

CLEVELAND MUSEUM *of* NATURAL HISTORY

THE STARGAZER

SUMMER 2026



THE OBSERVATORY

This image, obtained by the PROMPT-1 Telescope in Chile, shows NGC 2359, an emission nebula roughly 15,000 light-years away in the constellation Canis Major. The bubble at its center was produced by powerful winds blown off an extremely luminous star within, known as WR7. Often called Thor's Helmet, the sculpted cloud of glowing gas resembles the legendary headgear worn by the Norse god of thunder.



In a similar vein, July 20 marks the fiftieth anniversary of the landing of Viking 1, the first spacecraft to land successfully on the surface of Mars. It was one of two NASA landers that would reach the Red Planet in the summer of 1976, with Viking 2 touching down approximately 45 days later. The landers carried with them sophisticated experiments to search for signs of life in the Martian soil. A flight backup of the Viking Biology Instrument can be seen on display in the Museum's Larry Sears and Sally Zlotnick Sears Dynamic Earth Wing.



SHAFRAN PLANETARIUM NEWS

This summer, the Shafran Planetarium is running two public programs that are fun, educational, and out of this world! For the general public show, we have *Project Planet: Pluto*. For the twentieth anniversary of Pluto's reclassification as a planet, come along and explore what makes a planet, a planet! Orbit, size, formation, and even other space objects count towards which objects out there are considered planets. With Pluto as the main character of this story, we'll see how definitions have changed because of additional characters, now known as Dwarf Planets.



Showtimes:

Sunday, June 21–Sunday, September 6
Weekdays: 12pm, 1pm & 3pm
Weekends: 12pm & 3pm
Tuesday, September 8–Sunday, September 20
Weekdays: 11am, 1pm & 3pm
Weekends: 12pm & 3pm

Our new children's planetarium show is called *Solar System Friends*! In this program, the Solar System Friends are in trouble—and they need your help. Some of the planets have lost their special sparkle and need cosmic care to return to their normal selves. Journey with us through the solar system as we visit planets like Venus, Saturn, and Neptune, helping each one restore its unique qualities. Get ready for a fun, interactive adventure where YOU are the hero, helping the planets shine their brightest once again!



Showtimes:

Sunday, June 21–Sunday, September 6
Weekdays: 11am
Weekends: 1pm
Tuesday, September 8–Sunday, September 20
Weekends: 1pm

Shafran Superstar Highlight: We'd like to take a moment to recognize our volunteer, Dan Galdun. On Wednesday, April 22, we celebrated our Museum volunteers and their extraordinary contributions across curatorial work, collections, the visitor experience, and docent programs. We extend our special congratulations to Dan for receiving the Kent Hale Smith Award in recognition of his outstanding work in mineralogy and astronomy. His contributions have made a meaningful and lasting impact on the Astronomy Department, enriching both our programs and visitor experience.



Find more information about these programs and ticket information on our website.

PERIOD PANORAMA

Summer is prime time for viewing the Milky Way in a dark sky! Check out what other cosmic events the night sky has to offer this season.

June 21: Summer Solstice and first quarter Moon. Resulting from Earth's axial tilt, the June solstice marks the longest day in the Northern Hemisphere (tilted towards the Sun) and the shortest day in the Southern Hemisphere (tilted away from the Sun). Summer will start here with the days growing shorter and the nights growing longer.

The Moon rises this day at 1:20pm and sets the next morning at 1:20am. Its illuminated half points towards some evening planets, Venus, Jupiter, and Mercury, in the West after the Sun sets at 9pm.

June 29: Full Moon. This Moon is sometimes called by a nickname, the "Strawberry Moon," because it coincides with the peak of strawberry season across areas of the Northern United States. Moonrise: 9:20pm; moonset: 6am.



Strawberry Moon in 2022. Image Credit: Jeff Dai (The World At Night)

June 30: Asteroid Day is an annual global event that marks the Earth's largest asteroid impact in recorded history, the Siberia Tunguska event. This day aims to bring awareness to asteroids and the potential dangers they pose to Earth.

