

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

What's Emerging

Kohjinsha's dual-screen DZ Series laptop now for sale

Paul Higgins: I am a big fan of two screens adding to productivity. Not sure if this will catch on or not though. [Read more...](#)

WikiHow

The world's how-to manual. [Read more...](#)

Apple and android now make up 75 percent of U.S. Smartphone web traffic

When it comes to the mobile Web, increasingly there are only two mobile platforms which matter: Apple and Android, according to AdMob's October, 2009 mobile metrics report. [Read more...](#)

Color E-readers inspired by butterflies

Full-color displays for e-readers could really take off soon — on the wings of butterflies. Built on the concept of the iridescence of a butterfly's wing, the new technology reflects light rather than transmitting light the way LCD screens do. [Read more...](#)

Decoded corn genome promises higher yields, better biofuels, new plastics

The newly published complete corn genome could drastically change the food, automotive and plastic industries. Already, scientists have identified genes that could boost yield, change the cell wall to make more biofuel, or raise the nutritional value of this vital cereal. [Read more...](#)

Weird data suggests something big beyond the edge of the universe

Astronomers have found the best evidence yet for the weird idea that our universe is one of many in the 'multiverse'. [Read more...](#)

DOE announces \$620 million in smart grid project grants

While the Smart Grid we needed years ago is still years away, the Obama administration announced \$620 million in stimulus awards for 32 Smart Grid demonstration projects benefiting 21 states. [Read more...](#)

Online advertising in the U.S begins to stabilize

The Interactive Advertising Bureau (IAB) and PricewaterhouseCoopers released third-quarter figures showing that online advertising in the U.S. approached \$5.5 billion, up 1.7 percent from the second quarter of 2009, but still down 5.4 percent from the same quarter a year ago. [Read more...](#)

NASA robotic rocket plane to survey Martian surface

NASA has shifted gears back towards a program of robotic exploration. To that end, NASA now wants a rocket-powered UAV to fly around the Red Planet, photographing the surface. [Read more...](#)

Scientists identify two molecules that affect brain plasticity in mice

Researchers at the Stanford University School of Medicine have identified a set of molecular brakes that stabilize the developing brain's circuitry. Moreover, experimentally removing those brakes in mice enhanced the animals' performance in a test of visual learning. [Read more...](#)

Americans toss out 40 percent of all food

A new study finds food waste per person has shot up 50 percent since 1974. Some 1,400 calories worth of food is discarded per person each day, which adds up to 150 trillion calories a year. [Read more...](#)

Bendable magnetic interface

A sensing surface developed by Microsoft researchers offers new ways to use computers. [Read more...](#)

Hydrogen-economy on the way? New hydrogen-storage method discovered

Scientists at the Carnegie Institution have found for the first time that high pressure can be used to make a unique hydrogen-storage material. The discovery paves the way for an entirely new way to approach the hydrogen-storage problem. [Read more...](#)

Paper-thin batteries made from algae

The new batteries consisted of extremely thin layers of conducting polymer just 40 to 50 nanometers or billionths of a meter wide coating algae cellulose fibers only 20 to 30 nanometers wide that were collected into paper sheets. [Read more...](#)

Cellphone apps challenge the rise of E-readers

Many people who want to read electronic books are discovering that they can do so on the smartphones that are already in their pockets — bringing a whole new meaning to "phone book." [Read more...](#)

Buying, selling and twittering all the way

America's first Twitter Christmas got under way in earnest on Friday. Across the land, retailers and their customers used the social networking site to talk to one another about bargains, problems, purchases and shopping strategies. [Read more...](#)

Origami solar cells

Silicon sheets self-assemble into spheres to capture more light. [Read more...](#)

U.S. unlikely to use the ethanol congress ordered

They are supposed to use at least 15 billion gallons of biofuels by 2012, up from less than seven billion gallons in 2007. But nobody at the time counted on fuel demand falling in the United States, which is what has happened during the recession. [Read more...](#)

