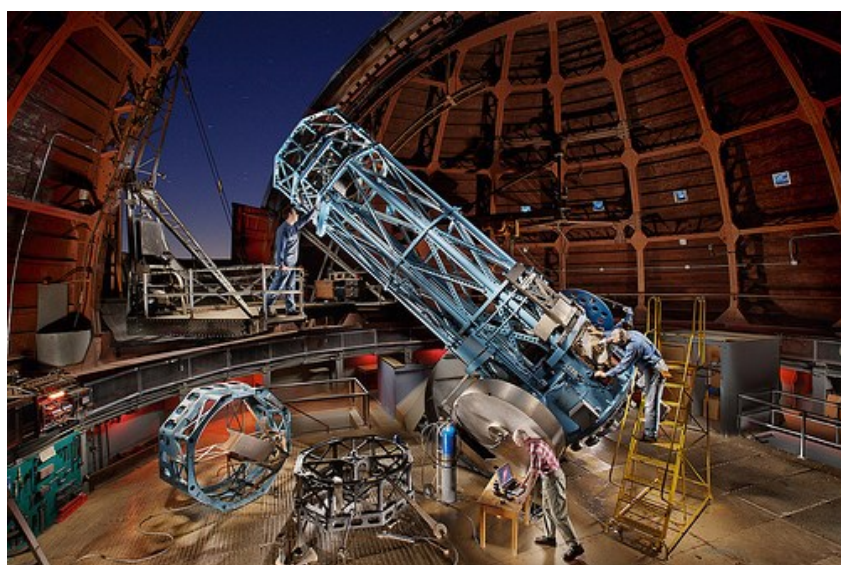




# THE LOS ANGELES ASTRONOMICAL SOCIETY

AUGUST, 2023  
VOLUME 97, ISSUE 8

# THE BULLETIN



There are only three 60 Inch Nights remaining for the 2023 season. Please go to Page 2 to view the dates and reservation information. These nights are reserved for LAAS members and friends only. Please make your reservations soon.

**Garvey Nights** -The Garvey Ranch Park Observatory is open to the public every Wednesday night from 7:30 PM to 10 PM, weather permitting. Bring your telescopes or stop by to learn more about the LAAS .



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## Upcoming Club Events

- Board Meeting,: Aug. 9
- Family Night: Aug. 12
- General Meeting: Aug. 14
- Dark Sky Night: Aug 19
- Public Star Party: Aug 26

# Mt. Wilson Nights - Schedule For 2023

## 60 Inch and 100 Inch Nights

### 60 Inch Dates:

**(All on Saturday and all HALF-nights only.)**

August 12

September 16

October 14

### 100 Inch Night:

September 9 - This is the final 100 Inch Night of the season. Please make your reservations soon.



### The Cost per person, per session:

60 Inch Night - \$65.00

100 Inch Night - \$145.00 (Booked/Waiting List only)

There will be 20 people, per session.

Learn more about these incredible events by visiting Mt. Wilson Observatory's website:

<https://www.mtwilson.edu/60-telescope/>

<https://www.mtwilson.edu/100-telescope-observing/>

### How to Make a Reservation?

Please contact Darrell Dooley **BEFORE** you pay for your reservation.

*Darrell is our Mt. Wilson Coordinator and the **ONLY** contact available.*

Darrell's Email Address:

[Mtwilsoncoordinator@laas.org](mailto:Mtwilsoncoordinator@laas.org)

*Darrell will answer all of your questions and concerns.*

# How I Spent My July 4th Weekend

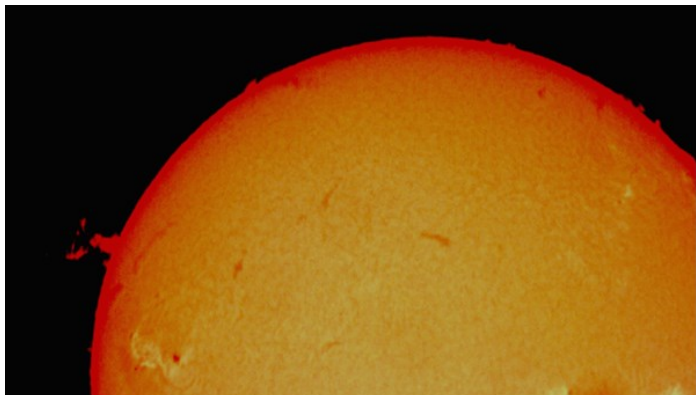
## By Spencer SooHoo

I admit I have an anti-solar bias. I prefer to spend my telescope time looking or photographing objects at night. But, over the 4th of July weekend, I spent 2 days watching our Sun. John O'Bryan generously loaned me his Lunt H-alpha scope several months ago, and I would set it up next to my white-light filtered scope at star parties. It was fun pointing out the different views one gets through the two types of scopes.

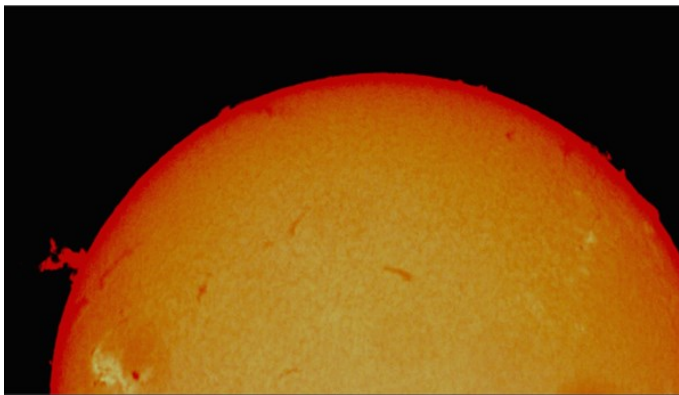
John asked me to return his Lunt for use at the Bear Valley Springs Astronomy Club booth at a community fair. He and LAAS members Claude and Teresa Plymate setup a 90mm Coronado H-alpha scope and an 8-inch SCT with a white light filter for public viewing. I was tasked with setting up the Lunt with a webcam to display the H-alpha images on a large screen monitor.