July 6: Earth is at Aphelion, the most distant point in its orbit around the Sun, 94,502,961 miles away from the Sun. Contrary to popular belief, our planet's changing distance from the Sun does not cause our seasons!

July 7: Third quarter Moon. Saturn will be very close to this half Moon in the sky, with the illuminated half pointing towards the planet. From our perspective on Earth, their proximity to each other in the sky, just over 1 degree or a pinky finger held at arm's length, is called a conjunction. Catch this Moon-Saturn conjunction before sunrise at 6am. Moonrise: 1am; moonset: 1:30pm.

July 14: New Moon.

July 20: Fiftieth anniversary of the Viking 1 Landing. The first successful Mars landing took place in Chryse Planitia, or "Golden Plain." Exactly 7 years earlier, the crew of Apollo 11 were the first humans to land on another plain—the Moon's Sea of Tranquility.

July 21: First quarter Moon. After sunset at 8:53pm, you can find a bright point of light where the illuminated half of the Moon is pointing towards the planet Venus, and a red point of light where the shadowed half is pointed towards the star Antares in the constellation Scorpius. Moonrise: 2:30pm; moonset: 12:30am.

July 29: Full Moon. This Moon is sometimes called the "Buck Moon," named for the peak growth of male deer antlers around this time of the year. While the Moon is heading towards the Southwest in the early morning, you can also catch the planets Saturn, Mars, and Mercury rising in the Southeast. Moonrise: 9pm; moonset: 7am.

August 5–6: Third quarter Moon matching Mercury's half phase. Catch this half Moon rising at midnight and setting at 3pm. Mercury is also half illuminated. Due to the planet's inferior (i.e. closer) orbit to the Sun, it also has phases! Best viewing time to see Mercury: 5–5:30am, right before the Sun rises.

August 12–13: Perseid Meteor Shower with a new Moon! One of the most popular annual stargazing events is active July 17–August 24, and peaks around this night with no moonlight blocking the view. Stargazers in rural areas can typically witness up to 30–50 meteors per hour. The shower's radiant point (where the meteors appear to originate) will be in the Northeastern sky, in the constellation Perseus. Best viewing time: Midnight–5:30am.



Composite of Perseid meteor streaks over Durdle Door in Dorset England, an iconic location featured in the sci-fi movie *Project Hail Mary*! Image credit: Josh Dury Astrophotography.

August 19: First quarter Moon. After sunset at 8:20pm, you can find a red point of light where the illuminated half of the Moon is pointing away from the star Antares, which gets its name ("anti-ares") from its resemblance to the red planet Mars, aka the god of war, Ares. Moonrise: 2:30pm; moonset: 11:30pm.

August 24: Twentieth anniversary of Pluto's planetary "demotion."

In 2006, the International Astronomical Union voted to officially set 3 criteria for what makes a planet a planet, of which Pluto meets 2 out of the 3. It cannot clear its orbit in the crowded outskirts of the Solar System, where almost all the other Dwarf Planets are!

August 28: Full Moon and partial lunar eclipse. This Moon is sometimes called by a nickname, the "Sturgeon Moon," for the large numbers of the largest North American freshwater fish around this time of year. Moonrise: 8:20pm; moonset: 8:20am.

The Moon will be aligned such that the Earth's shadow will fall upon 96% of its surface. Some sunlight, from where the Sun is positioned on the other side of Earth, will scatter through the Earth's atmosphere, with only the longer, redder wavelengths of light refracted onto the Moon's surface. Eclipse maximum: 12:12am on August 28.

September 3: Fiftieth anniversary of the Viking 2 landing. The second spacecraft landing on Mars took place in an area known as Utopia Planitia, or "Paradise Plain." The Viking Program data, starting in 1976, greatly expanded our knowledge of Mars' composition.

