

# SCIENCE CENTRE NEWS LETTER

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Milind Torawane  
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## Editor

D. M. Jariwala  
Add. City Engineer  
(Civil)

## Sub Editor

Bhamini Mahida  
Chief Curator  
Divyesh Gameti  
Curator (Science)

## Co-ordinator

Dr. Pruthul Desai  
Principal  
P. T. Science College



SCIENCE CENTRE

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## WHAT'S NEW IN SCIENCE

### Weird Tailless comet, First ever seen, is a building block of Earth

A new kind of comet that is nearly tailless has been discovered- and the surprises don't stop there. the new comet recently returned from the edge of the



solar system but may have originated much closer to the Sun, scientists say. In fact, It may even reveal clues about the building blocks

of Earth. Given the nearly tailless appearance of this new comet, the Scientists named it a Manx object, after manx cats, which are mostly tailless.

This newfound class of comet also may help to solve the mystery of how the solar system formed, the Scientists noted. Most Known comets come from the oort cloud-a cold, giant shell surrounding the solar system like a giant, thick shop bubble. Scientists estimate that the oort cloud is made of trillions of icy bodies that lie as far as 1,00,000 times Earth's distance from the Sun. Astronomers focused on a comet named C/2014 S3

was nearly tailless using the pan- STARRS telescope in Hawaii in 2014, is a little more than twice as far away from the Sun as Earth is. The 860 - Year- long orbit of the comet, known as S3 for short.



It was upto 100,000 times or so less active than typical comets on similar orbits. comets grow more active when they approach the Sun and their ice

heats up, becoming the gas making up a comet's tail. the lack of activity from S3 suggests it was ice-poor instead of ice- rich unlike previous known comets from the oort cloud. follow- up observations of dust in this comet's stubby tail- conducted with the European southern observatory's very large telescope in chille and the Canada- France-hawaii telescope- reveled that S3 more closely resembled stony asteroids from the asteroid belt than a typical comet. the Scientists detailed their findings on April 29 in the Journal Science Advances.

## SCIENTIST OF THE MONTH

### Ramnarain Agrawal

Ramnarain Agrawal was born on June 24, 1941 in Jaipur in Rajasthan. An engineer by qualification, he held the distinguished post of Scientist at defence research and development organization, New Delhi. He made a Valuable Contribution in the Field of Aerospace and Long Range Missile Technology. he is known as the Father of the Agni Series of Surface-to-Surface missiles he worked as program Director (AGNI).



A g r a w a l ' s outstanding technological leadership became known to the world during the successful flight test of operational AGNI-II System. he is a specialist in the Re-Entry technology involved in detailed design and

development of Re-entry vehicle and carbon composite Materials for very high temperatures. he was also developed and set up two supersonic tunnels, an Aero-ballistic Range and Integral Ram rocket test facility and a flare test Tunnel.

he was conferred the padmashri (1990). he was named the Scientist of the Year (1993). he was also given the Padma Bhusan (2000). He was awarded by the Dr. Biren Roy space science award (1990) from Aero Society of India, DRDO Techonology Leadership Award (1998), chandrasekhar Saraswati National Eminence Award for Science (2000) and Life time Achievement Award (2004).



