

SCIENCE CENTRE NEWS LETTER

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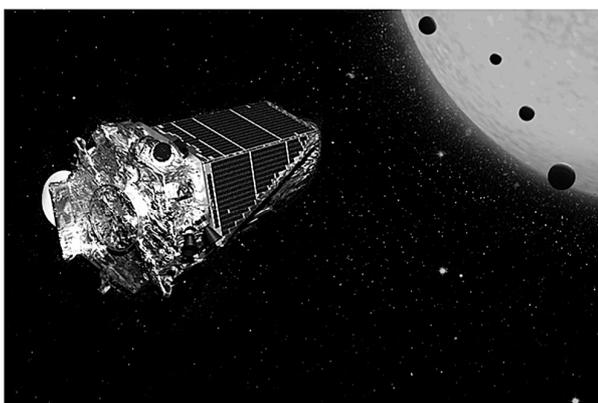
WHAT'S NEW IN SCIENCE

NASA has discovered our Solar System's twin with 8 planets

NASA has found twin of our Solar system which is more than 2500 light-years away. Using data from the Kepler Space telescope, researchers have found an eight planet at the Kepler-90 system, tying our own system for the highest number of known planets.

Google software engineer Christopher Shallue and Andrew Vanderburg at the University of Texas at Austin used a neural network, a type of machine learning that mimics the connections between neurons in a brain to look for new planets in old Kepler data. They trained their algorithm on 15,000 signals that had already been examined by human

Scientists and either labeled as real explanets or not. "The machine learning model was simply able to look at more signals than it would be reasonably possible to expect humans to be able to look at", Shallue said in a press conference. It only took the model about 2 hours to



go through the 15,000 signals in its training data set, he said. When it was applied to a set of Kepler signals from 670 stars, the model found two new planets. One, called Kepler-80g, orbits a star about 1100 light-years away that has 5 other planets. The other, Kepler-90i, is the eight planets in its system.

Courtesy : 'Shri Swaminarayana H.V.Vidhyalaya'

SCIENTIST OF THE MONTH

Devendra Lal

Devendra Lal was born on February 14, 1929 at Banaras in Uttar Pradesh. He did his B.Sc. and M. Sc. from the Banaras Hindu University, and got his Ph.D. from Bombay University in 1960. He worked in the field of cosmic radiation using nuclear emulsion as a detector. He mainly contributed to the area of composition and energy spectrum of contemporary and ancient cosmic radiation. To his credit, he has developed a number of techniques for dating and training in geophysics and for the study of evolution of history of planetary objects. He has also published more than 200 research papers and has worked as the regional editor of 'Earth and

Planetary Sciences Letters'.

Professor Lal received the Shanti Swarup Bhatnagar Prize in 1967, the Padma Shri in 1971, Jawaharlal Nehru Award in 1986, Raman Birth Centenary Award in 1997 and the Goldschmidt Medal in 1997. He was the Director of Physical Research Laboratory and Vice-President of Indian Academy of Sciences. He died on December 1, 2012 at his residence in San Diego, California at the age of 83.



Courtesy : 'Shri Swaminarayana H.V.Vidhyalaya'



Timings

Tuesday to Friday
9.30 am to 4.30 pm

Saturday - Sunday
& Public Holidays
11.00 am to 6.30 pm

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SCIENCE FACTS FEBRUARY 2018

2 Feb	World Wetlands Day (recognized by U.N.).
4 Feb	Bhopal Gas Tragedy.
5 Feb 1971	International Day of persons with disabilities. (by U. N.)
6 Feb	International Day against Female Genital Mutilation.
8 Feb 1834	Dimitri Ivanovich Mendeleiev (Formulator of Periodic Table) was born.
11 Feb 1847	Thomas Alwa Edison (Inventor of Dynamo) was born.
12 Feb 1941	Sir Alexander Fleming did first experiment of Penicillin.
13 Feb	World Radio Day (UNESCO)
14 Feb 1929	Devendra Lal (Vise President of Indian Academy of Science and Ex-Director of PRL) was born
15 Feb 1564	Galileo Galilee (Famous Astronomer) was born.
16 Feb 1919	Jyoti Bhushan Chetarjea (Discoverer of Haemoglobin-E) was Born.
18 Feb 1745	Alessandro Volta (Inventor of Electric Battery) was born.
19 Feb 1473	Nicolaus Copernicus (Famous Astronomer) was born on this day.
20 Feb	World Day of Social Justice (recognized by U.N.)
20 Feb 1962	John Glenn the first American Astronaut to orbit the Earth.
21 Feb	International Mother Language Day. (UNESCO)
24 Feb 1940	Sengamedu Shrinivasa Badrinath (Specialist in Vitreo Retina Surgery) was born.
25 Feb 1988	First successful test fire of "PRUTHVI - 1 MISSILE" by India was done.
28 Feb	National Science Day is celebrated in India to mark the discovery of the "Raman effect".
	U. N. : United Nations
	UNESCO United Nations Educational Scientific & Cultural Organization

KNOW THE EXHIBIT AT FUN SCIENCE GALLERY

Lazy tube

Drop all the small pieces one by one through the hole of the aluminum tube. One reach the bottom of the tube almost instantly. Only one piece takes more times to fall. Touch all piece on the iron frame. The piece that takes the longest time to fall, is a magnet. The aluminum tube acts as a single turn coil. A magnet falling through it induces strong short circuiting current in the tube. This current give rise to a new magnetic field which opposes the field of the falling magnet. This opposition is responsible for slowing down the falling magnet.



