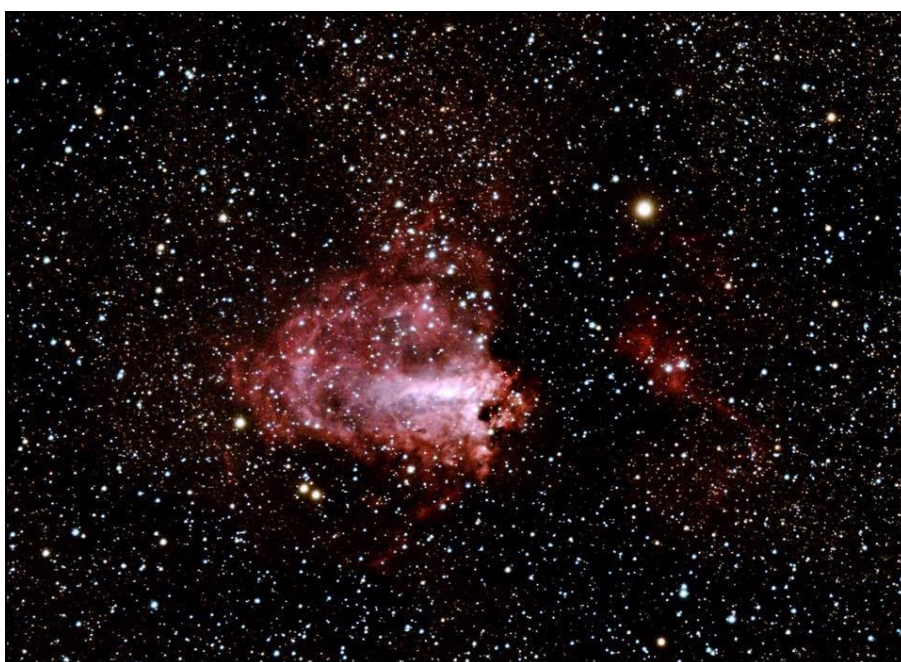




# THE LOS ANGELES ASTRONOMICAL SOCIETY

## THE BULLETIN

OCTOBER 2018  
VOLUME 92, ISSUE 10



M17 Swan Nebula: Imaged from Lockwood Valley. Integration time 35 minutes, iso 1600, canon t3i

Photo Credit: Nasir Jeevanjee/LAAS

### Parking Passes for General Meetings

From Geovanni Somoza: The membership will only need their club ID cards or wear club name tags to access free parking on our General Meeting nights. The observatory is closed to the public on Monday nights so parking is free for all members. You do not need to print out a parking pass and bring it with you.

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All current LAAS members who have Facebook accounts are welcome to join the "LAAS Members Group." Any and all photos shared in this group may be shared on our club's official Facebook page and in The Bulletin.

Click on the image to view the LAAS on Facebook.



# The Last Family Night of the Season

By Kevin Gilchrist

OK, so the cleardarksky.com website predicted bad seeing and better than average transparency and clouds. Well, seeing was pretty good and we had a lot of haze and thin high clouds, but I had really fine views of Saturn which were very steady and free of the usual glare dogging bright planets. I didn't get any images as we were having people getting such a charge out of the visual image. Mars was nearly a flat disk but we could just make out the North Polar Cap and slightly darker surface features near it. Other objects visually enjoyed were M51, M81 and M82, M31 and M32, M27, NGC 7662 which was a brilliant blue, M8, M72, and back to Saturn again when more guests turned up. After that, I tried out using a field flattener for the first time with my ZWO ASI178 without any filters. Looked at how much I could capture of M31 and used live stacking in SharpCap to see some of the dust lanes a little farther out from the nucleus. Went back to M8 which gave a really nice framing for more of the nebula and adjacent open cluster but it was too close to the trees to try for any imaging. Moved up to M17 and proceeded to image it until it too was going behind the trees. I captured 86 frames and will process those on Labor Day.

Finally near midnight the clouds were gone enough that we were all capturing object after object. I could hear Curtis Byrom announcing each object he had in his 6" refractor. Soon after the Moon came up but wasn't a major hindrance. Zoly Dubrovics, between objects, was helping several members with their scopes. We had about a half dozen first-timers that night and a really good turnout of regular members.