### Timings

Tuesday to Friday  
9.30 am to 4.30 pm

Saturday - Sunday  
& Public Holidays  
9.30 am to 6.30 pm

### Address

Science Centre  
City Light Road,  
Surat - 395 007

### Contact

0261 - 2255947  
+91 97277 40807

Fax No.  
91-261-2255946

E mail  
sciencecentre@suratmunicipal.org

Web Site  
www.suratmunicipal.gov.in



## SCIENCE FACTS JUNE 2016

1. June	International Children's Day 5th June
5. June	World Environment Day
5. June 1783	Discovery and first launching of primary Balloon
6. June 2012	The astronomical event "Transit of Venus" happened on this day
7. June 1811	Mr. James Young Simpson (who invented Chloroform) was born on this day
7. June 1979	India Launched first low orbit Earth observation Satellite - "Bhaskar" into the Space
8. June	World Brain Tumour day
8. June	World Ocean day
8. June 1936	Indian state Broadcasting Service (ISBS) was renamed as "All India Radio" (AIR) on this day
10. June	Ballpoint Pen Day
11. June 1963	First Lady Astronomer "Valentina " came back from journey to Space
12. June	World Day against child labour
12. June 1872	Railway train started in Japan
14. June	World Blood Donor Day (WHO)
15. June 1752	Well-known Scientist Mr. Benjamin Franklin had done
19. June	World Sickle cell Anaemia Awareness Day
21. June 2015	The third Sunday of June is celebrated as " International father's Day"
21. June 1948	It is the longest day of the year in Northern Hemisphere and longest night of the year in Southern Hemisphere because Sun's rays strikes normally in Northern Hemisphere
22. June 1973	Successful landing of the astronomer of Skylab in Pacific Ocean after revolving around the earth for 28 days
23. June	United Nations Public Service Day (UN)
24. June 1961	Successful launching of first Indian "Super Sonic Fighter A. A"
30. June 1880	Longest total Solar Eclipse of millennium
U.N. United Nations	
WHO : World Health Organization	

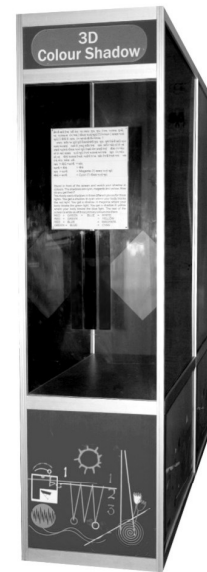
## KNOW THE EXHIBITS AT FUN SCIENCE GALLERY

### 3D Shadow

Look at the shadow cast on the screen. Now look through the coloured plastic stripes such that your left eye sees through the red filter and the right eye through the green filter. The shadow now looks like a three-dimensional figure and appears in front of the screen. Reserve the eye positions to make the left see through the green and the right eye through the red filter. The 3D shadow appears to go behind the screen. Also notice the reversal of the rotational sense of the shadow.

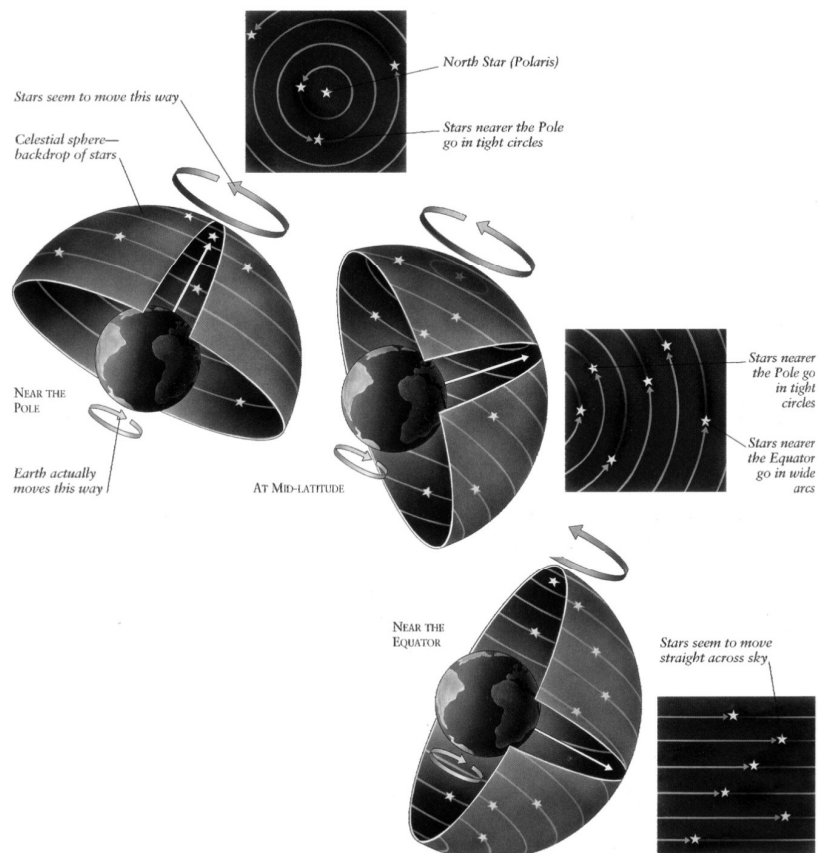
### why this happens ?