Researchers turn to artificial intelligence and real data to improve war games

University of Maryland researchers have created a virtual world they hope intelligence analysts will use to develop antiterrorism policies. [Read more...](#)

Trend watch 2010: Mobile movies

mSpot CEO and co-founder Daren Tsui made the case recently that full-length streaming movies will be important to consumers in 2010 because people want entertainment on the go and on demand. [Read more...](#)

A.I. anchors replace human reporters in newsroom of the future

In the great media reshuffling ushered in by the Internet Age, print journalists have suffered the most from online journalism's ascent. Broadcast journalists, however, may be the next group to feel technology's cruel sting. [Read more...](#)

Solar power costs 50% lower than last year

New research by leading alternative energy research firm New Energy Finance finds that solar power will cost less by about 50% at the end of 2009 compared to the end of 2008. [Read more...](#)

Virtopsy: Autopsy without the scalpel

A Swiss lab has developed a way of establishing how someone died without damaging the evidence. [Read more...](#)

Rinderpest to be declared officially 'eradicated'

Rinderpest, one of the most devastating animal diseases, will be officially declared eradicated within the next 18 months by the Food and Agriculture Organization of the United Nations (F.A.O.), World Organization for Animal Health (O.I.E.) and other partners. [Read more...](#)

Good bye! The reappointment of Bernanke is too much to bear

Paul Higgins: Nassim Nicholas Taleb (author of The Black Swan) retreats into his study in despair. I might join him. [Read more...](#)

Crisis puts focus on Dubai's complex relationship with Abu Dhabi

DUBAI, United Arab Emirates — It was the most subtle of gestures, but looking back, many in Dubai see it as a sign of their salvation. At the opening of the Dubai Airshow recently, the crown prince of Abu Dhabi, Sheik Mohammed bin Zayed al-Nahyan, placed his hand over the hand of Dubai's ruler, Sheik Mohammed bin Rashid al-Maktoum. [Read more...](#)

One giant leap for ocean exploration... what the world's first 'space station of the sea' will look like

It looks more like the Starship Enterprise sinking in the sea - but this huge vertical vessel could be the future of ocean exploration. [Read more...](#)

Test-tube pork: Lab claims breakthrough

Tank steak, sci-fi sausage, Frankenburger: some of the possible names researchers have been throwing around for the idea of meat grown in a test tube. It is no longer a fantasy, though. Researchers in the Netherlands now say they have grown a form of pork in a laboratory. [Read more...](#)

Exercise prevents aging of cells

Exercise is known to have a bounty of health benefits that can ward off age-related diseases, but a new study shows that regular physical activity has an anti-aging effect at the cellular level. [Read more...](#)

Antarctica protected from global warming by hole in ozone layer

A HUGE hole in the ozone layer has protected Antarctica from the impacts of global warming, according to scientists. [Read more...](#)

Tiny magnetic discs could kill cancer cells

Tiny magnetic discs just a millionth of a metre in diameter could be used to used to kill cancer cells. [Read more...](#)

Google names winners of second android developer challenge

Google has just announced the winners of its second Android Developer Challenge, a competition that looks to spur development on the Android platform by offering large cash grants to the winners. [Read more...](#)

Bendable antennas could reshape electronics

Tiny antennas that can bend, twist and stretch, before snapping back to their original shapes, could some day find themselves in flexible electronics and equipment that needs to be rolled up before deployment. [Read more...](#)

New brain connections form rapidly during motor learning

New connections begin to form between brain cells almost immediately as animals learn a new task, according to a study published recently in Nature. [Read more...](#)

Too much physical activity may lead to arthritis, study suggests

"This study and previous studies by our group suggest that high-impact, weight-bearing physical activity, such as running and jumping, may be worse for cartilage health," Dr. Stehling said. "Conversely, low-impact activities, such as swimming and cycling, may protect diseased cartilage and prevent healthy cartilage from

developing disease." **Paul Higgins: this is part of the reason I ride a bike.** [Read more...](#)