Thanks to Joe Phipps and his grille for delicious burgers and dogs and to all those who brought goodies to share.

Joe and others also helped with removing the electronics of the now defunct 31" telescope in anticipation of the 26" scope being moved to Lockwood. While the 26" has been a great crowd-pleaser at Griffith Observatory it has been underutilized there and will now take up residence in the shed formerly used for the Clyde-O-Scope. It is not without sadness that these



Joe sweating over the grill per usual and Herman stirring the chili and helping with burger and hotdogs.



changes are happening but we are looking forward to having the 26" there in its place. I'm envisioning adding a camera and display monitor like we have at Garvey Ranch Observatory.

Board members Joe Phipps, Kevin Gilchrist, and LAAS Historian Lewis Chilton, respectfully removing salvageable parts.



Spencer installing the weather station when he should have headed home to celebrate his wedding anniversary. And once he was done, he helped out with the Clyde-o-Scope salvage, with him and Kevin marveling at how well made it was.

Photo Credit: Elizabeth Wong

(All photos and comments)

Spencer Soohoo has installed a weather station which is available online to our members at <https://www.wunderground.com/weather/us/ca/frazier-park/KCAFRAZI55>. A weather camera will also be installed in the near future. Many thanks to the Board who made it possible to install the satellite internet. A repeater will also be installed on the Gordon Mitchell Observatory to boost the signal to the south side of the field. We will have a small air conditioner donated by Robert Brothers installed in the trailer to help take the curse off the heat that builds up in there.

One last thing to mention was the near disaster experienced by our member Javier Colon after leaving Lockwood late at night after our evening of Perseid viewing. He was traveling south on the I-5 when his vehicle was clipped by a drunk driver. His car spun around three times but thankfully neither he nor his telescope were damaged. The other driver was arrested as his car was upside down. While Javier was not speeding and in the number 3 lane there was nothing that he could have done to prevent the accident. All we can do is not be a part of the problem. If members feel too tired to drive—don't!

Kevin Gilchrist

LAAS VP and Lockwood Committee Chair 2018

Kevin Gilchrist, Lockwood Chair and LAAS Vice President, tried to save the engraved plating which bears the name of the telescope and other details, but once the screws were removed, turns out the plate was glued on.



# Member Photos - Lockwood, CA



The Hidden Galaxy, or IC 342, got its name from the fact that it is slightly obscured by dust in the Milky Way. This image was taken over two nights at Lockwood Valley.

Image taken by [Dominique Jean](#) and processed by [Julien Jean](#) in pixinsight.

Exposure times: 4.8h luminance/ 1h red/ 1h green/ 1h blue

Total exposure time: 7.8 hours

Photo Credit: Dominique Jean



Comet 21P/Giacoboni-Zinner, ~60 million km away.  
Got this finally at Lockwood this morning, very dim, almost perfectly dark sky, no wind, low humidity, good seeing, and cold!! Could not spot it with a good pair of binoculars, no wonder why we couldn't see it from the city.

Photo Credit: Zoly Dobrovics



M31- Andromeda Galaxy  
Just 12 minutes of exposure at iso3200

Photo Credit: Nasir Jeevanjee



Heart Nebula. 35 mins at iso 1600  
Still trying to get a perfect heart!

Photo Credit: Nasir Jeevanjee



Star Cloud in Sagittarius. 5 mins  
exp at iso 1600

Photo Credit: Nasir Jeevanjee

# A Night At the Ford



The newly-aluminized primary mirror has been installed in the 18-inch telescope at the Ford Observatory. It was collimated by Greg and Jeff along with Joe, on a gusty but beautiful Saturday night.

Although we had gusty cold winds, the seeing was pretty good. We viewed Saturn, Mars, M22, M56, NGC1006, the Cat's Eye Nebula and the Ring Nebula, Andromeda Galaxy.

In attendance, seven LAAS members including Joe, Curtis, Carole, Greg, Jeff, and myself. We were later joined by another Greg.

It was my first time to Ford. Utterly charming secluded observatory on Tabletop Mountain in Wrightwood. The winding forest service road takes you some three miles up into a beautiful small dome. You climb the stairs, and you have to

duck down in order enter.