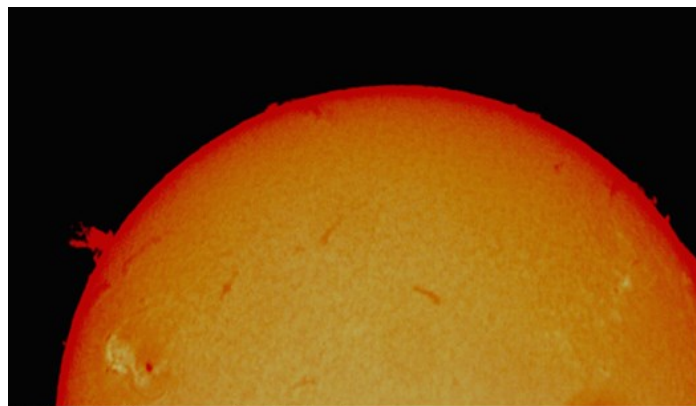
Until then, I would take a quick look through the eyepiece and move on. As I fiddled with getting the display setup, I was forced to really look at the image...you can say I took a "sunbath" instead of a "sun shower" and was really surprised to see how dynamic the prominences are as shown in the photo



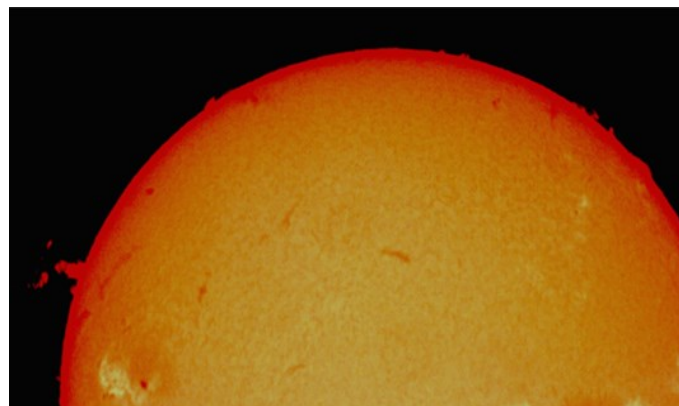
2023-07-02 1:14PM



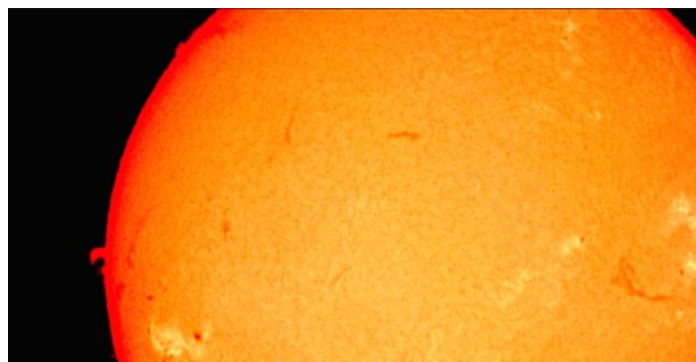
2023-07-02 1:24PM



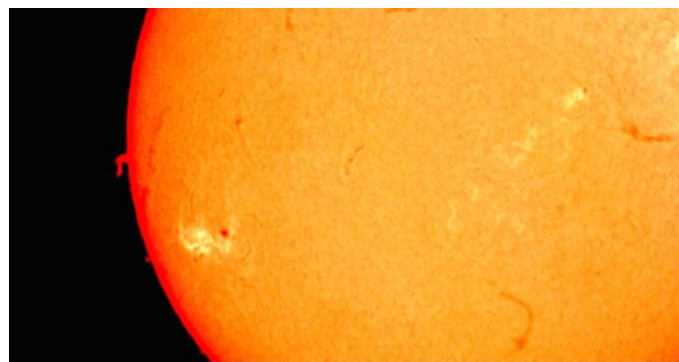
2023-07-02 1:29PM



2023-07-02 1:32PM



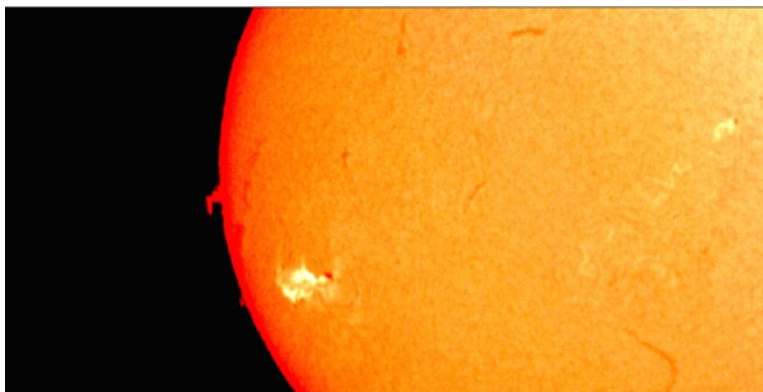
2023-07-02 1:41PM



2023-07-02 1:59PM

Sequence showing prominence changing shape over the course of roughly 45 minutes. The images are taken through a 60mm Lunt single-stack H-alpha scope with a QHY5L-II color camera controlled via SharpCap. The Lunt is mounted on a AM5 in Alt-Az mode.

After a long day, I took one last look through the 90 mm Coronado and noticed a very bright white spot near the prominences I was monitoring. I called Claude over and he said it looked like a solar flare. John checked NASA's Solar Dynamics Observatory and confirmed that we were seeing a Class-X flare. Later, I looked at the images I captured and realized that the bright spot below the prominence on the left was the flare that started around 1PM and peaked around



2023-07-02 4:15PM Solar flare. This Class-X flare erupted from sunspot AR3354 starting around 1PM and peaked at 4:17PM.

I had 3 firsts for me:

1. Seeing prominences change over time.
2. Seeing a solar flare.
3. Capping off the weekend with my first hot air balloon ride.



