

SCIENCE CENTRE NEWS LETTER

June 2026
Issue 123



Published by
M. Nagarajan
I.A.S.
Municipal
Commissioner

Editor

D.B. Mistry
Dy. Municipal Commissioner

Sub Editor

Divyesh Gameti
I/C Chief Curator

Co-ordinator

Dr. Pruthul Desai
Principal
P. T. Science College



SCIENCE CENTRE

Volume 11, Issue 03

WHAT'S NEW IN SCIENCE?

The Science behind the gas freezing the sky but warming the Planet

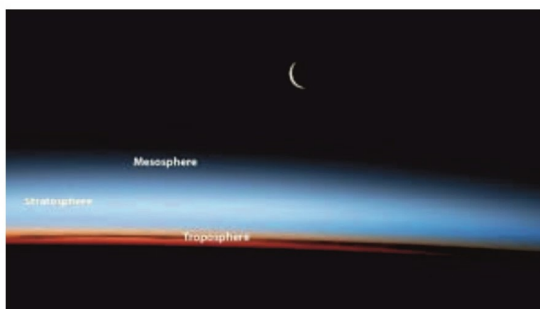
Carbon dioxide (CO₂) traps heat and warms the Earth. But there's a twist to the harmful gas that Researchers have only now discovered. While warming the Earth, CO₂ is simultaneously cooling the upper atmosphere at an alarming rate.

In the lower atmosphere, which is the air we breathe and fly through, CO₂ acts like a blanket, trapping heat close to the Earth's surface and driving global warming. But roughly 11 to 50 kilometres above the ground, in a layer called the stratosphere, CO₂ behaves more like a radiator. There, it absorbs heat rising from below and releases it out into space. Add more CO₂ and that radiator becomes more efficient, pushing more heat out and making the stratosphere colder.

The key to this breakthrough finding was identifying

how CO₂ interacts with different wavelengths of infrared light. Not all wavelengths behave the same: some are far more efficient at driving stratospheric cooling than others.

The Researchers from Columbia's Lamont Doherty Earth Observatory found a particular "Goldilocks Zone" of wavelengths that does most of the work and as CO₂



levels rise, that zone expands.

"It's those changes in efficiency that are going to ultimately be what's driving stratospheric cooling" said Sean Cohen, the study lead Author at Lamont Doherty.

Source: <https://www.indiatoday.in/science/story/co2-cooling-upper-atmosphere-stratosphere-climate-change-study-2910341-2026-05-12>.

Author: Aryan Rai, on 12th May 2026

SCIENTIST OF THE MONTH

Dr. Goverdhan Mehta

Dr. Goverdhan Mehta was born on 26th June, 1943 at Jodhpur, British India (now in Rajasthan). He received B.Sc and M.Sc from the BITS Pilani (Birla Institute of Technology and Science), Rajasthan and Ph.D from Pune University in 1967.

He joined IIT Kanpur in 1969 and served there till 1977. From 1977 to 1998, he was Professor of Chemistry at University of Hyderabad and from 1998 to 2010, he was Professor at the Indian Institute of Science, Bangalore. From 2010 to 2018, Dr. Mehta was Lilly-Jubilant Chair Professor at Department of Chemistry, University of Hyderabad.

Dr. Mehta has authored more than 550 research

papers. He is recipient of over 40 honorary doctorates from India/abroad and has delivered over 300 lectures at Universities/Institutions across the World. He has been a member of the scientific advisory council to the Prime Minister.



He was awarded by Shanti Swarup Bhatnagar Prize for Science and Technology in Chemical Science in 1978, Basudev Bannerji Medal and Prize by Indian Chemical Society in 1979, Science and Technology Award of Rajasthan Government in 1980, Goyal Prize in Chemical Science

awarded by Sri Kala Ram Trust in 1994, Humbolt Prize in 1995, Padma Shri in 2001, C. V Raman Medal awarded by Indian National Science Academy in 2003, INSA Medal for promotion and service to Science in

Main Source: en.wikipedia.org/wiki/Goverdhan_Mehta

SCIENCE FACTS JUNE 2026



Timings

Tuesday to Sunday
& Public Holidays
9.30 am to 4.30 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

