

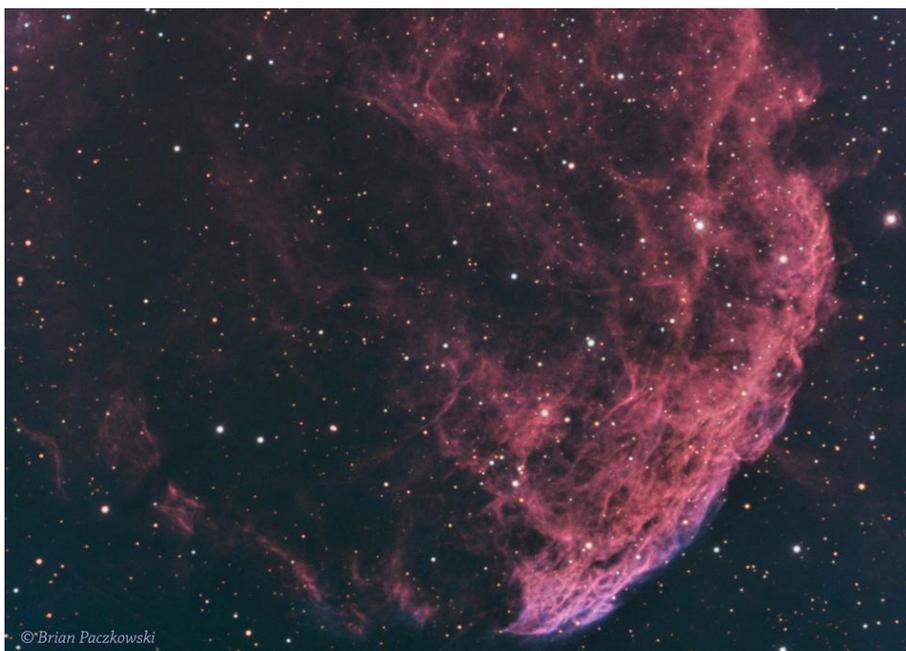


THE LOS ANGELES ASTRONOMICAL SOCIETY

THE BULLETIN

JANUARY, 2020

VOLUME 94, ISSUE 01



©*Brian Paczkowski

IC443, the Jellyfish Nebula, a supernova remnant in the constellation of Gemini located 5,000 light years from the Earth. This is a composite image made from a total of 28 hours of Ha, OIII, SII, and RGB color data taken over the past couple of months. The RGB data was collected at the Lockwood and the narrowband filter data was collected from my light polluted backyard. Pre-processed in Nebulosity and processed in PixInsight. (AGOptical 10"iDK, 10Micron GM2000 HPS II mount, ZWO ASI 1600mm-cool at -25C)

Photo credit: Brian Paczkowski

Public Star Party

January 4, 2020 - 2 PM to 9:45 PM

There is no general meeting in January in lieu of the banquet.

LAAS Members are needed to help bring astronomy outreach to the schools in Los Angeles county. Please contact Heven at outreach@laas.org and volunteer today. Please check the monthly calendar to find an event near you.

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New Contact Info?

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

Membership Renewal Notices

Keep your eyes open for email from the club secretary so you don't miss your renewal notice. Once your membership expires, you may need to reapply.

LAAS Banquet and Award Ceremony

General Information



Date: Sunday, January 12, 2020

Time: 5 PM to 11 PM

Location: The Quiet Cannon Restaurant - Website: <http://www.quietcannon.com/>

Address: 901 Via San Clemente, Montebello, CA. 90640

Our Annual Banquet and Awards Ceremony is the club's most elegant event of the year. Please join us at the Quiet Cannon Restaurant for an incredible buffet dinner, cocktails, and an amazing presentation from our guest speaker. Awards will be presented to our outstanding club volunteers and we'll have great raffle prizes to win by the end of the night

The prices are as follows::

Adults: \$50.00 per person - Pay at the door adults: \$55.00 per person.

Children 12 and under: \$25.00 - Pay at the door children: \$30.00 per child.

Friends and family members are always welcome to attend. Please pay for your guests and write their names on your checks or in the "comment" section of the PayPal link. Use this link to submit your reservations now:

<https://fs30.formsite.com/LAAS/form12/index.html>

You may also mail a check for you and your guests to:

LAAS c/o Griffith Observatory

2800 E. Observatory Rd

Los Angeles, CA 90027

Attn: Treasurer/Banquet

What to wear? We want you to be comfortable! The appropriate attire is "business-casual."

