



THE LOS ANGELES ASTRONOMICAL SOCIETY

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THE BULLETIN



Our 26 Inch telescope has been a crowd and member favorite for many years at our public star parties on the lawn of Griffith Observatory. The telescope will soon go on a journey to a new home at our SKAS facility where it will be used and enjoyed by the current members of the LAAS for many years to come.

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: Sept. 6
- Family Night: Sept. 9
- General Meeting: Sept. 11
- Dark Sky Night: Sept. 16
- Public Star Party: Sept. 23

Mt. Wilson Nights - Schedule For 2023

60 Inch and 100 Inch Nights

60 Inch Dates:

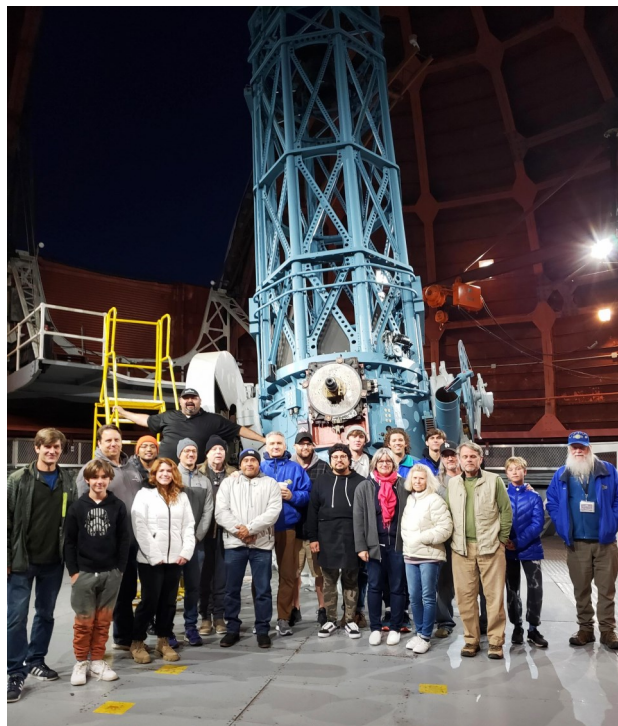
(All on Saturday and all HALF-nights only.)

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.*

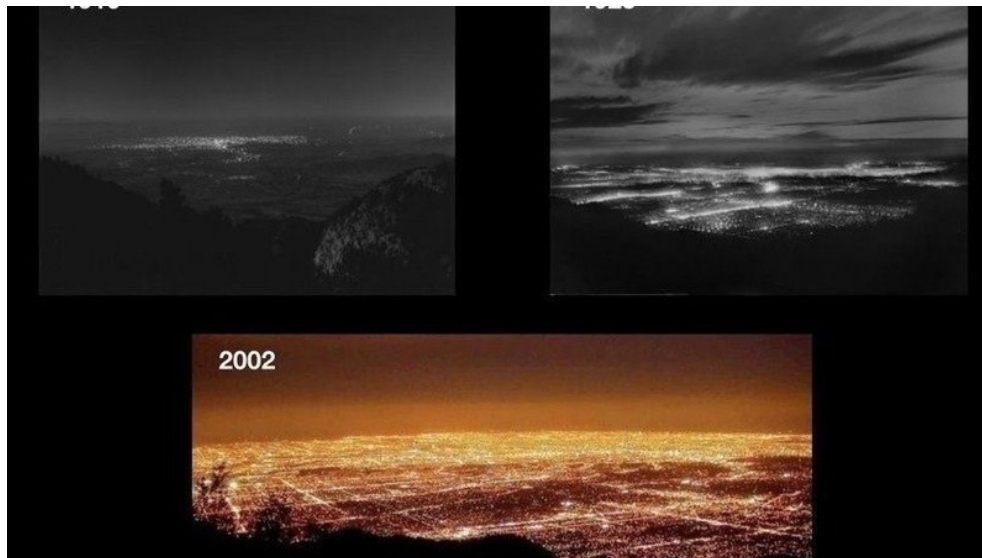
Darrell's Email Address:

Mtwilsoncoordinator@laas.org

Darrell will answer all of your questions and concerns.

Preserving The Night Sky - Progress Report

By Spencer SooHoo



Progress!!

