The Los Angeles Astronomical Society

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THE BULLETIN

The beautiful Seagull Nebula. The distinctive shaped emission nebula lies on the border between the constellation Monoceros (the Unicorn) and Canis Major. This is a narrowband and color composite made from a whopping 61 hours of data!

Photo Credit: Brian Paczkowski

HAPPY NEW YEAR!

Upcoming Virtual Club Events

Dark Sky Night: Jan. 1, 2022

Board Meeting; Jan. 5, 2022

General Meeting; Jan. 10, 2022

In This Issue

All members are encouraged to contribute articles of interest for publication in The Bulletin. Please send your articles and images to:

communications@laas.org

Update Your Contact Information

Please send any contact info changes to the club secretary at

secretary@laas.org.

News - The Garvey Ranch Park Observatory

Garvey Ranch Observatory will be open **only** to fully vaccinated members with proof of vaccination. Masks are required at all times, indoors and outdoors.

Hunting the Hunter: Observing Orion

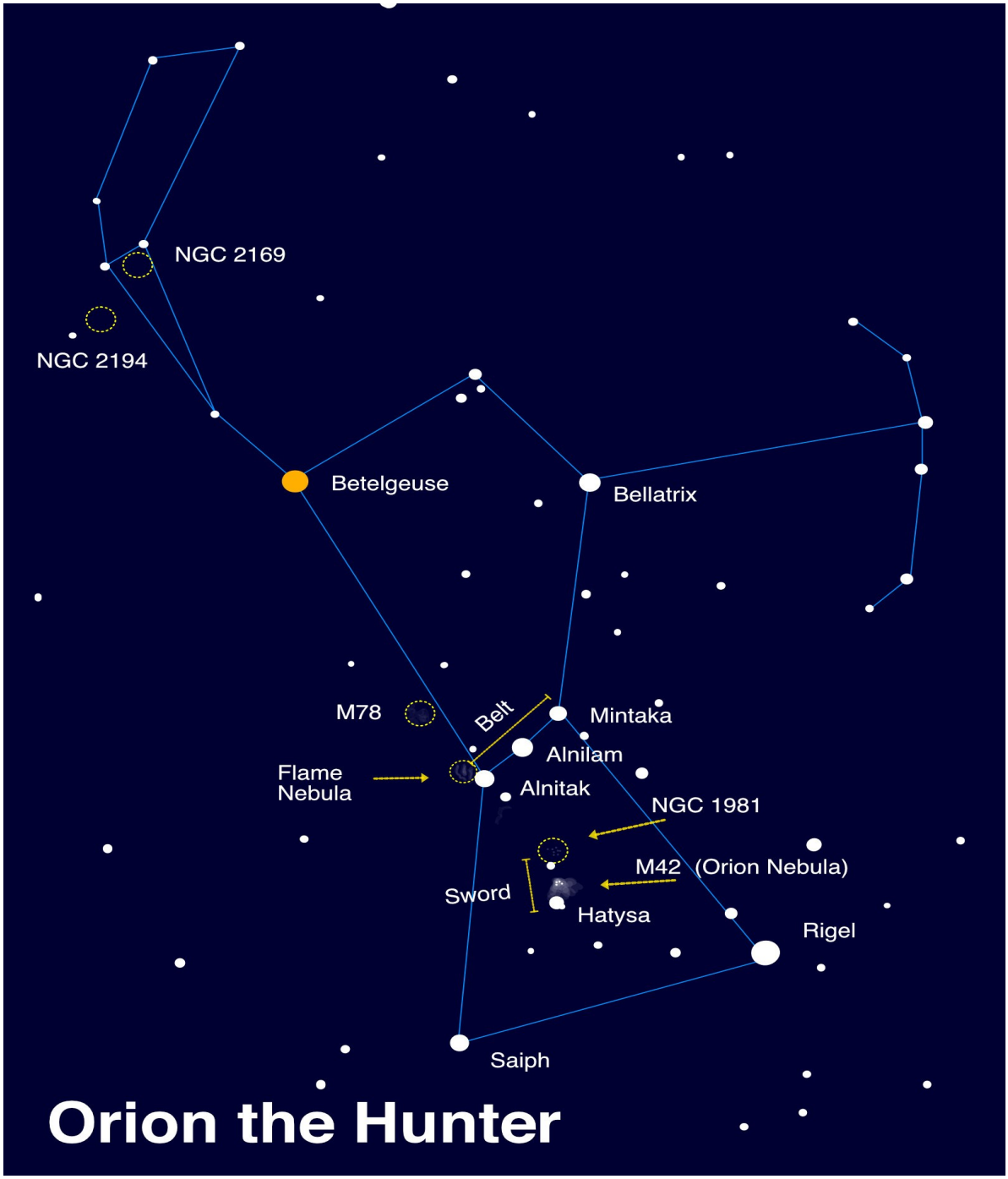
By David Prosper

If you are outside on a clear January night, it's hard not to notice one distinctive star pattern above all: **Orion**! While we've covered Orion in earlier articles, we've never discussed observing the constellation as a whole. Perhaps you've received a new telescope, camera, or binoculars, and are eager to test it out. Orion, being large, prominent, and full of interesting, bright objects, is a perfect constellation to test out your new equipment and practice your observing skills - for beginners and seasoned stargazers alike.

In Greek mythology, Orion is a strong hunter, with numerous legends about his adventures. Being such a striking group of stars, cultures from all around the world have many myths about this star pattern. There are so many that we can't list them all here, but you can find a wonderful interactive chart detailing many cultures' legends on the Figures in the Sky website at figuresinthesky.visualcinnamon.com .

