The Los Angeles Astronomical Society

October, 2020
Volume 94, Issue 10

THE BULLETIN

The LAAS Goes Virtual!

The LAAS monthly General Meetings are now LIVE on Zoom.

For further details, please go to Page 3.

In This Issue

Upcoming Observing Events:

Family Night - Cancelled

Dark Sky Night - Oct. 17, 2020

Outreach Event Advisory

Until further notice, all outreach and public event programs are cancelled due to the current pandemic.

The Garvey Ranch Observatory is closed to the Public.

New Contact Info?

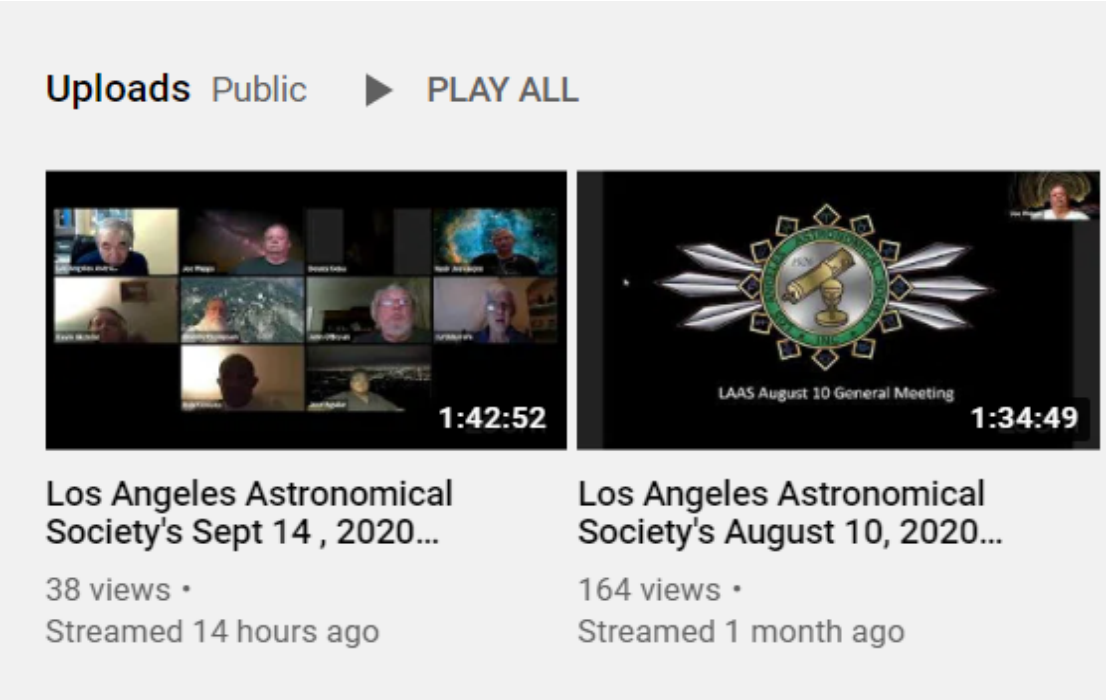
If you have recently moved, changed your email address or phone number, please contact our club secretary at secretary@laas.org.

Secretary's Report

Current Membership Level: 713

43 Members Renewed

LAAS Meetings During the COVID-19 Pandemic
By Spencer SooHoo



Like many other organizations, the LAAS had to change the way it conducts its meetings since Griffith and Garvey Ranch Observatories are closed due to COVID-19 restrictions and likely to remain that way for the rest of 2020. For several years, there has been discussion about making the Monthly General Meeting available via a webcast so that more members can participate, and the closure of Griffith Observatory was the catalyst to make this happen.

The LAAS now has a Zoom account that has been used for the August and September General Meetings. The Zoom session is also live-streamed on YouTube here: https://www.youtube.com/user/LosAngelesAstronomy

The guest speaker for August was Dr. Jim Fuller presenting “Sounds of the Stars: Journey to the Center of a Star”, and for September, it was Dr. Luisa Rebull presenting “How to Get Your Hands on Real Astronomy Data.” Both meetings had 30-40 attendees.

While not a substitute for in-person meetings, the Zoom meetings eliminate the travel time for many of our members who find it too difficult to fight LA traffic to get to Griffith Observatory; some of our members who live as far away as Colorado and Northern California are now able to participate. The Zoom session is typically open about 30 minutes before the formal start of the meeting and about 15 minutes afterwards to give members a chance to greet other, exchange news, etc.