SCIENTIFIC QUESTION

How do we fall asleep?

We need to sleep so that our tired organs and tissues get some rest and are restored. Although there is no definite explanation of how and why we sleep, but it is believed that there is a 'sleep centre' in the brain, which regulates the sleeping and waking of the body. The sleep centre is further regulated by blood. Throughout the day our body releases certain substances into the blood. One out of these is the calcium which stimulates the sleep centre and the centre in turn reacts to this calcium. Two things happen at this point. First, part of the

brain gets blocked so that we no longer have the will to do anything, nor do we have any consciousness.



This can be called the 'brain sleep'. Second, it blocks off certain nerves in the brain stem so that internal organs and our limbs fall asleep, which we

can call the 'body sleep'. When both these reactions happen simultaneously, we fall asleep. But, there can be conditions, when these two kinds of sleep are not connected, like the brain may sleep, while the body is awake. This may happen to a person whose nervous system does not function properly. People who experience such condition are called 'sleep walkers', as they get out of bed while their brain is asleep and walk about.

Courtesy : 'Shri Swaminarayana H.V.Vidhyalaya'

SCIENCE PROJECT

'Shri Swaminarayana H.V.Vidhyalaya' presented their project on 'Hydraulic Tree Mover' in Science Fair organised by Science Centre Surat. Now- a - days the Villages are under development. Villages are connecting to the Cities and Hiways. When the Road construction is in process the trees and forests can be cut. This machine is made to stop the cutting of trees. This machine is despite cutting the tree, replant the tree with its roots from one place to another. So, that trees can be saved and the work of Road Construction can be proceed.

First, the machine can be move closer to the tree. The front portion of the machine is made open and place the roots of the tree under it. The front portion made close and set the blade approximate 30% to 50% deep from the height of the tree. After that, this blade can be set as it took up the tree with the root. After that, the Plant can be replant in the previously digged pit. The roots can be cover from the surrounding soil. Thus, the tree can be replant without damaging it.

Courtesy : 'Shri Swaminarayana H.V.Vidhyalaya'



Rangoli Exhibition

To depict the life of Shri Ram, the rangoli based on Shrimad Valmiki Ramayana was made from 18/09/2017 to 28/09/2017 at Ground Floor of Art Gallery. 14 artists of 'Alpana group' prepared 85 rangoli in 11 days, 10 hours per artist in 3450 sq.m area on Ramayana. This rangoli recorded as 'Biggest Rangoli in Theme of Ramayana' by India Book of Records. All 14 artists of Alpana group were awarded by Certificate and a copy of India Book of Records.



Kite Exhibition

In Celebration of 'Uttarayan' (kite festival), an exhibition was organized from 9th to 21st January, 2018 on the First Floor of Art Gallery. In this exhibition kites from different countries, history of kite, Science behind Kite, preparation of kite, international kite festival were exhibited.



Surat Stone Sculpture Symposium-2018

Surat Municipal Corporation has in collaboration Artgen 'Surat Stone Sculpture Symposium-2018' for beautification, Culture and to display the artistry of Art in Surat. In this workshop 11 artists are participating, in which 7 artist are Indian, 3 Japanese and 1 is Italian. This symposium was inaugurated by Honourable Mayor Smt. Asmitaben Shiroya at Auditorium on 09/01/2018. One special documentary film on 'Surat Stone Sculpture symposium' was released and book on making of all sculptures was released by Honourable Mayor. Special stones from Rajasthan like Bansipahadpur Pink Sand Stone, Khavda Yellow Sand Stone, Rajnagar White Marble, Bheslana Black Marble, Kesariyaji Babar Raj Pink Marble were brought on special order.



Surat Scrap Sculpture Symposium-2017

Surat Municipal Corporation had organized 'Surat Scrap Sculpture Symposium-2017' in July-August 2017, in which 10 artist made 10 artifact from Scrap, which has been installed at different iconic places in Surat city. During the inaugural session of 'Surat Scrap Sculpture Symposium', 10 artist were awarded

by Certificate. The finished artifacts were carefully scrutinized by their theme / subject and accordingly they were installed at following major traffic junctions / islands for benefit of Surat's citizens on large scale.

No.	Zone Name	Artifact	Place of install
1	Central Zone	Life (Bobin)	Swarnim Circle, Ring Road
2	Katargam Zone	Crawling Rooster (Bird)	Traffic island opposite Kansa nagar Lake
3	Rander Zone	With Love (Flower)	Opposite Sona Hotel, Palanpur Patiya
4	Athwa Zone	Raftar-E-Surat (Horse)	Opposite Majuragate Fire Station, Ghod Dod Road
5		Welcome Bird (Crow)	Science Centre
6	Udhna Zone	The Walking House (Human)	Near Journalist Colony
7	Varacha Zone	Urban Structure	Ramchowk, Near Lake Garden, Mota Varacha
8		Heart	Smmimer Hospital
9		The Growth (Insect)	Lakshman Chowk, Near Saket Dham Society, Puna
10	Limbyat Zone	Cloud Gate	Nilgiri Circle