# Sunspots, Heat Waves and the Approaching Solar Maximum

By Ray Blumhorst

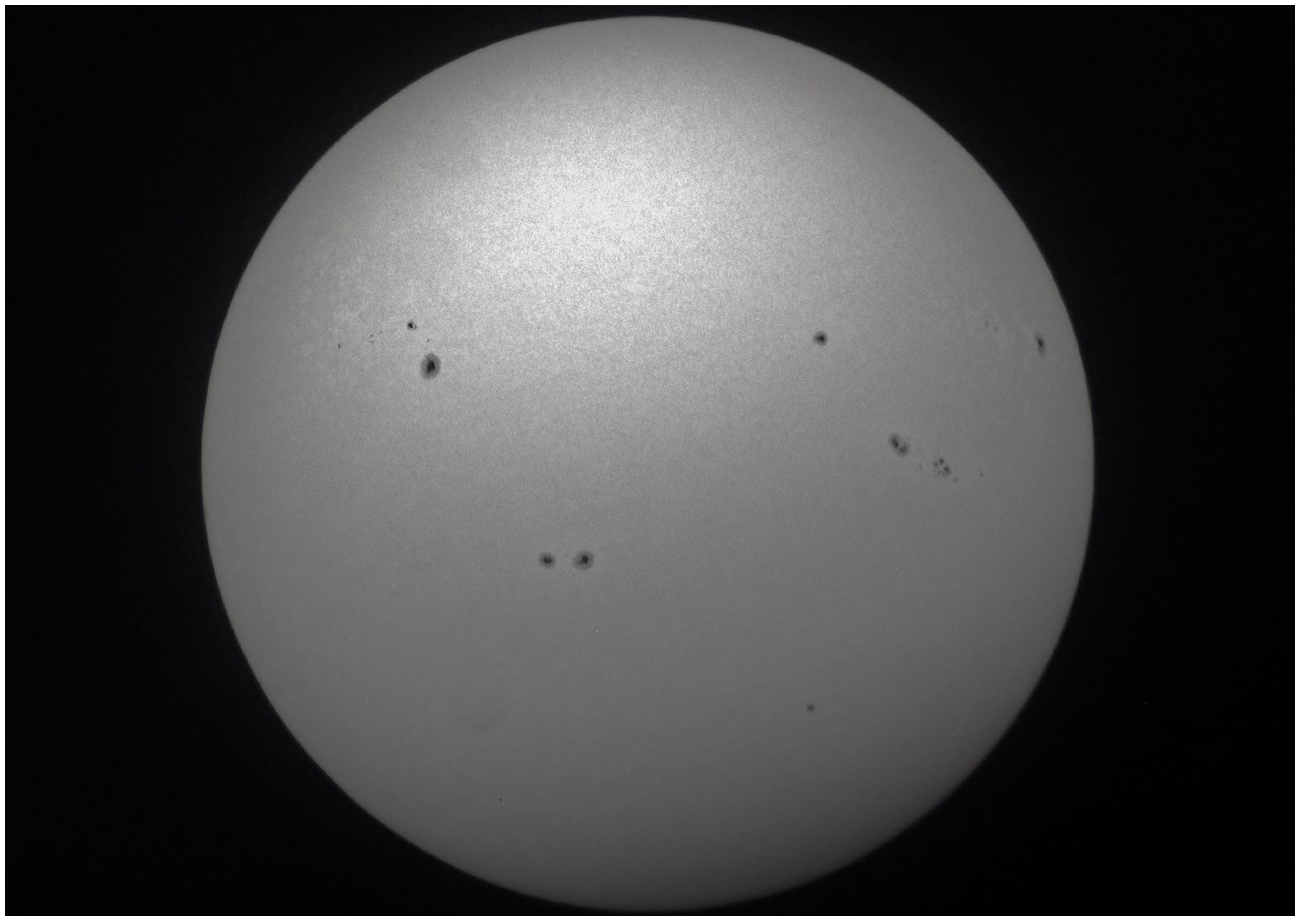
Sunspots lay splattered across the solar photosphere and indicated the twisted magnetic lines poking through the surface of our roiling cauldron of predominately hydrogen and helium gases. But can a clear abundance of such activity lead to the heat wave presently affecting planet Earth? Nope, sorry, there's no evidence supporting that. Correlation is not causation.

"Years having higher numbers of sunspots generally correspond with warmer times on the Earth, not cooler times," said Greg Kopp, a senior research scientist at the University of Colorado's Laboratory for Atmospheric and Space Physics. "It's about 1.5 degrees Celsius [2.7 degrees Fahrenheit] warmer on average when it's most active," Kopp said. "That does have an effect both globally and regionally on Earth's temperatures, winds, fires and weather patterns."

However, once again, that's only a correlation.

On a 96°F afternoon in the San Fernando Valley, faint wispy clouds wafted through the bright blue sky and portended the monsoonal moisture that would be coming to SoCal's August deserts. Humidity was high and transparency of the atmosphere was poor, giving a softness to the otherwise clear solar observations.

At 1 p.m. on Saturday, July 22<sup>nd</sup>, Earth's star, the Sun, was at 76° altitude, high above the horizon and near the Zenith so I had some positive effect on my astro-imaging by shooting through the thinnest part of the atmosphere.



The sunspots frequently revealed themselves near the equator, often pairing up and showing a tendency to be of either a positive or negative polarity within the sunspot pairing. The magnetic nature of sunspots was first discovered by George Ellery Hale of the Mount Wilson Solar Observatory in 1908.

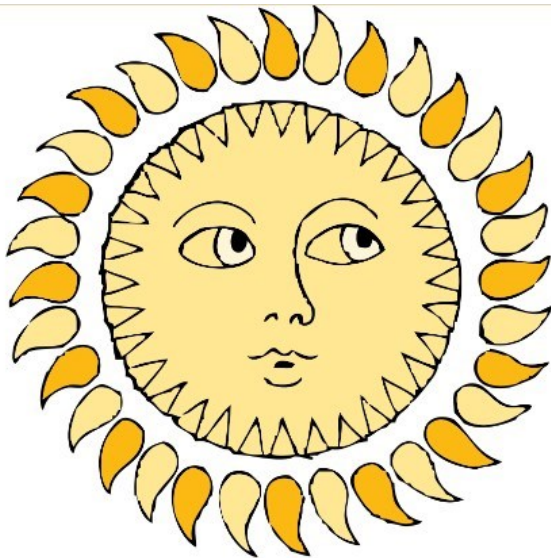
According to Britannica.com, "Fascinated with the structure of sunspots, Hale was able to show by 1908 that they were magnetically active storms of swirling gas in the solar photosphere."