After almost a year of work with the Los County Department of Regional Planning, we are pleased to announce that the County has mailed over 10,000 flyers to residents in the Lake Castaic area as part of a pilot project to educate residents on the importance of reducing light pollution and how easy it can be done. The YouTube video produced by the County highlights the effort and what simple steps can be taken. It features an interview with Rod Kaufman, the co-chair of the LAAS Light Pollution Committee and Travis Longcore, a UCLA professor, a biologist who studies the effects of light pollution on wildlife, and Amy Bodek, the Los Angeles County Director of Regional Planning. Some of the scenes were shot at one of our 60 inch nights at Mt. Wilson and a public star party at Griffith Observatory,

<https://www.youtube.com/watch?v=XV8ILQjkBAQ>

This short video is part of a longer video that will feature dark sky sites in Southern California and the impact of light pollution on them. The longer video will include shots at Garvey Ranch Observatory and our Lockwood site.

Also, I found this other video that shows the night sky under different levels of light pollution. It's a good way to get a sense of what the differences are between Bortle 1 and Bortle 8 skies. [Lost in Light](#)

Spencer SooHoo
LAAS Secretary
Co-Chair Lockwood Committee
Co-Chair Light Pollution Committee

Please help us save our night sky from light pollution.

Learn more about it here: [Help Save Our Dark Skies](#)

I Am All Out of Dopamine...

By Keith Armstrong

Hi...

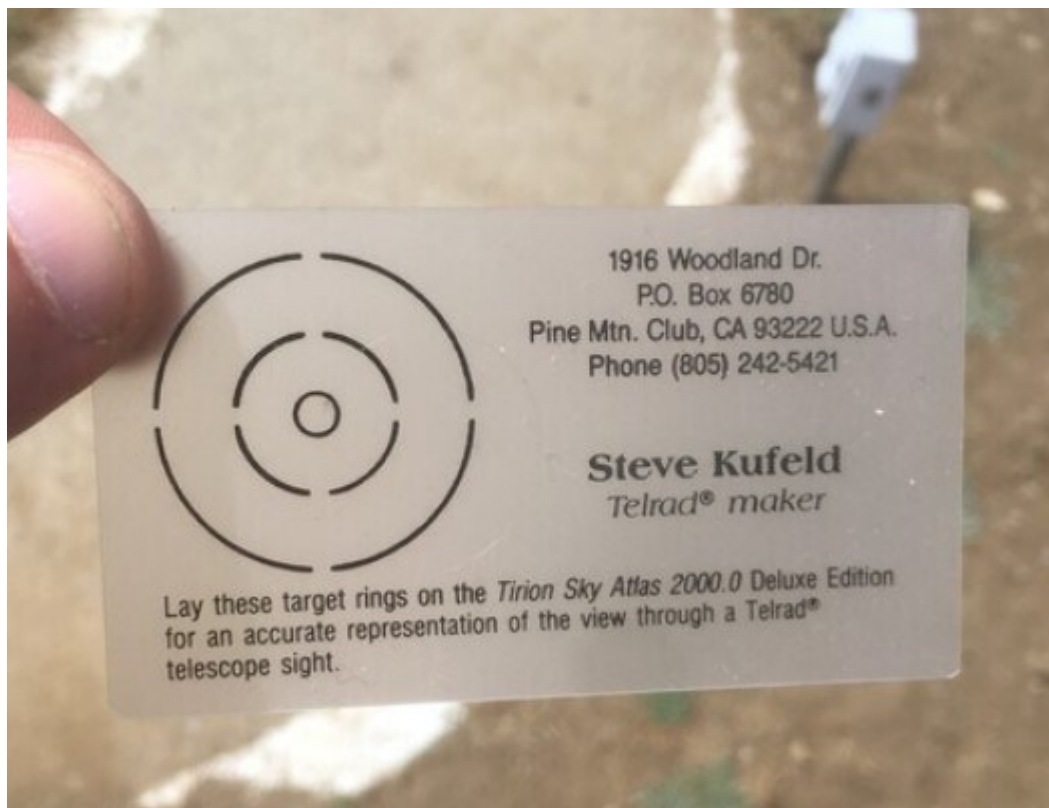
I am sad now, because I am not with my friends and I miss them. And also I am not sure that my brain could process any more joy than I have felt over the last week. Four sites in four days with some of the most engaging people I have ever met. I was gifted the opportunity to share my love of astronomy with people who feel the way I do, and go waaaay out of their way to prove it. To me this is the prime attractor of this club. Looking at M15 or the Lagoon nebula is a fantastic way to spend a summer evening. But adding the enthusiasm of people who love them like you do, or are witnessing them for the first time is like emotional MSG. To me, LAAS is a social club with a hankering for the night sky. Surely there is a massive amount of institutional knowledge and experience to be shared from member to member, but that person sharing information to you is more than just the peel of the banana you are about to eat. I just spent some serious quality time with members originating from Hungary, to Coast Rica, to Alabama, from their 20's to their 70's. Some are engineers, some are creatives, some 9 to 5ers too. Believe me when I say that you guys are every bit as fascinating as the extraterrestrial stuff I see through my scope. Thank you all for enriching me and allowing me to yammer on about coffee, life priorities, adaptive cruise control, and more coffee. As I write this, all I want to do is talk about you, forgoing my notes of the events that happened. But that makes for bad content, so I willn't.