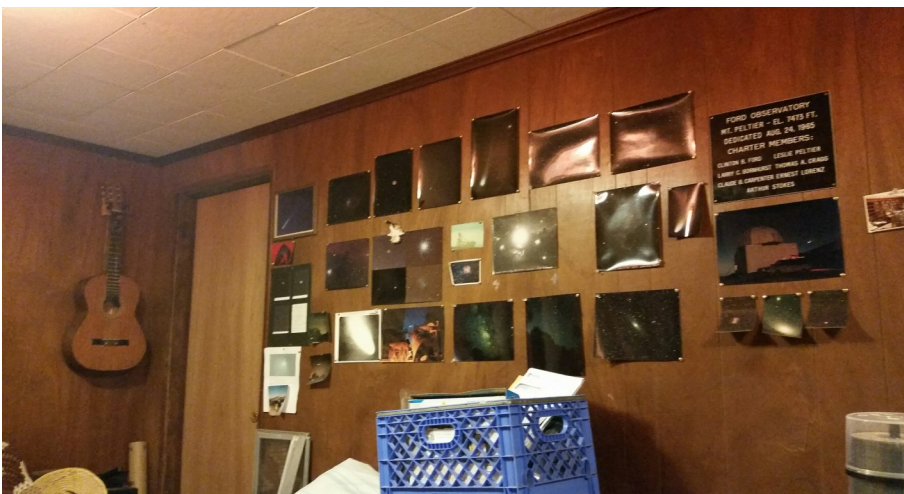
It's written on the staircase, faded but still legible the words "Mind Thine Head". What a charming hidden gem of an observatory!! Equatorial mount, 18 inches, a nose that rotates, with various lens on a rotating turret!! And platform viewing!! Pour awesome sauce on this adventure. Unsung special LAAS resource.







Photo Credit: Elizabeth Wong



FORD OBSERVATORY  
 161 FELTER - EL PASO, TX 79902  
 DEDICATED AUG. 14, 1980  
 CHARTER MEMBERS:  
 GUYTON H. FORD    LINDA FELTER  
 LARRY G. HANCOCK    THOMAS H. CLARK  
 CLARK & CHRISTOPHER EMMETT LORING  
 MATHIE STOKES

# A Trip Through the Milky Way

By Jane Houston Jones and Jessica Stoller-Conrad

Feeling like you missed out on planning a last vacation of summer?

Don't worry—you can still take a late summertime road trip along the Milky Way!

The waning days of summer are upon us, and that means the Sun is setting earlier now. These earlier sunsets reveal a starry sky bisected by the Milky Way. Want to see this view of our home galaxy? Head out to your favorite dark sky get-away or to the darkest city park or urban open space you can find.

While you're out there waiting for a peek at the Milky Way, you'll also have a great view of the planets in our solar system. Keep an eye out right after sunset and you can catch a look at Venus. If you have binoculars or a telescope, you'll see Venus's phase change dramatically during September—from nearly half phase to a larger, thinner crescent.

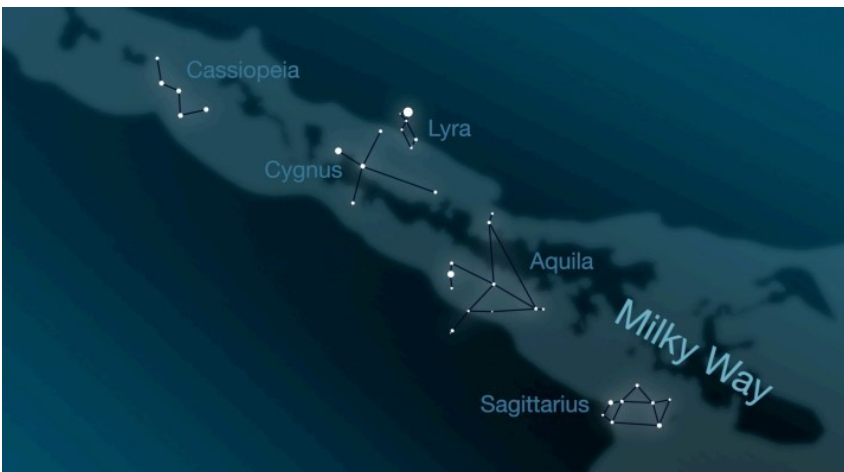
Jupiter, Saturn and reddish Mars are next in the sky, as they continue their brilliant appearances this month. To see them, look southwest after sunset. If you're in a dark sky and you look above and below Saturn, you can't miss the summer Milky Way spanning the sky from southwest to northeast.