According to en.Wikipedia.org, "In 1908, he [Hale] used the Zeeman effect with a modified spectroheliograph to establish that sunspots were magnetic."

Hale's discovery of the Sun's magnetic fields were the first magnetic fields discovered beyond the Earth and would lead to the first of Hale's many Noble prize nominations - although he never won one.

As the Sun nears solar maximum in its eleven-year-cycle, sunspot activity is heightened, especially near the solar equator. The change in this activity is a dramatically different look from a few years back, when during solar minimum, it was not uncommon to find a day when there was not a single sunspot anywhere to be found.

For a more in depth look at the Sun's solar cycles, a good place to start would be with a look at the Sun's "Butterfly diagrams" from the past one hundred years. Given the strong nuclear force (the most powerful force in nature) that drives that giant ball of gas in our sky (and sustains all life) I can only conclude by saying, "Know nukes, know the stars, know life."



## Resources: Learn More About The Sun

NASA: Solar System Exploration - [The Sun](#)

NASA Science For Kids: [Space Place](#)

National Geographic Video: [Sun 101](#)

National Solar Observatory: [About The Sun](#)

Stanford Solar Center: [Folklore](#)

Expedia: [Legends Behind The Sun](#)

**Looking for a community-designated cool spot to spend the day in Los Angeles? Check out this link:**

**[Cool Spots LA App - City of Los Angeles](#)**

# Super Blue Sturgeon Moon

## By Vivian White



This article is distributed by NASA's Night Sky Network (NSN). The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach.

Visit [nightsky.jpl.nasa.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

On August 1st, catch a **full Moon** rising in the east just 30 minutes after sunset. We are seeing the entire sunlit side of the Moon as it is nearly (but not quite) in line with the Sun and Earth. The *Farmers' Almanac* calls this month's Moon the "Sturgeon Moon", for the time of year when this giant fish was once abundant in the Great Lakes. Cultures around the world give full Moons special names, often related to growing seasons or celebrations.

As the Moon rises later and later each night, the bright sunlit part appears to get smaller or "wane" - we call this a waning **gibbous Moon**. About a week later, on August 8th, we see only one half of the Moon alight. At this phase, the Moon rises around midnight and sets around noon. Have you ever seen the Moon in the daytime? You may notice this phase towards the southwest in the morning sky. Hold up a ball or egg beside it and see how the Sun lights up the same part.

By August 16th, the Moon has gone through its crescent phase and is now only showing its dark side towards the Earth. Did you know the **dark side** and the **far side** of the Moon are different? The Moon always shows the same face towards Earth due to the gravitational pull of Earth, so the far side of the Moon was only viewed by humans for the first time in 1968 with the Apollo 8 mission. However, the dark side is pointed at us almost all the time. As the Moon orbits the Earth, the sunlit side changes slowly until the full dark side is facing us during a **new Moon**. When the Moon is just a small crescent, you can sometimes even see the light of an **Earthshine** reflecting off Earth and lighting up the dark side of the Moon faintly.

Then as the Moon reappears, making a waxing (or growing) **crescent Moon**, best seen in the afternoons. By the time it reaches the first quarter on August 24th, we see the other half of the Moon lit up. At this point, the Moon passes through Earth's orbit and marks the spot where the Earth was just 3 hours prior. It takes the Earth about 3 hours to move the distance between the Moon and Earth.

The Moon on August 30th is referred to as a blue moon. **Blue moons** are not actually blue in color of course; it refers to the second full Moon in any month. Since it takes 29.5 days to complete the cycle from full to new and back to full, most months will see only one. But occasionally, you'll fit two into one month, hence the phrase "once in a blue moon." We see a blue moon about once every 3 years on average - next in May 2026. In addition, this full Moon appears larger in the sky than any other full Moon this year - an unofficial **supermoon**. A supermoon appears larger than average because it is closer in its slightly elliptical orbit. The difference in apparent size between the smallest and largest full Moon is about the size difference between a quarter and a nickel. Even at its largest, you can always cover the whole Moon with your pinky extended at arm's length.

Follow the Moon with us this month and keep a Moon journal if you like - you may be surprised what you discover! [moon.nasa.gov/moon-observation](https://moon.nasa.gov/moon-observation)





Image of waning crescent Moon shown next to a ball on a stick that is lit by the Sun on the same side as the Moon, with trees and a blue sky in the background. Try this with an egg or any round object when you see the Moon during the day!