The screen shot **above,** shows the August and September meetings on YouTube. Also, we have worked out how to do random drawings for door prizes, so the we will resume our practice of giving away door prizes at our October meeting.

Our Communications Coordinator will send out a Zoom link about a week in advance of each meeting, so if you don’t get a notice about the meeting, feel free to email communications@laas.org or secretary@laas.org for the meeting information.

LAAS Nominations will be heard at the next General Meeting on October 19, 2020.

Please nominate those you wish to serve as club officers and members of the Board of Directors. More info about our election process will be sent out soon.

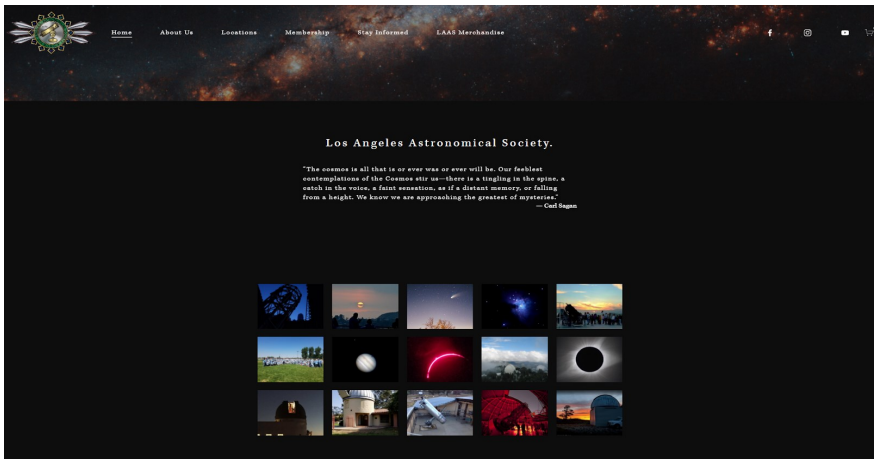
Website Makeover and LAAS T-Shirts

By Spencer SooHoo

What do the two have in common? The current LAAS website is long overdue for a makeover. And, trying to manage the sales of LAAS T-shirts has been problematic. Since our supplier had a minimum order, we had to guess at sizes that would sell, find a place to stock them, and then arrange to deliver the shirts in person at Garvey Ranch Park Observatory or at Griffith Observatory. If you ordered a size that was not in stock, you'd have to wait months until we accumulated enough orders to make a minimum purchase. Fortunately, we are able to solve this problem as part of the new website by using a "print on demand" supplier. You can place orders on the new website and have the items shipped directly to you in about 2 weeks.

Over the past 4 months, a Web Committee chaired by Darrell Dooley working with Mike Hayford, Alecia Hurst, Jason Rogers, Andee Sherwood, Greg Thompson, and Spencer SooHoo have been working on a redesign and will be unveiling it at the **Oct 19, 2020 General Meeting at 8PM.**

Like the current website, some of the content on the new website includes descriptions of LAAS locations such as the Ford Observatory and Garvey Ranch Park Observatory, membership information, newsletters, and a link to the LAAS Calendar. New features include a FAQ page, links for resources such as the ISS tracker and various NASA sites, and a Merchandise Store for ordering T-shirts and other apparel. We've also expanded to include LAAS mugs and tote bags. Unfortunately, we are unable to offer LAAS jackets and hats on the Merchandise Store at this time, but we are working on a solution.



Lockwood Work Party Report

By John O'Bryan, Jr.

Sept. 12, 2020

We had 5 workers helping build the handicap ramp for the restroom today, so we only got about half way finished. See photo. The area east of the restrooms is a construction site with lots of trip hazards. The old restroom still works but, at night, it should be approached from the west side, to avoid the trip hazards.

Observe the Skies Near Mars

By David Prosper

.NASA Sky Notes

October, 2020

October is a banner month for Mars observers! October 6 marks the day Mars and Earth are at closest approach, a once-every-26-months event. A week later, on October 13, Mars is at opposition and up all night. Mars is very bright this month, and astronomers are eager to image and directly observe details on its disc; however, don't forget to look at the space around the planet, too! By doing so, you can observe the remarkable retrograde motion of Mars and find a few nearby objects that you may otherwise overlook.