The current Astrobender I am referencing here started last Saturday (8/12) at SKAS with Family Night, followed by what will certainly be the first of many Astrotrips (8/14-17). Brace yourself, this is going to be a long one.

TL;DR: meteors, then clouds and meteors, then clouds and meteors and lightning, then just meteors again. Long Starlink trains each night (yaaaaay! or ugggggh!) But none of that was the best stuff, so read on! (Please)

FAM NITE on 8/12 (men on a mission/party time!)

As referenced in my last self-centric opinion piece about my time spent with y'all, my beloved binoscope has fallen under the weather. The motors that allow for alignment of its two tubes are not functioning. I managed to wrangle Zoly to spend the day with me at SKAS to see if he could get it sorted. This involved picking him up at his place and trying to fit his tool bin in my car. My little convertible would only accept a portion of what he planned on bringing, but after some light negotiating with available trunk space, we were soon whisking up the 5 to SKAS. Upon arrival, we were met by John Hester, hard at work whacking the weeds that are back on the march. We kneecapped these sons-a-bitches a couple months back, but all it took was a little bit of rain to get them into the sort of shape to swallow dropped thumbscrews and create the trip hazards we love to talk about during the Sunset Talk. It looked like both John and Al were making a pretty sizable dent on weed whackin', so Zoly and I split up and got to work. I have been on a mission to clean up SKAS from debris ranging from discarded telescope parts, to old hardware, to just plain old trash. I am happy to say that I am nearly done, and this day was a biggin in moving things forward. While Zoly performed electrical CPR on the binoscope, I was dragging leftover fence posts, broken ladders, and scrap metal across the yard to the ever-expanding trash pile. Once the area around the toolshed was cleaned out, I turned toward the Tombaugh shed. Al, John, and Randy were now looking for something to do, and we emptied that sucker out. Randy then blew out the inside and swept it up. All remnants of the 31 were removed along with components for a brass telescope. This stuff is in the ES trailer to be picked up by it's owner, or will then be made available to the public. The joystick and switchgear for the 31 are really cool, and I hope they find use somewhere with somebody. But with the G.O. 26" telescope coming to live there, the 31 needs to acquiesce to leaving its former home. While this was happening, Zoly had some heartbreaking news for me. He found the issue that was maligning my scope-child. The battery had been hooked up in reverse, frying a couple of diodes. Seeing that I have been the only one messing with the battery on that thing, the bino was injured by it's own scope-daddy. Uggggggghhhh. Zoly promised to get it back up and running soon, but the circle of trust is broken between a scope and its caretaker. Now is the time for understanding and careful steps forward until the bino and I can again view the cosmos together. In better news, we wrapped up the 31 shed and moved an emptied cabinet down to GMO for potential future use as a concession stand (I found a Steve Kufeld business card in the process, how cool!).



I am spitballing the idea of keeping hand/foot warmers, headlamps, lasers, and maybe gloves, hats, socks and hoodies at SKAS to sell to those in need. Does that tickle the fancies of any of you? Let me know in the comments! The net result of this day's effort reduce the de-trashing tasks to the tool shed, and a general field de-debris-ing. This is awesome and I want to wrap this initiative up next month.

After the work-y part of the day was done, I went back to the the store at Frazier Mtn Road and Lockwood for my new tradition of knocking back a cold carrot juice on hot days. I'm tellin ya, it is both refreshing AAAAAANNNNDDDD it makes you see better guaranteeing a better scopin' experience. The other tradition I have started on SKAS nights is to check in on the Chooch. On this night it was packed! It turns out NarcAnon was doing a thing there for the Perseids. I thought it a fantastic outlet for people struggling with addiction to take in a meteor shower together. It wasn't lost on me that there were a lot of participants for this event. Stay safe everybody... Upon returning to SKAS, I took the time to check out the eyepiece collection that came with the Takahashi. I am so stoked that this fine cross section of the TeleVue catalog will be made available to members viewing the 16" GMO scope and the 26" upon it's arrival. It will enhance both experiences for sure.