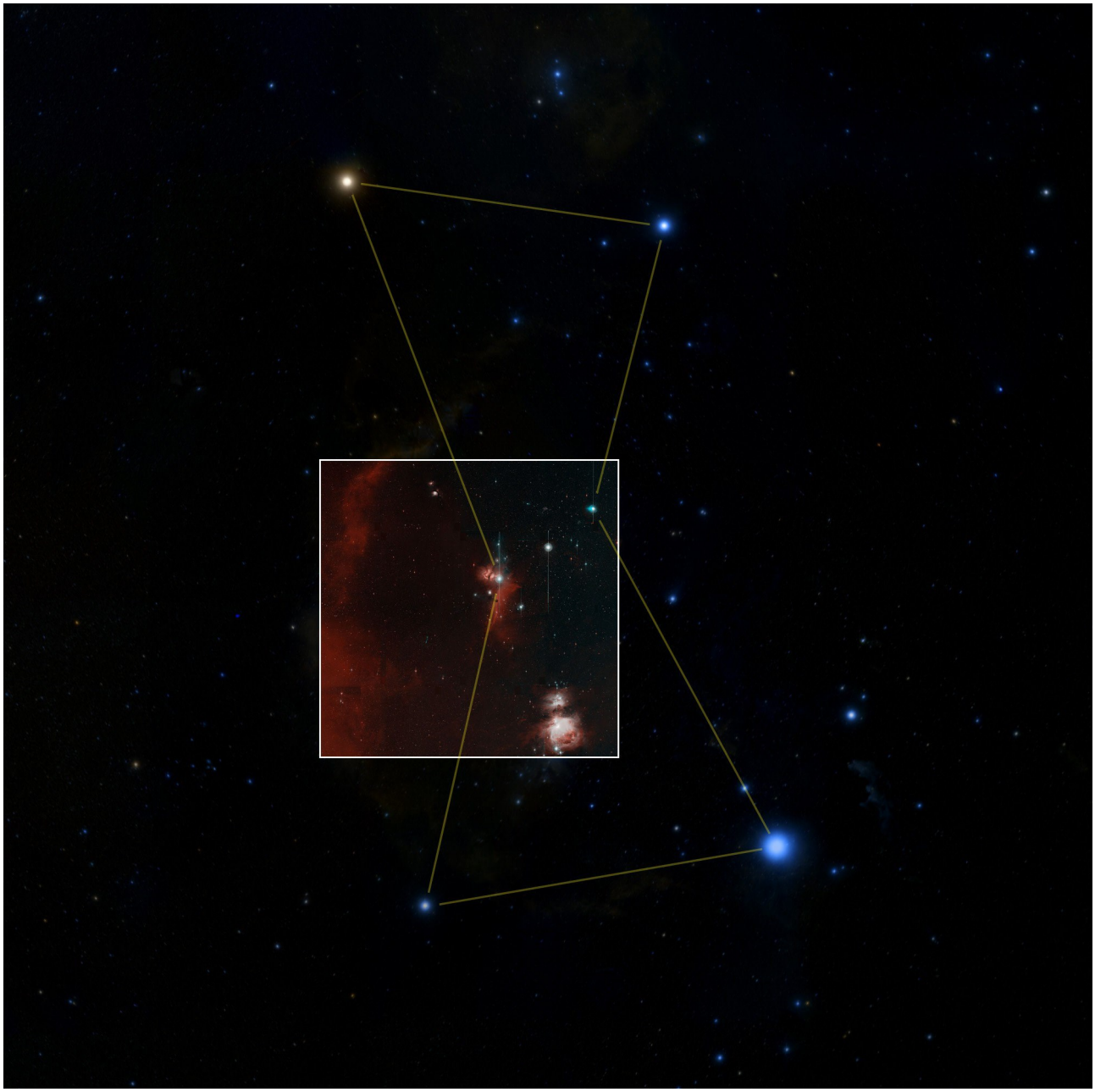
What sights can you see in Orion? Look above the variable orange-red supergiant "shoulder star" Betelgeuse to find the stars making up Orion's "club," then move across from Betelgeuse towards the bright star Bellatrix (Orion's other "shoulder") and the stars of his bow and arrow - both essential tools for the Hunter. Many interesting sights lie near Orion's "belt" and "sword." Orion's belt is made up of three bright giant stars forming an evenly spaced line: Alnitak, Alnilam, and Mintaka. Move from the belt stars towards the stars Rigel and Saiph (Orion's "feet" or "knees") to arrive at Orion's distinctive Sword, parts of which may appear fuzzy to your unaided eyes. Binoculars reveal that fuzz to be the famed Orion Nebula (M42), perched right next to the star Hatysa! Diving in deeper with a telescope will show star clusters and more cloud detail around the Nebula, and additional magnification brings out further detail inside the nebula itself, including the "baby stars" of the Trapezium and the next-door neighbor nebula M43. Want to dive deeper? Dark skies and a telescope will help to bring out the reflection nebula M78, the Flame Nebula (NGC 2024), along with many star clusters and traces of dark nebula throughout the constellation. Very careful observers under dark clear skies may be able to spot the dark nebula known as the Horsehead, tracing an equine outline below both the Belt and the Flame Nebula. Warning: the Horsehead can be a difficult challenge for many stargazers, but very rewarding..

