



THE LOS ANGELES ASTRONOMICAL SOCIETY

JANUARY 2024
VOLUME 98, ISSUE 1

THE BULLETIN



The Garvey Ranch Park Observatory is open for free to the public and to all LAAS members and friends on Wednesday nights from 7:30 PM to 10 PM. Go to our website at LAAS.org and click on "Locations" to learn more about this special weekly event.



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Upcoming Club Events

- Board Meeting: Jan. 3
- Dark Sky Night: Jan. 13
- Public Star Party: Jan. 20

You Are Invited To

The LAAS Annual Banquet and Award Ceremony

Buffet Dinner, Cocktails, Guest Speaker, Awards,
and Raffle Prizes

**Sunday, January 28, 2024
6:00 PM - 11:00 PM**

Location:
The Quiet Cannon
901 Via San Clemente, Montebello, CA. 90640
Contribution Reserve by

**Adults: \$75.00 per person
Children 12 and under: \$35.00
Friends and family members are always welcome to attend.**

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Please use the following link to make your reservations for the banquet.

<https://fs30.formsite.com/LAAS/banquet/index>

Mt. Wilson 60 and 100 Inch Nights

Schedule for 2024

60 Inch Dates:

Friday Apr. 5

Friday May 3

Friday June 7

Friday July 5

Friday Aug. 2

Saturday Sept. 7

100 Inch Nights:

Saturday April 13th.

Friday Oct. 4th.



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-telescopeobserving/>

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

Darrell will answer all of your questions and concerns.

Extreme Makeover- Garvey Ranch Observatory

By Keith Armstrong

Hi LAAS!

Like a classic teen movie, Garvey is making the transition from functional bookworm to a centerpiece of attention. A tale as old as time, our mere appreciation for our home base is evolving into a source of excitement and anticipation. Every week, new square footage opens up and infrastructure becomes more organized and imminently useable. The energy on the grounds is decidedly more kinetic. Although still accommodating to the comfortable casual gatherings of LAAS members and guests, there are also meetings attended by those that wish to shape the future of the club. Despite cooler temps, the lawn remains dotted with telescopes operated by both the experienced and new. A decidedly dulled resource is being honed into something for us all to be proud of.

Who cast the spell to break the curse of complacency and neglect? YOU! After the online poll clearly showing an interest in maintaining our roots as a telescope building club, momentum started gathering. Norm Vargas made the connection to Tony Cook (Griffith Park ret.) to steer the program. Terry Koken offered to bolster this endeavor and showed up right away to solidify his commitment. Once a game plan was established by Tony and Terry, Tim approved it and you went to work.

In a single evening, the basement was completely overhauled, stowing away Monterey Park property, discarding the deserving, organizing and storing the valuable, while clearing space for the ATM cabinets from upstairs. The workbench was completely cleaned off and sorted, paving the way for its relocation. Also the loaner scope collection was culled, donating those that were merely taking up space and never seeing the like of day (night?). Norm sent a scout leader to take some project scopes with them, while the Young Christian Astronomers took others.

The following week, two of the ATM cabinets were emptied, moved, culled, then restocked with fresh organization. It was surreal seeing those big hunks of metal outside on the lawn, heading towards their new home downstairs. All the while a particularly productive Board meeting was underway, impressively headed up by our VP Alecia Hurst, as Darrell was medically unavailable.

Momentum was preserved the succeeding Wednesday. The remaining two ATM cabinets were relocated with the same care seen the previous week. With all four of them gone, we are at the precipice of moving the workbench flush against the wall, opening the entire floor of the shop rather than bisecting it. At the same time, Brian E was hosting the first of two Strategic Visioning sessions for SKAS. Attended in person and online by Lockwood Committee members, ideas were collected and assembled into categories. It was so illuminating to see how disparate viewpoints cohesed in broader terms. I look forward to the next one of these and am excited to see what data they provide. The date for session #2 has not yet been determined, so if you want to take part (please do!), join the Lockwood committee on groups.io and look for the announcement in the near future. One curious observation was made by Roman in the first meeting. A good amount of what was asked for at SKAS exists today at Garvey. Obviously the skies of Monterey Park aren't comparable to Lockwood, but we do have a basis of what many of our dreams look like in our current facilities.

The last Wednesday before the holiday was a labor of love. Rain kept everyone away other than Dave N, Cassandra, and Terry. We were getting really close to finishing the big moves and the possibility of finishing was a great motivator. And this little group nailed it! LOOK HOW PRETTY IT IS:







Shane's idea of moving the workbench against the wall makes a huge difference, as does having the cabinets downstairs. There is still a bit of sorting to do downstairs and on the workbench, which we will tackle on the last wed of the month. I am beaming right now looking at these pictures and I hope you are too. I am so proud of this space and so happy with how we got here.