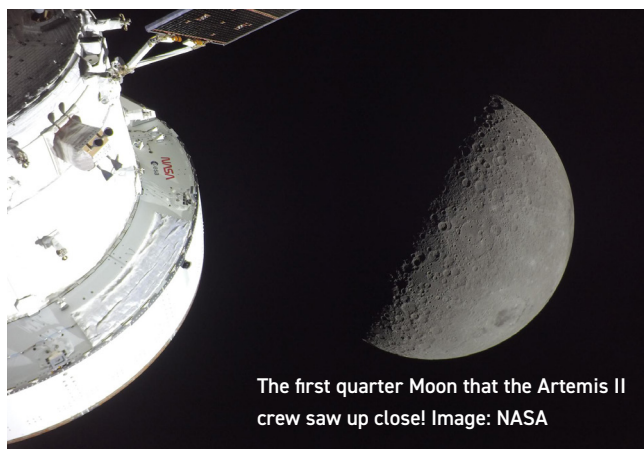
September 4: Third quarter Moon. The Pleiades will be close by this half Moon in the sky, with the illuminated half pointed away from the star cluster. Moonrise: midnight; moonset: 4pm.

September 10: New Moon.

September 14: Anniversary of the GW150914 signal. A Gravitational Wave collected on 2015-09-14 was the first ever to be directly observed. The waveform carried information from two black holes merging in a distant galaxy. It was collected by the twin detectors of the US National Science Foundation Laser Interferometer Gravitational-wave Observatory, aka LIGO.

September 18: First quarter Moon. Catch this half Moon rising during the afternoon at 3:30pm and setting in the evening at 11:30pm.

September 19: NASA's International Observe the Moon Night—an occasion to gather in celebration of our lunar neighbor! It takes place each year in September or October, when the Moon is around its first quarter phase. This is a great opportunity to observe prominent features on the lunar surface, where shadows will enhance the Moon's cratered appearance.



The first quarter Moon that the Artemis II crew saw up close! Image: NASA

LOOK AHEAD

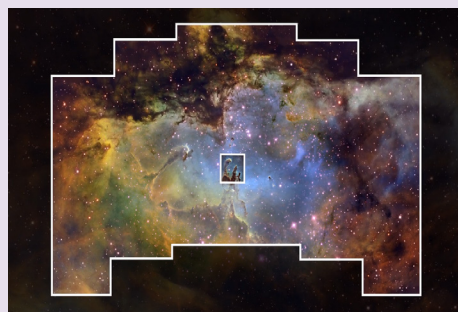
NASA's newest space telescope, known as the Nancy Grace Roman Space Telescope, is expected to launch from NASA's Kennedy Space Center late this September! This future visible and near-infrared telescope will have the same size mirror as Hubble, but with improved capabilities including cutting-edge survey potentials that are 1,000 times faster than Hubble and a field of view 200 times that of Hubble. These features will provide us with enormous, rapid, and broad inspections of the sky, giving us a new atlas of the Universe.

The Nancy Grace Roman Telescope is respectfully named after Nancy Grace Roman, who is the first woman to hold an executive position at NASA as their first chief astronomer. She is considered the "Mother of Hubble," pushing for the Hubble Space Telescope to go up into space.

Roman is predicted to be a five-year mission, and is one of three NASA space observatories focused on observing new worlds and new horizons. These observatories, which include the James Webb Space Telescope, are planned to accelerate our catalog of extrasolar potential habitable worlds and to improve our broad understanding of dark matter and dark energy by investigating the structures of the Universe.

Roman will take direct images of extrasolar planets to expose future technologies needed for direct measurements of super-Earths and sub-Neptunes, using a coronagraph to demonstrate blocking starlight to image colder, fainter, mature worlds in hopes of finding how common solar systems like ours are made throughout the cosmos.

This impressive telescope, which will reside in orbit around the Earth at Lagrangian point L2, is planned to launch this September, and no later than May of 2027.



The Eagle Nebula showing Hubble's FOV of the famous Pillars of Creation (center) compared to the full field of view of Roman's Wide Field Instrument.