This is just a taste of the riches found within Orion's star fields and dust clouds; you can study Orion for a lifetime and never feel done with your observations. To be fair, that applies for the sky as a whole, but Orion has a special place for many. New telescopes often focus on one of Orion's treasures for their first test images. You can discover more of NASA's research into Orion's stars - as well as the rest of the cosmos - online at nasa.gov.



Northern Hemisphere observers can find Orion during January evenings in the east/southeast skies. Can you spot the Orion nebula with your naked eye, in Orion's sword? How does it look via binoculars or a telescope? What other details can you discern? Please note that some deep sky objects aren't listed here for clarity's sake. For example, M43, a nebula located directly above M42 and separated by a dark dust lane, is not shown. Orion's Belt and Sword are crowded, since they star-forming regions! You can read more in our November 2019 article Orion: Window Into a Stellar Nursery, at bit.ly/orionlight .

Image created with assistance from Stellarium.



The inset image is the "first light" photo from the Zwicky Transient Facility, a large survey telescope designed to detect changes in the entire night sky by detecting "transient objects" like comets, supernovae, gamma ray bursts, and asteroids. For many astronomers, amateur and pro alike, Orion is often the "first light" constellation of choice for new equipment!

Image Credit: Caltech Optical Observatories

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 night-sky.jpl.nasa.gov to find local clubs, events, and more!

