromagnetic storms toward Earth. [Read more...](#)

### **Shoes may have changed how we run**

Using slow-motion footage, scientists have discovered that experienced barefoot runners land very differently from runners who wear shoes. Barefoot runners, the scientists say, may be at less risk of certain types of injury than those who wear cushioned running shoes. [Read more...](#)

### **India plans manned space mission in 2016**

India will launch its first manned space mission in 2016 in a bid to match space pioneers such as Russia and the United States. [Read more...](#)

### **Neuron breakthrough offers hope on Alzheimer's and Parkinson's**

Neurons have been created directly from skin cells for the first time, in a remarkable study that suggests that our biological makeup is far more versatile than previously thought. [Read more...](#)

### **Levitating magnet brings nuclear fusion closer to reality**

Physicists may be one step closer to achieving a form of clean energy known as nuclear fusion, which is what happens deep inside the cores of stars. A recent experiment with a giant levitating magnet was able to coax matter in the lab to extremely high densities — a necessary step for nuclear fusion. [Read more...](#)

### **To restore vision, implant preps and seeds a damaged eye**

Researchers trying to restore vision damaged by disease have found promise in a tiny implant that sows seeds of new cells in the eye. [Read more...](#)

### **Smart virtual minefield offers tactical coverage without the ugly unexploded ordnance**

Metal Storm has developed a virtual minefield that delivers the tactical advantage of land mines without blanketing areas with dangerous ordnance that could be left behind..... [Read more...](#)

### **Language structure is partly determined by social structure**

Psychologists at the University of Pennsylvania and the University of Memphis have released a new study on linguistic evolution that challenges the prominent hypothesis for why languages differ throughout the world. [Read more...](#)

### **I, virus: Why you're only half human**

WHEN, in 2001, the human genome was sequenced for the first time, we were confronted by several surprises. One was the sheer lack of genes: where we had anticipated perhaps 100,000 there were actually as few as

20,000. A bigger surprise came from analysis of the genetic sequences, which revealed that these genes made up a mere 1.5 per cent of the genome. This is dwarfed by DNA deriving from viruses, which amounts to roughly 9 per cent..... [Read more...](#)

### **Ageing population dragging Australia into the red**

The 2010 Intergenerational Report, launched by Treasurer Wayne Swan today, outlines the economic challenges facing Australia's economy over the next 40 years as the workforce participation rate drops and ageing baby boomers demand more from the country's health and aged care services. [Read more...](#)

### **Tweets ahead: Aussies embrace social media**

Australians are leading the world when it comes to time spent on social media sites, with a new survey showing we spend on average almost seven hours a month on sites such as Twitter and Facebook. [Read more...](#)

### **Ten-year venture capital returns continue to slide**

Ten-year returns for Venture Capital firms continue to slide downwards for the 5 and 10-year periods ending on September 30, 2009 according to the Cambridge Associates U.S. Venture Capital Index, the VC performance benchmark of the National Venture Capital Association. [Read more...](#)

### **DARPA gives \$32 million for a bigger big dog from Boston dynamics**

After years of development and several creepy videos, Boston Dynamics' Big Dog robot is scheduled to get bigger. Working off a \$32 million request from DARPA and the Marine Corps, Boston Dynamics has developed a souped-up version of the quadrupedal Big Dog robot called the Legged Squad Support System (LS3). [Read more...](#)

### **Future soldiers may get brain boosters and digital buddies**

The soldiers of the future might controversially boost their brains with drugs and prosthetics, augment their strength with mechanical exoskeletons, and have artificially intelligent "digital buddies" at their beck and call, according to the U.S. Army's Future Soldier Initiative. [Read more...](#)

### **Cars learn to keep an eye on the weather**

ROAD accidents could be slashed if cars had better data on weather and road conditions, according to Sony and VTT, Finland's top transport-research lab. [Read more...](#)

### **Paper linking vaccine to autism retracted**

Medical journal The Lancet has withdrawn a 1998 study linking autism with inoculation against three childhood illnesses, a paper that caused an uproar and an enduring backlash against vaccination. [Read more...](#)

### **Broad spectrum' antiviral fights multitude of viruses**

Researchers from the University of Texas Medical Branch at Galveston, UCLA, Harvard University, the U.S. Army Medical Research Institute of Infectious Diseases and Cornell University have teamed up to develop and test a broad-spectrum antiviral compound capable of stopping a wide range of highly dangerous viruses, including Ebola, HIV, hepatitis C virus, among others. [Read more...](#)

