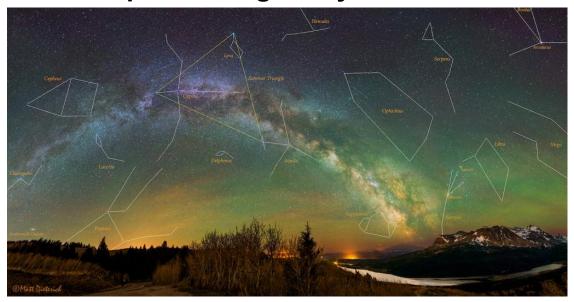
## What's Up in the Night Sky for SEPTEMBER



## Presented by

#### **Photonverse**

September 2025 Night Sky – Lunar Eclipse, Planets, Meteors & Deep Sky Objects

https://www.youtube.com/watch?v=28Mo3lv4ens

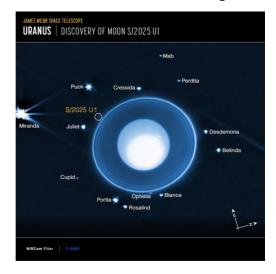
#### **MindFull**

September Night Sky 2025: 2 Eclipses + 3 Meteor Showers! https://www.youtube.com/watch?v=PezzCgxG7RU

## **New Moon Discovered Orbiting Uranus**

August 19, 2025

To read the full article click the image below.



### NASA Marsquake Data Reveals Lumpy Nature of Red Planet's Interior

Aug. 28, 2025

Click on the image to read the full article

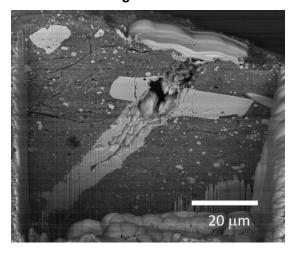


Scientists believe giant impacts — like the one depicted in this artist's concept — occurred on Mars 4.5 billion years ago, injecting debris from the impact deep into the planet's mantle. NASA's InSight lander detected this debris before the mission's end in 2022. Credit: NASA/JPL-Caltech

#### NASA's Bennu Samples Reveal Complex Origins, Dramatic Transformation

August 22, 2025

Click on the image to read the full article



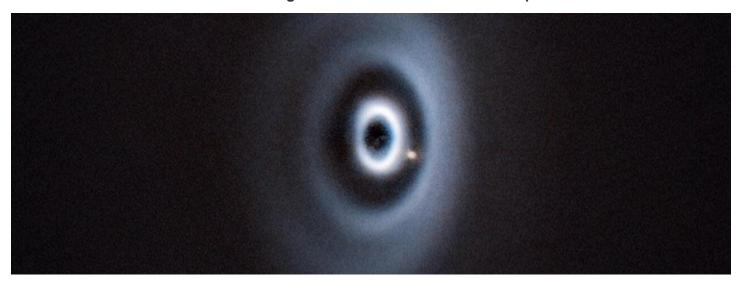
#### RECENT DEVELOPMENTS IN EXOPLANET RESEARCH

# First Ring-Forming Embedded Planet Discovered Around a Young Sun-Like Star

August 26, 2025

Astronomers led by Leiden PhD candidate Richelle van Capelleveen have, for the first time, discovered an exoplanet that has carved a bright gap in the protoplanetary disc around its star. This rare observation provides new insights into how young planets shape their surroundings. To read more click on the link: <a href="https://tinyurl.com/2bhjduns">https://tinyurl.com/2bhjduns</a>

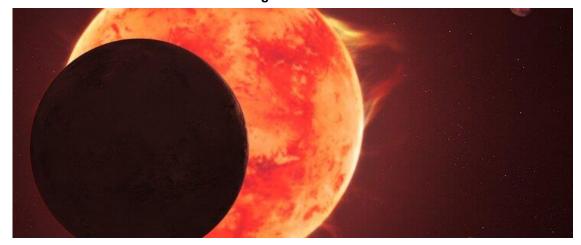
Click on the image to watch a video about this exoplanet



### Webb Narrows Atmospheric Possibilities for Earth-Sized Exoplanet TRAPPIST-1 d

August 13, 2025

Click on the image to read the full article



### **Exoplanet Triggers Stellar Flares and Hastens Its Demise**

August 5, 2025



Giant planet HIP 67522 b orbits so close to its star that it triggers flares that point directly at it and strip away its atmosphere faster than expected.

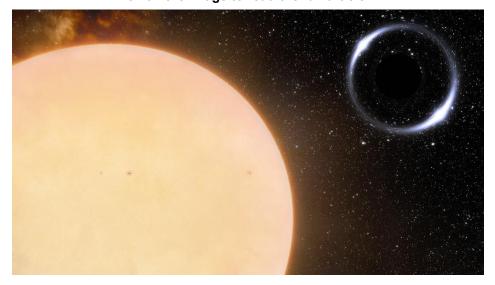
Credit: Danielle Futselaar ( https://www.artsource.nl )

As giant planet HIP 67522 b orbits its host star, it triggers its own doom. The planet orbits HIP 67522, a young star slightly larger than the Sun, in just 7 Earth days. At just 17 million years old, the star is far more active than our Sun, regularly flaring and releasing massive amounts of energy and stellar material. Click the link to read more: https://tinyurl.com/j5smmz7u

