BYTE QUEST

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Department Of Computer Science and Engineering

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Byte Quest is the article published by the CSE dept of Vasavi College of Engineering regarding the latest innovative Technologies and Software that have been emerged in the competitive world. The motto of this article is to update the people regarding the improvement in technology. The article is designed by the active participation of students under the guidance of faculty coordinators.

Good ,bad or indifferent if you are not investing in new technology , you are going to be left behind.

-Philip Green

Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.

-Stewart Brand.

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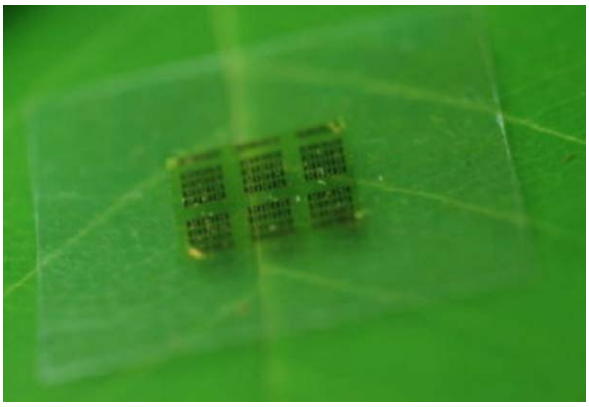
BIODEGRADABLE COMPUTER CHIP

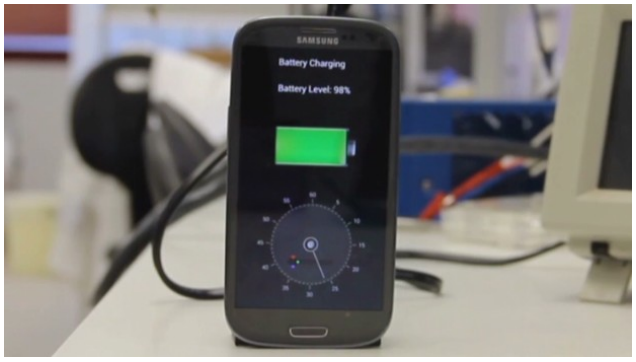
The discarded electronics amounting to large tonnes of e-waste dumped around the world are constantly leaking dangerous levels of toxic chemicals into the surrounding environment. So researchers in the US are developing something that just might put a dent in the colossal amount of e-waste - a high-performance semiconductor chip made almost entirely out of wood. The chip works by having its normal support layer replaced by a flexible and biodegradable layer of cellulose nanofibril (CNF) - a strong and transparent material that's derived from wood when breaked down to its nanoscale fibres. Zhenqiang Ma and his team on figuring out how to get the surface of a biodegradeabe material smooth enough to work as a support layer for the chip, and



with the capacity for thermal expansion, they found that CNF worked the best over the petroleum-based polymers. The team's next challenge is to show that even a wood-based chip could perform just as well as existing gallium arsenide-based microwave chips.

- M. Adarsh (CSE-A 2/4)

CHARGE PHONE IN 30 SECONDS



A new battery developed by researchers at StoreDot, a technology company based in Tel Aviv, is able to store a super-high charge so fast, it can charge any smartphone in 30 seconds flat.

Reuters compares the new battery to an incredibly dense sponge, able to soak up power and retain it more efficiently than ever before. While StoreDot's prototype device is far from ready - right now it's too bulky and awkward to be a viable product - the team has predicted that it will be ready for commercialisation by late 2016. Myersdorf told Reuters that phones integrated with the StoreDot technology would cost up to $150 more than the average smartphone does now, and would be able to handle around 1,500 recharge cycles for a three-year lifespan. Expansion of this technology to electric cars in the not-so-distant future is expected.

- D. Swapna (CSE-A 2/4)

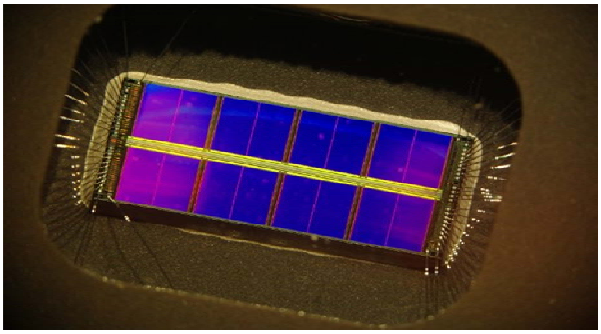
COMPUTERS THAT USE LIGHT !!

Super-fast computers that process information using photons instead of electrons are a step closer, thanks to the creation of a material that can transmit data at the speed of light.

For the first time, scientists have created a material that allows computers to store and transfer information using light instead of electricity. The research overcomes a major hurdle in the goal to develop optical computers capable of processing data at the speed of light. Right now, computers process information via electrons. This data is moved around microprocessors and memory storage devices through nano-sized wires. But although this technology seems tiny, it's still alot bigger than what is really needed and they're at the pointy end of Moore's Law where the components physically can't shrink much further, which means we can't make computers that are much faster than they are now.

The next step that many physicists are pursuing is optical computers that process information via particles of light, known as photons rather than relying on electrons.

The challenge was to find a single material that can affectively use and control light to carry information said physicist Richard Curry and team.



This team has now managed to find a way to modify a type of glass known as chalcogenide - which is already used in optical devices such as CDs and DVDs - so that they can be used alongside the current systems. Chalcogenides have some useful properties like they're able to conduct light across a pretty wide range of bandwidths.

The team is already using the glass to create next-generation computer memory technology, known as CRAM, and the next step will be to create completely optical computers with the material. Excitingly, it's something they believe they'll achieve within the next 10 years.

- C. Chandana (CSE-A 2/4)