All the while Dave N continues to do the Lord's work up in his lofty perch, providing us with weekly images and back-story for each. Tim continues to engage with anyone asking any question about any subject. Heven, Dave Y, Greg T, Norm, Phil T, and Shirley continue to be there for curious members of the club or members of the public.

But the angels at the heart of this transformation are:

Tony Cook
 Terry Koken
 Scott McGuire
 Shane Winter
 Dan Bednarski
 Andy Inohara
 Martin Mohan
 Cassandra Holmes
 Kamyar Ghaneabassiri
 Jamir Soberonis
 Jonathon Coronel

These members have showed up to WORK and are representing the best of us.

Come see what we are capable of when we move together towards a single goal! SKAS is so much cleaner now because of this sort of effort, and it is even more amazing to see it happen with greater numbers at Garvey.

I hope you all had a great holiday season and I look forward to seeing you at the banquet!

-Keith

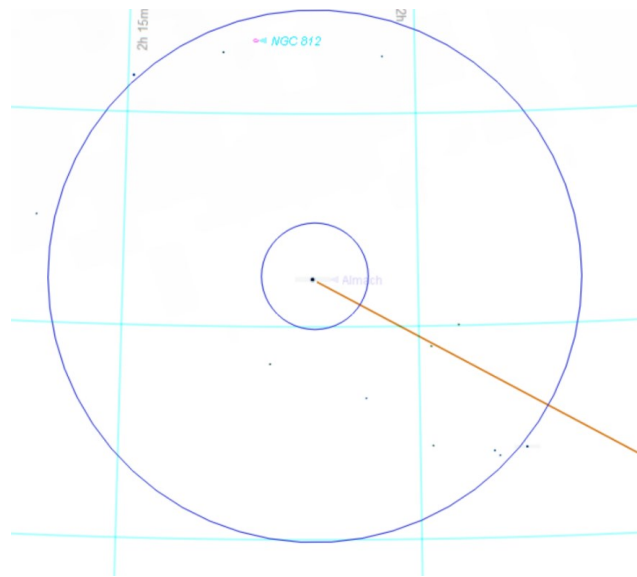
Two Objects Off Of Almach

By Dave Nakamoto

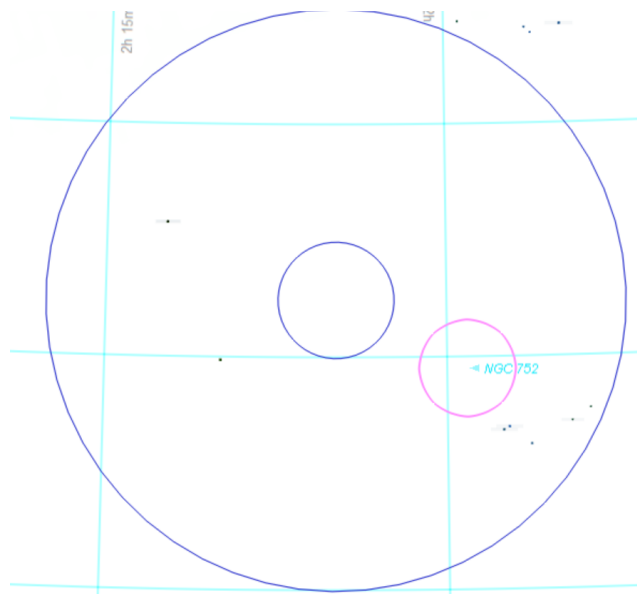
Andromeda consists of two arcs of stars heading east off the northeast star of the Square of Pegasus, Alpheratz. Almach is at the end of the southern arc of stars. There are two faint but interesting objects off of Almach.

As always, I use an 8x5mm finder with a field of view (FOV) of five degrees. The charts show stars down to the 7th mag.

First center on Almach.



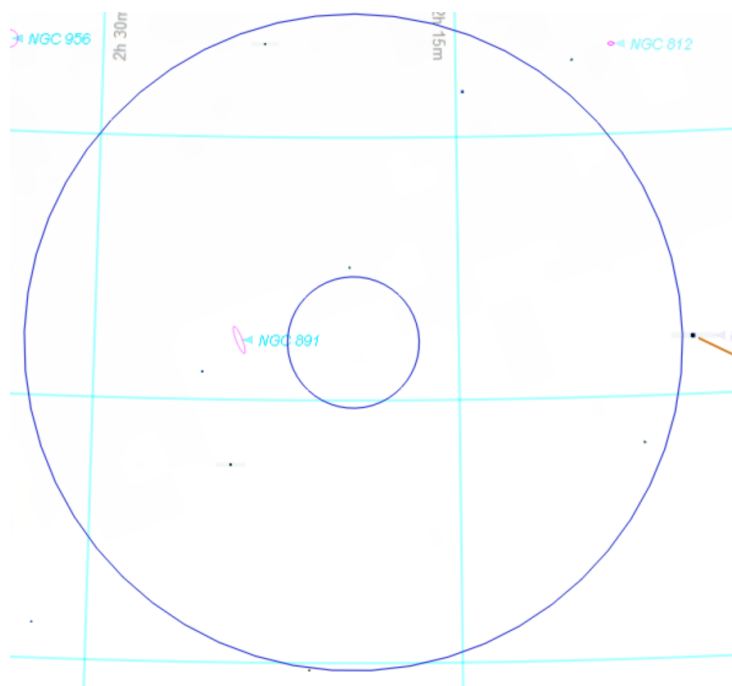
Move south until Almach disappears. Two widely spaced 5th mag stars will appear on the east side of the FOV. Center the finder on the south star. Now the finder and telescope should be lined up in Declination on 752.