Here a rotating 3D object casts a coloured shadow as it blocks one or the other of two coloured lights kept behind it. Since the light are falling at slightly different angles, the resultant shadow is in fact a combination of two coloured shadows overlapping with a slight mismatch. The colour filters constrain our eyes to see one of the shadow through the left eye and the other through the right eye. Two slightly different images of the same object reach our brain simultaneously and create the illusion of depth.



## WHY STAR MOVE ?

Away from daily life here on Earth, the Universe is a weird and truly wonderful place. Stars are born and explode. Star clusters, called galaxies, fly away from each other. The stars seem to move in different ways across the night sky, depending on where you are on the Earth. In the far north or south, near the geographic pole, they trace circular paths around the sky. In the North, the North star, Polaris, is directly in line with the Earth's axis of spin, so it appears to stay still as the other stars twirl around it. At mid-latitudes, the stars nearer the pole (farther North or South) look as though they travel in tight circles, while those toward the Equator move in wider arcs. At the Equator, you see the stars "side-on". They seem to move almost straight across the sky, in parallel lines. Of course, the stars hardly move at all. It is the Earth turning on its axis that makes them appear to move.



## 'SURYAPUR TO SOLAR SYSTEM' EXHIBITION

In celebration of 'Gujarat Gauravdin', an exhibition of 'Suryapur to Solar System' was organized from 01/05/2016 to 15/05/2016 at the Art Gallery, Science Center Surat. This exhibition was inaugurated by the Honorable Mayor of Surat,

This exhibition was mainly divided in three parts, among which on the ground floor of the Art Gallery 1. An exhibition explaining very rare Astronomical phenomena 'Mercury Transit' and 2. An exhibition of artifacts donated by the Surat's citizens in last two years to Sardar Vallabhbai Patel Museum, were exhibited; while on first floor 3. an exhibition of panels showcasing Historical, Social, Religious and Cultural places of Surat was exhibited.

### 1-'Mercury Transit'

To explain a very rare Astronomical phenomena of 'Mercury Transit', with the help of various panels describing birth of Universe, life cycle of stars and information of all planets of our Solar System were exhibited. In addition to that, some other rare Astronomical phenomena such as Solar Eclipse, Lunar Eclipse, Transits etc. were explained with graphics, too.

### 2-'Exhibition of Artifacts received by Donation from Surat's Citizens'

Sardar Vallabhbai Patel Museum is 126 years old, and since its inception on 01/02/1890, its collection is continuously growing with the artifacts received as donations from the Surat based donors. An exhibition of artifacts received as donation during

last two years was exhibited here. In this exhibition 200 artifacts donated by 'Dr. Dhruv and Smt. Ranjana Dixit' including swords, gun, armours, metal sculptures, artifacts made by porcelain and glass were exhibited; 207 coins, 63 embroidery samples in 4 albums and 3 other artefacts donated by 'Smt. Ushaben Jariwala'; hand embroidered curtains and table clothes donated by 'Smt. Ranjana Mehta'; Carpet and miscellaneous artifacts donated by 'Smt. Anantaben Parikh' and a Saree and a blouse with brocade 'jari work' donated by 'Smt. Taraben Patel' were exhibited here. Most of these artifacts were older than 100 years.

In addition to that 400 Matchbox labels donated by 'Shri Suresh Chorawala', 6 gramophone vinyl records donated by 'Shri Akshaykumar' and a 'Deed of Sale in Sanskrit language' which is awarded by Limca book of records donated by 'Shri Arun Lahoti' was exhibited here, too. A total of 832 artifacts donated by 8 donors were exhibited in this exhibition.

### 3-'Exhibition on Surat's Heritage and Development'

In this exhibition with the help of Graphic Panels, Photographs taken by the Surat based Photographers and Paintings made by Surat's artists were exhibited to describe Surat's development, information on Surat's Historical places and comparative documentation of Surat's iconic places with old and present photographs.