Cocktails and wine may be purchased throughout the evening. The dinner is buffet-style and begins at 6 PM.

Below is the full menu:

Salads: Chinese Ginger Chicken Salad Mixed Field Greens Waldorf Salad Fresh Seasonal Fruit

Entrees: Roasted Chicken with Garlic, Lemon & Thyme Beef Stroganoff Salmon Florentine, with Spinach, Tomatoes and Garlic Vegetable Lasagna Vegetables: Fresh Seasonal Vegetables

Accompaniments: Rice Pilaf Roasted New Potatoes

Desserts: A Variety of Cakes Rolls, Bread, Coffee and Tea

If you would like to donate items for the raffle, please contact Spencer at secretary@laas.org. Some of your astro-images would make fabulous prizes so please consider donating a framed image. Also, we should have a table available for any additional astronomy information, pamphlets or handouts to share with the membership. If you have anything you would like to share and give to the club members, please bring them along and give them to Andee at the reception table.

It is very important for you to make your reservations soon as we need a head-count to ensure we have enough food, tables and chairs for all guests. Having the need to set up additional tables delays the banquet activities for all. It would be greatly appreciated if you paid ahead of time instead of paying at the door.

See you at the banquet!

LAAS Election Results

New Club Officers and Board Members for 2020

The results for the election of LAAS Officers and Board for 2020 are listed below. They will take office at the LAAS Annual Banquet on Jan 12, 2020.

President: Curtis Byrom

Vice President: Alecia Hurst

Treasurer: John O'Bryan

Secretary: Spencer SooHoo

Board of Directors:

Javier Colon

Zoly Dobrovics

Darrell Dooley

Mike Hayford

Joe Phipps

Mary Smudde

Greg Thompson

Tim Thompson

Alternate:

Richard Roosman

Results provided by Club Secretary, Spencer SooHoo.

Spot the Young Stars of the Hyades and Pleiades

By David Prosper

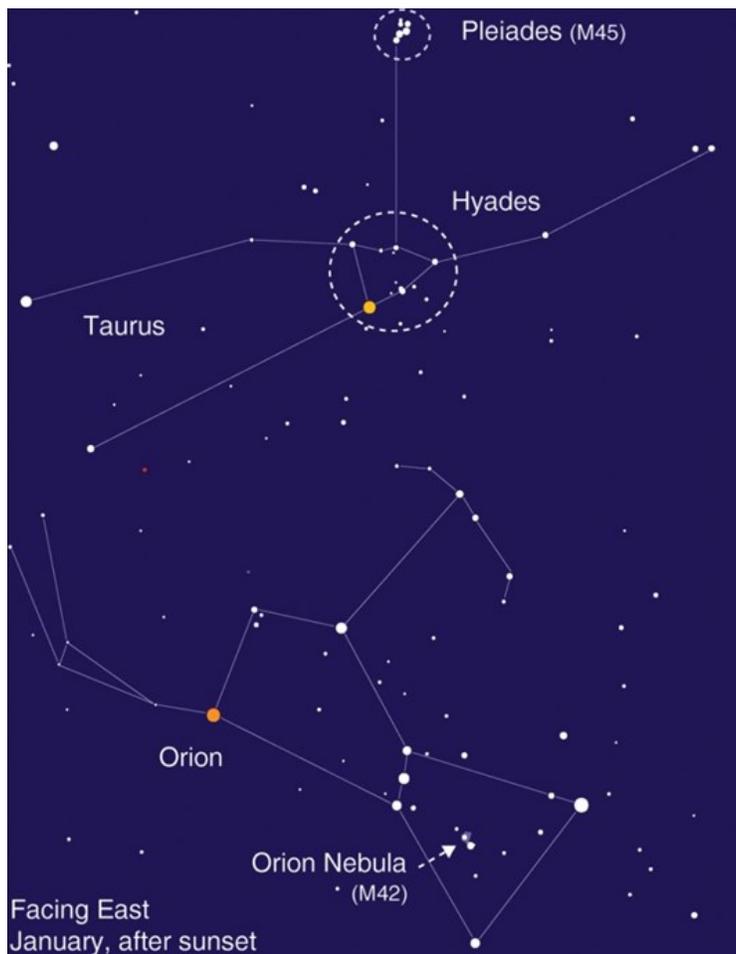
Orion is the last of a trio of striking star patterns to rise during the late fall and early winter months, preceded by the diminutive Pleiades and larger Hyades in Taurus. All three are easily spotted rising in the east in early January evenings, and are textbook examples of stars in different stages of development.