You can also use the summer constellations to help you trace a path across the Milky Way. For example, there's Sagittarius, where stars and some brighter clumps appear as steam from a teapot. Then there is Aquila, where the Eagle's bright Star Altair combined with Cygnus's Deneb and Lyra's Vega mark what's called the "summer triangle." The familiar W-shaped constellation Cassiopeia completes the constellation trail through the summer Milky Way. Binoculars will reveal double stars, clusters and nebulae all along the Milky Way.

Between Sept. 12 and 20, watch the Moon pass from near Venus, above Jupiter, to the left of Saturn and finally above Mars!

This month, both Neptune and brighter Uranus can also be spotted with some help from a telescope. To see them, look in the southeastern sky at 1 a.m. or later. If you stay awake, you can also find Mercury just above Earth's eastern horizon shortly before sunrise. Use the Moon as a guide on Sept. 7 and 8.

Although there are no major meteor showers in September, cometary dust appears in another late summer sight, the morning zodiacal light. Zodiacal light looks like a cone of soft light in the night sky. It is produced when sunlight is scattered by dust in our solar system. Try looking for it in the east right before sunrise on the moonless mornings of Sept. 8 through Sept 23.



Caption: This illustration shows how the summer constellations trace a path across the Milky Way. To get the best views, head out to the darkest sky you can find. Credit: NASA/JPL-Caltech

You can catch up on all of NASA's current—and future—missions at [www.nasa.gov](http://www.nasa.gov)



This article is distributed by NASA Space Place. With articles, activities and games NASA Space Place encourages everyone to get excited about science and technology. Visit [spaceplace.nasa.gov](http://spaceplace.nasa.gov) to explore space and Earth science!

# Trick or Treat Stargazing



Member of the Astronomers of Verde Valley show a costumed visitor a view of the daytime Moon.

Photo Credit: J.D. Maddy

light is also a appropriately moody and spooky. If you are near a busy roadway, consider a prominent sign to let cars know folks might be gathered and easily blinded by headlights.

**Temporary Storage for Elaborate Costumes and Masks:** Some costumes will not be ideal for peering through an eyepiece. Have a space to take off and store cumbersome costumes or masks while viewing.

**Prepare for Sticky Fingers and Messy Faces:** Candy is great, except when it gets on your optics and equipment! Baby wipes or a little hand-washing station will reduce the risk to your equipment (*note: this also helps with accidental makeup smears!*)



A little Tin Man take a look at Jupiter through a telescope with the South Bay Astronomical Society.

Photo Credit: J. Fierstein

Stay warm and stay safe this Halloween, and may your skies be clear and the weather great-not just for great stargazing, but for great trick or treating!



Student dressed up like an astronaut looks at the 3 day old moon with help from members of the Oklahoma City Astronomy Club.

Photo Credit: R. Christian Bruggeman



From our friends at

NASA's Night Sky Network!

This article was adapted from the original found here: [https://nightsky.jpl.nasa.gov/news-display.cfm?News\\_ID=743](https://nightsky.jpl.nasa.gov/news-display.cfm?News_ID=743)

# Et Cetera!

## The Secretary's Report for September, 2018

*Our club secretary reports a membership total of 712 current members for September, 2018.*

### Toot-A-Loo, Yahoo!

There is one major change coming which will change how the LAAS communicates within the membership. The LAAS will leave the Yahoo groups and migrate to a new group. After an appointed committee reviewed several alternative groups and forums, the decision was approved to set up an official LAAS group for club communications and member chat. It will be new to many and we will all adjust to it over time. New things can be challenging but once we all get on the same page, we'll figure it out together and make it work.

Spencer Soohoo is setting up the new group for the club so if you have any questions, contact him at [secretary@laas.org](mailto:secretary@laas.org). When Spencer has completed all necessary steps, you will receive an announcement with some basic instructions to get you started.

### Astro-Mentors

The LAAS welcomes new member Allen Cox, who teaches at a school near Monterey Park. Allen started an astronomy club at his school, consisting of eight students. Current LAAS members who would like to mentor the students when they visit the Garvey Ranch Obs., can contact Allen at: [afc9169@lausd.net](mailto:afc9169@lausd.net).