Around this time is when the Fam Nite crowd started to roll in and guess what? They brought food to share! There was pizza, chips and cookies, leading me to believe that it is time to officially bring back the family night potluck. I have never been part of one and would be ecstatic to. As we got closer and closer to sunset, more and more people kept coming. A good amount came scope-less to take in the Perseids, and there were at least 5 families in attendance. The family that used the foundation of the future Takahashi shed as a living room gets an A+ from me. After the Sunset Talk (sorry for blathering on up there) I heard that we hit the 70 person mark for attendance. I was told that was a record! Great job you guys, the energy of these larger turnouts is tough to beat. And the Perseids did their part, delivering a spectacle worthy of the drive. Zoly and I left at about 3 am with Pleiades, Auriga, and Taurus up in the east. Seeing these guys in the summer gave the night a back-to-school feel. I got home tired and absolutely filthy around 4am, but ecstatic on how the night went.

AMBOY CRATER on 8/14 (Su's miracle/you can't win em all)



This is the day I had been waiting for, for months, Astrotrip time at last! Before I joined the club, I had dreamt of getting a group together in an awesome house around a group of awesome astro sites. I never had the knowledge of where and with whom, but it turns out it was in the desert, and with this club. Andy S, Cassandra H, and Su G met at my house to see if we could fit in a single car to our Airbnb in 29 Palms. I thought we had an okay shot at it until I saw how much kit Andy was bringing. The contingency was that we would take my car as well, and I was resigned to that outcome when Su asked for a chance to make it work in a single car. Somehow she got 4 telescopes (Andy's EAA/AP kit, my 12" dob, my c5, and a small Mak), 4 observing chairs, luggage for four, AND the four people that go with the luggage into Andy's midsize SUV. From this point we learned to just go with whatever Su thought appropriate whenever she had THAT look in her eye. We headed to 29 Palms at about 1pm, stopping only for a Starbucks/smoothie break. For whatever reason, this Starbucks pedestrian entrance was closed. Andy had run into the adjacent Del Taco to grab a bite and took the car keys with him, leaving Su to attempt a walking drive through order. This would be the first memorable image of the trip, and also they didn't let her do it.

After we got back into the car and properly through the drive thru, we eventually got to the Airbnb and were greeted by our official mascot, a roadrunner we named Astro! Shortly after that, Jonathon C, Angel, Andi P, and Victoria F rendezvous'd at the house and we headed north to Amboy where Brian E was waiting for us. The timing of this was pretty good, as the club's general meeting was just getting underway. This being the first general meeting at Griffith since COVID, I was hoping that we could Zoom in from the crater. I didn't have to find a volunteer to make that happen, as Cassondra was more than enthusiastic to do it (her first general meeting as a new member no less) and it was a delight to listen in while setting up at a dark sky site. However, here is where things started to go south...

Angel texted that he had gotten into a fender bender with one of the six cars we saw on the road between 29 Palms and Amboy. He and his car are okay, but I believe he said it was a hit and run which really sucks.

Andy S realized that his battery pack was left behind, effectively ending his night before it began

The sky participated primarily in the cloudy portion of the forecast, leaving us with a parade of sucker holes which we optimistically dived into. The continuing Perseid shower was a nice pick me up whenever visible

It was still really hot after sunset, given that the blacktop we were set up on was basically acting as a giant solar-powered pizza stone.

The four of those things made the night a challenge on multiple levels. We all had a tough time taking in the cloudy skies, but a number of us had physical and mental tolls as well. As the clouds started to become all-consuming, Brian, Jonathan, Su, Cassondra, and I decided to night hike to the top of the crater (a tradition for Jonathan, Brian, and I now that we have done it both times we have been to Amboy). It was a great chance to try to reset the esprit de corps and give the sky a chance to think about how poorly it was acting and repent. The hike was awesome and definitely memorable but as we came back down, the situation at the site had somewhat deteriorated. The sky gave us a couple of short term windows for excellent bortle 2 observing, but heat and disappointment took their tolls on many of us and we packed up and headed home. Adding insult to injury, Brian's car hit a desert mouse on the way home and a proper roadside burial/eulogy were administered. However I gotta say we finished the night strong, taking advantage of the Airbnb's hot tub at 4am for a jacuzzi stargazing session featuring Orion! We then saw what we thought was a moonrise, but turned out to be sunrise. Whoops, bedtime!