Move west until the star you just centered on is almost at the end of the FOV. Notice the 7th mag stars forming a very narrow triangle appearing from the west. Before you align north of them, you might see a faint glow of the stars found in the center of the finder.

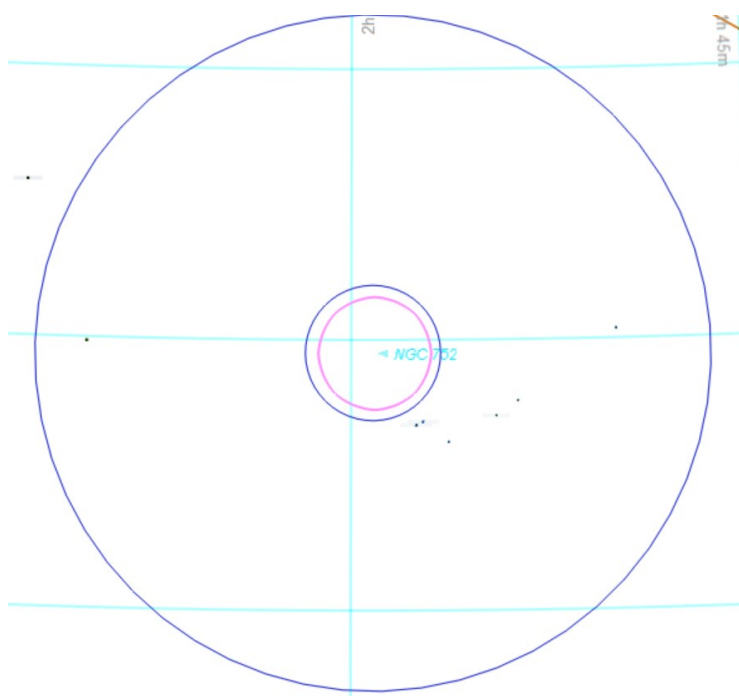
The cluster is large, 75 arcminutes wide, and faint, with no member being brighter than 9th mag. Not much to see, or photograph.

The other object is the small edge-on spiral NGC 891.



Head back to Almach.

Now move east until Almach disappears off the west edge of the FOV. You should see a pattern of three faint stars in almost a right-triangle pattern.



As you can see, 891 is at the same RA as the southern-most star, and just north of the middle star in Declination. NGC 891 is 11th mag, faint, and only 13 arcminutes wide.

As an added bonus, after such faint offerings, M34 is a relatively large open cluster 35 arcminutes wide and relatively bright at 5th mag. If you move about three degrees to the east, M34 will appear in your finder. This cluster is about 250 million years old, between the Pleiades at 100 million years, and the Hyades at 800 million years. About 400 members, none heavier than one solar mass. 19 white dwarfs are members.