Since ancient times, Mars stood out to observers for its dramatic behavior. Usually a noticeable but not overly bright object, its wandering path along the stars showed it to be a planet instead of a fixed star. Every couple of years, this red planet would considerably flare up in brightness, for brief times becoming the brightest planet in the sky before dimming back down. At these times, Mars would also appear to slow down its eastward motion, stop, then reverse and head westward against the stars for a few weeks, before again stopping and resuming its normal eastward movement. This change in the planet's movement is called "apparent retrograde motion." While all of the planets will appear to undergo retrograde motion when observed from Earth, Mars's retrograde appearances may be most dramatic. Mars retrograde motion in 2020 begins on September 10, and ends on November 16. You can observe its motion with your eyes, and it makes for a fun observing project! You can sketch the background stars and plot Mars as you observe it night after night, or set up a photographic series to track this motion. Does the planet move at the same rate night after night, or is it variable? As you observe its motion, note how Mars's brightness changes over time. When does Mars appear at its most brilliant?

NASA has tons of great Mars-related resources! Want to know more about apparent retrograde motion? NASA has an explainer at: bit.ly/marsretromotion. Find great observing tips in JPl's "What's Up?" videos: bit.ly/jplwhatsup. Check out detailed views with NASA's HiRISE satellite, returning stunning close-ups of the Martian surface since 2006: hirise.lpl.arizona.edu. NASA's Curiosity Rover will be joined in a few months by the Perseverance Rover, launched in late July to take advantage of the close approach of Mars and Earth, a launch window that opens two years: nasa.gov/perseverance. Calculate the ideal launch window yourself with this handy guide: bit.ly/marslaunchwindow. The Night Sky Network's Exploring Our Solar System handout invites you to chart the positions of the planets in the Solar System, and NSN coordinator Jerelyn Ramirez recently contributed an update featuring Mars opposition! You can download both versions at bit.ly/exploresolarsystem. Young astronomers can find many Mars resources and activities on NASA's Space Place: bit.ly/spaceplacemars. Here's to clear skies and good seeing for Mars's best appearance until 2033!

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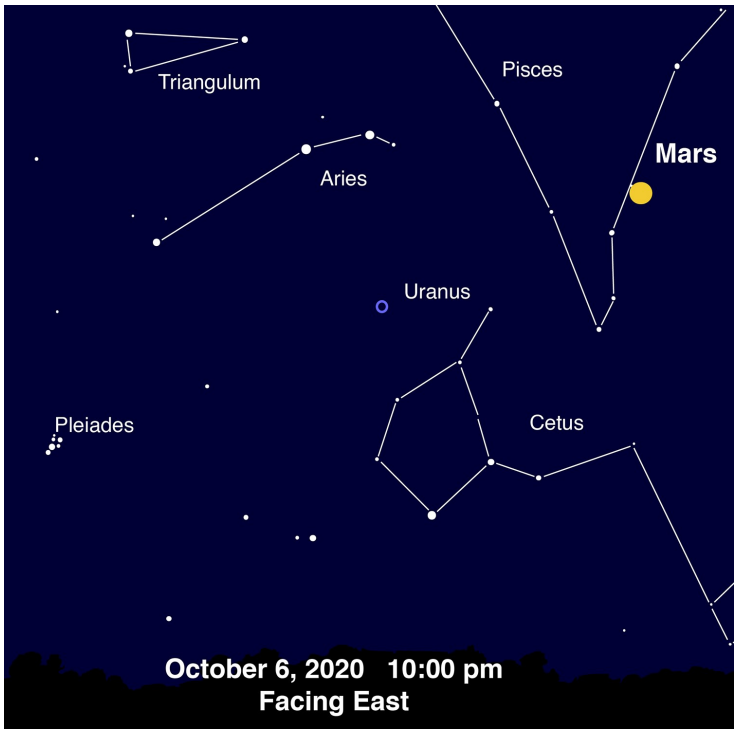
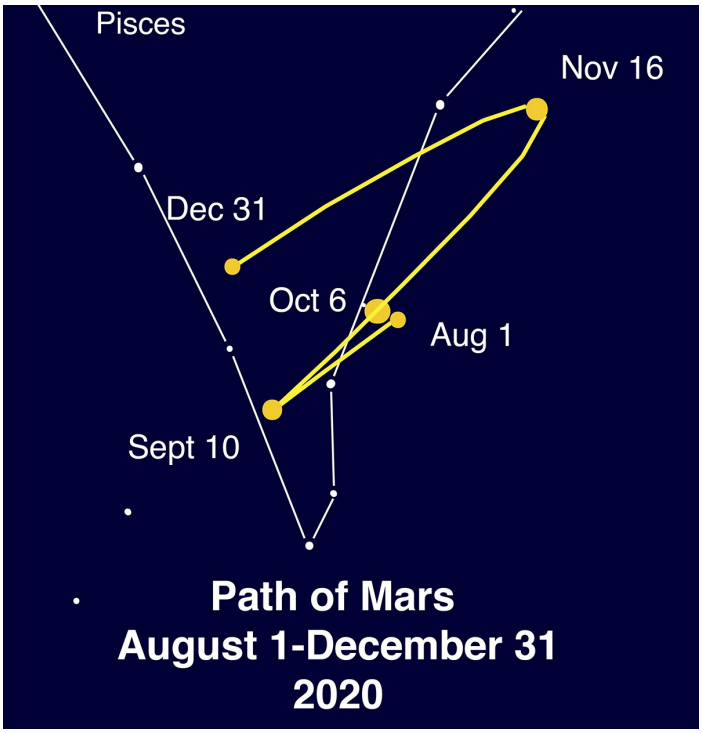




