



BIOLOGY

CHEMISTRY

EARTH

HEALTH

PHYSICS

SCIENCE

SPACE

TECHNOLOGY

HOT TOPICS

JANUARY 23, 2022 | YOUR EYES MAY REVEAL YOUR TRUE BIOLOGICAL AGE – AND YOUR RISK OF ILLNESS

SEARCH ...

HOME

SPACE NEWS

SUBSCRIBE

SciTechDaily: Home of the best science and technology news since 1998. Keep up with the latest scitech news via email or social media.

E-mail

Submit



POPULAR ARTICLES

JANUARY 21, 2022

## The End of Cosmic Dark Ages: How NASA's Roman Space Telescope Could Expand on Hubble's Deepest View

A team of astrophysicists has created a simulated image that shows how the Nancy Grace Roman Space Telescope could conduct a mega-exposure similar to but...

READ MORE

JANUARY 21, 2022

Large Hadron Collider: First Detection of Exotic "X" Particles in Quark-Gluon Plasma

JANUARY 21, 2022

# ESO's Very Large Telescope Captures a Fleeting Moment in Time

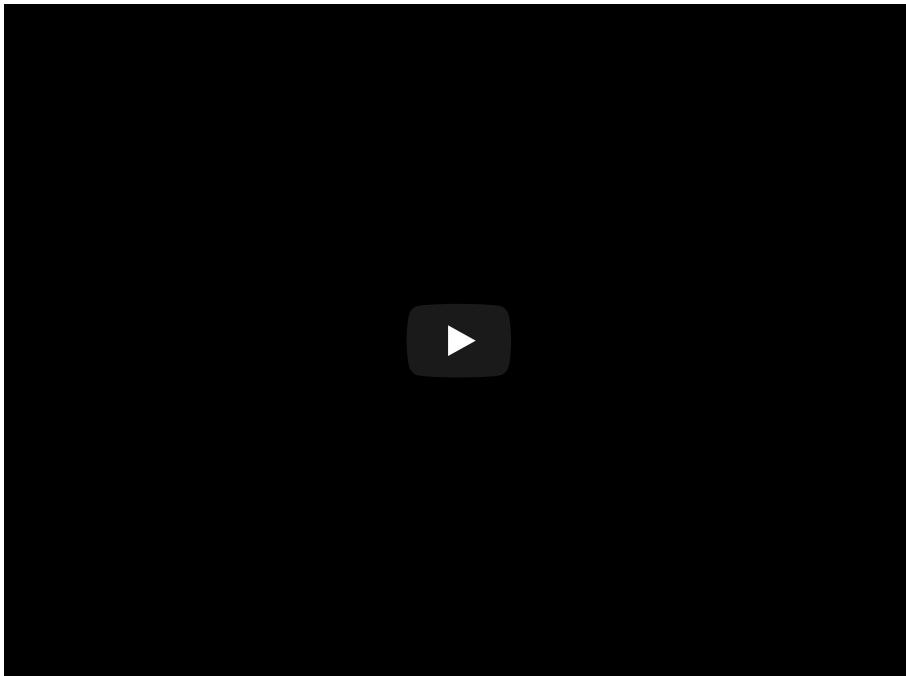
**TOPICS:** Astronomy European Southern Observatory Images Popular

By CALUM TURNER, EUROPEAN SOUTHERN OBSERVATORY JANUARY 23, 2019

The faint, ephemeral glow emanating from the planetary nebula ESO 577-24 persists for only a short time — around 10,000 years, a blink of an eye in astronomical terms. ESO's Very Large Telescope captured this shell of glowing ionized gas — the last breath of the dying star whose simmering remains are visible at the heart of this image. As the gaseous shell of this planetary nebula expands and grows dimmer, it will slowly disappear from sight. This stunning planetary nebula was imaged by one of the VLT's most versatile instruments, FORS2. The instrument captured the bright, central star, Abell 36, as well as the surrounding planetary nebula. The red and blue portions of this image correspond to optical emission at red and blue wavelengths, respectively. An object much closer to home is also visible in this image — an asteroid wandering across the field of view has left a faint track below and to the left of the central star. And in the far distance behind the nebula a glittering host of background galaxies can be seen. Credit: ESO