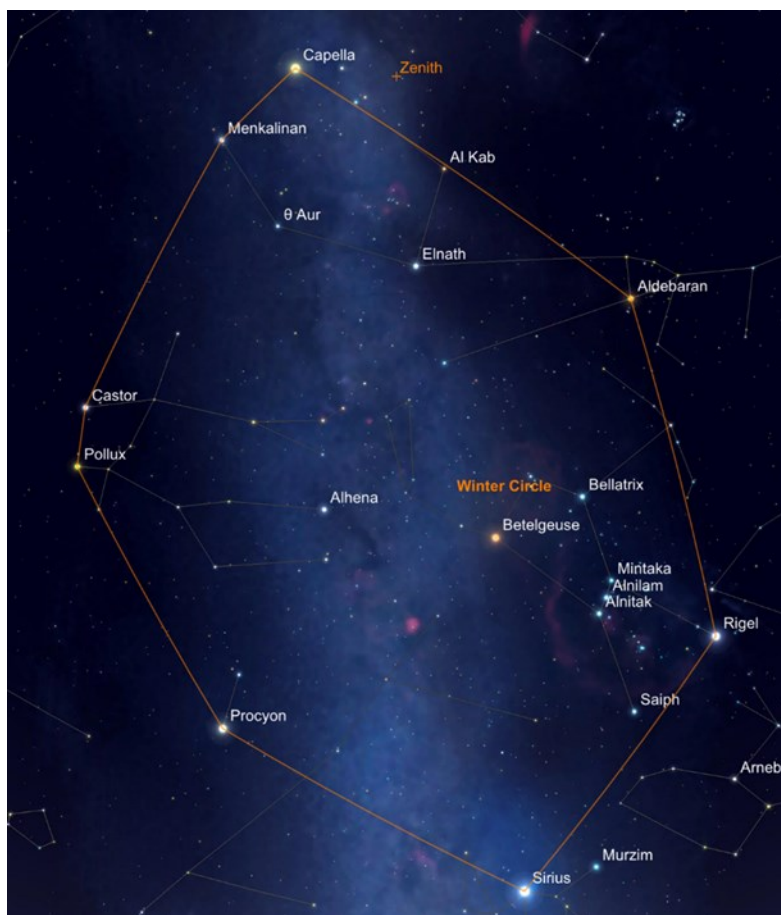
Connecting the ‘Dots’ with Asterisms

By Kat Troche

In our [December Night Sky Notes](#), we mentioned that the Orion constellation has a distinct hourglass shape that makes it easy to spot in the night sky. But what if we told you that this is not the complete constellation, but rather, an [asterism](#)?

An asterism is a pattern of stars in the night sky, forming shapes that make picking out constellations easy. Cultures throughout history have created these patterns as part of storytelling, honoring ancestors, and timekeeping. Orion’s hourglass is just one of many examples of this, but did you know Orion’s brightest knee is part of another asterism that spans six constellations, weaving together the Winter night sky? Many asterisms feature bright stars that are easily visible to the naked eye. Identify these key stars, and then connect the dots to reveal the shape.

Asterisms Through the Seasons



Stars that make up the Winter Circle, as seen on January 1, 2024

Sky Safari

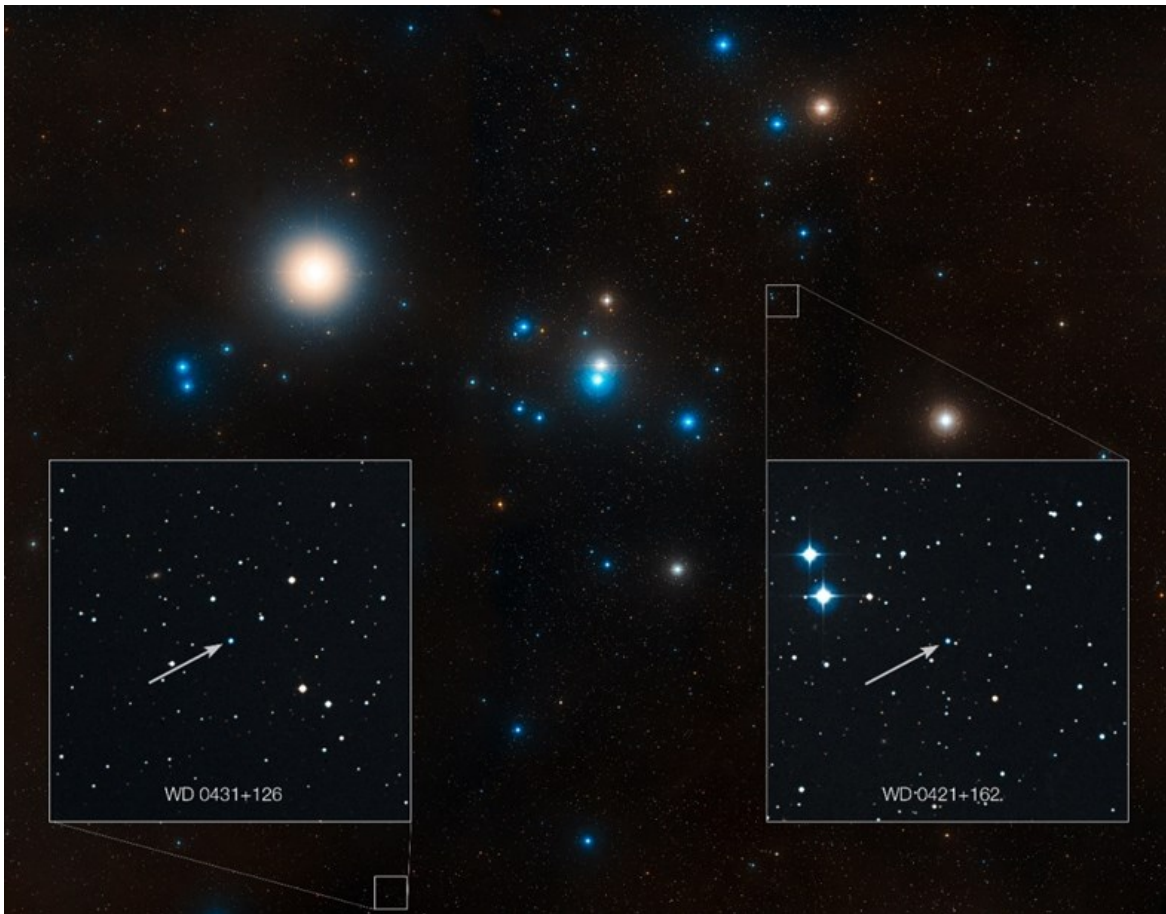
Try looking for these asterisms this season and beyond:

Winter Circle – this asterism, also known as the Winter Hexagon, makes up a large portion of the Winter sky using stars Rigel, Aldebaran, Capella, Pollux, Procyon, and Sirius as its points. Similarly, the **Winter Triangle** can be found using Procyon, Sirius, and Betelgeuse as points. **Orion’s Belt** is also considered an asterism.

Diamond of Virgo – this springtime asterism consists of the following stars: Arcturus, in the constellation Boötes; Cor Caroli, in Canes Venatici; Denebola in Leo, and Spica in Virgo. Sparkling at the center of this diamond is the bright cluster **Coma Berenices**, or Bernice’s Hair – an ancient asterism turned constellation!

Summer Triangle – as the nights warm up, the Summer Triangle dominates the heavens. Comprising the bright stars Vega in Lyra, Deneb in Cygnus, and Altair in Aquila, this prominent asterism is the inspiration behind the cultural festival [Tanabata](#). Also found is Cygnus the Swan, which makes up the **Northern Cross** asterism.

Great Square of Pegasus – by Autumn, the Great Square of Pegasus can be seen. This square-shaped asterism takes up a large portion of the sky, and consists of the stars: Scheat, Alpheratz, Markab and Algenib.



This image shows the region around the Hyades star cluster, the nearest open cluster to us. The Hyades cluster is very well-studied due to its location, but previous searches for planets have produced only one. A new study led by Jay Farihi of the University of Cambridge, UK, has now found the atmospheres of two burnt-out stars in this cluster — known as white dwarfs — to be “polluted” by rocky debris circling the star. Inset, the locations of these white dwarf stars are indicated — stars known as WD 0421+162, and WD 0431+126.

Tracing these outlines can guide you to objects like galaxies and star clusters. The Hyades, for example, is an open star cluster in the Taurus constellation with [evidence of rocky planetary debris](#). In 2013, Hubble Space Telescope’s [Cosmic Origins Spectrograph](#) was responsible for breaking down light into individual components. This observation detected low levels of carbon and silicon – a major chemical for planetary bodies. The Hyades can be found just outside the Winter Circle and is a favorite of both amateur and professional astronomers alike.

How to Spot Asterisms

Use Star Maps and Star Apps – Using star maps or stargazing apps can help familiarize yourself with the constellations and asterisms of the night sky.

Get Familiar with Constellations – Learning the major constellations and their broader shapes visible each season will make spotting asterisms easier.

Use Celestial Landmarks – Orient yourself by using bright stars, or recognizable constellations. This will help you navigate the night sky and pinpoint specific asterisms. Vega in the Lyra constellation is a great example of this.

Learn more about how to stay warm while observing this Winter with our upcoming mid-month article on the [Night Sky Network page](#) through NASA’s website!.

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 to find local clubs, events, and more!



The Sun With A Massive Prominence

By Dave Pinsky



Attached is an image for the Bulletin I took on 12/7/23 of the Sun with a massive prominence. The Image was taken with a Canon 6D Mk2 through a Lunt 50 Solar Telescope.

