

# Cosmic Cruisin' Stars 'n Space



February 2024

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## **CENTI ASTRO-SPACE ACTIVITIES**

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Welcome to the February edition of *Cosmic Cruisin' Stars 'n Space*, the newsletter that delves into the enigmas of the cosmos and stays abreast of Astronomy and Space Exploration breakthroughs, offering a glimpse into the marvels of the universe and the state-of-the-art technology advancing our comprehension. This issue is getting to you a little later than usual. I will be sending the newsletter between the 8<sup>th</sup> and 12<sup>th</sup> every month. Future "What's up in the Night Sky" will be sent separately at the end of every month. Click on the titles to read the articles.

In this issue, we will dive into the following topics:

- What's Up in the Night Sky for FEBRUARY
- An Astronomer's Guide to the City
- What Would Happen to Earth if a Large Asteroid Hit the Moon?
- Moon Rocks with Unique Dust Found
- Discovery Changes Understanding of Water's History on the Moon
- When will Artemis II Launch
- Artemis III: NASA's First Human Mission to the Lunar South Pole
- Astronomers Spy a Small, Cool Exoplanet with a Months-Long Year
- James Webb Space Telescope Makes Rare Detection of 2 Exoplanets Orbiting Dead Stars
- Event Horizon Telescope Spies Jets Erupting from Nearby Supermassive Black Hole
- Astronomers Detect Oldest Black Hole Ever Observed
- The Metalens Meets the Stars
- Space Pic of the Month
- FACT WORTH SHARING

# What's Up in the Night Sky for FEBRUARY

Presented by

Adventure Science Center Nightwatch - Bill McClain

<https://www.youtube.com/watch?v=uN6Trbam5io>

Tonight's Sky: February

<https://www.youtube.com/watch?v=0eGB8NApTwo>

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## An Astronomer's Guide to the City

Jeremy Miller January 23, 2024

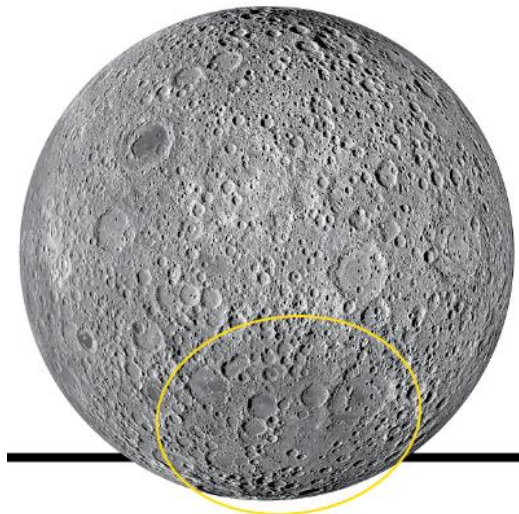


Jeremy Miller makes final adjustments to his telescope for a night of astrophotography in the East Bay with Mount Tamalpais on the horizon. (Jeremy Miller)

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## What Would Happen to Earth if a Large Asteroid Hit the Moon?

Astronomy Staff September 11, 2023

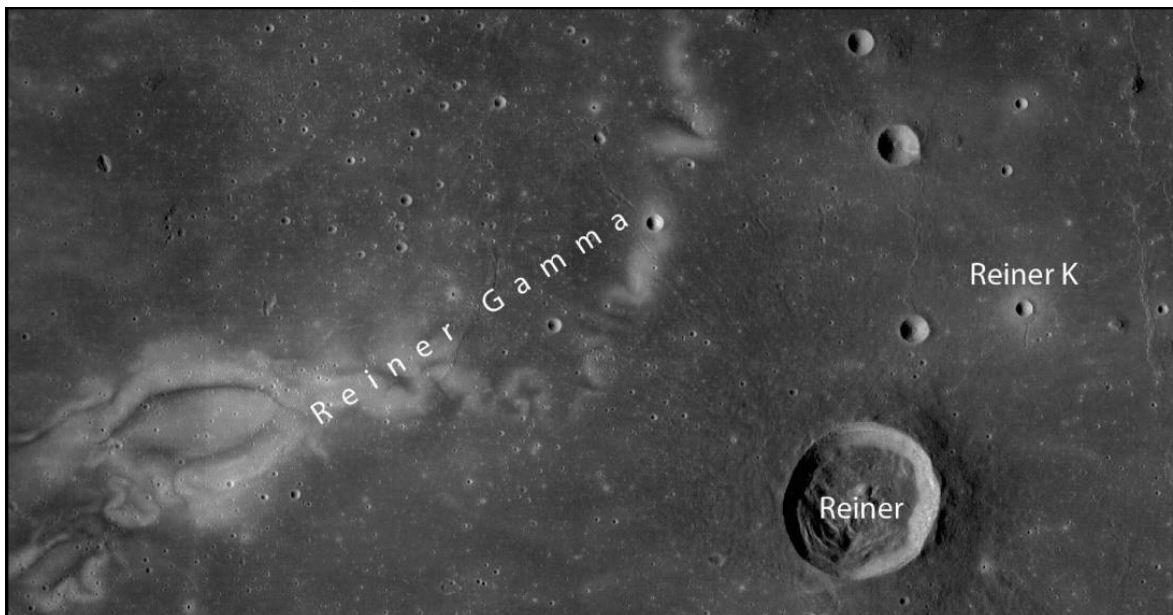


Our Moon's largest impact basin, the South Pole-Aitken Basin (circled), may have been created by a collision with an object more than 100 miles (160 km) wide.