## International Observe The Moon Night - October 20, 2018

Use the following link for further information: <https://moon.nasa.gov/observe-the-moon/annual-event/overview/>

If you want free printable handouts, check out the files under on the "Resources" page.

### The Newsletter

I've asked the membership to contribute articles of interest in the past. Yes, I'm asking again. As I receive little feedback, I have no idea what you want to see in the Bulletin. Want more member photos, articles, or event information? Do you want the newsletter to look more like a magazine or a simple, standard newsletter, with columns, and circles, and arrows on the back of each one? Wait, I'm having an Arlo Guthrie moment!

Do we have any science writers out there? How about writing an article with observing tips for new members or how to deal with dusty optics? You could interview one of our lifetime members or write up outreach and event reports. Want to have a club contest of some kind? What's new at the Garvey Ranch Observatory? Please contribute to the Bulletin.

Thank you,

Andee

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

# Session Nights

## Mt. Wilson Observatory

### 2018 Session Schedule:

- October 5th (Fri)
- November 3rd (Sat)
- December 1st (Sat)

The price for these nights are as follows:  
 \$50 - 60 Inch Nights  
 \$170 - 100 Inch Night

All of the dates above have been posted on the club calendar. These are private events exclusive to **current** LAAS members, families, and their guests only.

Please click on the following link to contact Darrell Dooley, our Mt. Wilson Coordinator before submitting payment.

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

To pay using PayPal or by credit card, please use the following link:

<https://fs30.formsite.com/LAAS/MtWilson/index.html>

To pay by check, please mail your check to:  
 LAAS  
 c/o Griffith Observatory  
 2800 E. Observatory Road  
 Los Angeles, CA. 90027  
 ATTN: Treasurer/Mt. Wilson  
 \*Please write "60 Inch" on your check. Make your check payable to: LAAS

*Note: If you pay by check, your check may be held by our Treasurer for several weeks, before clearing your bank.*



60 Inch group photo from April, 2017

## Meet The New Members



Meghan Spyres

Parveen Parmar

Federico Rossi and Valentina  
Ricchiuti

Deborah Harnett

Michael Winslow

Richard and Kimber  
Plantengo

Carlos Giffoni

Markus Hoffman

Rajeev Joshi

Ana Fan and Tim Law

Chris Burns and Family

Manuel and Agata Montez

Eric Borigini

## LAAS Board Meetings

Our LAAS Board Meetings take place once a month at the Garvey Ranch Park Observatory. You can find the dates for these meetings on our event calendar. All members are welcome to attend all Board meetings. These meetings begin at 8 PM.

NEW: You may listen to recorded meetings by logging in to our website at LAAS.org and clicking on the "Members Only" tab.

Before you try to access the "Members Only" information, you need to request login credentials from our Webmaster. On the left hand side of the page, scroll down and find "Login." Click "Login" for further information.

## 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. Participating at one of our out-reach events is another fine and fulfilling opportunity. This is YOUR club. Don't sit back and let other members do the work and have all the fun! Speak with a club officer and find out how you can volunteer and get more involved in the LAAS as a member.

## Time To Renew Your Membership?

Please remember to renew your membership once you receive notice from the Club Secretary in your email inbox. Use this link to learn how to renew your membership: <https://fs30.formsite.com/LAAS/MemberRenewal/index.html>

Please send any new contact information to the club secretary at [secretary@LAAS.org](mailto:secretary@LAAS.org).



# A Guide To The Night Sky

By Tre Gibbs



Fall is here. The days have been getting noticeably shorter while the nights have been getting longer as we slowly head towards the Winter Solstice.

Back in August (and early September), four planets were gracing our early evening skies: Venus - low in the west, Jupiter - high in the south, Saturn - climbing higher in the south east, and Mars - rising in the south east at sunset. This month, Venus (in Libra then heading into Virgo) is becoming lost in the glare of the setting sun, Jupiter (in Libra the Scales) is low in the south west, Saturn (in Sagittarius the Archer) is high in the south west at sunset and Mars (in Capricornus the Sea Goat) is not too far behind Saturn, high in the south-southeast at sunset.