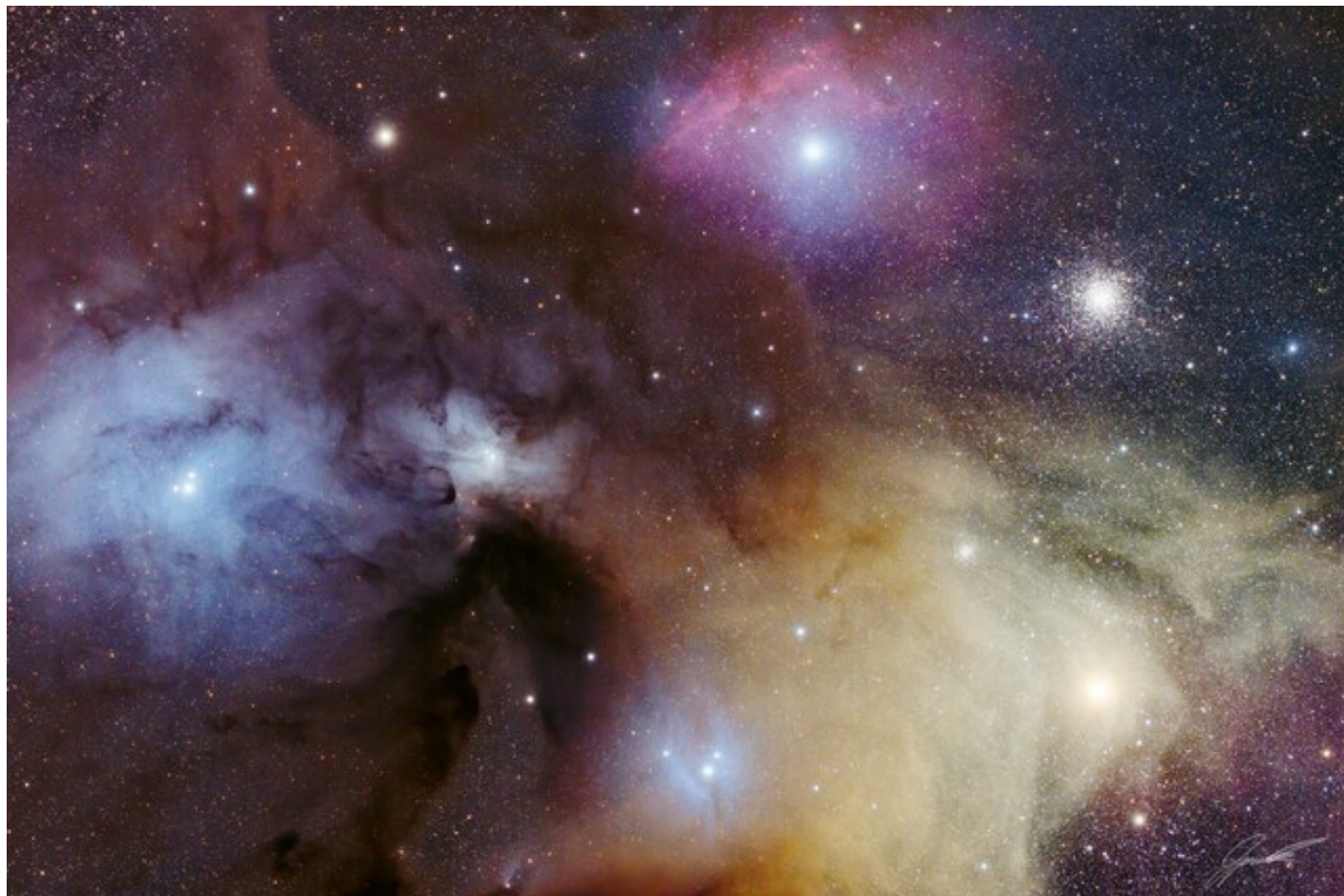
Credit: Vivian White



[Earthshine as seen from the International Space Station](#) with the sun just set - Astronaut Photograph IS-S028-E-20073 was taken on July 31, 2011, and is provided by the ISS Crew Earth Observations Facility and the Earth Science and Remote Sensing Unit, Johnson Space Center

# Rho Ophiuchi

## By John Park



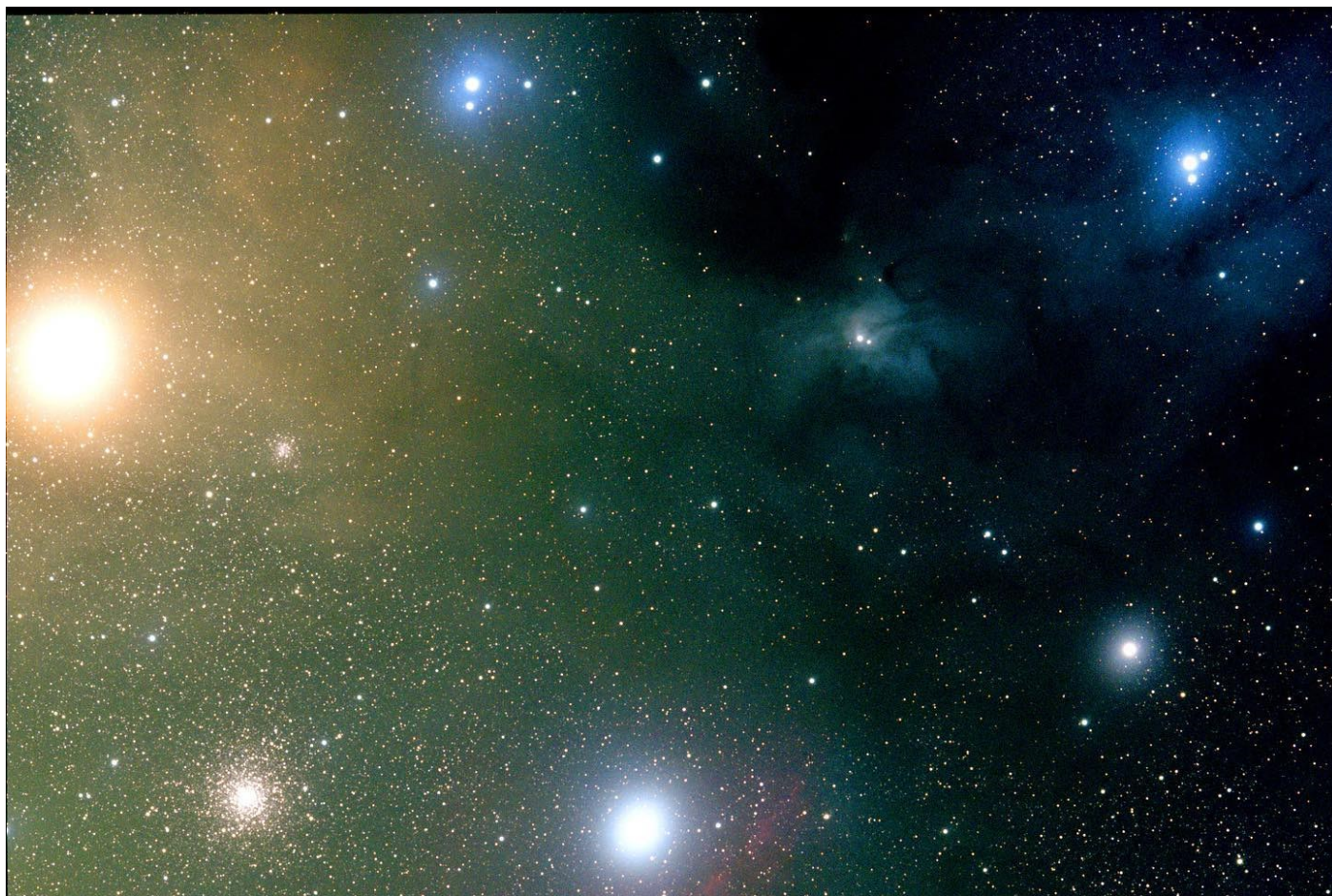
Saw that the weather might not be so good this Saturday, so I tried shooting this Friday. Took a shot of Rho Ophiuchi because I was inspired by the new JWST's image :) Overall, I'm happy with the results!