### How Dark Matter in Exoplanets Could Create New Black Holes

August 26, 2025

Click on the image to read the full article

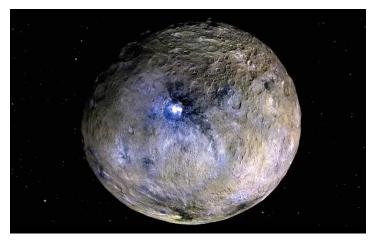


Artist's concept of a <u>black hole</u> near its companion star. A new study suggests that <u>dark matter</u> in exoplanets similar to Jupiter could accumulate and collapse to form black holes *inside the planets*. The entire planet would eventually transform into a miniature – or planetary-mass – black hole. Image via International Gemini Observatory/ <u>NOIRLab</u>/ NSF/AURA/ J. da Silva/ Spaceengine/ M. Zamani.

#### RECENT DEVELOPMENTS IN ASTROBIOLOGY RESEARCH

## Ceres May Have Had Long-Standing Energy to Fuel Habitability

August 20, 2025



Dwarf planet Ceres is shown in these enhanced-color renderings that use images from NASA's Dawn mission. New thermal and chemicals models that rely on the mission's data indicate Ceres may have long ago had conditions suitable for life.

NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

The dwarf planet is cold now, but new research paints a picture of Ceres hosting a deep, long-lived energy source that may have maintained habitable conditions in the past.

New NASA research has found that Ceres may have had a lasting source of chemical energy: the right types of molecules needed to fuel some microbial metabolisms. Although there is no evidence that microorganisms ever existed on Ceres, the finding supports theories that this intriguing dwarf planet, which is the largest body in the main asteroid belt between Mars and Jupiter, may have once had conditions suitable to support single-celled lifeforms. To read more about this discovery click the link: <a href="https://tinyurl.com/j95kxhuc">https://tinyurl.com/j95kxhuc</a>

# Teaching A.I. to Detect Life: Carnegie Scientist Co-Leads NASA-Funded Effort

August 26, 2025

**Washington, D.C.** — A multi-institutional team co-led by Carnegie Science's Michael L. Wong and Caleb Scharf of the NASA Ames Research Center has received a prestigious \$5 million, five-year <a href="NASA Interdisciplinary Consortia for Astrobiology Research (ICAR) grant">NASA Interdisciplinary Consortia for Astrobiology Research (ICAR) grant</a> to develop A.I. tools for enhancing the search for signs of life on other planets.

The cross-disciplinary project brings together experts in chemistry, geoscience, machine learning, and planetary science to address one of astrobiology's biggest challenges—reliably distinguishing life from non-life in planetary data. Click the link for more info: https://tinyurl.com/4mtajjma

# Scientists Create Mysterious Molecule That Could Spark Life in Space

August 7, 2025

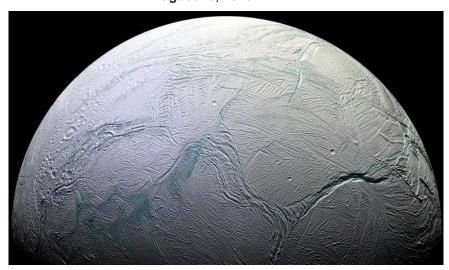


Methanetetrol, a wildly unstable yet potentially life-seeding molecule, has finally been created in the lab under simulated space conditions, opening a new chapter in our understanding of prebiotic chemistry. Credit: Al/ScienceDaily.com

Researchers have for the first time isolated a compound that could open new doors in understanding the chemistry that supports life in space. Click the link for more info: <a href="https://tinyurl.com/4h6fjmfs">https://tinyurl.com/4h6fjmfs</a>

# Is There Life on Saturn's Moon? Where There's Water, There's a Chance

August 29, 2025

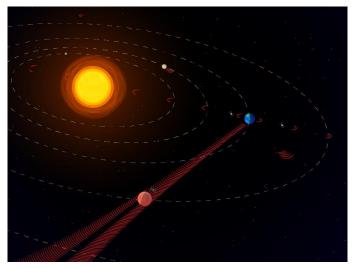


Saturn's moon Enceladus NASA

At first glance, Saturn's moon Enceladus seems rather unremarkable: it is much smaller than the Earth's moon and is far away and completely covered in ice. Yet beneath its frozen crust lies an ocean of liquid water, making it one of the most promising locations in the solar system in the search for extraterrestrial life. To read more click the link: <a href="https://tinyurl.com/3v5jd758">https://tinyurl.com/3v5jd758</a>

#### New Study Suggests We Should Search for "Spillover" from Extraterrestrial Radio Communications

August 23, 2025



New research suggests humans should look to planetary alignments outside of the solar system when searching for signatures of extraterrestrial communications. Credit: Zayna Sheikh

Since the dawn of the Space Age, agencies have relied on powerful arrays of communication antennas positioned worldwide to control, coordinate, and retrieve data from their missions. Today, NASA and its partner agencies rely on the <a href="Deep Space Network">Deep Space Network</a> (DSN) to communicate with the many probes, orbiters, landers, and rovers they have operating beyond Earth. These signals also lead to "spillover," where radio signals reach far beyond robotic missions and propagate for light-years through space. Click the link to read more: <a href="https://tinyurl.com/yktbxdsf">https://tinyurl.com/yktbxdsf</a>





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