GMARS on 8/15 (redemption day/not for all of us)

One thing that we inadvertently decided to forgo in the name of getting to Amboy on time was sustenance. We had decided to "get food on the way out" and then "lets make sure we get to the site on time". So we woke up to a bunch of hungry campers and some spirits were still pretty low. Also Brian left early that morning to get back to work. We rolled into town for brunch and to see what we can do to find a battery to power Andy's rig. I let my mind go into problem solving mode over my meal and start making calls to local auto parts stores to find a power converter and car battery. But Occam's Razor came into play and we decided to just try Walmart since we need to buy food anyways. Welllllll it turns out you can buy a Jackery at Walmart for a good price, so that box was checked right away and we then loaded up a grocery cart with rations. Cassondra made sure to include Smores stuff, as she can't seem to be without one for more than 18 hours at any given time. On the ride back to the house, Su and



Jonathan decided to take a 10 mile hike and then meet us at GMARS later that night. Cassondra and I went to work on grilling up some chicken and veggies and the mood was awesome. I should mention here that every winning team has at least one person with a relentless positive attitude, providing an emotional keel for everyone. In our case we had Cassondra and her machine gun of sunshine and positivity. She is super new to the club (like a week old) so most of you wouldn't have met her yet. But when you do you will see what I mean. After a great dinner, Andy S, Cassondra, and I headed out to GMARS to join Andi P and Victoria F.

Allan D and his wife Elizabeth had also arrived by the time we did, making this an official LAAS invasion of the RAS HQ. In hindsight I should have planted a LAAS sticker somewhere. The sky was looking a bit better than at Amboy which was reassuring, but the distant lightning? Not so much. I took some time to poke around GMARS, as it was my first time there. At one point I opened an access hatch on the pad I was set up on to see what was in there. The answer was one million ants. The bitey kind too! I must have personally fed about 30-40% of them before Andi P rescued me with bug spray. Shortly after that I got a text from Su, saying that she and Jonathon got soaked by rain on their hike and were heading back to the house for the night. A little after that I got a text saying that the keypad lock on the house was malfunctioning and they were locked out. A few messages and a terse conversation with the Airbnb host, followed by a jumped fence got Su and Jonathan into the house and down for the night. But from here on out it was alllllllll nectar and ambrosia.

The rain never got to us and the clouds behaved well enough to observe all night. The sky was variably punctuated by Perseids and lightning. VERY COOL!

Andy S got his setup fully running, as did Allan D. Both capturing great images of M31

Cassandra star hopped her first ever 10 objects with no more than instruction and a Telrad (I will be gushing about this for awhile, I am so proud)

Andi P got her Losmandy Gemini 2 rig fully up and running for the first time. She has worked really hard at this for months, and watching it work at her command the way it used to for her dad made the whole trip worth it for me. It looks fantastic too!

Also, since she was using a large finder scope as her main OTA on this trip, she was able to capture BOTH Veil Nebulae in their entirety in one FOV. This was the first time I had seen that, and as a lover of the Veils I couldn't look away from that view. It is now one of my all time favorites, and given where it came from it will always be a sentimental one for me as well.

At around 2am, Victoria and Andi were ready to call it a night. Victoria's alignment had been stymied by the clouds, preventing her from getting her rig up and running and producing this relatable gem of end-of-night commentary:

Andi P: "Vic, are you breaking down?"

Victoria F: "You have no idea..."

Keith A (redundantly): "She is packing up her scope too"

This was their last night on the trip, so that was the goodbye moment for them. These two were pulling 8 hour remote work shifts by day in a different house in Joshua tree to be there, and I want to thank them for making it happen. I hope you both got what you were looking for in the desert. It wouldn't have been as special without either one of you.

At this point Andy S was on a roll, but Cassandra was spent. She slept peacefully in her chair under the stars while I took in Dumbbell, M71, the Pleiades, and M15 and Andy racked up plates of M31. We eventually drove home with Auriga and Taurus rising in the east, hitting the sack again after 4am.

Cottonwood Campground Trailhead on 8/16 (better late than never/lessons learned)

On this day Su, Jonathan, and I decided to Hike Ryan Mountain while Andy S and Cassandra stayed home for self care. To be candid, I had been nervous about hiking with Su because she is an incredible athlete. She is a brand ambassador for Specialized mountain bikes and is a regular participant in triathalons and other long distance events. By comparison, I like to hike Stough Canyon when time allows. I was assured that this was a small hike and we would be back in time for dinner, allowing us to be at the final site by sundown. It turns out that it was indeed a great hike in a fantastic locale with an experienced athlete, providing expert advice and support when needed. We did indeed get up and back on time to eat a great shrimp and chicken dinner grilled up by Andy S before heading south to Cottonwood. Drama? A little, but you will have to ask me about it in person. What I can tell you is about the then acquired revelation that is watermelon pieces on top of a marshmallow. If you get the fruit-to-mallow ratio squared up, there is a symphonic relationship between the sugars therein. Get on board with MARSHMELLON, you heard about it here first! (courtesy of Jonathan C).