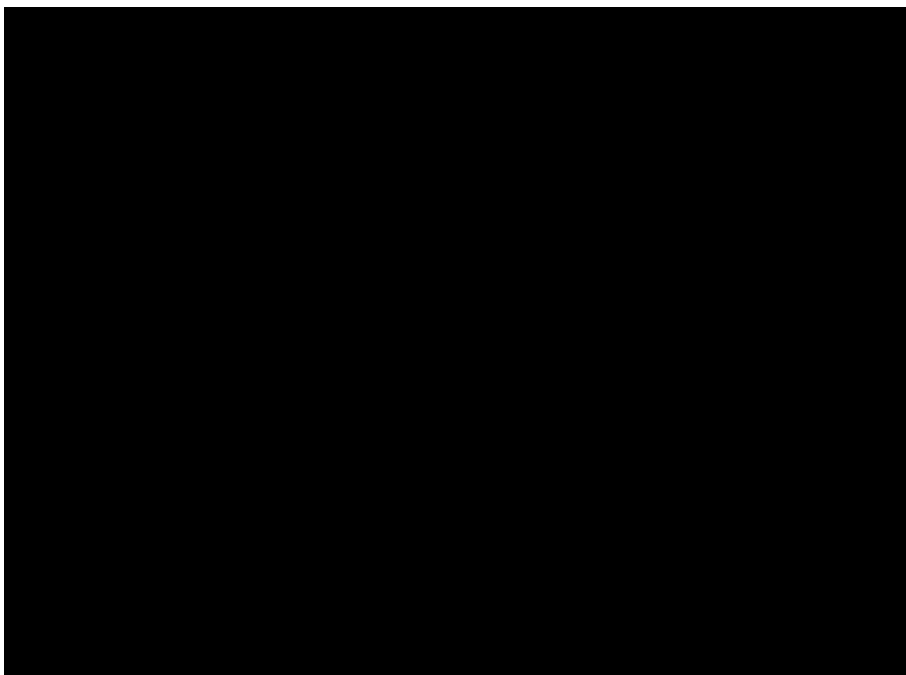
The faint, ephemeral glow emanating from the planetary nebula ESO 577-24 persists for only a short time — around 10,000 years, a blink of an eye in astronomical terms. ESO's Very Large Telescope captured this shell of glowing ionized gas — the last breath of the dying star whose simmering remains are visible at the heart of this image. As the gaseous shell of this planetary nebula expands and grows dimmer, it will slowly disappear from sight.

An evanescent shell of glowing gas spreading into space — the planetary nebula ESO 577-24 — dominates this image<sup>[1]</sup>. This planetary nebula is the remains of a dead giant star that has thrown off its outer layers, leaving behind a small, intensely hot dwarf star. This diminished remnant will gradually cool and fade, living out its days as the mere ghost of a once-vast red giant star.



Red giants are stars at the end of their lives that have exhausted the hydrogen fuel in their cores and begun to contract under the crushing grip of gravity. As a red giant shrinks, the immense pressure reignites the core of the star, causing it to throw its outer layers into the void as a powerful stellar wind. The dying star's incandescent core emits ultraviolet radiation intense enough to ionize these ejected layers and cause them to shine. The result is what we see as a planetary nebula — a final, fleeting testament to an ancient star at the end of its life<sup>[2]</sup>.

This dazzling planetary nebula was discovered as part of the National Geographic Society — Palomar Observatory Sky Survey in the 1950s, and was recorded in the Abell Catalogue of Planetary Nebulae in 1966<sup>[3]</sup>. At around 1400 light-years from Earth, the ghostly glow of ESO 577-24 is only visible through a powerful telescope. As the dwarf star cools, the nebula will continue to expand into space, slowly fading from view.