(left) If you are paying this much attention to Mars, you're likely curious about the skies surrounding it! Find Mars in the constellation Pisces, with constellations Aries, Triangulum, and Cetus nearby. Aries may be the only one of these dimmer patterns readily visible from light-polluted areas. The Pleiades rises shortly after Mars. Dim Uranus is found close by, in Aries. If you are observing Mars up close, use the same eyepiece to check out Uranus's tiny blue-green disc. If you are uncertain whether you spotted Uranus, you didn't see it! Unlike stars, Uranus doesn't resolve to a point at high magnifications.

(right) The path of Mars during the last five months of 2020. Notice the retrograde motion from September 10 to November 16, with prime Mars observing time found in between. October 6 is the day of closest approach of Earth and Mars, "just" 38.6 million miles apart. Images created with help from Stellarium: stellarium.org

This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Online, Virtual Astronomy Presentations

By Andee Sherwood

If you are interested in online, virtual astronomy-related events, such as lectures, planetarium shows, and even star parties, here's how you can find them on the Night Sky Network (NSN) calendar without logging on. Currently, our calendar is set to show some regional events, our club events, and some of the virtual events posted. Here's how to view the many events posted by our friends at the NSN.

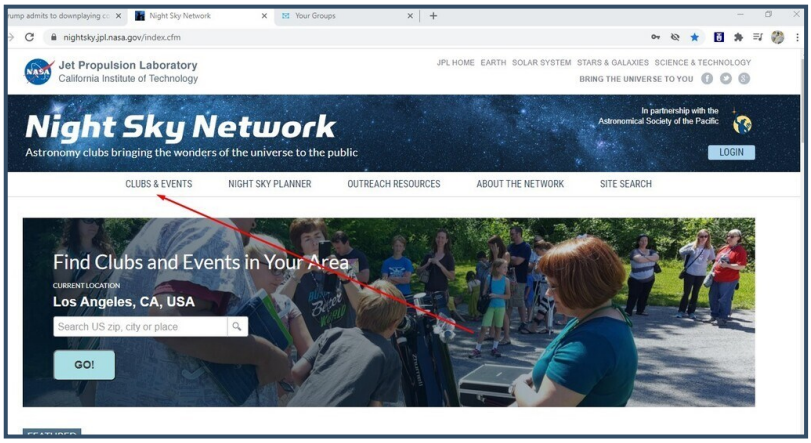
To get started, visit the home page of the NSN by following this link: https://nightsky.jpl.nasa.gov/index.cfm