Photo Credit: Dave Pinsky

Orion's Belt With The Horsehead And Flame Nebula In The FOV

By Joey Aguilera

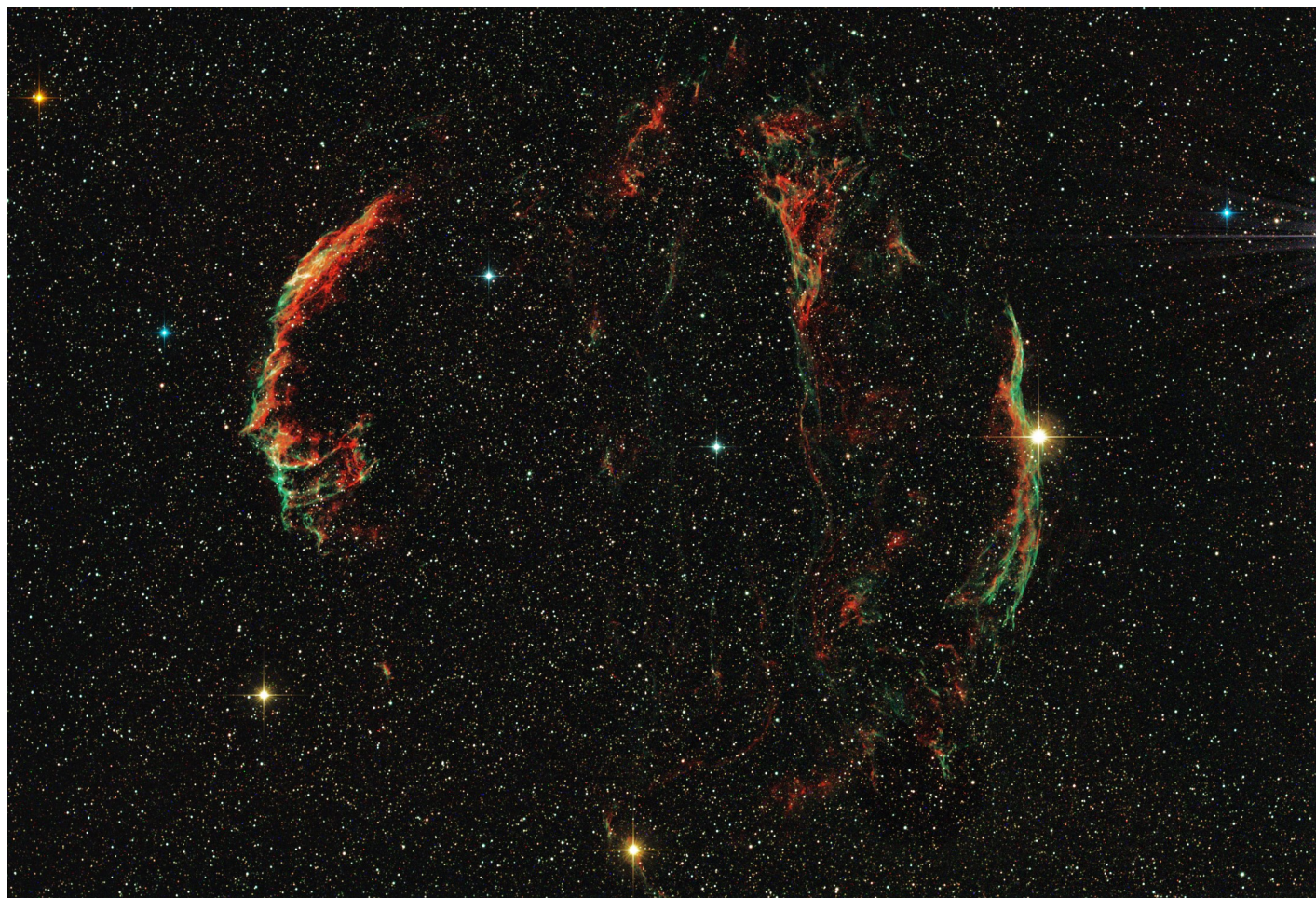


I wanted to capture Orion's belt with the Horsehead and Flame Nebula in the FOV. This was taken from my backyard in Whittier on November 12th of this year.