As discussed in last month's Notes, the famous Orion Nebula (M42), found in Orion's "Sword," is a celestial nursery full of newly-born "baby stars" and still-incubating "protostars," surrounded by the gas from which they were born. Next to Orion we find the Hyades, in Taurus, with their distinctive "V" shape. The Hyades are young but mature stars, hundreds of millions of years old and widely dispersed. Imagine them as "young adult" stars venturing out from their hometown into their new galactic apartments. Bright orange Aldebaran stands out in this group, but is not actually a member; it just happens to be in between us and the Hyades. Traveling from Orion to the Hyades we then find the small, almost dipper-shaped Pleiades star cluster (M45). These are "teenage stars," younger than the Hyades, but older than the newborn stars of the Orion Nebula. These bright young stars are still relatively close together, but have dispersed their birth cocoon of stellar gas, like teenagers venturing around the neighborhood with friends and wearing their own clothes, but still remaining close to home - for now. Astronomers have studied this trio in great detail in order to learn more about stellar evolution.

Figuring the exact distance of the Pleiades from Earth is an interesting problem in astrometry, the study of the exact positions of stars in space. Knowing their exact distance away is a necessary step in determining many other facts about the Pleiades. The European Space Agency's Hipparcos satellite determined their distance to about 392 light years away, around 43 light years closer than previous estimates. However, subsequent measurements by NASA's Hubble Space Telescope indicated a distance of 440 light years, much closer to pre-Hipparcos estimates. Then, using a powerful technique called Very Long Baseline Interferometry (VLBI), which combines the power of radio telescopes from around the world, the distance of the Pleiades was calculated to 443 light years. The ESA's Gaia satellite, a successor to Hipparcos, recently released its first two sets of data, which among other findings show the distance close to the values found by Hubble and VLBI, possibly settling the long-running "Pleiades Controversy" and helping firm up the foundation for follow-up studies about the nature of the stars of the Pleiades.

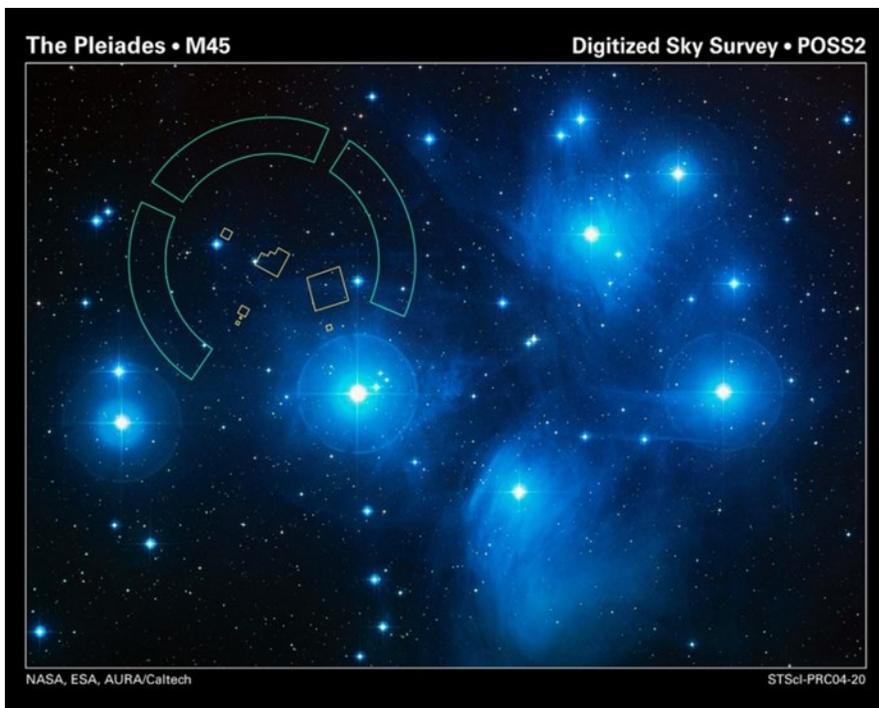
You can learn more about the Pleiades in the Universe Discovery Guide at bit.ly/UDGMarch , and find out about missions helping to measure our universe at nasa.gov.