The Christmas Nebula

By Brian Paczkowski

Just in time for Christmas! I've been busy. Here's the Christmas Tree Nebula region in the constellation Monoceros. This one image contains a variety of nebulae and open clusters. This composite image is made from about 56 hours of data. I've also include a video scrolling around the image highlighting some of the features. (Video available on Facebook)

Photo credit: Brian Paczkowski

Comet Leonard

By John Fisanotti

Comet C/2021 A1 (Leonard) and the globular cluster Messier 3 (M 3), on the morning of December 3, 2021. This photo was taken from my backyard in La Crescenta. The image is a 60 second exposure at f/7 and ISO 2500. The picture was taken with a Nikon D810A camera and a TEC 140 APO telescope.

Photo credit: John Fisanotti

Monthly Sky Report

By Dave Nakamoto

The Quadrantid meteor shower will peak on the night of the 3rd through the morning of the 4th. The one day old will not interfere with observations. The peak usually only lasts six hours and may produce 25 meteors per hour. These meteors usually lack persistent trains but can produce bright fireballs. They appear to radiate from the constellation Boötes the Herdsman. Unusually, the shower is not named after the constellation from which the meteors appear to come, but from an obsolete constellation Quadrans Muralis, the Mural Quadrant, that once occupied this part of the sky. Also unusually, the meteors appear to originate from a dead comet or asteroid designated 2003 EH.

And now for the planets, in the order they appear from the evening to the morning sky.

Venus ends its long visitation to our evening sky this month, sinking towards the horizon low in the southwest. Venus appears as a thin crescent during January. In a week, Venus is too close to the sun to be observed. On the 15th, Venus rises in the morning sky at 5:57 a.m. and the sun rises at 6:59 a.m. On the 31st, Venus rises at 4:38 a.m. and the sun rises at 6:51 a.m. Venus is a thin crescent. Do not observe any planet when the sun is in the sky, for the danger to the eyes is great.

Mercury sets at 6:14 p.m. on the 1st while the sun sets at 4:55 p.m. On the 7th, Mercury reaches greatest eastern elongation 19.2 degrees from the sun. This is the best time to view Mercury because it will be at its highest point above the horizon in the evening sky. On the 20th, the sun sets at 5:12 p.m. and Mercury sets at 5:40 p.m. For the rest of the month Mercury is too close to the sun to be observed. Look for the planet low in the western sky just after sunset. Do not observe any planet when it comes close to the sun, for the danger to the eyes is great.

Saturn is ending its appearance in the evening sky. On the 1st, Saturn sets at 7:16 p.m. By the 20th, the sun sets at 5:12 p.m. and Saturn sets at 6:12 p.m. For the rest of the month, Saturn will be too close to the sun to be observed. Saturn is low in the southwest. The rings and Saturn's largest moon Titan may be seen with a telescope capable of magnification 50x.

Jupiter is in the southwest as evening starts. On the 1st, the sun sets at 4:55 p.m. and Jupiter sets at 8:47 p.m. On the 31st, the sun sets at 5:23 p.m. and Jupiter sets at 7:20 p.m. For all of January, Jupiter is observable for only a short time. A telescope capable of magnification 50x will show the Red Spot, and the four bright Galilean moons can be seen moving back and forth, across and behind Jupiter.

Neptune is in the constellation Aquarius the Water Bearer, shining at magnitude +7.8. On the 1st, Neptune sets at 10:22 p.m. On the 31st, the planet sets at 8:27 p.m. On the 15th, Neptune is at Right Ascension $23^h\ 27^m\ 34^s$ with a declination of -4° 43' 38". The disk of Neptune is only 2.2 arcseconds wide, and so a telescope with a magnification of 150x is needed to show the disk.

Uranus is in the constellation Aries the Ram, shining at magnitude +5.7. On the 1st, Uranus sets at 2:26 a.m. On the 31st, the planet sets at 12:28 a.m. On the 15th, Uranus is at Right Ascension $2^h\ 32^m\ 55^s$ with a declination of +14° 35' 48". The disk of Uranus is only 3.6 arcseconds wide, and so a telescope with a magnification of 150x is needed.
For both Uranus and Neptune, you might recognize them even if you don't see a disk by remembering the following. Both planets will be an unusual greyish green color, although the color will be pale. They also will not twinkle as the stars do. Finally, even at low magnifications, you might get the impression that they are not pinpoints of light.