Photo Credit: Joey Aguilera

Eastern & Western Veil Nebula

By Daniel Zeddy

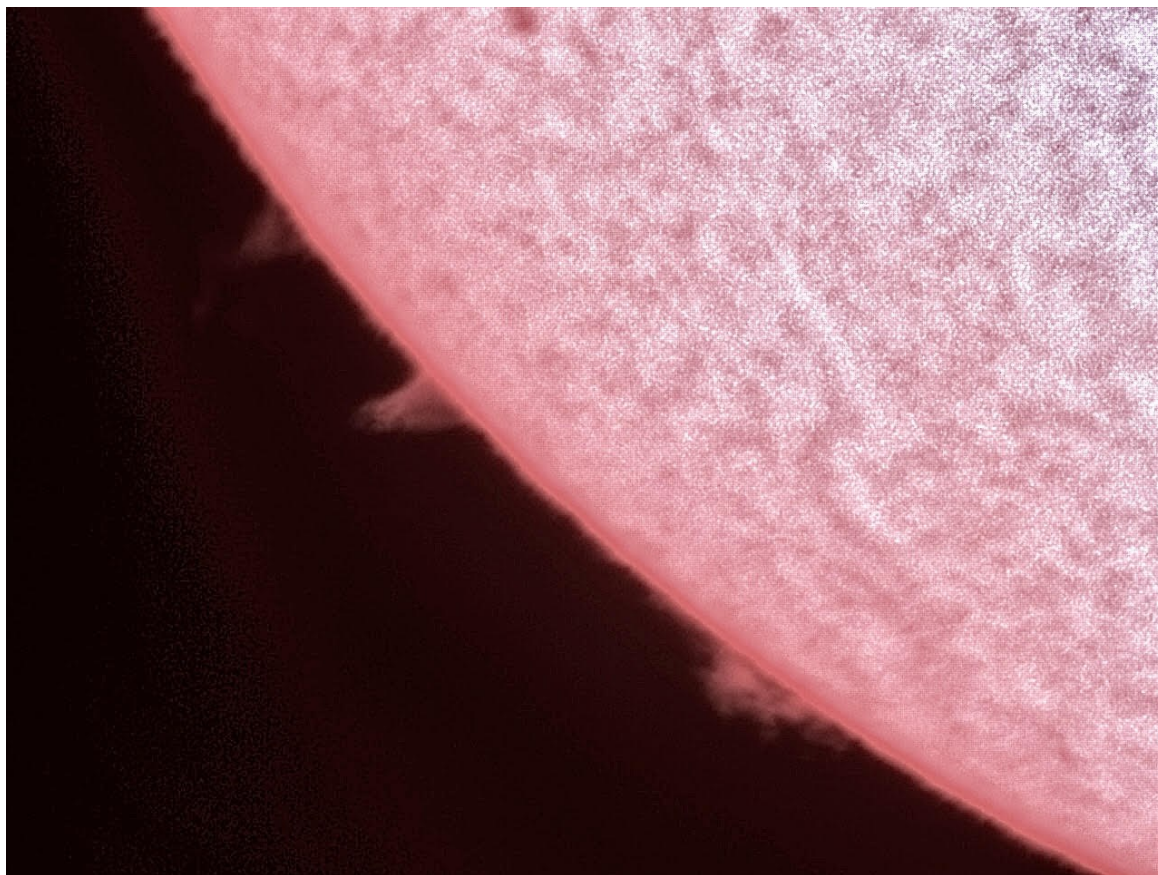


Eastern & Western Veil Nebula. Taken with William Optics Redcat 51 telescope, ASI 294mc pro camera, Duo narrow-band filter of H alpha and OIII, 7nm. Exposure of 24 times 5 minutes. Mount an iOptron 26. Location Santa Clarita CA.

Photo Credit: Daniel Zeddy

Assorted Astro-Images

By Tim Russ







STELLAR - M17 - Omega Nebula - 5min. - 35°N 119°

Photo Credit: Tim Russ

Images Taken At The Dark Sky Night (SKAS)

By Alex Ramos



M2 Cluster



Orion Nebula



Andromeda Galaxy



Jupiter



Ring Nebula

Photo Credit: Alex Ramos

Astrophotography Image Collection

By Paul Hunt

I took this picture on the night after the annular solar eclipse, which I had viewed in Beaver, Utah. This picture has a red cast, whereas the picture at Bryce Canyon had a greenish cast. I do not know why that happened. The camera and lens were the same and the exposure setting were similar. Perhaps I altered some other setting.



Milky Way at Grand Canyon North Rim,
October 2023



Milky Way at Bryce Canyon, June 2023



Jupiter and Moons from Backyard in Sierra Madre

I am a new member of LAAS and just a beginner at astrophotography.

I took the pictures of Jupiter and Saturn by attaching a Nikon DSLR to an 8-inch Dobsonian telescope. I think I used a Barlow lens for both photos. I found focusing difficult--another thing to learn.



Saturn

Photo Credit: Paul Hunt

Monthly Sky Report

By Dave Nakamoto

Well, the daylight hours increase and the night hours decrease throughout the month, much to the chagrin of astronomers in the northern hemisphere.

The moon is at last quarter on the 3rd, is new on the 11th, first quarter on the 17th, and full on the 25th.

From evening to morning, the planets appear thusly.

Saturn is in Aquarius the Water Bearer and is well placed for evening viewing throughout January. On the 1st, the sun sets at 4:55 p.m., PST, and Saturn sets in the west-southwest, at 9:02 p.m., PST. By the 31st, the sun sets at 5:22 p.m., PST, and Saturn sets at 7:19 p.m., PST, one hour and 57 minutes later. A telescope with a magnification of 50x or more is needed to see the planet's rings and its large moon Titan. Some of the fainter, smaller moons such as Rhea and Dione might be visible too, hovering close to Saturn.

Neptune is also in the constellation of Aquarius the Water Bearer. On the 1st, Neptune sets at 10:46 p.m., PST. On the 31st, the planet sets at 8:51 p.m., PST. On the 15th, Neptune is at Right Ascension 23^h 44^m 49^s with a declination of -2° 59' 02". The disk of Neptune is only 2.2 arcseconds wide, and so a telescope with a magnification of 150x or more is required to show the disk. Neptune's largest moon, Triton, may be visible in telescopes with an aperture of 10-inches or more.

Jupiter is in Aries the Ram. On the 1st, Jupiter sets in the west at 2:03 a.m., PST, and on the 31st, Jupiter sets at 12:13 a.m., PST. The planet's disk is 42 arcseconds wide, so 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.