For October, two planets will be great for naked eye viewing - Saturn and Mars. Mars will be the brighter of the two with a subtle orangey hue, while Saturn appears to the west of Mars as an average, non twinkling "star". As always, the moon travels the night sky with each of the planets, making the visible ones very easy to spot - but only on a particular evening, as the moon is in constant motion around Earth.

On October 11th, look for Jupiter just below a thin crescent moon, low in the southwest.

On October 14th, the moon will have moved east to the point where it will travel the night sky with Saturn. In fact, the lower "point" of the thicker crescent moon will appear to almost be "touching" the quintessential ringed gas giant!

Three days later, on October 17th, the moon is to the right of the subtly reddish/orangey Mars, while the next evening, October 18th, the moon appears to the left of "The God of War".

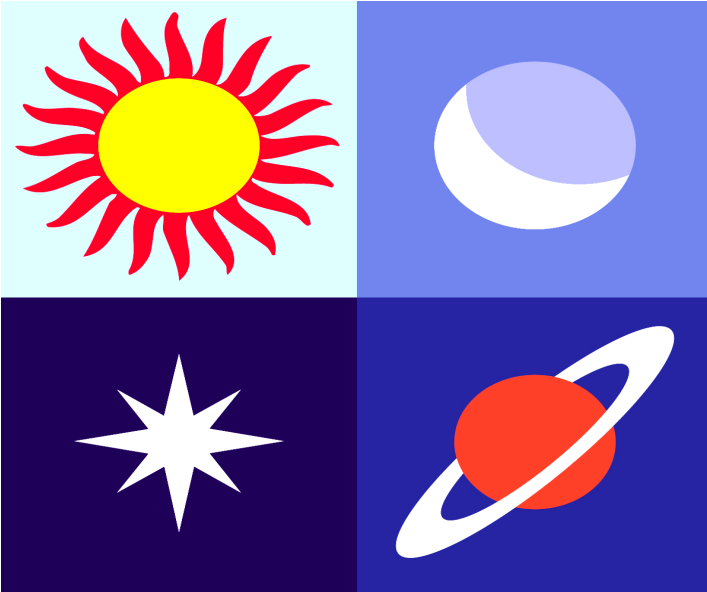
On October 24th, the moon has moved east to the point where it is directly opposite the sun and as a result, appears full. This month's full moon is known as "The Full Hunter's Moon", since it was this time of year that ancient tribes began the annual hunt to prepare for the soon to be coming winter.

Speaking of the coming winter, this is also the time of year when some recognizable constellations start to rise in the east prior to midnight. As Earth continues her constant journey orbiting our nearest star, The Sun, at night time - when we are facing out into space - we see different patterns of stars, different times of the year. Long ago, our ancestors used the seasonally shifting and changing constellations as a sort of calendar. By watching the sky, they knew when to prepare for the winter, when it was time to plant crops, when the rains were coming, when to harvest... the sky gave them access to information that was vital to survival. Today, this same astronomical information is just as beneficial to us. By month's end, Taurus The Bull and Orion The Hunter, both winter constellations, appear low in the east just before midnight, signaling that winter is on its way. Taurus is not as easy to spot as Orion, but one of its more identifiable "asterisms" (a grouping of stars that is NOT a constellation) is the *Pleiades*, (*PLEE-uh-dees*), which appears as a small and faint grouping of stars rising prior to the "V" shape of stars that make up the Bull's face. The Pleiades, also known as the Seven Sisters (and used as the Subaru logo), is often confused, by some, as The Little Dipper, and almost resembles a very tiny tennis racket. Look for this cluster of stars, due east after 11:00pm in late October - and the darker the sky, the better chance you will have to see it. Keep in mind that as Earth continues to move around the sun, these stars, asterisms and constellations will rise earlier and earlier until, just before Spring, they are close to the western horizon at sunset, so you will have plenty of time this Fall and Winter to check them out!

As always, thanks for reading and remember....KEEP LOOKING UP!

Tre Gibbs

# Almanac



**October 8 - Draconids Meteor Shower.** The Draconids is a minor meteor shower producing only about 10 meteors per hour. It is produced by dust grains left behind by comet 21P Giacobini-Zinner, which was first discovered in 1900. The Draconids is an unusual shower in that the best viewing is in the early evening instead of early morning like most other showers. The shower runs annually from October 6-10 and peaks this year on the the night of the 8th. This will be an excellent year to observe the Draconids because there will be no moonlight to spoil the show. Best viewing will be in the early evening from a dark location far away from city lights. Meteors will radiate from the constellation Draco, but can appear anywhere in the sky.