Mars rises at 4:58 a.m. on January 1 and at 4:38 a.m. on the 31st. Mars is a disk only four arcseconds wide and will not show any surface features through a telescope.
The Moon is new on the 2nd, first quarter on the 9th, full on the 17th, and last quarter on the 25th.

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.

Additional Astronomy Resources:

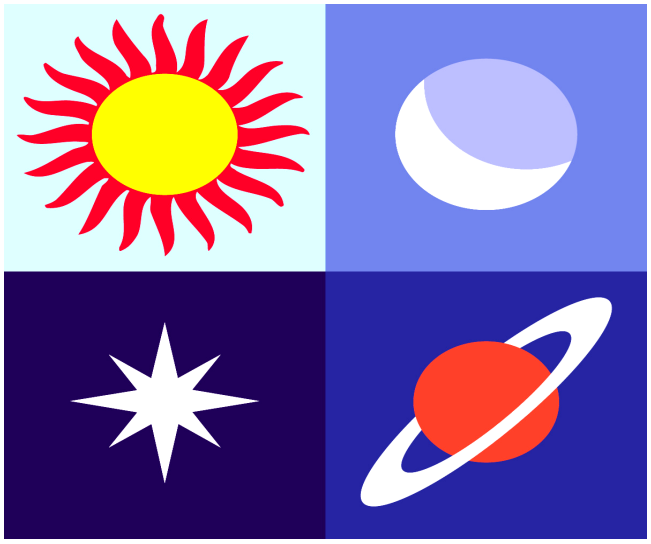
EarthSky.org—https://earthsky.org/tonight/

Sky and Telescope—https://skyandtelescope.org/astronomy-news/this-weeks-sky-at-a-glance-december-24-january-1/

Astronomy.com—https://astronomy.com/observing

APOD NASA—https://apod.nasa.gov/apod/astropix.html

James Webb Telescope (JWT) - https://www.jwst.nasa.gov/



Almanac

January 2 - 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 18:35 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.

January 3, 4 - Quadrantids Meteor Shower. The Quadrantids is an above average shower, with up to 40 meteors per hour at its peak. It is thought to be produced by dust grains left behind by an extinct comet known as 2003 EH1, which was discovered in 2003. The shower runs annually from January 1-5. It peaks this year on the night of the 3rd and morning of the 4th. The thin, crescent moon will set early in the evening leaving dark skies for what should be an excellent show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Bootes, but can appear anywhere in the sky.

January 7 - Mercury at Greatest Eastern Elongation. The planet Mercury reaches greatest eastern elongation of 19.2 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.

January 17 - 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 23:51 UTC. This full moon was known by early Native American tribes as the Wolf Moon because this was the time of year when hungry wolf packs howled outside their camps. This moon has also been know as the Old Moon and the Moon After Yule.

February 1 - 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 05:48 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.

Source:
http://www.seasky.org/astronomy/astronomy-calendar-2021.html

Want to know what objects will be in tonight's sky in Los Angeles? Use this link to find out:

https://www.timeanddate.com/

January 2022

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

Meet The New Members

Sona Yeznaian

Ryan Thompson and Family

Mark Schoofs and Family

Ram Murugesan and Family

Thomas Perfumo

Kamyar Ghaneabassiri and Family

Michael Cobain

Joanna Wu

Steve Blake

Javeck Verdugo and Family

Kristoffer Edlund

Mark Umutyan

Joseph Malet

Brady West

Eunice Park

David Hasenauer

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 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.

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

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.

Time To Renew Your Membership?

Please remember to renew your membership once you receive notice from the Club Secretary in your email inbox.

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

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 T-Shirts, Hoodies, mugs, and more!

To find new merchandise from our store, please use the following link: https://www.laas.org/store

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.

Please remember all LAAS Outreach activities are postponed due to the Covid-19 pandemic.

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.

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

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

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Club Phone Numbers

LAAS Message Phone:

213- 673-7355 (Checked daily)

Griffith Observatory:

213-473-0800

Sky Report:

213-473-0880

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YouTube

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