Birth control pill for men? Scientists find a hormonal on-and-off switch for male fertility

A new research report published in the December 2009 print issue of The FASEB Journal could one day give men similar type of control over their fertility that women have had since the 1960s. [Read more...](#)

Fuelling fears

A uranium shortage could derail plans to go nuclear to cut carbon emissions. [Read more...](#)

Cheaper, smaller network of spy satellites gives troops on the ground their own eye in the sky

With Kestrel Eye satellites, grunts on the ground will be able to check out surrounding terrain from a bird's eye view in near real time. [Read more...](#)

First metallic nanoparticles resistant to extreme heat

A University of Pittsburgh team overcame a major hurdle plaguing the development of nanomaterials such as those that could lead to more efficient catalysts used to produce hydrogen and render car exhaust less toxic. [Read more...](#)

Can Saharan solar power save Europe?

Some say it's a foolish fantasy, others believe it has the potential to save the world from the effects of climate change. The German-led Desertec initiative to build a massive solar thermal power plant in the Sahara Desert has both advocates and critics. [Read more...](#)

Why humans outlive apes: Human genes have adapted to inflammation, but we are more susceptible to diseases of aging

In spite of their genetic similarity to humans, chimpanzees and great apes have maximum lifespans that rarely exceed 50 years. The difference, explains USC Davis School of Gerontology, make humans uniquely susceptible to diseases of aging such as cancer, heart disease and dementia when compared to other primates. [Read more...](#)

For 2010, IDC predicts an Apple iPad and battles in the cloud

IDC's entry in the year-end forecasting sweepstakes doesn't lack for detail. There will be 300,000 iPhone applications by the end of next year, nearly triple the current number, according to IDC. There will be 50,000 to 75,000 Google Android applications, up from about 10,000. [Read more...](#)

Are large dams altering extreme weather patterns?

Large dams may cause shifting regional weather extremes. This finding is causing scientists to wonder if aging dams around the world can withstand the extreme weather events they may inadvertently generate. [Read more...](#)

Antarctica was climate refuge during great extinction

The cool climate of Antarctica was a refuge for animals fleeing climate change during the biggest mass extinction in Earth's history, suggests a new fossil study. The discovery may have implications for how modern animals will adapt to global warming. [Read more...](#)

Intel shows 48-core processor for research

Intel's six- and eight-core processors are the fastest chips that consumers can get their hands on. But if you are among the research elite, the company has a new experimental chip that can offer nearly 20 times the computing power. [Read more...](#)

Somali sea gangs lure investors at pirate lair

In Somalia's main pirate lair of Haradheere, the sea gangs have set up a cooperative to fund their hijackings offshore, a sort of stock exchange meets criminal syndicate. [Read more...](#)

Nokia to reduce smart phone offerings

THE world's top mobile phone maker Nokia will drastically cut back on the number of different smart phone

models it rolls out next year as the Finnish firm tries to shrug off new rivals Apple and Research In Motion. [Read more...](#)

The impact of social networks, sensors on cities

At the Supernova Conference in San Francisco, Nokia's head of design direction, Adam Greenfield, discusses how cities are changing with the deployment of social networking and sensors. [Read more...](#)

A tongue-tracking artificial larynx

Patients could get their voice back using a device that analyses contact between the tongue and palate. [Read more...](#)

"Feather" beta

This is an opt-in beta for "Feather" support on YouTube. The "Feather" project is intended to serve YouTube video watch pages with the lowest latency possible. It achieves this by severely limiting the features available to the viewer and reducing the total amount of bytes downloaded by the browser. [Read more...](#)

Why women live so much longer than men (And, no, it's not because they have an easier life!)