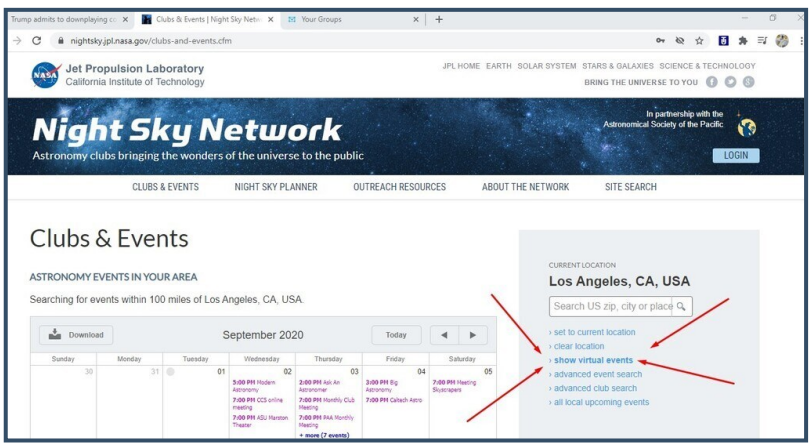
Look under the blue NSN banner at the top of the page. On the left hand side under the banner, look for the words, CLUBS AND EVENTS. Click on CLUBS AND EVENTS.

The Regional calendar will appear on the next page on your screen. Ignore the calendar and look at the blue text box on the right hand side of the page. You should find the words, "show virtual events." Click on this link to open the next page which will be a list of all of the virtual events currently posted.

New events are posted frequently as more astro-clubs, cosmic cafes, and astro-organizations and institutions get involved.

I added two screen shots below as a handy guide.





Andromeda Galaxy (M31)

By Brian Paczkowski

Andromeda Galaxy (M31).

The spectacular naked eye galaxy that the Milky Way will eventually collide with in 4.5 billion years. Now that monsoon season is finally over in New Mexico I'm back to imaging. This image was taken over the past couple of weeks at my telescope's new remote location in New Mexico. This is a Lum+Ha+RGB composite image made from a total of 37 hours of data. Since tilt-shift photography is now making it's way into astrophotography, I've included a tilt-shift version as the second images. Processed in PixInsight and Photoshop. (Televue 76, 10Micron GM2000 HPS II mount, QSI 683 CCD camera with Astrodon LRGB Ha OIII SII filters at -20C)

Photo Credit: Brian Paczkowski

Lagoon Nebula (M8)
By Spencer SooHoo

Photo of M8 (Lagoon Nebula) near the center and M20 (trifid nebula) in the lower right and a star cluster (NGC 6544) in the upper left of the photo.

The Lagoon Nebula is a giant emission nebula constellation Sagittarius with a dimension of 110 x 50 ly and is about 4100 ly from us. It gets the pinkish color from hydrogen gas ionized by hot stars in the nebula. The Trifid Nebula consists of an emission nebula and a blue reflection nebula. You can also set dark nebula (dust clouds) in both the Lagoon and Trifid. The photo was taken at Lockwood this past weekend with a new mount configuration that started misbehaving after only 4 x 180 second photos at ISO 800 with a 500mm telephoto lens. (Of course, it worked perfectly at home several weeks ago! – so Murphy's law or one of its corollaries still holds true.)

Photo Credit: Spencer SooHoo

Meet The New Members

Douglas Thomas
Jim Fuller
Chris and Danielle Valdivia
Linda Lammers and Family
Michael Gardner
Asher and Elana Shamam
Chad Ostergren
Joseph Daniel
Ryan Haverson
Kelley Rich and Family
Kenji Arai and Family

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.

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.

HOWEVER, due to Covid-19 restrictions in our area, all outreach events have been cancelled until further notice.

Volunteers are still needed 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.

Time To Renew Your Membership?

Please remember to renew your membership once you receive notice from the Club Secretary in your email inbox. Use this link to learn how to renew your membership:

https://fs30.formsite.com/LAAS/MemberRenewal/index.html

Please send any new contact information to the club secretary at secretary@LAAS.org.

Monthly Star Report

By Dave Nakamoto

This month, Mars will make its closest approach to earth since 2018. This event is called an Opposition because Mars will be opposite from the Sun in the sky, and will happen to any of the outer planets at some time or another.

Mars comes closest to earth every two years or so, but usually Mars is farther away than it will be this time around. This is because the Martian orbit is not circular. It's elongated, similar to, but not as extreme, as a football. When Mars is at one of its close oppositions it is around 40 million miles away from earth. But most Mars oppositions are much farther away; up to 63 million miles away, a difference of 23 million miles, or 58% farther. Because of this, for the next eighteen years or so, Mars will be a lot smaller than it will be this time around.

Mars is the one terrestrial planet that you can see something on its surface. However, you'll need a medium sized telescope capable of magnifications of 150x or more to see anything on the Martian disk.

