

SCIENCE CENTRE NEWS LETTER

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SCIENCE CENTRE

Volume 3, Issue 03

WHAT'S NEW IN SCIENCE

New Gene Therapy Could 'Turn Off' Asthma

Scientists have discovered a DNA switch which can 'turn off' our reaction to allergies, an advance research that may lead to gene therapies providing life-long protection from diseases like asthma with a single treatment. Researchers from the University of Queensland (UQ) in Australia were able to switch off the immune response which causes allergic reaction in animals "When someone has an allergy or asthma flare-up, the symptoms they experience results from immune cell reacting to protein in the allergen" said Ray Steptoe, Associate Professor at the UQ Diamantina Institute. He further said that "The challenge in asthma and allergies is that these immune cells, known as T-cells, develop a form of immune



'memory' and become very resistant to treatments". "We have now been able to 'wipe' the memory of these T-cells in animals with gene therapy, de-sensitising the immune system so that it tolerates the protein," And in addition he said. "Our work used an experimental asthma allergen, but this research could be applied to treat those who have severe allergies to peanuts, bee venom, shell fish and other substances". The next step being to replicate results using human cells in the laboratory. The eventual goal would be a single injected gene therapy, replacing short-term treatments that target allergy symptoms with varying degrees of effectiveness.



The Millennium School, Dandi road, Narthan, Surat.

SCIENTIST OF THE MONTH

P.T.Narasimhan

Palliakaranai Thirumalai Narasimhan was born on July 28, 1928 at Cuddalore in Tamil Nadu. He did his Bachelors and Masters in Science from the Madras Christian College. He did Ph.D. and postdoctoral research from the Indian Institute of Science, Bangalore. Professor Narasimhan could be called the pioneer of the 'Era of Computer Chemistry in India'. He was a contributor of an immense scale in the field of chemical physics, especially quantum mechanical interpretation of magnetic resonance data for the purpose of studying

molecular structure and properties. He researched the principles of chemical bonding, conformation, chemical reactivity, electrical and magnetic properties of simple and complex molecules using molecular orbital and valence bond theoretical methods. He received the Shanti Swarup Bhatnagar Prize in 1970, the J.C.Ghosh Memorial Medal, 1972, Sir C.V. Raman Award, the U.G.C National Lectureship, and the Hari Om Ashram Trust Award in 1980. He died in May 3, 2013.



The Millennium School, Dandi road, Narthan, Surat.



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 JULY 2017

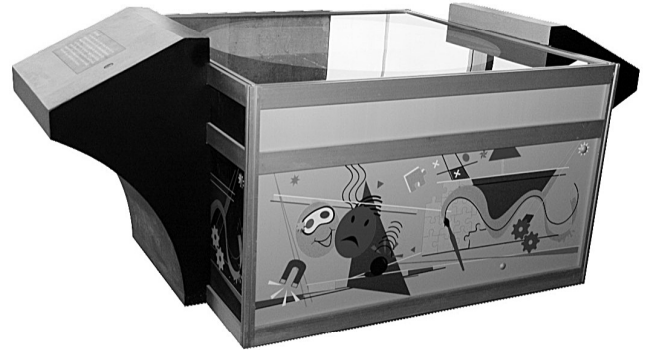
1 July	Birthday of famous Physician & Bharat Ratna Awarded Bidhan Chandra Roy which is celebrated as 'Doctor's Day' in India.
1 July 2015 (First Saturday of July)	International Cooperative Day (by U.N.)
2 July 1938	Chandrakumar Naranbhai Patel (inventor of the Carbon Dioxide Laser) was born on this day.
4 July 2005	Successful collision of NASA's satellite "Deep Impact" with comet into the space was held at the distance 13.04 million km from the Earth.
5 July 1996	First Clon Mammal (Genetically identical individuals) 'Dolly' (a sheep) was born on this day.
6 July 1906	Daulat Singh Kothari (well known Indian physicist) was born on this day.
6 July 1885	Vaccine for Rabies first time used on human on this day.
11 July	World Population Day. (by U.N.)
16 July 1945	The first detonation with code name "Trinity" conducted by United States at "Los Alamesh" was done on this day. This date is known as the beginning of Atomic Age.
16 July 1969	Successful launching of "Apollo 11" was done with the help of "Saturn V" rocket from Kennedy Space Center at Florida.
18 July	Nelson Mandela International Day for freedom, justice and democracy. (by U.N.)
18 July 1980	Launching of Indian satellite "Rohini RS-1" into the Space.
19 July 1814	Samuel Colt (inventor of Revolver) was born on this day.
24 July 1969	Successful landing of "Appolo-11" in the pacific Ocean.
25 July 1978	"Louise Joy Brown" the world's first successful Test Tube Baby was born in Great Britain.
31 July 2015 (Last Friday of July)	14th Annual System Administrator Appreciation Day. (Also known as Sysadmin Day).
U. N. : United Nations	

Quiz Answers: 1) a 2) b 3) a 4) a 5) a

KNOW THE EXHIBITS AT FUN SCIENCE GALLERY

Lines of Forces

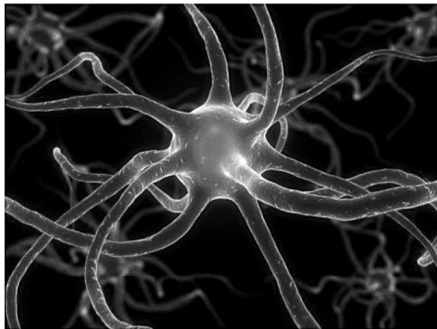
Press the button to rotate the central bar magnet, observe that the tiny magnetic needles continuously reorient themselves as the bar magnet rotates. A magnet interacts with another magnet or magnetic material kept within its area of influence through the invisible magnetic lines of force that are imaginary lines moving from the North pole to the South pole (outside the magnet) in the direction of the magnetic intensity. As the magnet rotates, the surrounding magnetic needles continuously realign themselves along the changing direction of the Lines of Forces. Together they indicate, as seen from the top, the magnetic field pattern around the magnet.