### **China's power boom means west may swap oil dependency for green tech dependency**

China leapfrogged Denmark, Germany, Spain and the U.S. to become the world's largest maker of wind turbines last year, and 2010 is shaping up to be another banner year. [Read more...](#)

### **DARPA's robotic ghost ships will stalk submarines**

Ships that appear in perfect working order except for a missing human crew would normally raise suspicions that something has gone terribly wrong, possibly in the vicinity of the Bermuda Triangle. Yet an unmanned frigate is exactly what DARPA have ordered. [Read more...](#)

### **Britain facing food crisis as world's soil 'vanishes in 60 years'**

British farming soil could run out within 60 years, leading to a catastrophic food crisis and drastically higher prices for consumers, scientists warn. [Read more...](#)

### **Solar flares back, but oddly small**

After a long silence, the Sun erupted in an unusual pattern of small solar flares, said an Australian astrophysicist, which may provide a unique opportunity to predict when bigger solar flares will erupt. [Read more...](#)

### **Foursquare passes 1 million check-ins a week. Rate doubled in the past month.**

Not even a month ago, Foursquare noted that they were seeing a check-in each second or just over 600,000. In the last seven days they have seen 1.2 million check-ins. [Read more...](#)

### **Did an asteroid strike in Australia plunge Anglo-Saxon England into a mini ice-age?**

A giant meteorite that broke in two as it crashed off Australia, could have been responsible for a mini-ice age that engulfed Britain in 535AD. The claim was made by marine geophysicist Dallas Abbott at a meeting of the American Geophysical Union last month. [Read more...](#)

### **Apple now lets you preview iPhone apps in your browser**

To see this for yourself, open any direct link to an iPhone app in your favourite Web browser. [Read more...](#)

### **iPhone is now more popular than DS and PSP among game developers**

Game Developer Research says that Apple is winning the race among handheld game developers: 19 percent write now for the iPhone and iPod touch. That's more than double the amount of Nintendo DS and Sony PSP developers. [Read more...](#)

### **World's first CD-quality mobile phone calls developed**

A German audio company has developed what it says is the world's first CD-quality mobile phone calls. At the Mobile World Congress show in Barcelona, Erlangen, Germany-based Fraunhofer IIS demonstrated voice calls in stereo CD quality over a 4G — that's for "fourth-generation" cellular — network. [Read more...](#)

### **First measurement of energy released from a virus during infection**

For the first time, Carnegie Mellon University physicist Alex Evilevitch has directly measured the energy associated with the expulsion of viral DNA, a pivotal discovery toward fully understanding the physical mechanisms that control viral infection and designing drugs to interfere with the process. [Read more...](#)

### **Buy now, pay later (maybe with your allowance)**

A new payment option for anyone without a credit card or a debit card, no matter how young, has just become available. It's initially offered by FooPets and Puzzle Pirates, online game companies that are business partners of Kwedit.com, a start-up based in Mountain View, Calif. Minors as well as adults can buy items in the games with a "Kwedit Promise," which can be paid off later in a number of ways — with a credit or debit card, for example, or with cash sent in a mailer that Kwedit supplies. [Read more...](#)

### **21st century energy**

Some sobering thoughts Transition to new energy sources is unavoidable, but here are five sobering first principles to remember along the way. [Read more...](#)

### **Skewed China birth rate to leave 24 mln men single**

More than 24 million Chinese men of marrying age could find themselves without spouses in 2020, state media reported on Monday, citing a study that blamed sex-specific abortions as a major factor. [Read more...](#)

### **3D: Coming to a laptop near you**

The latest hi-tech laptop delivers realistic 3D gaming without leaving you feeling all at sea (though the cost may make you feel a little queasy...) [Read more...](#)

### **Quantum computing leap forward: Altering a lone electron without disturbing its neighbours**

Princeton University's Jason Petta has discovered how to do just that -- demonstrating a method that alters the properties of a lone electron without disturbing the trillions of electrons in its immediate surroundings. The feat is essential to the development of future varieties of superfast computers with near-limitless capacities for data. [Read more...](#)

### **Do we want brain scanners to read our minds?**

As 'vegetative' patients 'talk' to scientists, Professor Colin Blakemore assesses the profound implications this has for the sick - and the healthy. [Read more...](#)

### **The new golden age**

The history of investment and technology suggests that economic recovery is closer than you think, with a new silicon-based global elite at the helm. [Read more...](#)