In the battle of the sexes, women have always played the ultimate long game - by outliving men. Scientists now believe women squeeze that extra five years out of life simply because men are made of different stuff. [Read more...](#)

Web-TV divide is back in focus with NBC sale

As she prepared her daughter for college, Anne Sweeney insisted that a television be among the dorm room accessories. "Mom, you don't understand. I don't need it," her 19-year-old responded, saying she could watch whatever she wanted on her computer, at no charge. That flustered Ms. Sweeney, who happens to be the president of the Disney-ABC Television Group. "You're going to have a television if I have to nail it to your wall," she told her daughter, according to comments she made at a Reuters event this week. "You have to have one." [Read more...](#)

Farm nutrient costs could rise 1000pc

The cost of farm nutrients could rise 500-1000 per cent within the next 20-30 years if trend lines on population growth and resource depletion hold steady. Are nutrients the new oil? [Read more...](#)

NEON distributed sensor networks

An artist's conception of the National Ecological Observatory Network (NEON) depicting its distributed sensor networks, experiments and aerial and satellite remote sensing capabilities, all linked via cyberinfrastructure into a single "scalable" integrated research platform for conducting continental-scale ecological research. NEON is one of several National Science Foundation (NSF) Earth-observing systems. [Read more...](#)

Pulling the plug on hybrid myths

An Argonne expert discusses six myths about plug-in hybrid electric vehicles. [Read more...](#)

Caterpillar flu vaccine delayed

The FDA wants further evidence that the novel approach is completely safe. The technology involves growing key vaccine ingredients inside caterpillar cells instead of in chicken eggs. [Read more...](#)

LED bulbs save substantial energy, a study finds

The study results show that over the entire life of the bulb — from manufacturing to disposal — the energy used for incandescent bulbs is almost five times that used for compact fluorescents and LED lamps. [Read more...](#)

Internet TV the next challenge for viewers

ONLINE video viewing and social networking are set to dominate internet use over the coming year, according to two studies into new media and technology. [Read more...](#)

In the brain, seven is a magic number

New Findings on Why You Have Trouble Remembering More Digits. [Read more...](#)

Will gadget revolutionize our reading habits?

Steve Portigal said it's too early to tell whether e-readers will change the way people read in the way MP3 players changed the way people listen to music. For one thing, people can jog, drive or do other things while listening to an iPod, but must concentrate on reading with an e-reader. [Read more...](#)

Balancing protein intake, not cutting calories, may be key to long life

Getting the correct balance of proteins in our diet may be more important for healthy ageing than reducing calories, new research funded by the Wellcome Trust and Research into Ageing suggests. [Read more...](#)

Shopping styles of men and women all down to evolution, claim scientists

The reason women love to spend hours browsing in shops while men prefer to be in and out of the high street in minutes is down to their hunter-gathering past, claim scientists. [Read more...](#)

Tunable terahertz lasers could allow airport scanners to chemically analyze substances

If Superman saw in terahertz radiation, he could do more than just peer through clothes and the human body. The Man of Steel might also be able to identify the chemical difference between a benign powder or an explosive tucked away inside a vial within a suitcase -- assuming that he could somehow tune his vision. [Read more...](#)

Greenhouse gas carbon dioxide ramps up aspen growth

The rising level of atmospheric carbon dioxide may be fueling more than climate change. It could also be making some trees grow like crazy. [Read more...](#)

Nobel Prize foundation frets over its finances

The Nobel Foundation might have to reduce the money it awards winners of its prestigious prizes due to the effects of the global financial crisis. [Read more...](#)

Scientists create the world's smallest 'snowman'

Scientists have created the world's smallest 'snowman', measuring about a fifth of the width of a human hair. [Read more...](#)

Shark fins traced to home waters using DNA -- A first

For the first time, scientists have used DNA from shark fins to determine where they came from. The researchers traced finds from the scalloped hammerhead shark species—collected at the world's biggest fin market in Hong Kong—back to rare populations in the Atlantic and Indo-Pacific oceans. [Read more...](#)

Robots become reality

200 robot companies and institutes exhibit their latest specimens at the International Robot Exhibition in Tokyo, Japan - a series of photos. [Read more...](#)

