

## News in Brief

## Touchscreen Qur'an Device Produced

A touchscreen Qur'an mobile device produced by an Iranian company will be unveiled in the next two weeks.

According to IRIB, the device will be exported to countries such as Turkey, Bahrain and Iraq.

The device is similar to a tablet PC and has a 3-inch screen.

Readers can go through the pages of Qur'an by touching the screen. The device chants Qur'anic verses and shows its Arabic text.

Users can also search words in verses and read the translation of the verses in different languages.

Saeed Nakhaei, who oversaw the project, said the device will be presented in Qur'an Fair during the lunar month of Ramadan.



## 3-Layered Solar Panel Increases Efficiency

Solar panels are great, but they've got one huge problem. On average, they only catch about 15 percent of the sun's rays and scientists are scrambling to find a way to increase that efficiency--using mirrors and even the shaping them like origami.

Well, RoseStreet Labs might just have a solution--they've created a thin film solar panel that integrates three separate layers of PV cells into one panel. Each layer captures a different part of the sun's spectrum bringing the total efficiency above 35 percent.

RoseStreet Labs Energy Inc. used their Iband technology to achieve this new development and are the first to do so--though others have been attempting to the same feat, Inhabitat wrote.

The idea of integrating three bands--each band capturing a different part of the spectrum--has been around for a while but this is the first proven success.

The triple banded thin film cells could push solar panels into the next realm, if coupled with mirroring or thermal technology they could really stretch the efficiency of solar energy much higher than their current low-percentage output.



## Soccer Training Facility With Field on Roof

This verdant soccer training facility in France shows its love for all things turf by expanding its pitch right onto its roof. The Center de Formation de Football in Amiens consists of a facility and office space to support the athletes right alongside a field where the team practices.

Designed by Chartier-Corbasson and finished in 2009, the facility is sure to inspire its athletes and maybe even provide for some interesting drills while playing on the roof, Inhabitat said.

The French soccer facility, which we just saw on ArchDaily, is a two-story building with office space, accommodations for the trainees and training spaces, and the lower level includes dressing rooms, a medical unit, services and activity halls.

Located on the banks of River Selle, the side of the building facing the river is used for "inward-looking features".

On the pitch side of the building, the soccer field slopes up, folds and curves to cover the roof completely in grass. The lower floor opens directly onto the pitch, while the second floor opens onto a balcony protected by the sloping green roof. It's hard to tell where the roof begins and ends in relation to the soccer field. The large overhangs of the roof provide shade to the interior and improve the overall energy performance of the building.



## Public Transport Good for Weight Loss

Switching to public transport could help you lose nearly half a stone a year in weight, new research suggests.

Taking the train, tram or bus instead of your car increases physical activity so much that the average person drops more than six pounds in as little as a year, Telegraph said.

The findings suggest that increasing the use of public transport could improve health and lower obesity levels.

"The built environment can constrain or facilitate physical activity. Understanding ways to encourage greater use of local environments for physical activity offers some hope for reducing the growth in the prevalence of obesity," said lead author Dr John MacDonald, at the University of Pennsylvania.

In a study published in the August issue of the American Journal of Preventive Medicine, researchers from the University of Pennsylvania, Drexel University and the RAND Corporation found that construction of a light-rail system (LRT) resulted in increased physical activity (walking) and subsequent weight loss by people served by the LRT.

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## Sleep May Help You Remember

Sleep helps you remember something you want to do tomorrow or at some other point in the future, according to a new study.

According to HealthDay, a series of tests involving 24 university students found that students who slept after processing and storing the idea of a planned task were more likely to carry out their intentions than those who tried to tackle their plan before going to sleep.

They also found that the ability to follow through on a planned action isn't so much a function of how firmly that intention is embedded in the memory. It's actually a place, situation or circumstance encountered the next day that triggers a person's recall of their intended action.

This skill, called prospective memory, includes such things as remembering to take medicines, buy a "Happy Anniversary" card, or bring ice-cream home for a birthday party, explained the researchers at Washington University in St. Louis in a news release.

They believe that the prospective memory process occurs during slow wave sleep (an early pattern in the sleep cycle) and involves communication between the brain's hippocampus (which plays a critical role in memory formation) and its cortical regions (which are key to memory storage).

"We believe that during slow wave sleep the hippocampus is reactivating these recently learned memories, taking them up and placing them in long-term storage regions in the brain. The physiology of slow wave sleep seems very conducive to this kind of memory strengthening," Michael Scullin, a doctoral candidate in psychology, said in a university news release.

## Sudanese Honor For Iranian Official

Iran's cultural attaché in Sudan, Hujjatoleslam Seyyed Hamed Malakouti has been presented a scientific order of merit by President of Khartoum University Professor Mustafa Idris Elbashir in a ceremony held on Thursday.