Once the sugar buzz wore off (not for Cassandra who was on smore #5 of 7 for the day), we loaded the cars for the last time and drove through the heart of Joshua Tree to Cottonwood Campground Trailhead. This is the site where I first located Andromeda with my Dad and my dear friend Lindy who introduced me to astronomy. It is also the site where I met up with Ben G for a night and he had the idea to do a club based trip in the desert like this (see you on the next one, Ben!). As we pulled up, Allan and Elizabeth D were already there and Scott B rolled in just after sunset.



We were also briefly greeted by a small squadron of sphinx moths and little bats. The sky here was finally clear and we got in a serious night a-scopin'! Andy S's rig popped right up and he was grabbing images all night with great tracking. Elizabeth D was grabbing DSLR images of Trifid and Lagoon nebulae. I broke out the PiFinder for the first time on the trip and it worked flawlessly. But I gotta say that the highlight for me was watching Cassandra easily guiding the dob while retaining what she had learned the previous night. I really hope that Brian felt the same way watching me after he taught me how to find stuff last year. And I hope that Cassandra gets to feel it as well when she teaches someone else. This was a fantastic Perseid-filled night attended by excellent company (end capped with a view of M42 at the Airbnb when we got back), and I hope you can sense the joy I feel right now typing about it. And I also hope to see you at the next Astrotrip because you can bet your hiney that I am already planning it...

-Keith

Looking Beyond the Stars

By Brian Kruse



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!

Looking up in awe at the night sky, the stars and planets pop out as bright points against a dark background. All of the stars that we see are nearby, within our own Milky Way Galaxy. And while the amount of stars visible from a dark sky location seems immense, the actual number is measurable only in the thousands. But what lies between the stars and why can't we see it? Both the Hubble telescope and the James Webb Space Telescope (Webb) have revealed that what appears as a dark background, even in our backyard telescopes, is populated with as many galaxies as there are stars in the Milky Way.

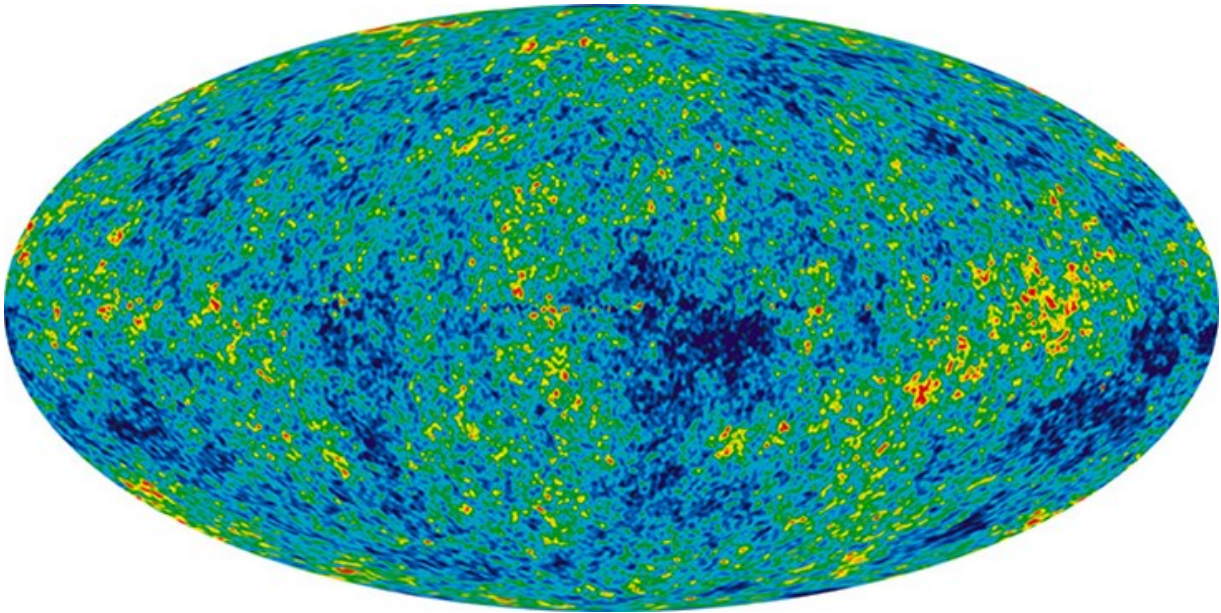
So, why is the night sky dark and not blazing with the light of all those distant galaxies? Much like looking into a dense forest where every line of sight has a tree, every direction we look in the sky has billions of stars with no vacant spots. Many philosophers and astronomers have considered this paradox. However, it has taken the name of Heinrich Wilhelm Olbers, an early 19th century German astronomer. Basically, Olbers Paradox asks why the night sky is dark if the Universe is infinitely old and static – there should be stars everywhere. The observable phenomenon of a dark sky leads us directly into the debate about the very nature of the Universe – is it eternal and static, or is it dynamic and evolving?