**October 9 - 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 03:47 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

**October 21, 22 - Orionids Meteor Shower.** The Orionids is an average shower producing up to 20 meteors per hour at its peak. It is produced by dust grains left behind by comet Halley, which has been known and observed since ancient times. The shower runs annually from October 2 to November 7. It peaks this year on the night of October 21 and the morning of October 22. The nearly full moon will block some of the fainter meteors this year, but the Orionids tend to be fairly bright so it could still be a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Orion, but can appear anywhere in the sky.

**October 23 - Uranus at Opposition.** The blue-green planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view Uranus. Due to its distance, it will only appear as a tiny blue-green dot in all but the most powerful telescopes.

**October 24 - 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 16:46 UTC. This full moon was known by early Native American tribes as the Full Hunters Moon because at this time of year the leaves are falling and the game is fat and ready to hunt. This moon has also been known as the Travel Moon and the Blood Moon.

**Source:** <http://www.seasky.org/astronomy/astronomy-calendar-2018.html>

## Need Help With A New Telescope?

Visit the Garvey Ranch Observatory on any Wednesday night 7 PM to 10 PM for tips and assistance from your fellow LAAS members.


Learn more: [The Garvey Ranch Park Observatory](#)





# October 2018



Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3 Garvey Night Board Mtng	4	5 60 Inch Night	6 Dark Sky Night Chilao VS
7	8 Draconids	9 New Moon	10 Garvey Night	11	12 Outreach in Arcadia	13
14 Outreach in Agoura Hills	15 General Mtng	16	17 Garvey Night	18	19 Outreach in Silverlake	20 Pubic Star Party <u>IOMN</u>
21 Orionids	22 Orionids	23	24 Garvey Night Full Moon	25	26 Outreach in Silverlake	27
28	29	30	31 <b>HALLOWEEN</b> 			

Additional events with updated information may be posted on the calendar. Please log on to your account on the Night Sky Network (NSN) to view the complete schedule of club events. Link: <https://nightsky.jpl.nasa.gov/>

## LAAS Outreach Program

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



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

Join our Outreach team of volunteers today.

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



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

## LAAS Club Swag

### LAAS JACKETS, T-SHIRTS, AND CAPS

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

If you would like to purchase club jackets, T-shirts, or caps featuring our club logo, please look for Richard Roosman at the public star party and at our general meeting. Richard will have the club merchandise on sale from 2 PM to 6 PM at the star party.

For further information, feel free to contact Richard at [Richardinwalnutpark@msn.com](mailto:Richardinwalnutpark@msn.com).

You can also use the link on Paypal, if you would like to place an order for club merchandise by using the following link:

<http://laas.org/joomlasite/index.php/laas-merchandise>



## 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/>



**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. **The Society does not endorse Amazon.com or any of its business practices**, but we are registered with Amazon Smile and will accept contributions from that program. If you are an Amazon customer and would like to have part of the proceeds from your purchase returned to the Society as a contribution, please go to <https://smile.amazon.com/> when you are shopping on Amazon and select Los Angeles Astronomical Society under the caption: "Or pick your own charitable organization." A percentage of you purchases will be donated to the Society to fund its educational and outreach programs.

John O'Bryan, Jr.

Treasurer

## Astronomy Magazine Discounts

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

**Astronomy**  
magazine

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

[Click here for a NEW Sky & Telescope subscription at the club discount rate.](#)

[Click here for online renewal of your Sky & Telescope magazine subscription](#)



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

Subscribe or renew to the McDonald Observatory's StarDate Magazine and receive a special discount. Go to this page and press "Add to Cart" under the kind of subscription you want:

<http://stardate.org/store/subscribe>  
Then, on the Checkout form, enter "network" in the Coupon Code box.



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Communications@laas.org

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Bulletin Editor: Andee Sherwood

communications@laas.org

## Club Contacts

### Club Phone Numbers

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213- 673-7355 Checked daily

Griffith Observatory:

213-473-0800

Sky Report:

213-473-0880

Lockwood Site:

661-245-2106

Not answered, arrange time with caller.

Outgoing calls – Collect or calling card only.



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