Continued on next page.



Caption: Locate Orion rising in the east after sunset to find the Orion Nebula in the “Sword,” below the famous “Belt” of three bright stars. Then, look above Orion to find both the Hyades and the Pleiades. Binoculars will bring out lots of extra stars and details in all three objects, but you can even spot them with your unaided eye!

Caption: Close-up of the Pleiades, with the field of view of Hubble’s Fine Guidance Sensors overlaid in the top left, which helped refine the distance to the cluster. The circumference of the field of view of these sensors is roughly the size of the full Moon. (Credit: [NASA](#), [ESA](#) and AURA/Caltech)



This article is distributed by NASA Night Sky Network

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

From the LAAS Archive
By Lew Chilton, Club Historian



Veteran Mt. Wilson Observatory solar observer Joe Hickox (2nd from left) explains the operation of the 150-ft. solar tower telescope to young astronomers Jack Harvey (left), Kent DeGoff (second from right) and F. W. Milburn (right), circa 1953. Harvey was a member of the Los Angeles Astronomical Society until about 1960. (Image source: J. Harvey)

LAAS ARCHIVE



Cape Canaveral, Florida, August 10, 2018, 2 days before the launch of the Parker Solar Probe. Left to right: Dennis Socker, PSP instrument designer; Jack Harvey, retired solar astronomer and former LAAS member; Marco Velli, PSP Observatory Scientist; Mrs. Howard; Russ Howard, Principal Investigator for the WISPR instrument. United Launch Alliance Delta IV-Heavy rocket is in background. It successfully launched the PSP into solar orbit on August 12, 2018.

(Image courtesy of Dr. Jack Harvey.)

LAAS ARCHIVE

Meet The New Members

Welcome to the LAAS!



James Casey

Marco Frye

Issam Khabbaz

Jose and Jesus Lopez

Joe Norton and Theresa Cook

Arthur Matthews

Suzan Oslin and Family

Nan and Sandra Wang

If you would like to join the LAAS, please visit our website at LAAS.org and click on Membership to learn more. You may fill out a membership form online. All applications are reviewed by the Board of Directors for approval.

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.

All current members may listen to recorded meetings by logging on to our website at LAAS.org and clicking on the "Members Only" tab to find the files. Contact: webmaster@laas.org for your login credentials.

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 outreach 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.



January Star Report

By Dave Nakamoto

Venus is low in the southwest, the only easily visible planet left in the evening skies. Through a telescope, it appears as a gibbous phase, just like the Moon does, but it is a lot smaller than the Moon, so magnifications of over a hundred are needed to see it. Alas, this is the only thing you'll see on Venus, because it is completely shrouded in clouds, so it presents a blank white disk.

The constellations of Autumn continue to pass to the west, while those of Winter rise higher in the east. White Deneb is the first mag star low to the northwest the only remaining member of the Summer Triangle left in the skies. In the east you'll find orange-tinted Betelgeuse of movie fame, with white-hued Rigel to its southwest. Above them is the orange-yellow star Aldebaran. Sirius, the brightest star in all the night skies, is very low to the southeast.

Lunar Cycle

First Quarter – 3rd

Full Moon – 10th

Last Quarter – 17th

New Moon – 24th

A Jewel in Orion's Sheath

The constellation of Orion is basically a large rectangle with Betelgeuse at the northeast corner, and Rigel at the southwest corner. The fainter stars at the other corners are Bellatrix in the northwest, and Saiph is in the southeast.

In the middle of this rough rectangle, you might see three stars in a straight line. These are the stars of Orion's belt, consisting, from east to west, Alnitak, Amilan, and Mintaka. South of the center belt star Amilan, are three faint stars. These form the sheath of Orion's sword. If you have binoculars or any scope, if you look at the center of these three stars, you'll see that it looks fuzzy, or like a faint cloud. It is, in fact, a cloud of glowing gas in deep space, 1,600 light-years away. This means light took 1,600 years to travel from this cloud to us. Such objects are called nebula, which simply means "mist" from their appearance. It's called the Orion nebula for that reason.

Continued on next page

The Orion nebula is glowing from the ultra-violet light of the stars embedded in it, stars that were created within the nebula when parts of it collapsed due to gravity. With enough magnification, you can see four of these stars within the heart of the nebula, which, due to their arrangement, are called the Trapezium.

