

NASA telescopes provide 3D journey through Orion Nebula

This long exposure picture taken on December 23, 2017 shows the Orion Nebula, as seen from Bago, located 91 kilometres northeast of Yangon. | Photo Credit: [AFP](#)

Scientists, using data from NASA space telescopes, have created a 3D fly-through view of the Orion Nebula, allowing viewers to peek into the picturesque star-forming region.

Viewers experience the nearby stellar nursery “up close and personal” as the new digital visualisation ferries them among newborn stars, glowing clouds heated by intense radiation, and tadpole-shaped gaseous envelopes surrounding protoplanetary disks.

Using images and other data from NASA telescopes, researchers created a detailed multi-wavelength visualisation of the photogenic nebula.

The fly-through enables people to experience and learn about the universe in an exciting new way, researchers said.

The three-minute movie, which shows the Orion Nebula in both visible and infrared light, helps audiences explore fundamental questions about the universe.

“Being able to fly through the nebula’s tapestry in three dimensions gives people a much better sense of what the universe is really like,” said Frank Summers, visualisation scientist at Space Telescope Science Institute in the U.S.

“By adding depth and structure to the amazing images, this fly-through helps elucidate the universe for the public, both educating and inspiring,” said Summers, who led the team that developed the movie.

“Looking at the universe in infrared light gives striking context for the more familiar visible-light views,” he said.

“This movie provides a uniquely immersive chance to see how new features appear as we shift to wavelengths of light normally invisible to our eyes,” said Robert Hurt, lead visualisation scientist at Infrared Processing and Analysis Centre (IPAC) in the U.S.

One of the sky’s brightest nebulas, the Orion Nebula, is visible to the naked eye. It appears as the middle “star” in the sword of the constellation Orion, the Hunter, and is located about 1,350 light-years away.

At only two million years old, the nebula is an ideal laboratory for studying young stars and stars that are still forming. It offers a glimpse of what might have happened when the Sun was born 4.6 billion years ago.

The three-dimensional video provides a look at the fantastic topography of the nebula. A torrent of ultraviolet radiation and stellar winds from the massive, central stars of the Trapezium star cluster has carved out a cavernous bowl-like cavity in the wall of a giant cloud of cold molecular hydrogen laced with dust.

The video takes the viewer on a flight through the nebula, following the contours of the gas and dust. By toggling between the views captured by the Hubble and Spitzer telescopes, the movie shows different details of the Orion Nebula.

Receive the best of The Hindu delivered to your inbox everyday!

Please enter a valid email address.

IISc study of Indian paper wasp demonstrates who becomes the queen and who takes up other works

END

Downloaded from **crackIAS.com**

© **Zuccess App** by crackIAS.com

crackIAS.com