SCIENTIFIC QUESTION

How do the nerve cells function?

Nerve cells transmit messages throughout the body. They are called the sensory nerves. The motor nerves receive impulses from the sensory units and respond to them by sending a nerve current to various parts of the body like muscles and the glands. They farther react in, what is called the reflex-action. The third type of nerve cell connects the motor cells in one part of the body with sensory cells in another

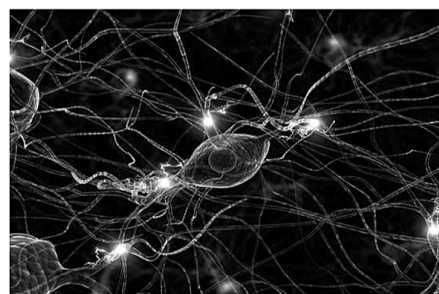
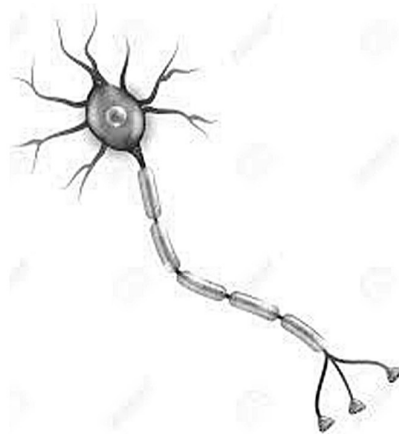


world. There are mainly four types of nerve cells or nerve units, which are completely independent of each other and perform their special functions. One type receives messages such as heat, cold, light and pain from the outer world and conducts them to the interior of



body with sensory cells in another

part. It transmits messages over longer distances in the body. The fourth kind of nerve cells carry messages from the outer world, such as cold, heat and pain to the brain, where they get translated into feeling. Thus, we see that the action, which we perform, are a result of the working of nerve cells.



SCIENCE QUIZ

1) Which of the following is used in pencils?

- a) Graphite b) Silicon c) Charcoal d) Phosphorous

2) Chemical formula for water is?

- a) NaAlO₂ b) H₂O c) Al₂O₃ d) CaSiO₃

3) Which gas is used in an electric bulb?

- a) Nitrogen b) Hydrogen c) Carbon dioxide d) Oxygen

4) Washing soda is the common name for....

- a) Sodium carbonate b) Calcium bicarbonate c) Sodium bicarbonate d) Calcium carbonate

5) What is the unit for measuring the amplitude of a sound?

- a) Decibel b) Coulomb c) Hum d) Cycle

'Heritage Exhibition' on Champaner- Pavagadh

'Heritage Exhibition'

'Heritage Exhibition' on Champaner- Pavagadh Archaeological Park (UNESCO World Heritage Site) was held from 07/06/2017 to 14/06/2017 at Art Gallery (ground floor), Science Center. The exhibition was inaugurated by Honourable Mayor Smt. Asmitaben Shiroya. Champaner-Pavagadh was declared as World Heritage Site by UNESCO in 2004, it consists marvelous architectural heritage in form of Fort, Palaces, Temples, Residential area, Step-well, Water reservoir etc. belonging to 8th Century to 14th Century. This exhibition consists 57 panels, 35 panels on paintings on Myths and Legends, reproduction of 5 paintings and 25 historical photographs and 21 photographs of present day condition of Champaner-Pavagadh.



SCIENCE CENTRE

Science Centre forms the main part of the entire complex; it displays thematic galleries in the field of Science and Technology. The ground floor of Science Centre showcases 3D Theatre and Souvenir Shop. The first floor of Science Centre showcases Planetarium, Fun Science Gallery and Power of Play Gallery and second floor of Science Centre showcases Diamond Gallery, whereas Entering into Space, Textile Gallery, Cosmos Gallery and Polar Science Gallery are under development.

3d Show	Tuesday to Friday (Time)	Saturday, Sunday & Holidays (Time)
English	09:15, 11:20, 12:00, 02:40, 04:00	11:20, 12:00, 02:40, 04:00
Hindi	10:00, 10:40, 12:40, 01:20, 02:00, 03:20	12:40, 01:20, 02:00, 03:20, 04:40, 05:20, 06:00
Science Centre + Planetarium + Museum + Diamond Gallery		
Above 18 Years	Rs. 100	
3 Years to 18 Years	Rs. 65	
Science Centre + Museum + Diamond Gallery		Planetarium
Above 18 Years	Rs. 60	Tuesday to Friday
3 Years to 18 Years	Rs. 40	Saturday, Sunday & Public Holidays
Science Centre + Planetarium + Museum + Diamond Gallery + 3D Show		09:30 to 10:20 English
Above 18 Years	Rs. 120	10:30 to 11:20 Gujarati
3 Years to 18 Years	Rs. 80	11:30 to 12:20 Gujarati
Planetarium		12:30 to 01:20 English
Above 18 Years	Rs. 50	01:30 to 02:20 Gujarati
3 Years to 18 Years	Rs. 40	12:30 to 01:20 English
3D Show		01:30 to 02:20 Hindi
Above 18 Years	Rs. 60	02:30 to 03:20 Hindi
3 Years to 18 Years	Rs. 40	02:30 to 03:20 Hindi
		03:30 to 04:20 Gujarati
		03:30 to 04:20 Gujarati
		04:30 to 05:20 English
		05:30 to 06:20 Gujarati
		05:30 to 06:20 Gujarati