The Orion nebula is one of the most famous deep sky objects in the sky. If you get a chance, take a look at it.

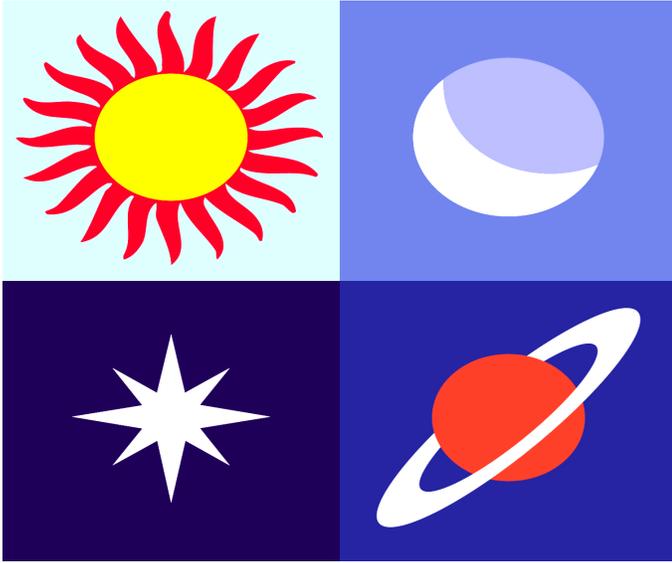
The Los Angeles Astronomical Society, also known as the LAAS, operates the Garvey Ranch park observatory. The observatory is located just off the east parking lot. It's open to the public every Wednesday night from 7:00 PM to 10:00 PM. An 8-inch wide 9-foot long refracting telescope is available to look through, weather permitting. People often set up their own telescopes out on the lawn beside the observatory. There's a telescope making workshop on the ground floor, and LAAS members are ready to provide advice and knowledge on all things astronomical. And perhaps on a few other things with a little coaxing. All of this is free of charge. So drop on by and bring your curiosity and sense of adventure !



David Nakamoto has been observing the heavens through various scopes since he was in the 5th grade. He can be reached at

dinakamoto@hotmail.com.

Almanac



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 first quarter moon will set shortly after midnight, leaving fairly dark skies for what could 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 10 - 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 19:23 UTC. This full moon was known by early Native American tribes as the Full 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.

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January 10 - Penumbral Lunar Eclipse. A penumbral lunar eclipse occurs when the Moon passes through the Earth's partial shadow, or penumbra. During this type of eclipse the Moon will darken slightly but not completely. The eclipse will be visible throughout most of Europe, Africa, Asia, the Indian Ocean, and Western Australia. ([NASA Map and Eclipse Information](#))

January 24 - 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 21:44 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

Source: <http://www.seasky.org/astronomy/astronomy-calendar-2019.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.

This is a free event for the public.

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



January 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Garvey Obs. Closed	2	3	4 Public Star Party
5	6	7	8 Board Meeting	9	10	11
12 Annual Banquet	13	14	15 Garvey Night	16	17 Outreach- Tujunga	18
19	20	21	22 Garvey Night	23 Outreach- Norwalk	24	25
26	27	28	29 Garvey Night	30	31	

LAAS Outreach Program

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



We provide outreach events at local schools, Griffith Observatory, Mt. Wilson Observatory, various state and county parks, and community events. Join our Outreach team of volunteers today. Contact Heven Renteria, our Outreach Coordinator at Outreach@LAAS.org



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

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

LAAS Club Swag

LAAS JACKETS, T-SHIRTS, AND CAPS

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

To order club swag, please use the following link: <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/>



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John O'Bryan, Jr.

Treasurer

Astronomy Magazine Discounts

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

Astronomy
magazine

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

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



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

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



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secretary@laas.org

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Youth Coordinator: James Rochford

jcrochford@gmail.com

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webmaster@laas.org

Club Communications: Andee Sherwood

communications@laas.org

Mt. Wilson Coordinator: Darrell Dooley

mtwilsoncoordinator@laas.org

Bulletin Editor: Andee Sherwood

communications@laas.org



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

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

Club Contacts

Club Phone Numbers

LAAS Message Phone:

213- 673-7355 (Checked daily)

Griffith Observatory:

213-473-0800

Sky Report:

213-473-0880

Lockwood Site:

661-245-2106

Not answered, arrange time with caller.

Outgoing calls – Collect or calling card only.



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

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

Visit our web site at
www.LAAS.org

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