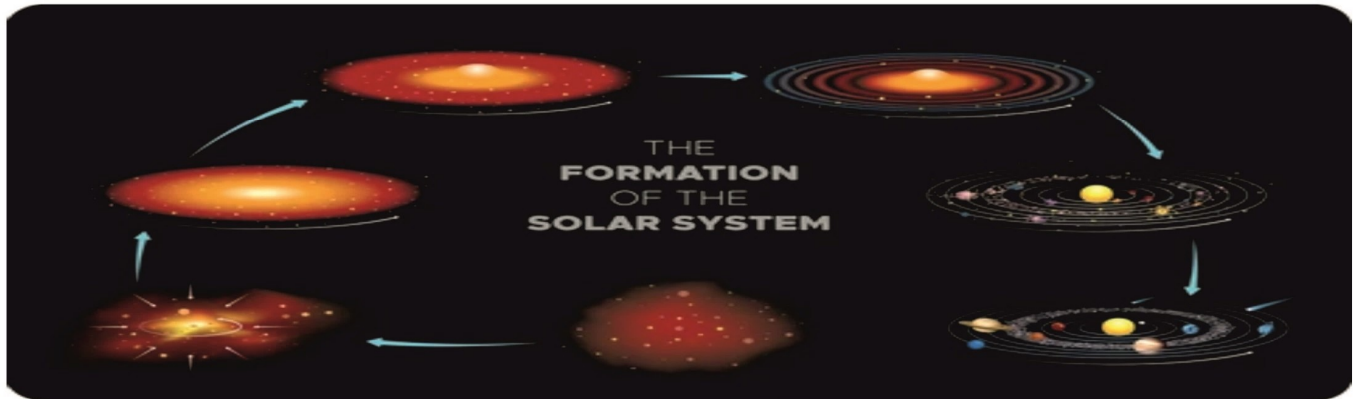


1 June 1917	:	American Chemist William S. Knowles (Co-winner of the 2001 Nobel Prize in chemistry for his work in asymmetric synthesis, specially in hydrogenation reactions) was born.
1 June 1940	:	American Physicist Kip S. Throne (Co-winner of the 2017 Nobel Prize in Physics for decisive contributions to the LIGO detector and the observation of gravitational waves) was born.
3 June 1924	:	Swedish neuroscientist Torsten Wiesel (Co-winner of the 1981 Nobel Prize in Physiology/Medicine for their discoveries concerning information processing in the visual system) was born.
6 June 1850	:	German Physicist Karl Ferdinand Braun (Co-winner of the 1909 Nobel Prize in Physics for their contributions to the development of wireless telegraphy) was born.
7 June 1862	:	Austrian Physicist Philipp Lenard (Worked on cathode rays and the discoveries of many of their properties) was born.
7 June 1896	:	American Physical Chemist Robert S. Mulliken (Responsible for the early development of molecular orbital theory) was born.
8 June 1916	:	English Molecular Biologist Francis Crick (played crucial roles in deciphering the helical structure of the DNA molecule) was born.
8 June 1942	:	Swiss Chemist/Physicist Jacques Dubochet (Co-winner of the 2017 Nobel Prize in Chemistry for developing cryo- electron microscopy for the high-resolution structure determination of biomolecules in solution) was born.
12 June	:	World Day against child labour
13 June 1831	:	Scottish Physicist James Clerk Maxwell was born.
13 June 1911	:	American Physicist Luis Alvarez (Winner of the 1968 Nobel Prize in Physics for his discovery of resonance states in particle physics using the hydrogen bubble chamber) was born.
13 June 1946	:	American Chemist Paul Modrich (Co-winner of the 2015 Nobel Prize in Chemistry for mechanistic studies of DNA repair) was born.
14 June	:	World Blood Donor Day (WHO)
15 June 1917	:	American Chemist John Fenn (Worked in mass spectrometry) was born.
16 June 1897	:	German Chemist Georg Witting (Reported the method of synthesis of alkenes from aldehydes and ketones using compounds called phosphonium ylides) was born.
18 June 1918	:	American Chemist Jerome Karle (Winner of the 1985 Nobel Prize in Chemistry for the direct analysis of crystal structures using X-ray scattering techniques.) was born.
19 June	:	World Sickle cell Anaemia Awareness Day
19 June 1623	:	French mathematician Blaise Pascal was born.
20 June 1877	:	Alexander Graham Bell installs world's first commercial telephone service in Hamilton, Ontario, Canada.
22 June 2006	:	The newly discovered moons of Pluto are officially named Hydra and Nix by the international Astronomical Union.
23 June 1925	:	British geneticist Oliver Smithies (Co-winner of the 2007 Nobel Prize in Physiology/Medicine for their discoveries of principles for introducing specific gene modifications in mice by the use of embryonic stem cells) was born.
24 June 1927	:	American Physicist Martin Lewis Perl (Winner of the 1995 Nobel Prize in Physics for his discovery of the tau lepton) was born.
24 June 1953	:	American Chemist William E. Moerner (Co-winner of the 2014 Nobel Prize in Chemistry for the development of super-resolved fluorescence microscopy) was born.
25 June 1911	:	American Chemist William Howard Stein (Co-winner of the 1972 Nobel Prize in Chemistry for their contribution to the understanding of the connection between chemical structure and catalytic activity of the active centre of the ribonuclease molecule) was born.
28 June 1930	:	Ireland born microbiologist William C. Campbell (Co-winner of the 2015 Nobel Prize in Physiology/ Medicine for their discoveries concerning a novel therapy against infections caused by roundworm parasites) was born.
28 June 1943	:	German Physicist Klaus von Klitzing (Winner of the 1985 Nobel Prize in Physics for discovery of the integer quantum Hall effect) was born.
30 June 1880	:	Longest total Solar Eclipse of millennium

Answers: 1) c, 2) c, 3) b, 4) c, 5) c

SCIENTIFIC QUESTION

What is Big Bang? (part-8)



shutterstock.com · 2124276926

After the Matter-dominated era, the universe entered the Dark Energy-dominated era, which is the phase we are currently in. During this phase the density of matter became so low. Current matter is composed of roughly 4% ordinary matter, 27% dark matter and 59% dark energy.