"Very likely" the warmest decade on record

At Copenhagen Climate Summit, U.N. Weather Agency also says 2009 Probably Warmest Year in Some Areas. [Read more...](#)

Harnesses online crowds to beat darpa balloon challenge in just 9 hours

Groups of friends and strangers spent more than a month preparing for perhaps the greatest social networking competition in history. All wanted to be the first to find 10 red weather balloons scattered across the continental U.S. on December 5, and claim a \$40,000 prize from the Pentagon's DARPA agency. MIT's team went on to win the DARPA challenge within nine hours of the first balloon launch this past Saturday. [Read more...](#)

Google rethinks searching on the go

The search giant has revealed a multitude of new technologies and strategies they are exploring to ramp up search. Google emphasized the significance of mobile search within its strategy, unveiling a multitude of new features that help users search on the go. The three main areas that Google's mobile strategy is focused on are Voice, Location, and Sight. [Read more...](#)

Mind-machine breakthrough: People type with just thoughts

By focusing on images of letters, people with electrodes in their brains can type with just their minds, scientists now reveal. [Read more...](#)

Print media regroups to launch "iTunes for magazines"

Rumours have been circulating for months that a consortium of major magazine publishers has been at work on a plan to provide digital content through an online store similar to iTunes or Amazon. [Read more...](#)

How Europe's discarded computers are poisoning Africa's kids

People in the West throw away millions of old computers every year. Hundreds of thousands of them end up in Africa, where children try to eke out a living by selling the scrap. But the toxic elements in the waste are slowly poisoning them. [Read more...](#)

No need for specs: Eye implants offer 'super vision'

People who have to wear glasses in middle or old age could have their eyesight restored or even obtain "supervision" with the latest eye implants, a British surgeon says. [Read more...](#)

Devices to take textbooks beyond text

Now there is a new approach that may adapt well to textbook pages: two-screen e-book readers with a traditional e-paper display on one screen and a liquid-crystal display on the other to render graphics like science animations in color. [Read more...](#)

Why the magazine industry wants its own app store. It's all about the data

The real reason they want their own store is the customer data. Magazine companies may look like paper companies, with a little art direction thrown in. But at their core, magazine companies are database companies. [Read more...](#)

Study: Americans consume 34 gigabytes of information per day

There's a pretty interesting report that was just published today entitled "How much information?" It was put together by the Global Information Industry of the University of California at San Diego. It looks at the year 2008 and tries to quantify how much information the average American consumes across all forms of media: TV, newspaper, Web sites, radio, you name it. [Read more...](#)

MIT plans to rebuild artificial intelligence from the ground up

After 50 years and countless dead ends, incremental progress, and modest breakthroughs, artificial intelligence researchers are asking for a do-over. The \$5 million Mind Machine Project (MMP), a patchwork team of two dozen academics, students and researchers, intends to go back to the discipline's beginnings, rebuilding the field from the ground up. [Read more...](#)

'Small wind' market to double by 2013, study says

Individuals and commercial businesses around the world are increasingly drawn to small wind turbines to supplement energy consumption, according to a report released Wednesday by Pike Research. [Read more...](#)

Batteries made from regular paper

A dip in nanotube ink turns ordinary office paper into a high-energy electrode. [Read more...](#)

Brain implant cuts seizures

Epilepsy patients who don't respond to drugs may soon have a new option. [Read more...](#)

Pfizer inks deal for new drug making technology

Pfizer Inc. will spend up to \$115 million for rights to an Israeli biotech company's experimental drug and its promising technology for making that drug and others in carrot cells. [Read more...](#)

Nissan LEAF electric car on the streets of San Francisco by 2010

San Francisco Mayor Gavin Newsom has announced that Nissan would be bringing its all-electric LEAF, to the Bay Area market in 2010. Speaking on behalf of the Bay Area Electric Vehicle (EV) Corridor program, Newsom said Nissan will work with San Francisco and the Bay Area to promote and build-out an EV charging

infrastructure, including development of a streamlined process for customer installation of charging equipment in their homes. [Read more...](#)