Credit: NASA/GSFC/Arizona State University

## Moon Rocks with Unique Dust Found

Kathrin Kottke, University of Münster    January 18, 2024



The meter-high rocks discovered in the work are located near the Reiner K crater in the "Reiner Gamma" region, which has a magnetic anomaly. Credit: NASA LRO/NAC

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## Discovery Changes Understanding of Water's History on the Moon

Jeff Renaud, University of Western Ontario    January 15, 2024



Western postdoctoral fellow Tara Hayden with a lunar meteorite, which was not a part of the study, in the Earth and Planetary Materials Analysis Laboratory. (Photo by Christopher Kindratsky)

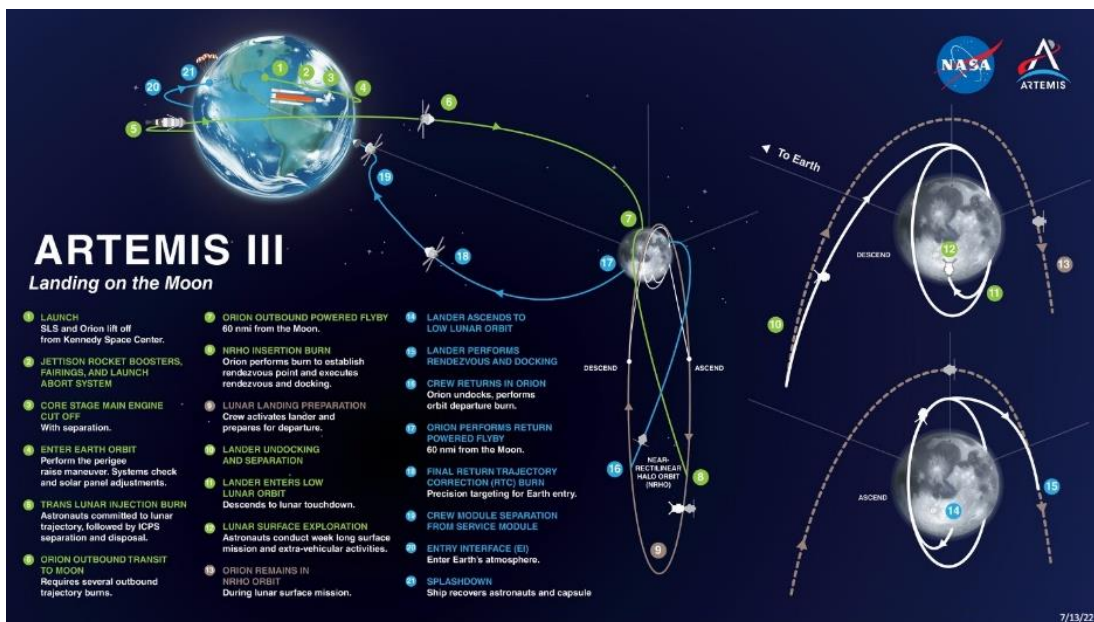
# When will Artemis II Launch



The Artemis II crew is shown inside the Neil Armstrong Operations and Checkout Building at NASA's Kennedy Space Center in Florida in front of their Orion crew module on Aug. 8, 2023. From left are: Jeremy Hansen, mission specialist; Victor Glover, pilot; Reid Wiseman, commander; and Christina Hammock Koch, mission specialist. NASA/Kim Shiflett