Idris Elbashir said Khartoum University, built more than 100 years ago, is one of the most famous universities in Africa, adding that the university has 38,000 students, IRNA reported.

He further said Iranian universities have made good progress and are pioneers in many scientific fields.

Malakouti said in the meeting that MoUs on mutual cooperation will be signed between Khartoum University and Iranian universities such as Tehran University, Imam Sadeq (AS) University, Shahid Beheshti University, Ferdowsi University of Mashhad and Isfahan University.



## World Powers Exploit Iranian Scientific Endeavors

Minister of Industries and Mines Ali Akbar Mehrabian said on Thursday faculty members publishing their articles in journals and publications affiliated to the Institute for Scientific Information (ISI) are actually selling their scientific endeavors free of charge and offering the results of their research to other countries.

"By doing so, researchers make available the painstaking efforts of their lifetime to other countries in 10 to 15 pages and these countries use the information for their own technological advances... Ultimately, this knowledge is accessible by those wielders of power that exert the highest pressures on the Iranian people and government," the minister said in a meeting of people tasked with coordinating between campuses and the industrial sector, IRNA reported.

"In other words, the knowledge of



Global powers seek to monopolize technological advances.

Iranian scientists and scientists of other countries are made available to powers that use the knowledge against the country in question," he added.

The minister noted that a faculty member and his research team work for years to reach favorable results, which achievements are printed in foreign journals free of charge.

"Knowledge brings about superiority and advancement for the human race and the net result is the power gained by various nations. Today, global powers seek to monopolize technological advances," he said.

Mehrabian expressed his gratitude that the Ministry of Science, Research and Technology has entered the scene to prevent this sale of knowledge to wielders of power free of charge.

"Muslim states are currently devising an indigenous system for assessing scientific articles," he said.

## Frozen Blood Source of Stem Cells

Frozen blood from stored samples can be used to make cells resembling stem cells, researchers said--opening a potential new and easier source for the valued cells.

They used cells from blood to make induced pluripotent stem cells or iPS cells--lab-made cells that closely resemble human embryonic stem cells but are made from ordinary tissue, Reuters reported.

These iPS cells have in the past been made from plugs of skin, but blood is much easier to take from people and to store, the researchers reported in the journal Cell Stem Cell.

"Blood is the easiest, most accessible source of cells, because you'd rather have 20 milliliters of blood drawn than have a punch biopsy taken to get skin cells," Judith Staerk of the Whitehead Institute for Biomedical Research in Massachusetts, who worked on the study, said in a statement.

Stem cells are the body's master cells, the source of



renewed blood and tissue. So-called adult stem cells exist through life but they are partially developed.

stem cells. If the patient had a neurodegenerative disease, you can use the iPS cells to study that disease."

## Motorbikes Could Run on Air

Motorcycles powered by a compressed air engine could cut vehicular emissions in developing countries by more than half, according to Indian researchers.

According to LiveScience, the engine, which uses a compressed air tank to power a turbine, could be available to consumers within a year, said Bharat Raj Singh, a researcher at the SMS Institute of Technology in Lucknow, India, and one of the developers of the engine.

A prototype, modeled in a paper published in May in the Journal of Renewable and Sustainable Energy, is capable of running a motorcycle at speeds of up to 50

mph (80 kph) for 30 minutes.

Motorcycles are the primary form of transportation in much of India.

"The bikes are responsible for more than 77 percent of pollution in some areas," Singh said, which could be slashed to almost nothing by swapping gas-guzzling engines for bikes powered by air.

"If we can cut down total pollution in developing countries by 50 to 60 percent, that may be a major quantity which can definitely reduce global warming," Singh said.

Compressed air tanks can be recharged with pumps running off solar or other renewable energy, making them a cheaper,

eco-friendly alternative to hybrid electric vehicles, he added.

The engine works by pushing compressed air into a small turbine. The air expands and turns the turbine, powering the motorbike. No fossil fuels are required, and the only waste product is the expanded air.

The major challenge, Singh said, is to develop a compressed air tank that can stand up to long journeys. The current prototype can hold air pressurized to 20 bars, or about 20 times normal air pressure. The researchers are now working to develop a high-pressure tank that can sustain up to 300 bars of pressure. That would boost

the running time of the motorbike from 30 minutes to six hours enough to go 155 miles (250 kilometers) without swapping tanks.

If these challenges are overcome, compressed air could power more than motorbikes, Singh said.

The turbine could even be scaled up to power a small car. Similar turbines could be used by individual households to run domestic appliances like vacuums and emergency generators. Families could use wind, solar or electric energy to pressurize their own air tanks, turning homes into miniature power plants, Singh said.