Nanoparticle protects oil in foods from oxidation, spoilage

Using a nanoparticle from corn, a Purdue University scientist has found a way to lengthen the shelf life of many food products and sustain their health benefits. [Read more...](#)

Brain scan reveals who will keep their promises

New-found patterns in brain activity can reveal whether someone intends to keep their word. The finding raises the possibility of using brain scans to determine the true intentions of criminals who are up for early release on parole. [Read more...](#)

Work the new digital sweatshops

When hurricane Katrina struck New Orleans in 2005, the Red Cross announced a toll-free telephone hotline to help victims and their families find each other. The hotline was quickly swamped. So the Red Cross turned to a little-known firm called -LiveOps, a company that recruits call agents from around the world and directs their tasks entirely through the Internet. Within three hours, it had arranged for 300 people to staff the phones. A few days later, the freelance agents had processed more than 17,000 calls. [Read more...](#)

Stem cells can be engineered into genetic vaccines against HIV and more

While some viruses attack the lungs, and others the blood, HIV attacks the only system that could put up a fight: the immune system itself. Now, thanks to researchers at UCLA, it's payback time for the blood cells. [Read more...](#)

Machine learning with quantum algorithms

"Many Google services we offer depend on sophisticated artificial intelligence technologies such as machine learning or pattern recognition. If one takes a closer look at such capabilities one realizes that they often require the solution of what mathematicians call hard combinatorial optimization problems. It turns out that solving the hardest of such problems requires server farms so large that they can never be built. A new type of machine, a so-called quantum computer, can help here." [Read more...](#)

Nine European nations vow to create supergrid for sharing offshore wind power

The Copenhagen announcement would allow nine European countries to share a common renewable energy source. [Read more...](#)

Using airplane know-how to harness wave energy

This is the view looking into the test section of the U.S. Air Force Academy water tunnel. Three blades of a cycloidal turbine — part of a new wave energy system — are visible at the far end. Engineer Stefan Siegel and his colleagues test the turbine in the tunnel under conditions that emulate shallow-water waves. Wave energy isn't new, but Siegel and his Academy colleagues are the first to apply their aerodynamics training to the problem. [Read more...](#)

Darpa's cyborg insect spies, now nuclear-powered

Cornell researchers working on the program unveiled a prototype transmitter for the cyborg bugs that runs on radioactive isotopes. [Read more...](#)

From Minnie to Mickey (and all they did was turn off a gene)

One of the great dogmas of biology is that gender is fixed from birth, determined by the inheritance of certain genes on the X and Y sex chromosomes. But this simplistic idea has been exploded by the latest study, which demonstrated that fully-developed adult females can undergo a partial sex change following a genetic modification to a single gene. [Read more...](#)

Google to start selling own phone next year

Google Inc. has designed a cellphone it plans to sell directly to consumers as soon as next year, according to people familiar with the matter. The phone is called the Nexus One and is being manufactured for Google by HTC Corp. It runs Android. [Read more...](#)

DIY book scanners turn your books into bytes

As consumers turn to e-readers — about 3 million are expected to be sold by the end of the year — they are also looking for ways to bring their old textbooks and paperbacks into the digital world. And a small group is discovering that the best way to do that is to create a scanner yourself. [Read more...](#)

2010: The year of the tablet computer?

In China, 2010 will be the year of the Tiger. In the tech world, 2010 will be the year of the Tablet -- or so it seems. A bevy of tech companies have teased, talked, and have not denied rumors that they are working on a fabled tablet computer. Here is a look back at 2009 tablet buzz with a look forward to 2010 -- the year of the Tablet. [Read more...](#)

Earth's atmosphere came from outer space

The Earth's atmosphere and oceans which gave rise to life came from outer space probably on the back of meteorites or comets, scientists now believe. [Read more...](#)