It was not until the 1960s with the discovery of the Cosmic Microwave Background that the debate was finally settled, though various lines of evidence for an evolving universe had built up over the previous half century. The equations of Einstein's General Theory of Relativity suggested a dynamic universe, not eternal and unchanging as previously thought. Edwin Hubble used the cosmic distance ladder discovered by Henrietta Swan Leavitt to show that distant galaxies are moving away from us – and the greater the distance, the faster they're moving away. Along with other evidence, this led to the recognition of an evolving Universe.

The paradox has since been resolved, now that we understand that the Universe has a finite age and size, with the speed of light having a definite value. Here's what's happening – due to the expansion of the Universe, the light from the oldest, most distant galaxies is shifted towards the longer wavelengths of the electromagnetic spectrum. So the farther an object is from us, the redder it appears. The Webb telescope is designed to detect light from distant objects in infrared light, beyond the visible spectrum. Other telescopes detect light at still longer wavelengths, where it is stretched into the radio and microwave portions of the spectrum. The farther back we look, the more things are shifted out of the visible, past the infrared, and all the way into the microwave wavelengths. If our eyes could see microwaves, we would behold a sky blazing with the light of the hot, young Universe – the Cosmic Microwave Background.



The next time you look up at the stars at night, turn your attention to the darkness between the stars, and ponder how you are seeing the result of a dynamic, evolving Universe.



NASA's James Webb Space Telescope has produced the deepest and sharpest infrared image of the distant universe to date. Known as Webb's First Deep Field, this image of galaxy cluster SMACS 0723 is overflowing with detail. This slice of the vast universe is approximately the size of a grain of sand held at arm's length by someone on the ground. (Image Credit: NASA, ESA, CSA, STScI) <https://bit.ly/webbdeep>

The oldest light in the universe, called the cosmic microwave background, as observed by the Planck space telescope is shown in the oval sky map. An artist's concept of Planck is next to the map. The cosmic microwave background was imprinted on the sky when the universe was just 380,000 years old. It shows tiny temperature fluctuations that correspond to regions of slightly different densities, representing the seeds of all future structure: the stars and galaxies of today. (Image credit: ESA and the Planck Collaboration - D. Ducros) <https://go.nasa.gov/3qC4G5q>

Family Night Photos - August 12, 2023

By Brian Elerding



The Whirlpool Galaxy (M51)

By Brian Paczkowski



The beautiful Whirlpool Galaxy (M51) in the constellation Canes Venatici. This is actually 2 interacting galaxies that can be seen with binoculars. I've collected a bunch of data over the last several months but haven't had the time to process them. This is color composite made from about 41 hours of data.

Aug. 3, 2023

The Pacman Nebula (NGC 281)

By Nasir Jeevanjee



Pacman Nebula Imaged from Bortle 9 backyard with total narrowband exposure of about 14 hrs.

The Pacman nebula lies about 10,000 light years distant, in the Perseus spiral arm of our galaxy.

Pacman Nebula (NGC 281) is an H II region in the constellation Cassiopeia, nicknamed the "Pacman Nebula" for its resemblance to the video game character.

Aug. 12, 2023

Monthly Sky Report

By Dave Nakamoto

The sun moves from Leo the Lion to Virgo the Maiden on September 17. Autumn begins when the sun reaches the autumnal equinox on September 22, when the sun crosses the celestial equator from north to south on its journey along the ecliptic. The term "equinox" means equal nights because the length of the day and night are the same on that date. The days will continue to grow shorter, and the nights get longer, until the sun reaches the winter solstice on December 21.

The moon is at last quarter on the sixth, new on the 14th, first quarter on the 22nd, and full on the 29th.

On the 1st, Mercury sets three minutes after the sun sets and is unobservable. On the morning of the 9th, Mercury rises due east at 6:09 a.m., PDT, and the sun rises at 6:32 a.m., PDT, 23 minutes later. On the 30th, Mercury rises at 5:37 a.m., PDT, and the sun rises at 6:47 a.m., PDT, one hour and ten minutes later. A telescope with a magnification of 200x or more is needed to see its 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, Venus is in the morning sky. It rises just north of east at 4:33 a.m., PDT, and the sun rises at 6:27 a.m., PDT. On the 30th, Venus rises at 3:23 a.m., PDT. Venus is a crescent 32 arcseconds wide. Venus remains in the morning sky until May.

