

RMRC, Bhubaneswar

(Laxmi Narayan Memorial Library)

Weekly Current Awareness Service

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“IF YOU WANT TO GET LAID, GO TO COLLEGE. IF YOU WANT AN EDUCATION, GO TO THE LIBRARY.”

— *Frank Zappa*

Monday morning team requests you to visit the library regularly.

About Monday Morning:

Monday morning is a weekly E- CAS (Electronic Current Awareness Service) of RMRC Library, Bhubaneswar which carries one Biomedical & health science news item and some useful current medical research links so that the scientists can access the articles. This E- Bulletin starts its journey from 21st Nov. 2016. In this maiden attempt we cordially invite your inputs and suggestions to improve in future.

Dr. Banamber Sahoo, Lib & Inf. Officer
Satyajit Nayak & Twinkle Rout (Lib. Trainee)

Phone-controlled system to pump insulin for diabetes

East China Normal University scientists use cellular apparatus to regulate glucose level in blood of mice



422mn

Number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014. The global prevalence of the disease among adults over 18 years of age has risen from 4.7 per cent in 1980 to 8.5 per cent in 2014.



BEIJING: Scientists have successfully engineered cells to produce insulin under the command of a smartphone, helping keep blood sugar levels within normal limits in diabetic mice.

The system developed by researchers, including those from East China Normal University, involves engineering insulin-producing cells to do their work when illuminated with infrared light. Human cells can be genetically engineered into living factories that efficiently manufacture and deliver hormones and signalling molecules, but most synthetic biological circuits do not offer the same degree of sensitivity and precision as digital sensors.

They placed the cells — engineered with a light-sensitive gene found in plants — in an insulated sheath that also contained red LED lights. Then, they placed the sheath under the skin of test mice. They controlled the lights via an app, sending signals to a control box containing a coil for the lights. The smartphone received data from an embedded blood glucose metre. The result was a closed-loop system that tested glucose periodically.

The app analysed the data to determine when and how much insulin needed to be produced. It then sent a signal to the control box, activating the LED lights, causing the cells to produce and release insulin into the bodies of the mice.

1. Researchers Say Fish Larvae Is Helping Children with Epilepsy.

Researchers at UCSF are using fish larvae to treat childhood seizures caused by epilepsy and Dravet syndrome. (KGO-TV). For more details click on the below link.

<http://abc7news.com/health/fish-larvae-being-used-to-help-children-with-epilepsy/1847815/>

2. Stem cells edited to fight arthritis.

Using new gene-editing technology, researchers have rewired mouse stem cells to fight inflammation caused by arthritis and other chronic conditions. Such stem cells, known as SMART cells (Stem cells Modified for Autonomous Regenerative Therapy), develop into cartilage cells that produce a biologic anti-inflammatory drug that, ideally, will replace arthritic cartilage and simultaneously protect joints and other tissues from damage that occurs with chronic inflammation. For more details click on the below link.

https://www.eurekalert.org/pub_releases/2017-04/wuso-sce042617.php

3. Does Parkinson's disease begin in the gut? New research suggests it does.

A new study offers fresh support for an intriguing theory about the vagus nerve's role in Parkinson's disease, a neurological disorder that causes tremors, gait difficulties and sometimes dementia in roughly 1 million Americans and as many as 10 million people worldwide. For more details click on the below link.

<http://www.latimes.com/science/sciencenow/la-sci-sn-parkinsons-vagus-nerve-20170426-story.html>

4. Cancer-causing DNA is found in some stem cells being used in patients.

Some human stem cells growing in labs that researchers have used in experiments to treat serious diseases contain serious cancer-causing mutations, scientists reported on Wednesday. The discovery raised alarms that patients could be treated for one disease, such as macular degeneration, only to develop another, cancer. For more details click on the below link.

<https://www.statnews.com/2017/04/26/stem-cells-cancer-mutations/>

5. WHO Weekly epidemiological record.

Measles vaccines: WHO position paper – April 2017. For more details click on the below link.

<http://apps.who.int/iris/bitstream/10665/255149/1/WER9217.pdf?ua=1>



E- CAS (Current Awareness Service)

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