I took the image in the SKAS Lockwood site last Friday July 14th. I used a portable setup of 60mm quintuplet refractor mounted on an am5 with a asi2600mc-p. It was a bit low on the horizon, but I was able to process the gradients out

Photo Credit: John Park

# Antares, M4 And Rho Ophiuchi Nebula

## By Spencer SooHoo



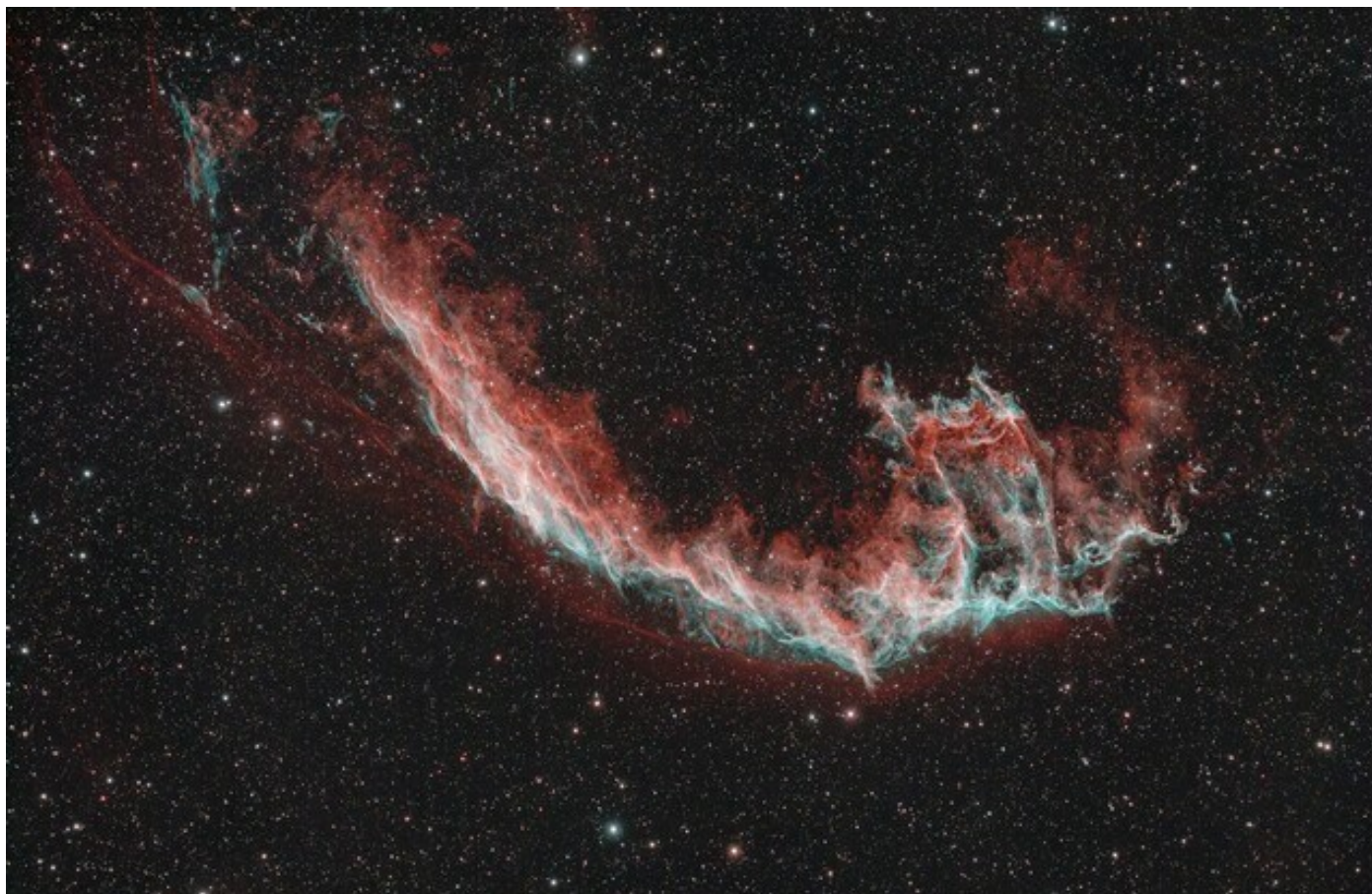
July 15, 2023. This is a wide field shot of the nebulosity surrounding Antares, the large bright yellow star so the left. Below it is the globular cluster M4 and the bluish star forming region Rho Ophiuchi Nebula on the right. Note the dark lanes that are formed by layers of thick dust. The cloud complex is about 500 light years away and is one of the nearest star forming regions closest to us. The image consists of 29x180 second exposure taken with a 61mm refractor (360mm focal length) and ASI260MC pro camera.

Lockwood Valley, CA.

Photo credit: Spencer SooHo

# The Eastern Veil

## By Ben Guthrie



I personally brought my refractor out and trained it on Eastern Veil for the night. I am quite pleased with how the subtle red halo around the edge has shown up; something I don't see a lot online. I use my 2600mc, ES 102ED, ASIair, and processed 124x120second exposures through APP, Pixinsight and the AC Astro tools. I pride myself in the small amount of effort and processing I do... though I acknowledge that it takes a lot of effort to tweak your process until you are in the zone with your setup.