Uranus is the last of the "evening" planets and is also in the constellation Aries the Ram. On the 1st, Uranus sets in the west at 3:11 a.m., PST. On the 31st, the planet sets at 1:11 a.m., PST. On the 15th, Uranus is at Right Ascension 3^h 7^m 9^s with a declination of +17° 13' 20". The disk of Uranus is only 3.7 arcseconds wide, and so a telescope with a magnification of 150x is needed.

On the 1st, **Venus** appears in the east around 4:08 a.m., PST, and the sun rises at 6:59 a.m., PST, two hours and 51 minutes later. On the 15th, the planet is 82-percent illuminated and 13 arcseconds wide, a small gibbous disk. On the 31st, Venus rises at 4:58 a.m., PST, with the sun rising at 6:51 a.m., PST, one hour and 53 minutes later. A telescope with a magnification of 100x is needed to see its shrinking disk, as it journeys on the far side of its orbit.

On the 1st, **Mercury** rises in the east-southeast at 5:32 a.m. PST, one hour and 27 minutes before sunrise. On the 31st, Mercury rises at 5:54 a.m., PST, 57 minutes before sunrise. On the 15th, Mercury is 68-percent illuminated and only 6.4 arcseconds wide, so magnification of 150x or more will be needed to see such a small disk. Do not observe any planet when it comes close to the sun, for the danger to the eyes is great.

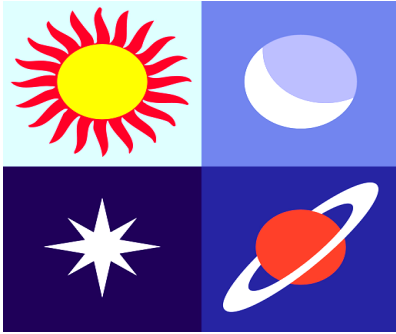
On the 1st, **Mars** rises in the east-southeast at 6:08 a.m., PST, 51 minutes before sunrise. While its disk is nearly full, 99-percent illuminated, it is very small, only 3.9 arcseconds wide, and therefore no features will be visible in any telescope. Mars continues to rise earlier but will remain small throughout 2024 until around December 2024.

SPECIAL EVENTS this month include:

The Quadrantid meteor shower will peak on the night of the 3rd through the morning of the 4th. The peak usually only lasts six hours. Rates may approach 25 meteors per hour, but the last quarter moon will interfere with observations. 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

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

Source:
Seasky.org

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 waning gibbous moon will block out some of the fainter meteors, but if you are patient this could still be a good 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 11 - 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 11:59 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 12 - Mercury at Greatest Western Elongation. The planet Mercury reaches greatest western elongation of 23.5 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 morning sky. Look for the planet low in the eastern sky just before sunrise.

January 25 - Full 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 17:55 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 known as the Old Moon and the Moon After Yule.

February 9 - 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 23:00 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 2024

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3 Garvey Obs. Board Mtng.	4	5	6
7	8 .	9	10 Garvey Obs.	11	12	13 Dark Sky Night
14	15	16	17 Garvey Obs.	18	19	20 Public Star Party Outreach- Santa Monica
21	22	23	24 Garvey Obs.	25	26	27
28 LAAS Banquet And Award Ceremony	29 	30	31 Garvey Obs.			

There will be no general meeting in January in lieu of the annual banquet.

Meet The New Members

Welcome to the LAAS!



Andrew Chia	Nick Spens
Everado Hernandez	Reginald Tucker-Seeley
Paul Hunt	Jaio Yu
Karapet Karapetyan	Nathanial Zaharia
Abel Perez	
Alan Rich	

LAAS Board Meetings

All Board Meetings are 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.

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

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 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 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 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



Disclaimer: The Los Angeles Astronomical Society, Inc. is a public charity, as defined by Internal Revenue Code Section 501(c)(3) and all contributions to the Society are deductible for Federal and State Income tax purposes.

John O'Bryan, Jr.

Treasurer

Astronomy Magazines

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.



[Click here to subscribe to Sky and Telescope Magazine.](#)



Subscribe or renew to the McDonald Observatory's StarDate Magazine and receive a special discount. Follow this link to subscribe and press "Add to Cart" under the type of subscription option: <http://stardate.org/store/subscribe>

On the Checkout form, enter "network" in the Coupon Code box.



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.

Use [this link](#) to begin the subscription process.



[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 [Mercury Magazine](#), published quarterly.

Club Contact Information

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President@laas.org

Vice President: Alecia Hurst

hurst.alecia@gmail.com

Treasurer: John O'Bryan, Jr.

treasurer@laas.org

Secretary: Spencer Soohoo

secretary@laas.org

Outreach Coordinator: Heven Renteria

outreach@laas.org

Club Communications: Andee Sherwood

communications@laas.org

Mt. Wilson Coordinator: Darrell Dooley

mtwilsoncoordinator@laas.org

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Find astronomy outreach activities by visiting NASA's [Night Sky Network](#)

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