Visually, Mars is fourth in size among the bright planets, after Venus (when closest to the earth), Jupiter, and Saturn. A planet's visual size depends on a combination of its physical size and its distance from earth, For instance, Jupiter was 384 million miles away during its closest approach to earth on July 13th. On October 13th, Mars will be only a tenth that distance at 38.6 million miles. However, Jupiter is so large that it appears as a disk 48 arc-seconds wide, as opposed to 22.4 arc-seconds for Mars during this Opposition, 2.2 times larger. One degree has 3600 arc-seconds in it. The full moon is 1920 arc-seconds wide, or 87 times larger.

Earlier this year as Mars entered the morning skies, it was fainter than it is now, and a lot smaller, less than 10 arc-seconds wide. After this month it starts shrinking again back to less than 10 arc-seconds. This is why astronomers in the telescope era have appreciated oppositions to give them as clear and close a view of Mars as possible.

You should see some dark markings on the Martian disk, as well as one of the polar caps, shining white. Since the Martian day is slightly longer than earth's, each night at the same time you should see a slightly different view of Mars. Also, as each hour passes, you'll see features change as Mars rotates, new features appearing on the western edge, and disappearing on its eastern edge.

Jupiter and Saturn are still in the sky, low towards the southwest. Unlike Mars, these gas giants are so far away that they don't change in size a lot as earth first approaches, then pulls away from them. For Jupiter, with magnifications of around 40x or so, you can see the twin cloud belts around the planet's equator, and the four Galilean moons. Occasionally you can see the famous Red Spot traverse across the disk. Saturn and its largest moon Titan are visible too.

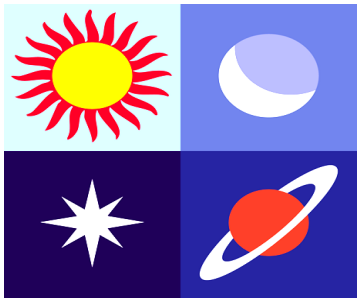
This month, the Moon has two dates when it will be at full phase. This happens from time to time because the time it takes for the Moon to go from one phase to the next identical phase is a little over 29 days, while all but one month, February, the length of the month is 30 or 31 days.

The Moon's phases in October are

Full Moon – 1st
Last Quarter – 9th
New Moon – 16th
First Quarter – 23rd
Full Moon – 31st

A Lunar-X event will happen on October 23rd starting at 6:32pm and lasting only 2 to 3 hours. Lunar-X occurs when the Moon is at 1st quarter or half-phase. It only occurs on one spot on the Moon, just on the nightside of the border between the lighted and dark portions of the Moon, and about halfway between the midpoint of that border to the southern end. It's caused by the rims of three craters, Blanchinus, La Caille and Purbach, shining in the sunlight, while the rest of those craters and the surrounding terrain remains in darkness. It requires a magnification of 20x or more to see.The more magnification, the easier it is to see.

David Nakamoto has been observing the heavens through various scopes since he was in the 5th grade. You can contact Dave by email at: dinakamoto@hotmail.com.



Almanac

October 1 - **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be will be fully illuminated. This phase occurs at 21:06 UTC. This full moon was known by early Native American tribes as the Hunters Moon because at this time of year the leaves are falling and the game is fat and ready to hunt. It has also been known as the Travel Moon and the Blood Moon. This full moon is also known as the Harvest Moon. The Harvest Moon is the full moon that occurs closest to the September equinox each year.

October 1 - **Mercury at Greatest Eastern Elongation.** The planet Mercury reaches greatest eastern elongation of 25.8 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

October 7 - **Draconids Meteor Shower**. The Draconids is a minor meteor shower producing only about 10 meteors per hour. It is produced by dust grains left behind by comet 21P Giacobini-Zinner, which was first discovered in 1900. The Draconids is an unusual shower in that the best viewing is in the early evening instead of early morning like most other showers. The shower runs annually from October 6-10 and peaks this year on the the night of the 7th. The second quarter moon will ensure dark skies in the early evening for what should be a good show. Best viewing will be in the early evening from a dark location far away from city lights. Meteors will radiate from the constellation Draco, but can appear anywhere in the sky.

October 13 - **Mars at Opposition.** The red 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 Mars. A medium-sized telescope will allow you to see some of the dark details on the planet's orange surface.

October 16 - **New Moon.** The Moon will located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 19:32 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.