Present:

• Formation of Solar System

Time Period:

Approximately 8.5 to 9 billion of years after the big bang.

The solar system formed approximately 4.6 billion years ago from the gravitational collapse of a giant, dense cloud of interstellar gas and dust. This process known as the Nebular Hypothesis, transformed a chaotic cloud into the structured system of planets and the Sun we see today.

The formation began as follows:

1. The Solar Nebula and collapse (~4.6 billion years ago)

The process began with a giant molecular cloud, mostly composed of Hydrogen and Helium, which started to collapse under its own gravity. This collapse may have been triggered by the shockwave from a nearby supernova. As the cloud contracted it began to spin faster and flatten into a rotating protoplanetary disk.

2. Birth of the Sun (~4.55 billion years ago)

Most of the collapsing mass (over 99%) gathered at the center of the disk. As the pressure and temperature at the core reached critical levels, nuclear fusion ignited and had converted Hydrogen into Helium. This event marked the birth of the Sun as a main-sequence star.

3. Formation of the Planets:

While the Sun formed the center, the remaining dust and gas in the disk began to clump together through a process called "accretion".

• Terrestrial Planets (~4.55 billion years ago)

In the hot inner region only rocky and metallic materials cloud solidify. Small clumps grew into planetesimals, which then collided and merged to form Mercury, Venus, Earth and Mars.

• Giant Planets (~4.59 billion years ago)

Beyond the 'frost line' (where it was cool enough for volatile compounds like water and methane to freeze), planetesimals grew much larger. These massive cores then captured huge amounts of Hydrogen and Helium from the surrounding disk to become gas giants (Jupiter, Saturn) and ice giants (Uranus, Neptune).

4. Clearing the Debris:

After the planets formed, the remaining gas and dust were largely cleared away by powerful solar winds from the young Sun. Leftover fragments that did not become part of planets remained as asteroids in the Asteroid Belt and Oort cloud.

Today, after 13.7 billion years, the expansion of the universe of star materials into new stars continues.

Main Source and Image:

https://www.physicsoftheuniverse.com/topics_big_bang_timeline.html

SUMMER CAMP-2026

Science Centre Surat had organized 'Summer Camp-2026' at the First Floor of Khoj Museum from 10th to 20th May, 2026. Students had learnt about Art and Craft, Astronomy, Science, Basic Electronics, Robotics, Drone, and Artificial Intelligence and Machine Learning. In this Summer Camp two groups were made according to the age.

Group 'A' was for Children of the age group 7 to 12 years and Group 'B' was for 13 to 17 years. Total 107 Students had participated in the Summer Camp.

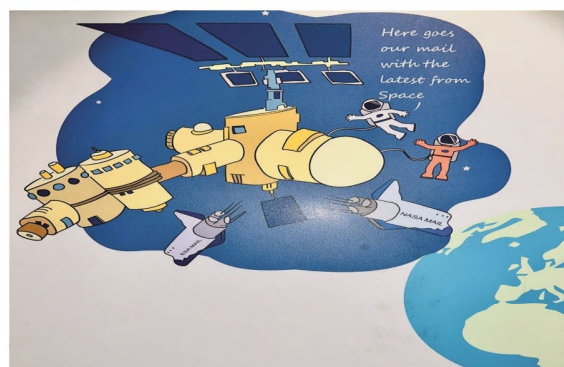


KNOW THE ENTERING INTO SPACE GALLERY EXHIBIT

International Space Laws(Selected)

Every State has an equal right to conduct activities in the field of international direct television boardcasting by Satellite.

This exhibit is situated at "Entering Space Gallery" between Fun Science Gallery and Power of Play Gallery at First Floor of Science Centre.



QUIZ

1. What color is a solution of Potassium dichromate?
a) Colorless b) Red c) Orange d) Green
2. What is the atomic formula of Potassium dichromate?
a) K_2SO_4 b) K_2CrO_4 c) $K_2Cr_2O_7$ d) $K_2S_2O_7$
3. What is produced when boiling sulfur reacts with dihydrogen gas?
a) $SO_2 + H_2O$ b) H_2S c) H_2SO_4 d) H_2SO_3
4. What is the molecular formula of Sodium Sulfate?
a) Na_2CO_3 b) Na_2SO_4 c) Na_2SO_3 d) Na_2S
5. Which gas is useful in preventing the growth of bacteria?
a) NaOH b) CO_2 c) SO_2 d) NH_3

Main Source: Navneet MCQs Science and Technologies. Std 10