# Artemis III: NASA's First Human Mission to the Lunar South Pole

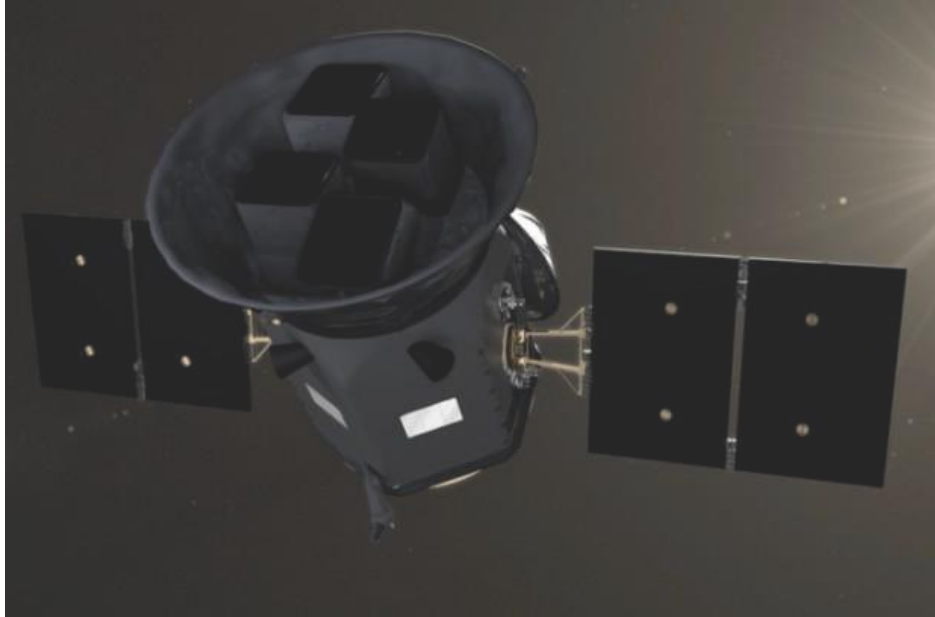
Catherine E. Williams January 13, 2023



Artemis III will be humanity's return to the lunar surface and NASA will make history by sending the first humans to the lunar South Pole region. NASA

## Astronomers Spy a Small, Cool Exoplanet with a Months-Long Year

Tom Metcalfe January 29, 2024



NASA's Transiting Exoplanet Survey Satellite (TESS) was built to hunt down thousands of exoplanets around nearby stars. Credit: NASA's Goddard Space Flight Center/CI Lab.

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## James Webb Space Telescope Makes Rare Detection of 2 Exoplanets Orbiting Dead Stars

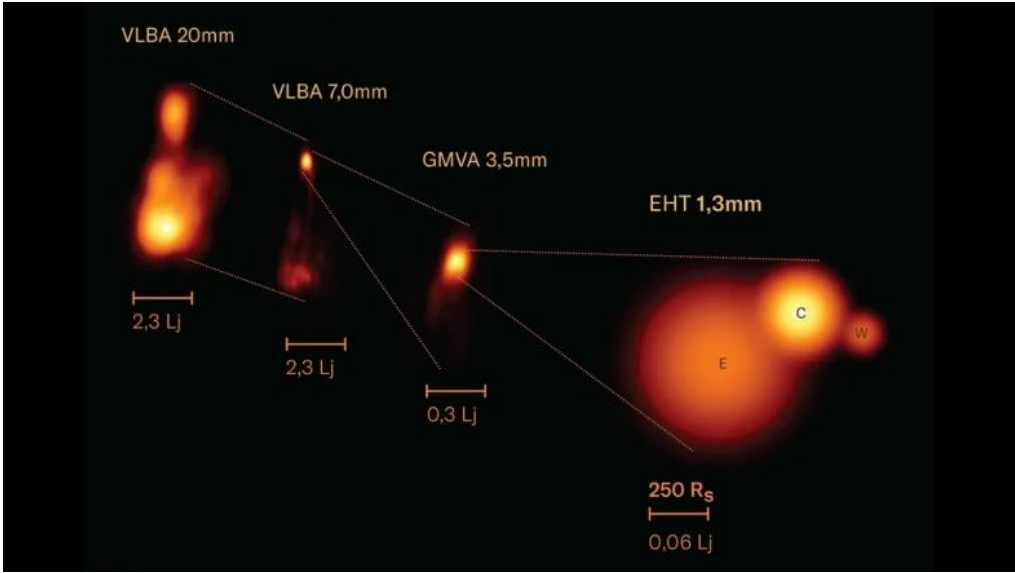
Robert Lea February 3, 2023



An illustration shows a Jupiter like world orbiting a dead white dwarf star. (Image credit: Robert Lea (created with Canva))

# Event Horizon Telescope Spies Jets Erupting from Nearby Supermassive Black Hole

Robert Lea February 3, 2024



Deep-space image showing four orange blobs — different representations of an outburst from a supermassive black hole

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# Astronomers Detect Oldest Black Hole Ever Observed

Carolyn Collins Petersen, Universe Today January 23, 2024



A view of the galaxy GN-z11, which harbors the oldest known black hole in the universe. Credit: NASA, ESA, and P.

# The Metalens Meets the Stars

Leah Burrows January 17, 2024



This 10-centimeter-diameter glass metalens can image the sun, the moon and distant nebulae with high resolution. (Credit: Capasso Lab/Harvard SEAS)

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## Space Pic of the Month



Rosette Nebula Credit: Adam Block/Mount Lemmon SkyCenter/University of Arizona

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## FACT WORTH SHARING

Earth's aphelion (farthest point from the Sun) happens in July. Earth's orbit around the Sun isn't perfectly circular, so we get closer to and farther from the Sun depending on where we are in that orbit. In 2024, the aphelion will be on July 5<sup>th</sup>.

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