Photo credit: Ben Guthrie

# Monthly Sky Report

## By Dave Nakamoto

The full moon is on the 1<sup>st</sup>, last quarter on the 8<sup>th</sup>, new moon on the 16<sup>th</sup>, first quarter on the 24<sup>th</sup>, and another full moon occurs on the 30<sup>th</sup>. When two full moons happen in the same month, the second one is called a blue moon, but the moon is not colored blue on that night. On the 1<sup>st</sup> and the 30<sup>th</sup>, the moon is also closest to the earth, called perigee. This is called a supermoon, although it's not obvious that the moon is larger, as it's less than 50-percent larger. So on the 30<sup>th</sup>, we'll see a blue supermoon.

The sun moves from Cancer the Crab to Leo the Lion, and the day is 13 hours 25 minutes long on the 15<sup>th</sup>. The days continue to get shorter and nights longer as we head towards the Autumnal Equinox in September.

**Mercury** – On the 1<sup>st</sup>, the sun sets at 7:54 p.m., PDT, and Mercury sets due west at 9:09 p.m., PDT. Mercury's disk is 62-percent illuminated, a gibbous phase, and is only seven arcseconds wide, so a magnification of over 200 is needed to see any evidence of its disk. Mercury sets sooner each night. On the 31<sup>st</sup>, the sun sets at 7:20 p.m., PDT, and Mercury sets at 7:28 p.m., PDT, and so Mercury is unobservable. **DO NOT** observe any planet when it comes close to the sun, for the danger to the eyes is great.

**Venus** – On the 1<sup>st</sup>, Venus sets due west at 8:21 p.m., PDT, 27 minutes after sunset. The planet is a thin crescent, six-percent illuminated, and 54 arcseconds wide. In less than a week, it will be too close to the sun for safe observations. By the third week in August, Venus starts rising in the morning in the east. On the 31<sup>st</sup>, Venus rises at 4:37 a.m., PDT, and the sun rises at 6:26 a.m., PDT. Venus is still a thin crescent, ten-percent illuminated, and 51 arcseconds wide. **DO NOT** observe any planet when it comes close to the sun, for the danger to the eyes is great.

**Mars** moves into Virgo the Maiden this month. On the 1<sup>st</sup>, Mars is due west and sets at 9:36 p.m., PDT. On the 31<sup>st</sup>, Mars sets at 8:26 p.m., PDT. Mars is a very small and faint and no telescope can see its disk until it next approaches the earth starting in December of 2024.

**Jupiter** is in Aries the Ram. On the 1<sup>st</sup>, it rises in the east at 12:17 a.m., PDT, and at 10:22 p.m., PDT, on the 31<sup>st</sup>. A magnification of 50x or more will show the four Galilean moons and the Red Spot.

**Saturn** is in Aquarius the Water Bearer and rises before Jupiter. On the 1<sup>st</sup>, Saturn rises in the east-southeast at 9:11 p.m., PDT, and on the 31<sup>st</sup>, it rises at 7:08 p.m., PDT. The rings and Saturn's largest moon Titan can be seen with a magnification of 50x or more.

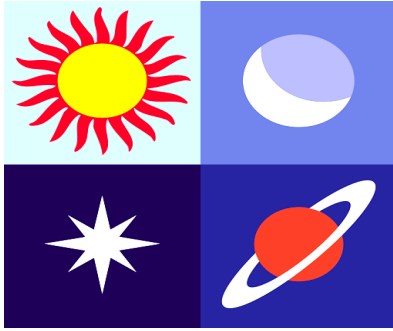
**Uranus** is in Aries the Ram. On the 1<sup>st</sup>, Uranus rises in the east-northeast at 12:42 a.m., PDT, and on the 31<sup>st</sup> at 10:42 p.m., PDT. Its small disk requires magnifications of 200x or more to see.

**Neptune** is in Pisces the Fishes. On the 1<sup>st</sup>, Neptune rises in the east at 10:07 p.m., PDT, and on the 31<sup>st</sup>, it rises at 8:07 p.m., PDT. A magnification of over 200x is needed to see its diminutive disk.

**The Perseids** are the most popular meteor shower. They are active on warm August nights and are best for the northern hemisphere. The Perseids are active from July 14 to September 1. This year they peak from the night of August 12 through the morning of the 13<sup>th</sup>. The moon is only ten percent full and will not interfere with observation. Normal rates as seen from rural locations, range from 50 to 75 shower members per hour at maximum. The Perseids are particles released from comet 109P/Swift-Tuttle. They are called Perseids because the radiant, the area of the sky from which the meteors seem to originate, is located near the prominent constellation of Perseus the Hero.

*David Nakamoto has been observing the heavens through various scopes since he was in the 5<sup>th</sup> grade. You can contact Dave by email at: [dinakamoto@hotmail.com](mailto:dinakamoto@hotmail.com).*





# Almanac

Source:

[Seasky.org](https://seasky.org)

**August 1 - Full Moon, Supermoon.** The Moon will be located opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 18:33 UTC. This full moon was known by early Native American tribes as the Sturgeon Moon because the large sturgeon fish of the Great Lakes and other major lakes were more easily caught at this time of year. This moon has also been known as the Green Corn Moon and the Grain Moon. This is also the second of four supermoons for 2023. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual.

**August 10 - Mercury at Greatest Eastern Elongation.** The planet Mercury reaches greatest eastern elongation of 27.4 degrees from the Sun. This is the best time to view Mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet low in the western sky just after sunset.

**August 12, 13 - Perseids Meteor Shower.** The Perseids is one of the best meteor showers to observe, producing up to 60 meteors per hour at its peak. It is produced by comet Swift-Tuttle, which was discovered in 1862. The Perseids are famous for producing a large number of bright meteors. The shower runs annually from July 17 to August 24. It peaks this year on the night of August 12 and the morning of August 13. The crescent moon should not be too much of a problem this year. Skies should still be dark enough for a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Perseus, but can appear a

**August 16 - New Moon.** The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 09:39 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

**August 24 - Moon Occults Antares.** The Moon passes in front of the bright star Antares in the constellation Scorpius. This rare event will happen at 10:29 PM (02:29 UTC) and will be visible in the central US and northern Florida. ([Occultation Map and Details](#))

**August 27 - Saturn at Opposition.** The ringed planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view and photograph Saturn and its moons. A medium-sized or larger telescope will allow you to see Saturn's rings and a few of its brightest moons.