October 21, 22 - **Orionids Meteor Shower.** The Orionids is an average shower producing up to 20 meteors per hour at its peak. It is produced by dust grains left behind by comet Halley, which has been known and observed since ancient times. The shower runs annually from October 2 to November 7. It peaks this year on the night of the 21st and the morning of of the 22nd. The waxing crescent moon will set before midnight leaving dark skies for what should be a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Orion, but can appear anywhere in the sky.

October 29, 30 - **Southern Taurids Meteor Shower.** The Southern Taurids is a long-running minor meteor shower producing only about 5-10 meteors per hour. This shower is, however, famous for producing a higher than normal percentage of bright fireballs. The Southern Taurids is produced by debris left behind by Comet 2P Encke. The shower runs annually from September 10 to November 20. It peaks this year on the the night of the 29th and morning of the 30th. The nearly full moon will block out all but the brightest meteors this year. If you are patient, you may still be able to catch a few good ones. Best viewing will be just after midnight from a dark location far away from city lights. Meteors will radiate from the constellation Taurus, but can appear anywhere in the sky.

October 31 - **Full Moon, Blue Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be will be fully illuminated. This phase occurs at 14:51 UTC. Since this is the second full moon in the same month, it is sometimes referred to as a blue moon. This rare calendar event only occurs every few months, giving rise to the term "once in a blue

October 31 - **Uranus at Opposition.** The blue-green 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 Uranus. Due to its distance, it will only appear as a tiny blue-green dot in all but the most powerful telescopes.

Source: http://www.seasky.org/astronomy/astronomy-calendar-2020.html

October 2020

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

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

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

https://nightsky.jpl.nasa.gov/club-eventrequest.cfm?Club_ID=1344

LAAS Club Swag

LAAS Jackets, T-Shirts, and Caps

Share your club spirit with the public and wear your club colors to help identify you as a member of the LAAS today by ordering a new jacket, t-shirt or cap.

To order club swag, please use the following link:
https://fs30.formsite.com/LAAS/Apparel/index.html

Amazon Smiles

The LAAS is now listed on Amazon Smiles. When you purchase any goods on Amazon.com, Amazon will donate a small percentage of the funds they receive from you, back to the LAAS. Here's some information to help bring in funds for our club projects:

What is AmazonSmile?

AmazonSmile is a simple and automatic way for you to support your favorite charitable organization every time you shop, at no cost to you, with the added bonus that Amazon will donate a portion of the purchase price to your favorite charitable organization., such as the LAAS!

Learn more by following this link:

http://smile.amazon.com/

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John O'Bryan, Jr.

Treasurer

Astronomy Magazine Discounts

Discounts for astronomy magazines can be found on the internet. Look for the best deals possible. Send a copy of your LAAS membership card with your check or payment to receive a club member discount.

Astronomy magazine

As a member of the Night Sky Network, you may use the above link to renew your Astronomy Magazine subscription (or enter a new subscription) at the club discount rate. If this is a renewal, Astronomy Magazine will match your entered name and address and extend your subscription. For inquiries, please contact Astronomy Magazine customer service & sales at 1-800-533-6644.

Click here to subscribe to Sky and Telescope Magazine.

Join the Astronomical Society of the Pacific and help support the cause of advancing science literacy through engagement in astronomy. Member benefits include a **subscription to the online *Mercury* Magazine**, published quarterly, and **Astronomy Beat**, a monthly on-line column written by "insiders" from the worlds of astronomy research and outreach.

Subscribe or renew to the McDonald Observatory's StarDate Magazine and receive a special discount. Go to this page and press "Add to Cart" under the kind of subscription you want:
http://stardate.org/store/subscribe
Then, on the Checkout form, enter "network" in the Coupon Code box.

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communications@laas.org

Find astronomy outreach activities by visiting NASA's Night Sky Network:

https://nightsky.jpl.nasa.gov/about.cfm

Club Contacts

Club Phone Numbers

LAAS Message Phone:

213- 673-7355 (Checked daily)

Griffith Observatory:

213-473-0800

Sky Report:

213-473-0880

Lockwood Site:

661-245-2106

Not answered, arrange time with caller.

Outgoing calls – Collect or calling card only.

Follow us on social media by clicking on one of the images below

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The Los Angeles Astronomical Society
2800 E. Observatory Road
Los Angeles, CA 90027

Call us for more information about our organization and outreach program.
213-673-7355

Visit our web site at
www.LAAS.org

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