Mars is in Virgo the Maiden and in the evening sky. On the 1st, the sun sets at 7:19 p.m., PDT. Mars is due west and sets at 8:24 p.m., PDT. The planet's disk is too small to be seen in most telescopes. On the 30th, the sun sets at 6:39 p.m., PDT, and Mars sets at 7:19 p.m., PDT, and is unobservable due to its small size and faintness. It will appear in the morning sky in a few months. Mars remains small until a few months before it is close to the earth again in January 2025.

Jupiter is in the morning sky and is in Aries the Ram. On the 1st, the planet rises north of east at 10:18 p.m., PDT. On the 30th, the planet rises at 8:20 p.m., PDT. 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.

Saturn is in Aquarius the Water Bearer and in the evening sky. On the 1st, Saturn rises east-southeast at 7:04 p.m., PDT. On the 30th, Saturn rises at 5:04 p.m., PDT. The rings and Saturn's largest moon, Titan, can be seen with a telescope capable of magnification 50x.

Uranus is in Aries the Ram and rises in the east-northeast late in the evening. On the 1st, the planet rises east-northeast at 10:38 p.m., PDT. On the 30th, Uranus rises at 8:42 p.m., PDT. On the 15th, Uranus is at Right Ascension 3^h 21^m 14^s and declination +18° 6' 58". A magnification of 200x or more is needed to see its small disk.

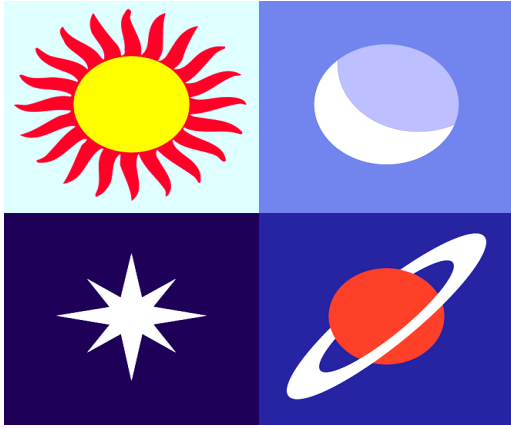
Neptune is in Pisces the Fishes and in the evening sky. On the 1st, Neptune rises south of east at 8:03 p.m., PDT. On the 30th, Neptune rises at 6:07 p.m., PDT. On the 19th, Neptune is at opposition, and is closest to earth. On the 15th, Neptune is at Right Ascension 23^h 47^m 34^s and declination -2° 44' 12". A magnification of 200x or more is needed to see its small disk.

SPECIAL EVENTS

A Lunar-X event happens on Thursday, September 21, at 8:40 p.m., PDT. Lunar-X is the raised rim of craters that are illuminated by the sun. It appears as a white X-shaped feature on the dark half of the first quarter moon, just west of the terminator, the line between the illuminated and the dark portions of the moon. Lunar-X will be visible for only a few hours.

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](https://seasky.org)

September 15 - 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 01:41 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.

September 19 - Neptune at Opposition. The blue giant 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 Neptune. Due to its extreme distance from Earth, it will only appear as a tiny blue dot in all but the most powerful telescopes.

September 22 - Mercury at Greatest Western Elongation. The planet Mercury reaches greatest western elongation of 17.9 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.

September 23 - September Equinox. The September equinox occurs at 06:43 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of fall (autumnal equinox) in the Northern Hemisphere and the first day of spring (vernal equinox) in the Southern Hemisphere.

September 29 - Full Moon, Supermoon. 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 09:59 UTC. This full moon was known by early Native American tribes as the Corn Moon because the corn is harvested around this time of year. This moon is also known as the Harvest Moon. The Harvest Moon is the full moon that occurs closest to the September equinox each year. This is also the last 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.

Additional Resources:

[Messier Catalogue](#)

[Glossary of Astronomy Terms](#)

[Astronomy Software](#)

September 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6 Garvey Night Board Mtng	7	8	9 Family Night 100 Inch Night
10	11 General Mtng	12	13 Garvey Night	14	15	16 Dark Sky Night
17	18	19	20 Garvey Night	21	22	23 Public Star Party
24	25 Outreach— Glendale	26	27 Garvey Night	28	29	30

Meet The New Members

Welcome to the LAAS!



Tracee Couch	Jimmy Li	Jacob Rodriguez
Bill Fishman	Scott Liggett	Jacob Schagene
Majid Ghanbarinejad	Stephanie Martinez	Keith Smiley
Carmen Gundelach	Clyde Matsumoto	Mike Vasko
Cassandra Holmes	Michael Mello	
Godfrey James	Azhar Rana	

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.

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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Bulletin Editor: Andee Sherwood

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Club Historian—Lew Chilton

trainfans2@sbcglobal.net



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



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