**August 31 - Full Moon, Supermoon, Blue Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 01:37 UTC. This is also the third of four supermoons for 2023. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual. Since this is the second full moon in the same month, it is sometimes referred to as a blue moon.

# August 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2 Garvey Night	3	4	5
6	7	8	9 Board Mtng Garvey Night	10	11	12 Family Night 60 Inch Night
13	14 General Mtng	15	16 Garvey Night	17	18	19 Dark Sky Night
20	21	22	23 Garvey Night	24	25	26 Public Star Party
27	28	29	30 Garvey Night	31		

# Meet The New Members

# Welcome to the LAAS!



Fred Alcantar

Charlotte Lipsky

Goila Ankit

Ty Reyna

Robbie Jones-Morrison

Dale Kim

Seth Lacy

Mark Lewis

## LAAS Board Meetings

.Due to the pandemic, all Board Meetings are now held online, live on Zoom. Please check the information posted in the IO Group Forum for any current news related to these meetings. If you wish to attend a board meeting, please send a request to [secretary@laas.org](mailto:secretary@laas.org) for a link to Zoom.

## Volunteer Opportunities

Every LAAS member is a volunteer at some point. Some members volunteer to share telescopes with the public, while others tackle administrative duties, help out at our community and public events, or join a club committee. Taking photos at our events and writing articles about events for our club newsletter are great ways to volunteer and become more involved in the LAAS as a member.

Volunteers are always welcome to write articles for our monthly newsletter or share images captured of the night sky. Members are also welcome to come up with new ideas and future activities for the membership which can be shared in Board meetings. If you are artistic and enjoy creating posters or flyers, or printable astro-educational handouts for further star parties, please let us know.

Please send any articles, images, or artwork to the newsletter editor here: [communications@laas.org](mailto:communications@laas.org)

## Time To Renew Your Membership?

Please remember to renew your membership after you receive a notice from the Club Secretary.

Please send any new contact information to the club secretary at [secretary@LAAS.org](mailto:secretary@LAAS.org) OR login to your account here: <https://common.wildapricot.com/login>





# Outreach Team Volunteers

***“We are dedicated to advancing the knowledge of astronomy, optics, telescope making, and the wonders of our universe.”***



One of the ways the LAAS advances the knowledge of astronomy and the wonders of our universe is to visit local schools in our area with telescopes. The telescope operators are current members of the club. Many schools invite us to their campus to provide views of the objects in the night sky for not only the children but for the staff and parents, too. Some schools invite us on scheduled “Science Nights” while other schools plan a special evening of astronomy education on their campus. Other activities may be planned by the school during the event while our members are stationed in one specific location with telescopes to share with students and other school guests. These special members are part of our Outreach Team.

Our Outreach Coordinator is Heven Renteria. He and the others on his team have been attending outreach events on campuses throughout Los Angeles county and beyond.. Many of them travel great distances (and after a full day of work) to share astronomy with children and the public. The LAAS is also invited to attend special community events or events at state or city parks, libraries, and other venues. Recently, the club could not accept additional requests for outreach events because the team’s schedule was full.

The LAAS needs more members to join the outreach team. Some of these events may be local to you. Outreach members are greatly appreciated by the school administrators and students at every event.

You don’t need to be an expert using a telescope as the members of the team will help you set up and find objects in the sky to share with the students. You can attend an outreach event without a telescope and help the team with their telescopes or help with the long lines of children who are excited to look through a telescope for the first time.

These events are fun and rewarding in many ways. The enthusiasm shared by the children is infectious, in the best way possible. If you enjoy attending Public Star parties at the Griffith Observatory, you will enjoy a school outreach event.

The Outreach Team really needs your support and participation.

Please contact Heven at [outreach@laas.org](mailto:outreach@laas.org) to learn more.

Thank you for volunteering!

Andee Sherwood  
Communications



*John O’Bryan shows a student the Sun at Overland Elementary, 2021.*

*Photo credit: Van Webster*

## LAAS Outreach Program

The mission of LAAS is to promote interest in and advance the knowledge of astronomy, optics, telescope making and related subjects. In furtherance of its mission, LAAS conducts public star parties and other outreach events that are intended to enhance the public's understanding of astronomy and its enjoyment and appreciation of the beauty and wonders of our universe.



We provide outreach events at local schools, Griffith Observatory, Mt. Wilson Observatory, various state and county parks, and community events.

Join our Outreach team of volunteers today.

Contact Heven Renteria, our Outreach Coordinator at [Outreach@LAAS.org](mailto:Outreach@LAAS.org) for more information.



Want to include astronomy outreach at your school's science night or open house? Follow the link below to access the request form:

[Outreach Request Form](#)

## LAAS Club Merchandise

### LAAS T-SHIRTS, HOODIES, MUGS, AND MORE!

To find new merchandise from our store, please use the following link: [Shop Here](#)

Please note all prices listed are subject to change and include all shipping and handling costs. All items will be shipped directly to the address you provide on your order form.



LAAS Hoodie



**Donate**



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John O'Bryan, Jr.

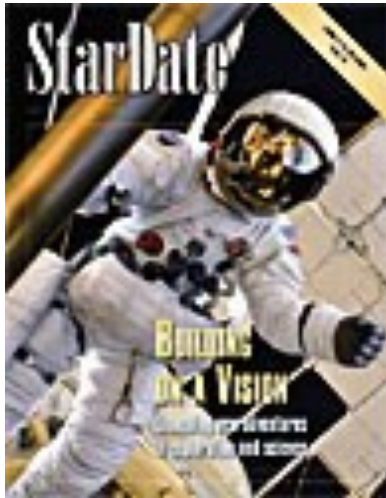
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Griffith Observatory:

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