*This pan video explores the planetary nebula ESO 577-24. ESO's Very Large Telescope captured this shell of glowing ionized gas — the last breath of the dying star whose simmering remains are visible at the heart of this image. As the gaseous shell of this planetary nebula expands and grows dimmer, it will slowly disappear from sight.*

This image of ESO 577-24 was created as part of the ESO Cosmic Gems

JANUARY 20, 2022

Sharing Saliva: The One Clue Babies Use To Tell Who Has Close Relationships

JANUARY 20, 2022

Computer Simulation Models Potential Asteroid Collisions — Results Provide Data for NASA Mission

JANUARY 20, 2022

Quantum Physicists Find Paradoxical Material a Mashup of Three Different Phases at Once — “This Is Uncharted Territory”

JANUARY 20, 2022

NASA's Swift Observatory in Safe Mode — Team Investigating Possible Reaction Wheel Failure

JANUARY 20, 2022

Out of This World Archaeological Experiment Lands in Space

TAGS

## Astronomy Astrophysics

Behavioral Science Biochemistry Biotechnology

Black Hole Brain Cancer Cell Biology

Climate Change Cosmology COVID-

19 Disease DOE Ecology Energy European

Space Agency Evolution Exoplanet

Genetics Geology Harvard-Smithsonian Center

for Astrophysics Hubble Space Telescope

Images Infectious Diseases JPL Mars

Materials Science Max Planck Institute

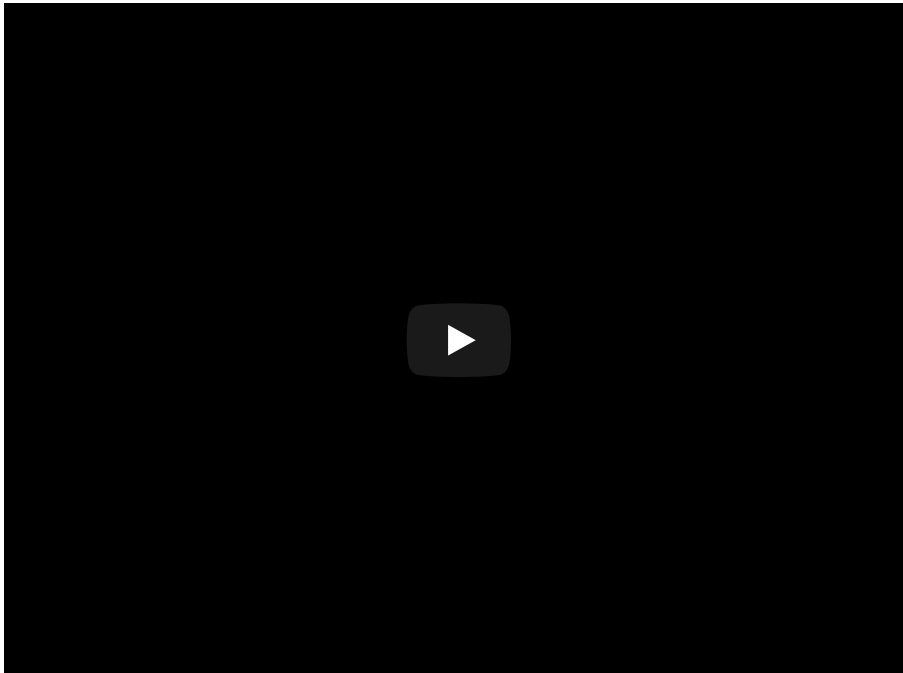
Medicine MIT Nanotechnology

**NASA** NASA Goddard Space Flight Center

Neuroscience Oceanography Optics

Paleontology Particle Physics **Planetary**

Programme, an initiative that produces images of interesting, intriguing, or visually attractive objects using ESO telescopes for the purposes of education and public outreach. The program makes use of telescope time that cannot be used for scientific observations; nevertheless, the data collected are made available to astronomers through the ESO Science Archive.



*This video zooms in from a view of the Milky Way to the planetary nebula ESO 577-24. ESO's Very Large Telescope captured this shell of glowing ionized gas — the last breath of the dying star whose simmering remains are visible at the heart of this image. As the gaseous shell of this planetary nebula expands and grows dimmer, it will slowly disappear from the sight of even ESO's powerful telescopes.*

## Notes

[1] Planetary nebulae were first observed by astronomers in the 18th century — to them, their dim glow and crisp outlines resembled planets of the Solar System.

[2] By the time our Sun evolves into a red giant, it will have reached the venerable age of 10 billion years. There is no immediate need to panic, however — the Sun is currently only 5 billion years old.

[3] Astronomical objects often have a variety of official names, with different catalogs providing different designations. The formal name of this object in the Abell Catalogue of Planetary Nebulae is PN A66 36.

f SHARE

🐦 TWEET

📌 PIN

in SHARE

◀ Previous post

Next post ▶

MORE ON SCITECHDAILY

SPACE

Astronomers Build Incredible 3D Visualization of Exploded Star Using

SPACE

Ten Must-See Images from the European Southern Observatory

SPACE

Very Large Telescope Captures Unprecedented Dimming of Betelgeuse

SPACE

A New Image of The Pencil Nebula

SPACE

ESO's Very Large  
Telescope Views  
Planetary Nebula Abell  
33

SPACE

VLT Telescope  
Captures First-Ever  
Image of a Multi-Planet  
System around a Sun-  
like Star

SPACE

ESO Views the Ghost of  
a Dying Star –  
Planetary Nebula ESO  
378-1

SPACE

Astronomers Reveal a  
Magnificent New  
Composite Image of  
the Crab Nebula

2 COMMENTS

ON "ESO'S VERY LARGE TELESCOPE CAPTURES A FLEETING MOMENT IN TIME"



katesisco | January 24, 2019 at 11:26 am | Reply

Recall that 97% of all stars end up as this, first a planetary nebula, then a secondary glow, then belches as the old star fades into white dwarf life that seems to be endless.

What an amazing prospect to grow old along with our star!! First snowball Earth, then the Great Oxygenation Event, then Extinction Events, and here we still are, just like our white dwarf star!!



Daurie Kesslyn | January 24, 2019 at 12:47 pm | Reply

The sphere is diametrically geometric opposition to itself because of its own imperfection, a false statement due to conscious awareness, which augments time-conciliation by polarities, and Hamiltonian conjugate quantities podcast...(nothing is experienced without change.)

Indeed, the preponderance for the multi-verse is a direct correlation with the neutral polarity of photons (podcast) in equipollence with causality from quantum of action.

How do Neutral Photons Carry the Sign & Value of Charge?

Niels Bohr – The Quantum of Action and the Description of Nature  
SEE THE EPISTEMOLOGICAL PROBLEM

Nima Arkani Hamed Why is Quantum Gravity So Significant Closer to Truth

The Looped Light of the Triple-Slit Real Experiment as a Confirmation for the Extra Dimensions of Quantum Spacetime and the Reality of Dark Energy

Spin-Mediated Consciousness: Theory, Experimental

Studies, Further Development & Related Topics

The Trascension Hypothesis – John Smart  
The Cruise 2018/19 Show – CHANEL -\*Low volume  
Vangelis – Beautiful Planet Earth [HD]

## Leave a comment

Email address is optional. If provided, your email will not be published or shared.

Comment

Name

Email

POST COMMENT

### FOLLOW SCITECHDAILY

Facebook

Twitter

YouTube

Pinterest

Newsletter

RSS

### SCITECH NEWS

Biology News

Chemistry News

Earth News

Health News

Physics News

Science News

Space News

Technology News

### LATEST NEWS

Your Eyes May Reveal Your True Biological Age – And Your Risk of Illness and Death

We Asked a NASA Scientist: Are There Rainbows on Mars [Video]

Closest Ever to Apocalypse: Doomsday Clock Remains at 100 Seconds to Midnight

MIT Startup Exchange Program: Creating Powerful Synergies

What Is 5G? An Electrical Engineer Explains the Technology